

Elektrokonvulsiv behandling (ECT)

- systematisk litteratursøk med tematisk sortert referanseliste

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Nasjonalt kunnskapssenter for helsetjenesten fremskaffer og formidler kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten. Målet er å bidra til gode beslutninger slik at brukerne får best mulig helsetjenester. Kunnskapsenteret er formelt et forvaltningsorgan under Helsedirektoratet, men har ingen myndighetsfunksjoner og kan ikke instrueres i faglige spørsmål.

Nasjonalt kunnskapssenter for helsetjenesten
Oslo, april 2014

Hovedfunn

Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra Helse- direktoratet å utføre et systematisk litteratursøk med påfølgende sortering av mulig relevante publikasjoner, for å finne norske studier, internasjonale systematiske oversikter og retningslinjer om elektrokonvulsiv behandling (Electroconvulsive therapy, ECT). Våre funn er presentert i denne systematiske litteraturlisten.

Metode

Vi søkte i medisinske databaser og relevante internettadresser. Vi utarbeidet tre søkestrategier: et elektronisk søk for systematiske oversikter og retningslinjer, et annet for søk etter retningslinjer i relevante internettsider og det siste elektroniske søket etter norsk vitenskapelig litteratur. Søkene ble avsluttet i februar 2014. To forskere gikk uavhengig av hverandere gjennom identifiserte referanser og vurderte relevans i forhold til inklusjonskriteriene.

Resultater

Søk 1, oversikten over systematiske oversikter ble sortert tematisk etter 11 kategorier. Søk 2, ble sortert etter retningslinjer, veiledninger, pasientinformasjon og rapporter, utredninger, prosedyrer og håndbøker i to kategorier. Søk 3, oversikten over norsk vitenskapelig litteratur ble presentert samlet etter årstall. Vi identifiserte:

- 84 systematiske oversikter fordelt på 11 tematiske områder
- 28 retningslinjer, rapporter, håndbøker, manualer, prosedyrer og pasientinformasjonskilder
- 83 norske vitenskapelige publikasjoner fra 1954 til 2014

Tittel:

Elektrokonvulsiv behandling (ECT) - systematisk litteratursøk med tematisk sortert referanseliste

Publikasjonstype:

Systematisk litteratursøk med sortering

Systematisk litteratursøk med sortering er resultatet av å

- søke etter relevant litteratur ifølge en søkestrategi og
- eventuelt sortere denne litteraturen i grupper presentert med referanser og vanligvis sammendrag

Svarer ikke på alt:

- Ingen kritisk vurdering av studienes kvalitet
- Ingen analyse eller sammenfatning av studiene
- Ingen anbefalinger

Hvem står bak denne publikasjonen?

Kunnskapssenteret har gjennomført oppdraget etter forespørsel fra Helsedirektoratet

Når ble litteratursøket utført?

Søk etter studier ble avsluttet februar 2014.

Key messages

The Norwegian Knowledge Centre for the Health Services was commissioned to find Norwegian published scientific literature, international systematic reviews and guidelines about electroconvulsive therapy (ECT). Our findings are presented in this systematic reference list.

Methods

We searched relevant medical databases and internet sites. We designed three search strategies: one electronic search for systematic reviews and guidelines, another for guidelines and lastly an electronic search for Norwegian scientific published literature. The searches were completed in February 2014. Two researchers reviewed the identified references independently and evaluated relevance according to our inclusion criteria.

Results

Search 1, overview of systematic reviews was sorted thematically according to 11 categories. Search 2, was sorted by guidelines patient information, government reports, hand books into two categories. Search 3, overview of Norwegian scientific literature was collectively presented according to publication year. We identified:

84 systematic overviews and reviews

28 guidelines, handbooks, patient information leaflets and government reports

83 Norwegian scientific publications from 1954 to 2014

Title:

Electroconvulsive therapy (ECT) – systematic literature search with thematically organized reference list

Type of publication:

Systematic reference list

A systematic reference list is the result of a search for relevant literature according to a specific search strategy. The references resulting from the search are then grouped and presented with their abstracts.

Doesn't answer everything:

- No critical evaluation of study quality
- No analysis or synthesis of the studies
- No recommendations

Publisher:

Norwegian Knowledge Centre for the Health Services

Updated:

Last search for studies: February 2014

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Forord

Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra Helsedirektoratet å utføre et systematisk litteratursøk med påfølgende sortering av mulig relevante publikasjoner. Oppdraget var å finne norske vitenskapelige publikasjoner, internasjonale systematiske oversikter og retningslinjer om elektrokonvulsiv behandling (electroconvulsive therapy, ECT).

Litteraturen i vår referanseliste kan utgjøre et relevant dokumentasjonsgrunnlag for den nye nasjonale retningslinjen om elektrokonvulsive behandling.

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Innledning

Styrker og svakheter ved litteratursøk med sortering

Ved litteratursøk gjennomfører vi systematiske litteratursøk for en gitt problemstilling. Resultatene fra søket blir i sin helhet overlevert oppdragsgiver, eller vi kan gjennomgå søkeresultatet før overleveringen og sortere ut ikke-relevante artikler. Dette gjøres basert på tittel og eventuelt sammendrag. Artiklene innhentes ikke i fulltekst. Det gjør at vi kan ha inkludert titler som ville vist seg ikke å være relevante ved gjennomlesning av fulltekst. Vi benytter kun databaser for identifisering av litteratur og kan derfor ha gått glipp av potensielt relevante studier. Andre måter å identifisere studier på, som søk i referanselister, kontakt med eksperter på fagfeltet og upublisert litteratur, er ikke utført i dette oppdraget. Vi gjennomfører ingen kvalitetsvurdering av artiklene.

Ved en full forskningsoppsummering ville vi ha innhentet artiklene i fulltekst for endelig vurdering opp mot inklusjonskriteriene. Inkluderte studier ville så blitt kvalitetsvurdert i henhold til våre sjekklister og resultater sammenstilt og diskutert.

Begrunnelse for valg av søkestrategi

Vi har søkt i elektroniske kilder, men ikke etter grå litteratur eller liknende. Søket er gjort for hele tidsperioden databasen dekker bakover i tid, da elektrokonvulsiv behandling ikke er et nytt fagfelt. I søkene er det lagt filter for å begrense til systematiske oversikter og norske studier, men ingen filter for spesielle studiedesign.

Problemstilling

I prosjektet har vi søkt etter litteratur som omhandler elektrokonvulsiv behandling, avgrenset til nyere systematiske oversikter, internasjonale retningslinjer, rapporter, prosedyrer og manualer, og etter norsk vitenskapelig artikler/publisert litteratur.

Metode

Litteratursøking

Vi har utført tre systematiske søk

- Søk 1 for søk etter systematiske oversikter og retningslinjer i internasjonale databaser.
- Søk 2 for retningslinjer, prosedyrer, håndbøker, manualer og/eller informasjonsbrosjyrer på aktuelle internetsteder.
- Søk 3 etter vitenskapelig publisert artikler i Norge eller av norske forfattere publisert i utlandet ble utført i februar 2014. Den fullstendige søkestrategien er gitt ut i vedlegg til denne rapporten.

Spesialbibliotekar Marita Heintz i Helsedirektoratet utførte søket. Søkeprofilene for søk 1 og 2 var utarbeidet av Hege Sletsjøe, Spesialbibliotekar, Helsedirektoratet, med MESH termer «Electroconvulsive Therapy» og «Electroshock». Søkeprofilen for søk 3 med norsk filter var utarbeidet av Marita Heintz.

Søk 1: Vi avgrenset søket til oversikter («limited to reviews»). Søket i Pubmed ble avgrenset til artikler publisert “epub ahead of print”.

Vi søkte systematisk etter litteratur i følgende databaser:

- Ovid MEDLINE(R)
- Embase
- PsycINFO
- Cinahl
- Cochrane Library
- CRD
- Web of Science
- Pubmed

Søk 2: Vi utførte søk hos utvalgte kilder med kliniske oppslagsverk som skal være evidensbaserte (Best Practice, Clinical Evidence, UpToDate) og databaser over retningslinjer (National Guidelines Clearinghouse, G-I-N). Det ble og utført manuell leting på internettsider (kilder uten søkemotor, eller lite innhold) som kunne tenke seg å inneholde relevant ECT litteratur (Socialstyrelsen, FDA U.S. Food and Drug Administration).

Søk 3: Vi anvendte filter for norske forfattere og norske publikasjoner. Vi søkte systematisk etter litteratur i følgende databaser:

- Ovid MEDLINE(R)
- Embase
- PsycINFO
- Cinahl
- Cochrane Library
- CRD
- Web of Science
- Pubmed
- SveMed+
- Norart

Inklusjonskriterier

Populasjon:	Pasienter (alle aldre)
Tiltak:	Behandling med ECT
Utfall:	Ikke presisert
Studiedesign	1) Systematiske oversikter som baserer seg på systematiske litteratursøk/oversikter 2) Retningslinjer, rapporter, prosedyrer, informasjonsbrosjyrer 3) Norsk vitenskapelige publikasjoner
Språk:	Ikke presisert

Artikkelutvelging

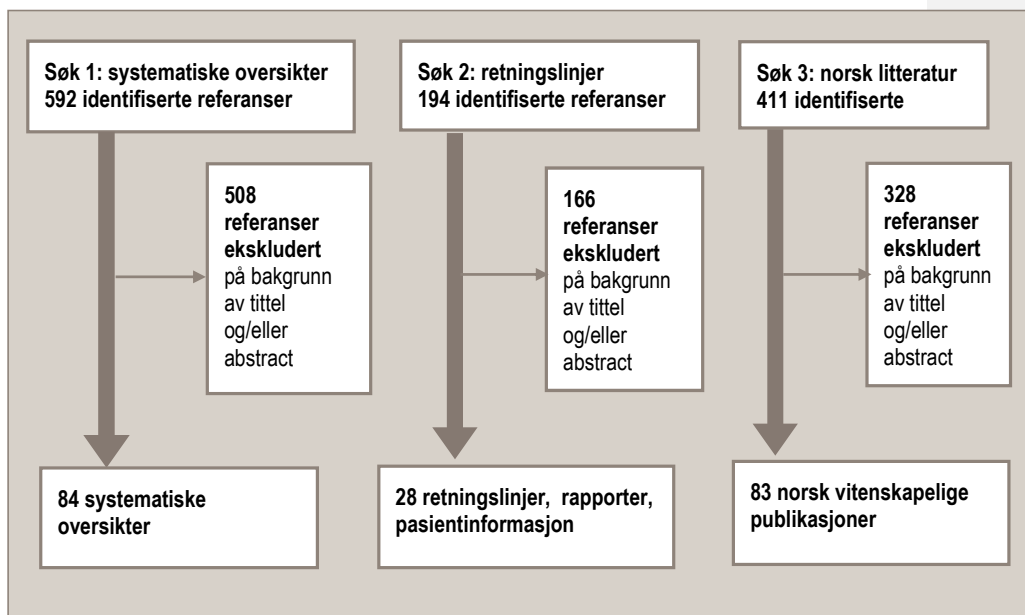
To forskere (KAL og TKD) gikk gjennom alle titler og sammendrag for å vurdere relevans i henhold til inklusjonskriteriene. Vurderingene gjorde de uavhengig av hverandre og sammenlignet i etterkant. Der det var uenighet om vurderingene, ble inklusjon eller eksklusjon avgjort ved konsensus. Rapporten er skrevet av KAL og kritisk gjennomgått av TKD.

Utvelging av litteratur ble kun gjort basert på tittel og sammendrag. Vi bestilte ikke fulltekst av artiklene.

Resultat

Resultat av søk

- Søk1: Litteratursøket resulterte i 592 treff. Vi vurderte 84 til å være mulig relevante systematiske oversikt om elektrokonulsive behandling
- Søk2: Litteratursøket resulterte i 194 treff. Vi vurderte 28 til å være mulig relevante.
- Søk3: Litteratursøket resulterte i 411 treff. Vi vurderte 88 til å være mulig relevante norske vitenskapelig artikkler.



Figur 1. Flytskjema over identifisert litteratur, søk 1, 2 og 3.

Resultat av sortering søk 1: systematiske oversikter

Nedenfor følger listen over de mulige 84 relevante systematiske oversiktene sortert tematisk.

De mulige relevante 84 systematiske oversiktene fordelte seg etter tema som følger

- 1) Diagnose kategorier (17)
- 2) Forekomst (prevalens), bruk og praksis, kost-nytte analyser (3)
- 3) Parametre (strøm type, behandlingsintervall, elektrode plassering, dose/krampeterskel) (6)
- 4) Sham/placebo, medikamenter, psykoterapi (7)
- 5) Neuromodulasjon terapier (rTMS, MST) (8)
- 6) Kognitive funksjoner (hukommelsesfunksjoner) (11)
- 7) Tilbakefall, forebygging, vedlikeholds/«maintenance» (M-ECT) (7)
- 8) Uønsket effekt, bivirkninger (4)
- 9) Kliniske grupper («special populations») (13)
- 10) Anestesi (5)
- 11) Pasient perspektiver, etikk og historie (3)

I vedlegg 2 presenteres alle referansene alfabetisk etter førsteforfatter.

I de tema inndelte tabellene nedenfor oppgir vi de inkluderte oversiktene sortert etter årstall: førsteforfatter, tittel på publikasjonen og engelsk sammendrag (abstract) av artikkelen slik de fremkom i de elektroniske databasene.

1) Diagnose kategorier (17)

Bipolar, mani og depresjon (N=12)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Sienaert (1) 2013	Evidence-based treatment strategies for treatment-resistant bipolar depression: a systematic review. OBJECTIVES: Treatment resistance in bipolar depression is a common clinical problem that constitutes a major challenge for the treating clinician as there is a paucity of treatment options. The objective of this paper was to review the evidence for treatment options in treatment-resistant bipolar depression, as found in randomized controlled trials and with special attention to the definition and assessment of treatment resistance METHODS: A Medline search (from database inception to May 2012) was performed using the search terms treatment resistance or treatment refractory, and bipolar depression or bipolar disorder, supplemented with 43 separate searches using the various pharmacologic agents or technical interventions as search terms RESULTS: Only seven studies met our inclusion criteria. These studies examined the effects of ketamine (n = 1), (ar)modafinil (n = 2), pramipexole (n = 1), lamotrigine (n = 1), inositol (n = 1), risperidone (n = 1), and electroconvulsive therapy (ECT) (n = 2) CONCLUSIONS: The available level I evidence for treatment strategies in resistant bipolar depression is extremely scarce, and although the response rates reported are reassuring, most of the strategies remain experimental. There is an urgent need for further study in homogeneous patient samples using a clear concept of treatment resistance

Dierckx (2) 2012	<p>Efficacy of electroconvulsive therapy in bipolar versus unipolar major depression: a meta-analysis</p> <p>OBJECTIVE: Bipolar major depression differs considerably from unipolar major depression with regard to the efficacy of treatment with antidepressants. In bipolar depression, response to treatment with antidepressants is disappointing. Whether response to electroconvulsive therapy (ECT) differs between bipolar and unipolar depression remains unclear. Therefore, this systematic review investigates the relative efficacy of ECT in both forms of depression</p> <p>METHODS: Relevant cohort studies were identified from a systematic search of the PubMed electronic database. Six studies were included in this meta-analysis</p> <p>RESULTS: In this meta-analysis, the overall remission rate was 50.9% (n = 402/790) for patients with unipolar depression and 53.2% (n = 168/316) for patients with bipolar major depression. A pooled odds ratio (OR) and confidence interval (CI) were calculated using random-effects meta-analysis with the Mantel-Haenzel method. This analysis shows similar efficacy of ECT in patients with unipolar and bipolar depression (OR = 1.08, 95% CI: 0.75-1.57)</p> <p>CONCLUSION: ECT appears to be equally effective for both bipolar and unipolar depression and the remission rates are encouraging, especially for bipolar depression.</p>
Versiani (3) 2011	<p>Efficacy and safety of electroconvulsive therapy in the treatment of bipolar disorder: a systematic review</p> <p>OBJECTIVES: : To evaluate the efficacy and safety of electroconvulsive therapy (ECT) in bipolar disorder (BPD)</p> <p>METHODS: : Clinical trials on the treatment of BPD with ECT were systematically reviewed. A comprehensive search of MEDLINE, PsycINFO, and ISI Web of Science databases was conducted in March 2010</p> <p>RESULTS: : A total of 51 articles met our selection criteria. Only 3 controlled or comparative prospective trials addressed the treatment of mania with ECT. In these studies, which had small samples, ECT was superior to simulated ECT, lithium, or the combination of lithium and haloperidol. We did not find any controlled or comparative prospective trial on the efficacy of ECT in bipolar depression. In the 4 retrospective studies that compared ECT with antidepressants, no difference was observed between them. In 9 of 10 trials that compared bipolar with unipolar depressed patients, ECT was equally efficacious for both groups of patients. Of the 6 studies of patients with BPD that performed a comparison between pre-ECT versus post-ECT, only 1 study showed a worsening in cognition after the treatment</p> <p>CONCLUSIONS: There are no studies with adequate methodology on the treatment of BPD with ECT. The lack of scientific evidence contrasts with broad anecdotal clinical experience that suggests that ECT is an important tool in the treatment of BPD, especially in more severe or refractory cases. The marked stigma associated with ECT and the lack of large financial support may account for the paucity of ECT research.</p>
Valenti (4) 2008	<p>Electroconvulsive therapy in the treatment of mixed states in bipolar disorder</p> <p>INTRODUCTION: Mixed bipolar states are not infrequent and may be extremely difficult to treat. Lithium, anticonvulsants including valproate and carbamazepine, and antipsychotics such as olanzapine, ziprasidone, and aripiprazole have been reported to be at least partially effective in controlled clinical trials, but many patients do not respond to pharmacological approaches. Electroconvulsive therapy has been tested to be efficacious for the treatment of both manic and depressive episodes, but much less evidence is available with regards to mixed states. The aim of the review was to report the available evidence for the use of electroconvulsive therapy in mixed bipolar states</p> <p>METHODS: A systematic review of the literature on treatment of mixed states, focused on electroconvulsive therapy, was made, beginning in August 1992 and ending in March 2007. The key words were "electroconvulsive therapy" and "mixed bipolar"</p> <p>RESULTS: Only three studies met the required quality criteria and were included. This literature suggests that ECT is an effective, safe, and probably underutilized treatment of mixed states. Recent technical developments have made ECT more friendly, tolerable, and safe. Potential alternatives, such as vagus nerve stimulation, deep brain stimulation, or transcranial stimulation, are still far to be proved as effective as ECT. [References: 18]</p>

Zornberg (5) 1993	<p>The present status of electroconvulsive therapy: a systematic review</p> <p>The objective of the study was to review the clinical literature on the acute, somatic treatment of the depressed phase of <u>bipolar disorder</u>. We reviewed all available published studies of "standard" somatic treatments (lithium, antidepressant and anticonvulsant agents, and electroconvulsive therapy [ECT]) reporting three or more depressed bipolar patients who were not psychotic, rapid cycling, or previously treatment refractory. We also reviewed all studies of "nonstandard" pharmacologic treatments involving even a single case of a depressed bipolar patient. Data sources included the MEDLINE database and relevant references from articles obtained in this search and in major reviews. Five of seven studies comparing ECT with antidepressant agents find ECT more efficacious. Eight of nine controlled comparisons find lithium superior to placebo in depressed bipolar patients. Three controlled comparisons of lithium to tricyclic antidepressants suggest that lithium is equivalent to tricyclic drugs in such patients. Three double-blind, controlled studies indicate that carbamazepine is more effective than placebo. Limited data on other antidepressant classes suggest that monoamine oxidase inhibitors, bupropion, and serotonergic agents may offer some advantages over tricyclic antidepressants in this population. Some "nonstandard" treatments also show some potential in bipolar patients. The possibility of switching into a manic episode is an important consideration with many of the agents studied, although little remains known about spontaneous versus treatment-associated mood shifts. In contrast to the extensive literature on the acute treatment of the manic phase of bipolar disorder and on the prophylaxis of manic and depressive episodes, there are few studies of treatment of the depressed phase of bipolar disorder, and their results generally are limited or inconclusive. Lithium generated a revolution in psychiatric treatment, but the treatment of the depressed phase of bipolar disorder remains a relatively neglected corner of the field. Several study designs may help to augment knowledge in the treatment of bipolar depression. [References: 114]</p>
Bauer (6) 2013	<p>World Federation of Societies of Biological Psychiatry (WFSBP) Guidelines for Biological Treatment of Unipolar Depressive Disorders, Part 1: Update 2013 on the acute and continuation treatment of unipolar depressive disorders.</p> <p>Objectives. This 2013 update of the practice guidelines for the biological treatment of unipolar depressive disorders was developed by an international Task Force of the World Federation of Societies of Biological Psychiatry (WFSBP). The goal has been to systematically review all available evidence pertaining to the treatment of unipolar depressive disorders, and to produce a series of practice recommendations that are clinically and scientifically meaningful based on the available evidence. The guidelines are intended for use by all physicians seeing and treating patients with these conditions. Methods. The 2013 update was conducted by a systematic update literature search and appraisal. All recommendations were approved by the Guidelines Task Force. Results. This first part of the guidelines (Part 1) covers disease definition, classification, epidemiology, and course of unipolar depressive disorders, as well as the management of the acute and continuation phase treatment. It is primarily concerned with the biological treatment (including antidepressants, other psychopharmacological medications, electroconvulsive therapy, light therapy, adjunctive and novel therapeutic strategies) of adults. Conclusions. To date, there is a variety of evidence-based antidepressant treatment options available. Nevertheless there is still a substantial proportion of patients not achieving full remission. In addition, somatic and psychiatric comorbidities and other special circumstances need to be more thoroughly investigated. Therefore, further high-quality informative randomized controlled trials are urgently needed</p>
Di Sciascio G (7) 2010	<p>Electroconvulsive therapy in the treatment of resistant major depression</p> <p>Introduction: The efficacy of electroconvulsive therapy (ECT) in treating depressive symptoms has been established by different studies. This paper reviews the current knowledge of ECT in the treatment of major depressive disorder and its implications in clinical practice. Materials and methods: In this review we analyzed studies on the efficacy and safety of ECT, quality of life, and factors predictive of response. A search of the literature was conducted in PubMed using the terms "electroconvulsive therapy", "major depressive disorder", "efficacy", "tolerability", "cognitive impairment", "meta- analysis", "quality of life", "predictive response factors", "maintenance treatment". Results: In a high percentage of patients ECT is associated with remission of</p>

	<p>symptoms and improvement of the quality of life. Factors predicting especially good ECT responses in depressed patients include psychomotor retardation, psychosis, and advanced age. Cognitive side-effects are the main limitation of ECT although efficacy and tolerability vary according to the used ECT technique. Conclusions: ECT is one of the most powerful treatments available. Thanks to the improvements in technique, ECT has become even safer and more useful for treatment of acute phase of depression and for the prevention of new depressive episodes</p>
Pagnin (8) 2004	<p>Efficacy of ECT in depression: a meta-analytic review This study analyzed the efficacy of electroconvulsive therapy (ECT) in depression by means a meta-analytic review of randomized controlled trials that compared ECT with simulated ECT or placebo or antidepressant drugs and by a complementary meta-analytic review of nonrandomized controlled trials that compared ECT with antidepressants drugs. The review revealed a significant superiority of ECT in all comparisons: ECT versus simulated ECT, ECT versus placebo, ECT versus antidepressants in general, ECT versus TCAs and ECT versus MAOIs. The nonrandomized controlled trials also revealed a significant statistical difference in favor of ECT when confronted with antidepressants drugs. Data analyzed suggest that ECT is a valid therapeutic tool for treatment of depression, including severe and resistant forms. [References: 59]</p>
Kho (9) 2003	<p>A meta-analysis of electroconvulsive therapy efficacy in depression SUMMARY: Recently published controlled studies comparing electroconvulsive therapy (ECT) with other treatments for depression offer the opportunity to perform a meta-analysis of ECT in depression. Fifteen studies were identified which fulfilled the inclusion criteria. From these controlled trials, 20 effect sizes of ECT were calculated. The speed of action during the course and the efficacy after a full course of ECT were explored. The efficacy of sine wave and brief pulse machines were compared. The comparison between ECT and four other comparative treatments was made. Predictive variables were explored using homogeneity tests. ECT was shown to be superior after a full course. The funnel plot showed the absence of publication bias. There was no exaggeration of effect size in the lower quality trials. No evidence was found for a superior speed of action of ECT or for a difference in efficacy between sine wave and brief pulse stimulation. ECT was shown to be superior to medication and simulated ECT. Some evidence was found that psychosis predicted better response to ECT</p>
UK ECT Review Group (10) 2003	<p>Efficacy and safety of electroconvulsive therapy in depressive disorders: a systematic review and meta-analysis BACKGROUND: We aimed to review published work for the efficacy and safety of electroconvulsive therapy (ECT) with simulated ECT, ECT versus pharmacotherapy, and different forms of ECT for patients with depressive illness METHODS: We designed a systematic overview and meta-analysis of randomised controlled trials and observational studies. We obtained data from the Cochrane Collaboration Depressive Anxiety and Neurosis and Schizophrenia Group Controlled trial registers, Cochrane Controlled Trials register, Biological Abstracts, CINAHL, EMBASE, LILACS, MEDLINE, PsycINFO, and SIGLE, reference lists, and specialist textbooks. Our main outcome measures were depressive symptoms, measures of cognitive function, and mortality FINDINGS: Meta-analysis of data of short-term efficacy from randomised controlled trials was possible. Real ECT was significantly more effective than simulated ECT (six trials, 256 patients, standardised effect size [SES] -0.91, 95% CI -1.27 to -0.54). Treatment with ECT was significantly more effective than pharmacotherapy (18 trials, 1144 participants, SES -0.80, 95% CI -1.29 to -0.29). Bilateral ECT was more effective than unipolar ECT (22 trials, 1408 participants, SES -0.32, 95% CI -0.46 to -0.19) INTERPRETATION: ECT is an effective short-term treatment for depression, and is probably more effective than drug therapy. Bilateral ECT is moderately more effective than unilateral ECT, and high dose ECT is more effective than low dose. [References: 87]</p>
Bauer (11) 2003	<p>Review: electroconvulsive therapy may be an effective short term treatment for people with depression QUESTION: What is the efficacy and safety of electroconvulsive therapy (ECT) for people with depressive illness? METHOD: Design: Systematic review with meta-analysis</p>

	<p>DATA SOURCES: The reviewers searched Medline, Embase, the Cochrane Collaboration Depressive Anxiety and Neurosis and Schizophrenia Group Controlled Trial Registers, Cochrane Controlled Trials Register, Biological Abstracts, CINAHL, LILACS, PsycInfo, SIGLE, reference lists, and specialist textbooks. The full search strategy is available at http://image.thelancet.com/extras/02art8375webappendix.pdf</p> <p>STUDY SELECTION: Unconfounded randomised controlled trials were eligible if they compared ECT with no ECT, ECT versus pharmacotherapy, or different forms of ECT for people with depressive illness. Non-randomised studies assessing mortality after ECT were also eligible, as were case-control neuroimaging and post-mortem studies examining structural brain changes following ECT. When available, evidence from randomised trials was included in preference to other designs.</p> <p>DATA EXTRACTION: Two reviewers selected papers for inclusion. Paired members of the review team extracted data independently. The authors assessed the quality of studies using methods appropriate to the specific design. For example, the quality of randomised trials was assessed via reporting of allocation concealment, blinding, loss to follow up, and length of follow up. Disagreements were resolved by discussion. The main outcome measures were depressive symptoms, immediate and long term effects on cognitive function, and mortality. The primary outcome for estimating efficacy was change in symptoms on a continuous depressive symptom scale at the conclusion of ECT. The reviewers undertook metaanalysis of data on short term efficacy.</p> <p>MAIN RESULTS: 73 trials met the inclusion criteria. ECT reduced depressive symptoms more effectively than pharmacotherapy (standardised effect size -0.80, 95% CI -1.29 to -0.29, 1144 participants in 18 trials). There was no difference in depressive symptom outcomes when ECT was administered twice per week compared to three times per week, or once weekly versus three times per week. There was a trend towards greater cognitive impairment from more frequent ECT administration (210 participants in 6 trials). High doses of ECT were associated with greater reductions in depressive symptoms, but there was some evidence of greater cognitive impairments with high versus lower dose ECT (342 participants in 7 trials). Real ECT reduced depressive symptoms more effectively than simulated ECT (standardised effect size -0.91, 95% CI -1.27 to -0.54, 256 participants in 6 trials). Bilateral ECT was more effective than unipolar ECT (standardised effect size -0.32, 95% CI -0.46 to -0.19, 1408 participants in 22 trials)</p> <p>CONCLUSIONS: Electroconvulsive therapy (ECT) appears to be an effective short term treatment for depression. It may be more effective than medication. High dose ECT appears more effective than low dose ECT for reducing depressive symptoms. Bilateral ECT appears moderately more effective than unilateral ECT.</p>
Sarkar (12) 2014	<p>A systematic review and meta-analysis of trials of treatment of depression from India</p> <p>BACKGROUND: Antidepressants hold the center stage in the treatment of depression in current clinical practice. However, it is also well-known that the treatment response and dosage requirement are influenced by ethnic variations. Although many efficacy studies have evaluated the efficacy of antidepressants, there is lack of systematic reviews and meta-analysis of the existing literature from India</p> <p>OBJECTIVE: To systematically review the efficacy of treatment of depression in the Indian context</p> <p>MATERIALS AND METHODS: We searched PubMed, Psycinfo, Medknow and Google scholar to identify studies published in peer-reviewed English language journals. All controlled trials from India evaluating the clinical efficacy of antidepressants, electroconvulsive therapy (ECT), and repetitive transcranial magnetic stimulation (rTMS) for management of depression were evaluated. Data were extracted using standard procedures and risk of bias was evaluated. Effect sizes were computed for the individual studies</p> <p>RESULTS: Effect sizes were computed from 35 clinical trials. Overall, medications were superior to placebo for treatment of depression (mean effect size (ES) of 0.87, confidence intervals (CI) of 0.71-1.02). The effect was greatest for tricyclic antidepressants (ES of 1.00, CI of 0.80-1.21) followed by monoamine oxidase inhibitors (ES 0.54, CI of 0.40-0.67). ECT was superior to antidepressants (ES 0.32, CI of -0.21 to 0.86) and active rTMS was found to be superior to sham rTMS with mean effect size of 0.74 (CI 0.39-1.08). Risk of bias was found to be considerable. However, the review literature suggests that most of the studies have not been powered ade-</p>

	<p>quately and have been limited to small sample sizes</p> <p>CONCLUSIONS: Although there is some data from India with respect to efficacy of antidepressants, most of the trials have been of shorter duration have been inadequately powered. The available data support the superiority of antidepressants over placebo and that of ECT over antidepressants</p>
Schizofreni og schizoaffectiv (N=4)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Pompili (13) 2013	<p>Indications for electroconvulsive treatment in schizophrenia: a systematic review</p> <p>BACKGROUND: Electroconvulsive therapy (ECT) is a medical treatment that is most effective for mood disorders (Bipolar Disorder and Major Depression). It has also been shown to be an effective treatment for schizophrenia accompanied by catatonia, extreme depression, mania and other affective components. ECT is currently under-used in many psychiatric settings due to its stigmatized perception by patients and mental health professionals. However, many unanswered questions remain regarding its role in the management of patients with schizophrenia</p> <p>AIM: Evaluate the main indications of ECT in subjects suffering from schizophrenia</p> <p>OBJECTIVES: Investigate the efficacy and the main indications of ECT in the treatment of schizophrenic patients, evaluate its effects in the short-term and the long-term, compare ECT treatment with pharmacotherapy, and assess the effects of treatment with ECT. METHODS: A systematic review of the literature was conducted on the use of ECT for schizophrenia. Thirty one articles from peer-reviewed journals were identified, and the most relevant articles were selected for this review. RESULTS: The most common indication for using ECT for schizophrenia patients was to augment pharmacotherapy, while the most common accompanying symptoms were, in order, catatonia, aggression and suicide. <u>Catatonic patients responded significantly better to ECT than patients with any other subtype of schizophrenia.</u> The combination of ECT with pharmacotherapy can be useful for drug-resistant patients. The use of an ECT-risperidone combination or ECT-clozapine combination in patients non-responsive to prior pharmacotherapy was found to be most effective. CONCLUSIONS: This review indicates that ECT, combined with pharmacotherapy, may be a viable option for a selected group of patients with schizophrenia. In particular, the use of ECT is recommended for drug-resistant patients, for schizophrenic patients with catatonia, aggression or suicidal behavior, and when rapid global improvement and reduction of acute symptomatology are required.</p>
Lehnhardt (14) 2012	<p>Use of ECT in Drug-Refractory Schizophrenia - A Survey of the Current Literature</p> <p>Since its introduction in the 1930s, electroconvulsive therapy (ECT) has maintained an important role as an efficacious and evidence-based somatic treatment option in affective or schizophrenic diseases. As opposed to major depressive disorder, ECT is commonly used to a substantially lesser extent for patients with schizophrenia in the USA, UK and most parts of Europe. Accordingly there is comparably little evidence regarding the clinical effectiveness and tolerability of ECT in schizophrenia. Recent clinical studies, meta-analyses and surveys point to the combination of ECT and antipsychotic medication as being advantageous in the treatment of schizophrenia, particularly in those patients who have shown inadequate responses to psychotropic medication alone. Clinical features considered to be predictive for ECT outcome are delusions, hallucinations, presence of affective and catatonic symptoms and absence of negative symptoms as well as a short duration of the current episode. National and international guidelines suggest ECT as an augmentation strategy in treatment-refractory schizophrenia in acute exacerbation and continuation therapy. Considering the fact that a substantial part of schizophrenic patients does not respond sufficiently to pharmacotherapy there still is a lack of well designed, controlled and randomised clinical trials to improve evidence for the promising role of ECT in schizophrenia.</p>
Zervas (15) 2012	<p>Using ECT in schizophrenia: A review from a clinical perspective</p> <p>OBJECTIVES: Despite the fact that many studies have addressed the use of ECT in schizophrenia questions on clinical use remain poorly answered and clinical application is largely based on data originating from depressed patients.</p> <p>METHODS: We review data on the use of ECT in schizophrenic patients drawn from original studies indicated by a Pubmed search and referenced in recent and older expert reviews with a specif-</p>

	<p>ic focus on four issues: symptom response, technical application, continuation/maintenance ECT and combination with medication.</p> <p>RESULTS: Catatonic patients are the most responsive. Positive symptoms such as paranoid delusions and affective symptoms follow. There are indications that ECT may improve responsiveness to medication. No particular technical features stand out in studies except lengthier courses, but not for catatonia. Combination with medication appears to be preferable over either treatment alone and effective combination particularly with clozapine is supported by data. Use of continuation and maintenance treatments in responders appears beneficial.</p> <p>CONCLUSION: Certain schizophrenic patients may benefit significantly from the use of ECT. More specific research is required to address particular questions.</p>
Braga (16) 2005	<p>The combined use of electroconvulsive therapy and antipsychotics in patients with schizophrenia</p> <p>OBJECTIVES: We sought to review the literature on the use of combined antipsychotic medications and electroconvulsive therapy (ECT) for the treatment of schizophrenia, with regard to efficacy, side effects, and ECT technique</p> <p>METHODS: A computerized search of the literature published from 1980 to 2004 was conducted on Medline and PsycInfo using the words schizophrenia, antipsychotic, neuroleptic, psychotropic, and ECT. Only studies including patients with the diagnosis of schizophrenia were included</p> <p>RESULTS: We identified 42 articles including 1371 patients. The majority of the reports consist of uncontrolled studies (n = 31), mostly with typical antipsychotics (n = 23). Results from open studies suggest that the combination of ECT and antipsychotics is a very useful and safe strategy for the treatment of refractory schizophrenia. Double-blind controlled studies (n = 8) were inconclusive. Twelve articles were on the combination of clozapine and ECT. Initial concerns about the safety of the coadministration of clozapine and ECT were not substantiated, but despite the auspicious results from several case reports and 2 open trials, this combination remains understudied. Most studies preferred the bitemporal placement (n = 28), but because of insufficient data derived from direct comparisons, no conclusion on placement superiority can be reached. One study indicates that with the bilateral placement higher electrical dosages yields faster responses in this population</p> <p>CONCLUSIONS: The body of the data provided by research is still insufficient to allow definitive conclusions on the combination of antipsychotics and ECT. However, the literature reviewed indicates that the combination is a safe and efficacious treatment strategy for patients with schizophrenia, especially those refractory to conventional treatments. [References: 69]</p>

Blandet diagnosegrupper (N=1)

Førsteforfatter (årstal)	Tittel og Sammendrag
Bertolin Guillen (17) 2004	<p>Efficacy of electroconvulsive therapy: a systematic review of scientific evidences</p> <p>Abstract: We carried out a systematic study of bibliographical review of scientific evidence provided by clinical trials that assessed the short, medium and long-term efficacy of electroconvulsive therapy (ECT) from 1965 until June 2003. The studies with the following features have been excluded: a) those in which ECT is not the aim of the research; b) those that do not compare ECT with another different treatment; c) those in which the aim of the research is not to evaluate the efficacy of ECT, and d) those in which the studies are not randomized clinical trials. We have used the biomedical databases Medline, PsycLit, IME and Cochrane. On applying the corresponding search strategies on every bibliographical repertory, a total amount of 916 studies were found, which were reduced to 62 after having applied the specified exclusion criteria. The scientific evidence obtained, which compare the efficacy of ECT exclusively in depression, schizophrenia, mania and Parkinson disease, are systematized. [References: 83]</p>

2) Forekomst (prevalens) bruk og praksis, kost-nytte analyser (3)

Forekomst (prevalens), bruk og praksis (N=2)
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Førsteforfatter (årstall)	Tittel og Sammendrag
Leiknes (18) 2012	<p>Contemporary use and practice of electroconvulsive therapy worldwide.</p> <p>To explore contemporary (from 1990) utilization and practice of electroconvulsive therapy (ECT) worldwide. Systematic search (limited to studies published 1990 and after) was undertaken in the databases Medline, Embase, PsycINFO, SveMed, and EBSCO/Cinahl. Primary data-based studies/surveys with reported ECT utilization and practice in psychiatric institutions internationally, nationally, and regionally; city were included. Two reviewers independently checked study titles and abstracts according to inclusion criteria, and extracted ECT utilization and practice data from those retrieved in full text. Seventy studies were included, seven from Australia and New Zealand, three Africa, 12 North and Latin America, 33 Europe, and 15 Asia. Worldwide ECT differences and trends were evident, average number ECTs administered per patient were eight; unmodified (without anesthesia) was used in Asia (over 90%), Africa, Latin America, Russia, Turkey, Spain. Worldwide preferred electrode placement was bilateral, except unilateral at some places (Europe and Australia/New Zealand). Although mainstream was brief-pulse wave, sine-wave devices were still used. Majority ECT treated were older women with depression in Western countries, versus younger men with schizophrenia in Asian countries. ECT under involuntary conditions (admissions), use of ambulatory-ECT, acute first line of treatment, as well as administered by other professions (geriatricians, nurses) were noted by some sites. General trends were only some institutions within the same country providing ECT, training inadequate, and guidelines not followed. Mandatory reporting and overall country ECT register data were sparse. Many patients are still treated with unmodified ECT today. Large global variation in ECT utilization, administration, and practice advocates a need for worldwide sharing of knowledge about ECT, reflection, and learning from each other's experiences</p>
Tang (19) 2012	<p>Electroconvulsive therapy in China: clinical practice and research on efficacy.</p> <p>OBJECTIVE: Electroconvulsive therapy (ECT) was first introduced in China in the early 1950s and has evolved into a significant psychiatric treatment. Research from Chinese psychiatrists provides important clinical data for ECT practitioners. However, most of the research has only been published in Chinese language journals. This article summarizes data from publications in the Chinese scientific community related to the clinical practice of ECT and research on efficacy in the treatment of psychiatric disorders</p> <p>METHODS: Descriptive study primarily based on Chinese language literature identified from searches of the China National Knowledge Infrastructure and the Medline databases (1979-2012)</p> <p>RESULTS: More than 900 journal papers on ECT have been published in the Chinese language between 1979 and 2012. Currently, modified ECT has replaced unmodified ECT, and treatments were performed both in inpatient and outpatient settings. Electroconvulsive therapy is primarily used for the treatment of schizophrenia and mood disorders and has been shown to be very effective in both. The primary use of ECT in China is in the treatment of schizophrenia. The Chinese literature provides a rich database on the efficacy of modified and unmodified ECT, with and without adjunctive antipsychotics, in the treatment of schizophrenia</p> <p>CONCLUSION: The Chinese medical literature provides an important database that will help advance the practice of ECT in both China and the international community.</p>
Kost-nytte analyser (N=1)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Greenhalgh (20) 2005 (HTA rapport)	<p>Clinical and cost-effectiveness of electroconvulsive therapy for depressive illness, schizophrenia, catatonia and mania: Systematic reviews and economic modelling studies</p> <p>OBJECTIVES: To establish the clinical effectiveness and cost-effectiveness of electroconvulsive therapy (ECT) for depressive illness, schizophrenia, catatonia and mania. DATA SOURCES: Electronic bibliographic databases. The reference lists of relevant articles and health services research-related resources were consulted via the Internet. REVIEW METHODS: Identified studies were examined to ascertain whether they met the inclusion criteria for the review. The study quality of relevant articles was assessed using standard checklists and data were abstracted using standardised forms into a database. Where relevant, results from studies were pooled for meta-</p>

analysis. Two economic models were developed primarily based on evidence from the clinical effectiveness analysis and limited quality of life studies.

RESULTS: Two good-quality systematic reviews of randomised evidence of the efficacy and safety of ECT in people with depression, schizophrenia, catatonia and mania were identified. Four systematic reviews on non-randomised evidence were also identified, although only one of these could be described as good quality. There was no randomised evidence of the effectiveness of ECT in specific subgroups including older people, children and adolescents, people with catatonia and women with postpartum exacerbations of depression or schizophrenia. The economic modelling results for depression did not demonstrate that any of the scenarios had a clear economic benefit over the others, mainly because of the uncertainty surrounding the clinical effectiveness of the different treatments and the quality of life utility gains. Sensitivity analysis surrounding the cost of ECT and the quality of life. Utility values had little effect on the overall results. The results of the model for schizophrenia adapted to include ECT suggest that clozapine is a cost-effective treatment compared with ECT. For patients who fail to respond to clozapine, ECT treatment may be preferred to the comparative treatment of haloperidol/chlorpromazine.

CONCLUSIONS: Real ECT is probably more effective than sham ECT, but as stimulus parameters have an important influence on efficacy, low-dose unilateral ECT is no more effective than sham ECT. ECT is probably more effective than pharmacotherapy in the short term and limited evidence suggests that ECT is more effective than repetitive transcranial magnetic stimulation. Tricyclic antidepressants (TCAs) may improve the antidepressant effect of ECT during the course of treatment. Continuation pharmacotherapy with TCAs combined with lithium in people who have responded to ECT reduces the rate of relapses. Overall, gains in the efficacy of the intervention depending on the stimulus parameters of ECT are achieved only at the expense of an increased risk of cognitive side-effects. Limited evidence suggests these effects do not last beyond 6 months, but there is no evidence examining the longer term cognitive effects of ECT. There is little evidence of the long-term efficacy of ECT. ECT either combined with antipsychotic medication or as a monotherapy is not more effective than antipsychotic medication in people with schizophrenia. More research is needed to examine the long-term efficacy of ECT and the effectiveness of post-ECT pharmacotherapy, the short-term and longer term cognitive side-effects of ECT, and the impact of ECT on suicide and all-cause mortality. Further work is needed to examine the information needs of people deciding whether to accept ECT and how their decision-making can be facilitated. More research is also needed on the mechanism of action of ECT. Finally, the quality of reporting of trials in this area would be vastly improved by strict adherence to the Consolidated Standards of Reporting Trials recommendations. Economic analysis may identify areas in which research would be best targeted by identifying parameters where reducing the level of uncertainty would have the most effect in helping to make the decision on whether ECT is a cost-effective treatment. Queen's Printer and Controlled of HMSO 2005.

3) Parametre (strøm type, behandlingsintervall, elektrode plassering, dose/krampeterskel) (6)

ECT strøm type (brief pulse, ultra brief pulse) (N=1)	
Førsteforfatter (årstall)	Tittel og Sammendrag

Spaans (21) 2013	<p>Efficacy of ultrabrief pulse electroconvulsive therapy for depression: a systematic review</p> <p>BACKGROUND: Ultrabrief pulse electroconvulsive therapy (ECT) is increasingly used in daily practice when treating depression despite doubts about its efficacy compared to standard techniques</p> <p>METHOD: Using electronic search techniques, we collected all studies on the comparison between ultrabrief pulse (UBP) versus brief pulse (BP) ECT in depressed patients which reported validated rating scales as outcome measures. The Jadad scale was used to evaluate the quality of the studies</p> <p>RESULTS: Two randomized and one non-randomized prospective study using unilateral (UL) ECT, and two randomized and one retrospective study using bilateral (BL) ECT were identified comparing UBP with BP ECT. One UL randomized high quality study and one non-randomized study suggest an equal response and remission for both conditions. The number of treatment sessions to achieve remission using UBP is equal in one study and is higher in the second. Both BL studies, one of high quality, point to a lower efficacy for UBP ECT with a lower speed of remission</p> <p>LIMITATIONS: We restricted our review to the efficacy of UBP vs. BP ECT in depressed patients and did not address other clinically important issues such as the cognitive adverse effects. A statistical meta-analysis was not possible, because of the heterogeneity of outcome measures and the small amount of studies</p> <p>CONCLUSION: The literature shows no clear advantage for the efficacy of ultrabrief pulse over brief pulse ECT using unilateral as well as bilateral electrode placement. The increasing use of unilateral brief pulse ECT as first line method for depression is not supported by the current evidence.</p>
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ECT behandlingsintervall (1, 2 eller 3 ganger i uken) (N=1)

Førsteforfatter (årstall)	Tittel og Sammendrag
Charlson (22) 2012	<p>ECT efficacy and treatment course: a systematic review and meta-analysis of twice vs thrice weekly schedules</p> <p>BACKGROUND: Electroconvulsive therapy (ECT) guidelines, across various regulatory bodies, lack consensus as to the optimal frequency of treatment for individual patients. Some authors postulate that twice weekly ECT may have a similar efficacy to thrice weekly, and may have a lower risk of adverse cognitive outcomes. We did a systematic review and a meta-analysis to assess the strength of associations between ECT frequency and depression scores, duration of treatment, number of ECTs, and remission rates</p> <p>METHODS: We searched on Medline, EMBASE, CINAHL and the Cochrane Central Register of Controlled Trials (to December 2009), and searched reports to identify comparative studies of frequency of ECT. We did both random-effects (RE) and quality effect (QE) meta-analyses to determine the risk of various outcomes associated with lesser frequency as compared to the thrice weekly frequency</p> <p>RESULTS: We analysed 8 datasets (7 articles), including 214 subjects. Twice-weekly frequency of ECT was associated with a similar change in depression score (QE model SMD -0.11 [-0.55-0.33] and RE model SMD -0.17 [-0.77-0.43]) as compared to thrice weekly ECT. The number of real ECT's trended towards fewer in the twice weekly group. There was a statistically significant longer duration of treatment with a twice weekly protocol (QE model 6.48 days [4.99-7.97] and RE model 4.78 days [0.74-8.82]). There was a statistically significant greater efficacy for thrice weekly ECT compared to once weekly ECT (QE model SMD 1.25 [-0.62-1.9] and RE model SMD 1.31 [0.6-2.02])</p> <p>CONCLUSIONS: Twice weekly ECT is associated with similar efficacy to thrice weekly ECT, may require fewer treatments and may be associated with longer treatment duration when compared to thrice weekly. These epidemiological observations support the routine use of twice weekly ECT in acute courses, though choice of frequency should take into account individual patient factors. These observations have implications for resource utilisation e.g. costs of duration of admission vs cost of provision of ECT, as well as issues of access to inpatient beds and anaesthetist time.</p>

Elektrode plassering (bifrontal, bilateral, unilateral) (N=2)

Førsteforfatter (årstall)	Tittel og Sammendrag
Dunne (23) 2012	<p>Systematic review and meta-analysis of bifrontal electroconvulsive therapy versus bilateral and unilateral electroconvulsive therapy in depression</p> <p>OBJECTIVES: Our aim was to perform a meta-analysis of randomized controlled trials comparing efficacy and side effects of bifrontal (BF) ECT to bitemporal (BT) or unilateral (RUL) ECT in depression</p> <p>METHODS: We performed a systematic review of randomized controlled trials comparing BF ECT with RUL or BT ECT in depression. Eight trials (n=617) reported some cognitive outcome. Efficacy was measured by reduction in Hamilton Depression Rating Scale score. Cognitive outcomes were limited to Mini-Mental State Examination (MMSE) in seven studies, with two studies measuring each of: Complex-figure delayed recall, Trail-making tests and verbal learning</p> <p>RESULTS: Efficacy was equal between BF and BT ECT (Hedges's $g=0.102$, $P=0.345$, confidence interval (CI): -0.110, 0.313) and BF and RUL ECT (standardized mean difference=-0.12, $P=0.365$, CI: -0.378, 0.139). Post-treatment MMSE score decline was less for BF than BT ECT ($g=0.89$, CI: 0.054, 1.724) but not RUL ECT. RUL ECT impaired Complex figure recall more than BF ECT ($g=0.76$, CI: -0.487, 1.035), but BF ECT impaired word recall more than RUL ECT ($g=-1.45$, CI: -2.75, -0.15)</p> <p>CONCLUSIONS: Bifrontal ECT is not more effective than BT or RUL ECT but may have modest short-term benefits for specific memory domains. BF ECT has potential advantages, but given longer experience with BT and RUL, bifrontal ECT requires better characterization</p>
Pettinati (24) 1986	<p>Meta-analytical approach to reconciling discrepancies in efficacy between bilateral and unilateral electroconvulsive therapy</p> <p>A review of the literature assessing the efficacy of bilateral compared to nondominant unilateral ECT was conducted using a quantitative review procedure-meta-analysis. The results supported conventional reviews that concluded that there is no difference in outcome between bilateral and unilateral ECT. Meta-analysis also allowed an evaluation of the effects of 11 variables that span: (a) research methodology, (b) technique, (c) patient demographics, and (d) operational dimensions that have been proposed to mediate results of studies that found an advantage for bilateral over unilateral ECT. Of these variables, shorter interelectrode distance and the assessment of outcome after a fixed number of treatments (e.g., five or six ECT) rather than after completion of the full ECT course were significantly related to studies reporting a clinical advantage for bilateral ECT, and together, both accounted for 45% of the variance across studies. Although weaker effects of unilateral ECT due to shorter interelectrode distances may be related to seizure threshold, assessment after a fixed number of treatments may be related to failure to monitor seizure length</p>
Dose, krampeterskel («seizure threshold») (N=2)	
Førsteforfatter (årstall)	Tittel og Sammendrag
van Waarde (25) 2010	<p>Seizure thresholds in elderly patients treated with electroconvulsive therapy for major depressive disorder: A review</p> <p>OBJECTIVE: Electroconvulsive therapy (ECT) is effective and generally safe in depression. Its effectiveness and side effects are suggested to be related to the electrical stimulus administered relative to the seizure threshold. Since aging seems to raise the seizure threshold in ECT, we reviewed the literature for evidence correlating advanced age and seizure threshold, and for hypotheses explaining why seizure thresholds might raise with age.</p> <p>METHODS: Pubmed, PsychINFO, three standard works on ECT, and cross-references were searched for studies investigating seizure thresholds and/or associated factors in elderly depressed patients.</p> <p>RESULTS: A total of 406 possibly relevant articles were found, of which 27 studies could be included. One very recently published study was included afterwards because of its significance. Aging was moderately associated with a raised initial seizure threshold with correlation coefficients ranging from 0.30 to 0.64 ($p < 0.05$). Also, seizure thresholds in elderly patients were more likely to raise during the ECT course. Reported hypotheses for these clinical phenomena include a decrease of neuroexcitability, changes in morphologic and functional characteristics of the brain, somatic comorbidity, and concomitant medication use.</p>

	CONCLUSION: To optimize ECT in elderly patients, hypotheses and suggestions for further research are proposed regarding the moderate correlation between advanced age and initial seizure threshold and the rise in seizure threshold during the ECT course
Poulet (26) 2003	Seizure threshold and ECT. Importance for good clinical practice of ECT. A review of literature To induce a seizure for electroconvulsive therapy (ECT), an electrical charge is delivered above seizure threshold. The means and criteria used to determine the electrical dosage are subject to debate. Nonetheless this is an important issue because effectiveness and side effects have been shown to be influenced by the electrical charge used. The objective is to review data available in the literature on seizure threshold and ECT and determine the eventual consequences for practical determination of stimulus dosing. A comprehensive review of the literature is based on the search of electronic databases (Medline, INSIT) and a manual search; 72 references out of a total of 96 selected were used for this review. Seizure threshold varies widely between subjects receiving ECT (600% mean variation), however a majority of subjects of all ages have a threshold below 150 mC. Only a few individuals have very high thresholds (400 to 800 mC). ECT has an anticonvulsive effect as threshold increases during a course of ECT. Many factors influence threshold and all are not known. Among those that have been documented are: the characteristics of the current used (longer stimulus duration with same dosage gives lower thresholds); electrode placement (bilateral gives higher thresholds than unilateral placement); age (explains 12 to 26% of threshold variance); gender (which inconsistently gives higher thresholds for males); and other factors such as anesthetic drugs, concurrent psychotropics, and some morphological characteristics. Different methods are used to determine an individually adapted dosage. Two are recommended: titration and age. The age method is based on the fact that age is an important factor influencing threshold. The titration method is based on the observation of a very important variation in threshold between individuals that is not explained by age. We discuss the pros and cons of each method. [References: 76]

4) Sham/placebo, medikamenter, psykoterapi (7)

Medikamenter (antidepressiva) er også omtalt sammen med sham/placebo i *Janicak* (27). Sham også omtalt i *Gabor* (28).

Sham/placebo (N=3)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Read (29) 2010	The effectiveness of electroconvulsive therapy: a literature review AIM: To review the literature on the efficacy of electroconvulsive therapy [ECT], with a particular focus on depression, its primary target group METHODS: PsycINFO, Medline, previous reviews and meta-analyses were searched in an attempt to identify all studies comparing ECT with simulated-ECT [SECT] RESULTS: These placebo controlled studies show minimal support for effectiveness with either depression or 'schizophrenia' during the course of treatment (i.e., only for some patients, on some measures, sometimes perceived only by psychiatrists but not by other raters), and no evidence, for either diagnostic group, of any benefits beyond the treatment period. There are no placebo-controlled studies evaluating the hypothesis that ECT prevents suicide, and no robust evidence from other kinds of studies to support the hypothesis CONCLUSIONS: Given the strong evidence (summarised here) of persistent and, for some, permanent brain dysfunction, primarily evidenced in the form of retrograde and anterograde amnesia, and the evidence of a slight but significant increased risk of death, the cost-benefit analysis for ECT is so poor that its use cannot be scientifically justified
Zambello (30)	A critical review of meta-analyses

2009	<p>BACKGROUND. This review is aimed to analyze meta-analyses relating ECT in order to evaluate efficacy and safety of this tool compared to <i>sham ECT, placebo as well as psychopharmacology</i>. METHODS. Systematic reviews cited in PubMed, using specific subsets. Results. The meta-analyses agree in outstanding the clinical effectiveness of ECT compared to other kinds of therapy. The main conclusion of the present work, which is related to the safety of this tool would like to reduce the warnings about ECT. These conclusions at present still lack of good quality evidence. DISCUSSION. ECT nowadays is still a tool lacking of quality evidence, but it looks of relevant effectiveness and safety. Because of this, ECT as a technique should get more attention in clinical research and moreover in clinical practice</p>
Janicak (27) 1985	<p>Efficacy of ECT: A meta-analysis The authors analyzed several rigorously controlled studies that compared the efficacy of ECT with that of <i>simulated ECT, placebo, and antidepressants</i>. The data from these studies were combined statistically (with the Mantel-Haenszel method for the combination of fourfold tables), showing ECT's clear superiority over all these other forms of treatment for severe depression. The authors similarly analyzed the data from several studies comparing the efficacy of unilateral nondominant ECT with that of bilateral ECT and found no significant difference in their efficacy</p>
Medikamenter (N=3)	
Førsteforfatter (årstal)	Tittel og Sammendrag
Cipriani (31) 2011	<p>Depression in adults: drug and physical treatments INTRODUCTION: Depression may affect up to 10% of the population, with half of affected people having recurrence of their symptoms. In mild to moderate depression, there is no reliable evidence that any one treatment is superior in improving symptoms of depression, but the strength of evidence supporting different treatments varies. In severe depression, only prescription antidepressants and electroconvulsive therapy are known to improve symptoms. METHODS AND OUTCOMES: We conducted a systematic review and aimed to answer the following clinical questions: What are the effects of treatments in mild to moderate and severe depression, and in treatment-resistant depression? Which interventions reduce relapse rates? We searched: Medline, Embase, The Cochrane Library, and other important databases up to June 2009 (Clinical Evidence reviews are updated periodically, please check our website for the most up-to-date version of this review). We included harms alerts from relevant organisations such as the US Food and Drug Administration (FDA) and the UK Medicines and Healthcare products Regulatory Agency (MHRA)</p>
Sanz-Fuentenebro (32) 2011	<p>Effectiveness and risks of combining antipsychotic drugs with electroconvulsive treatment INTRODUCTION: The simultaneous application of electroconvulsive therapy (ECT) and psychotropic drugs is based on sparse data. Despite this, and the restrictive approach of the Guidelines and Consensus is widespread in the usual care, it is widely practiced in routine clinical. METHOD: We reviewed the results of search on the topic in MEDLINE, PsychINFO, EMBASE and Cochrane, and the main guidelines on the subject and analyzed for drug groups. RESULTS: Except some reservation with regard to classical MAOIs, antidepressants are safe and effective enhancers of the TEC. It is desirable to discontinuation of BZD whenever clinically possible before the course of ECT for risk of interference, if not possible will have to use proper technique to ensure effective incentives. It is advisable to stop or reduce the dose of lithium prior to ECT based on a cost-benefit analysis of the risk of relapse, if maintained will be adjusted lower levels and cognitive effects minimizing techniques. The combination with "classic" and "atypical" antipsychotics power positive clinical effects and the risk of combined use is low. The positive data are collected with clozapine and ECT-resistant psychosis, with little presence of effects of the decrease of seizure threshold by clozapine, and important effect of empowerment, but of limited duration.</p>

	CONCLUSIONS: Although it is strictly necessary to identify situations in terms of drugs, patient and ECT technique, and care necessary to develop tests that provide methodologically sound data, the combined use of ECT and psychotropic drugs in general presents an acceptable risk level and efficacy data by encouraging empowerment
Gabor (28) 2005	<p>The efficacy of ECT treatment in depression: a meta-analysis</p> <p>INTRODUCTION: The present study analyzed the efficacy of electroconvulsive therapy (ECT), simulated ECT and antidepressant drugs in the treatment of depression.</p> <p>METHOD: Randomized controlled trials with patient-based efficacy rate were statistically analyzed. Relevant literature for this review was sourced using the databases of MEDLINE for all English language articles between 1966 and 2003. Manual searching of handbooks and sourcing of secondary references extended the search.</p> <p>RESULTS: ECT treatment was significantly more effective in the treatment of depression than <i>simulated ECT</i> (9 studies, 321 patients), or <i>antidepressant drug treatment</i> (14 studies, 1081 patients).</p> <p>DISCUSSION: ECT treatment is an efficient tool in the short-term treatment of depression, and its effect is superior to antidepressant drug treatment and thus its use may be advantageous in patients suffering from severe depression with elevated suicidal risk</p>

Psykoterapi (N=1)

Førsteforfatter (årstall)	Tittel og Sammendrag
McClintock (33) 2011	<p>A systematic review of the combined use of electroconvulsive therapy and psychotherapy for depression</p> <p>OBJECTIVE: Electroconvulsive therapy (ECT) is one of the most effective treatments for severe major depressive disorder. However, after acute-phase treatment and initial remission, relapse rates are significant. Strategies to prolong remission include continuation phase ECT, pharmacotherapy, psychotherapy, or their combinations. This systematic review synthesizes extant data regarding the combined use of psychotherapy with ECT for the treatment of patients with severe major depressive disorder and offers the hypothesis that augmenting ECT with depression-specific psychotherapy represents a promising strategy for future investigation</p> <p>METHODS: The authors performed 2 independent searches in PsychInfo (1806-2009) and MEDLINE (1948-2009) using combinations of the following search terms: Electroconvulsive Therapy (including ECT, ECT therapy, electroshock therapy, EST, and shock therapy) and Psychotherapy (including cognitive behavioral, interpersonal, group, psychodynamic, psychoanalytic, individual, eclectic, and supportive). We included in this review a total of 6 articles (English language) that mentioned ECT and psychotherapy in the abstract and provided a case report, series, or clinical trial. We examined the articles for data related to ECT and psychotherapy treatment characteristics, cohort characteristics, and therapeutic outcome</p> <p>RESULTS: Although research over the past 7 decades documenting the combined use of ECT and psychotherapy is limited, the available evidence suggests that testing this combination has promise and may confer additional, positive functional outcomes</p> <p>CONCLUSIONS: Significant methodological variability in ECT and psychotherapy procedures, heterogeneous patient cohorts, and inconsistent outcome measures prevent strong conclusions; however, existing research supports the need for future investigations of combined ECT and psychotherapy in well-designed, controlled clinical studies. Depression-specific psychotherapy approaches may need special adaptations in view of the cognitive effects of ECT</p>

5) Virkningsmekanisme, neuromodulasjon terapier (rTMS, MST)

(8)

Mechanism of action (N=1)

Førsteforfatter og årstall	Tittel og Sammendrag
Ren (34) 2012	<p>Electroconvulsive therapy in China (II): research on the technical parameters and mechanism of action</p> <p>OBJECTIVE: This article summarizes the publications in the Chinese scientific literature related to the technical parameters and mechanism of action associated with electroconvulsive therapy (ECT)</p> <p>METHODS: The researchers conducted a comprehensive search of the Chinese language literature identified from searches of the China National Knowledge Infrastructure and the Medline databases (1979-2012)</p> <p>RESULTS: More than 900 journal papers on ECT have been published in the Chinese language between 1979 and 2012. Most studies found that electrode placement, anesthesia, and muscle relaxants are important clinical factors associated with both clinical efficacy and adverse effects. Chinese researchers have reported new leads regarding the possible mechanism of ECT</p> <p>CONCLUSION: The Chinese medical literature provides an important database that will help advance ECT research in both China and the international community</p>
Neuromodulasjon terapier (N=7)	
Førsteforfatter og årstall	Tittel og Sammendrag
Ren (35) 2014	<p>Repetitive transcranial magnetic stimulation versus electroconvulsive therapy for major depression: A systematic review and meta-analysis</p> <p>Electroconvulsive therapy (ECT) is the most effective treatment of depression. During the last decades repetitive transcranial magnetic stimulation (rTMS), an alternative method using electric stimulation of the brain, has revealed possible alternative to ECT in the treatment of depression. There are some clinical trials comparing their efficacies and safeties but without clear conclusions, mainly due to their small sample sizes. In the present study, a meta-analysis had been carried out to gain statistical power. Outcomes were response, remission, acceptability and cognitive effects in depression. Following a comprehensive literature search that included both English and Chinese language databases, we identified all randomized controlled trials that directly compared rTMS and ECT for major depression. 10 articles (9 trials) with a total of 425 patients were identified. Methodological quality, heterogeneity, sensitivity and publication bias were systematically evaluated. ECT was superior to high frequency rTMS in terms of response (64.4% vs. 48.7%, RR=1.41, p=0.03), remission (52.9% vs. 33.6%, RR=1.38, p=0.006) while discontinuation was not significantly different between the two treatments (8.3% vs. 9.4%, RR=1.11, p=0.80). According to the subgroup analysis, the superiority of ECT was more apparent in those with psychotic depression, while high frequency rTMS was as effective as ECT in those with non-psychotic depression. The same results were gained in the comparison of ECT with low frequency rTMS. ECT had a non-significant advantage over high frequency rTMS on the overall improvement in HAMD scores (p=0.11). There was insufficient data on medium or long term efficacy. Both rTMS and ECT were well tolerated with only minor side effects reported. Results based on 3 studies suggested that specific cognitive domains such as visual memory and verbal fluency were more impaired in patients receiving ECT. In conclusion, ECT seemed more effective than and at least as acceptable as rTMS in the short term, especially in the presence of psychotic depression. This review identified the lack of good quality trials comparing the long-term outcome and cognitive effects of rTMS and ECT, especially using approaches to optimize stimulus delivery and reduce clinical heterogeneity</p>
Berlim (36) 2013	<p>Efficacy and acceptability of high frequency repetitive transcranial magnetic stimulation (rTMS) versus electroconvulsive therapy (ECT) for major depression: A systematic review and meta-analysis of randomized trials</p> <p>Clinical trials comparing the efficacy and acceptability of high frequency repetitive transcranial magnetic stimulation (HF-rTMS) and electroconvulsive therapy (ECT) for treating major depression (MD) have yielded conflicting results. As this may have been the result of limited statistical power, we have carried out this meta-analysis to examine this issue. We searched the literature for randomized trials on head-to-head comparisons between HF-rTMS and ECT from January 1995 through September 2012 using MEDLINE, EMBASE, PsycINFO, Cochrane Central Register of Controlled Trials, and SCOPUS. The main outcome measures were remission rates, pre-post changes in depression rat-</p>

ings, as well as overall dropout rates at study end. We used a random-effects model, Odds Ratios (OR), Number Needed to Treat (NNT), and Hedges' g effect sizes. Data were obtained from 7 randomized trials, totalling 294 subjects with MD. After an average of 15.2 HF-rTMS and 8.2 ECT sessions, 33.6% (38/113) and 52% (53/102) of subjects were classified as remitters (OR = 0.46; p = 0.04), respectively. The associated NNT for remission was 6 and favoured ECT. Also, reduction of depressive symptomatology was significantly more pronounced in the ECT group (Hedges' g = -0.93; p = 0.007). No differences on dropout rates for HF-rTMS and ECT groups were found. In conclusion, ECT seems to be more effective than HF-rTMS for treating MD, although they did not differ in terms of dropout rates. Nevertheless, future comparative trials with larger sample sizes and better matching at baseline, longer follow-ups and more intense stimulation protocols are warranted.

Xie (37) 2013

Repetitive transcranial magnetic stimulation versus electroconvulsive therapy for major depression: A meta-analysis of stimulus parameter effects

Background: Studies comparing the antidepressant effects of electroconvulsive therapy (ECT) and repetitive transcranial magnetic stimulation (rTMS) have reported mixed results, as the choice of rTMS stimulus parameters is essential to its antidepressive effect. This meta-analysis aimed at assessing how rTMS stimulus parameters influence the efficacy of rTMS relative to ECT in treating major depression. Methods: A comprehensive literature search (including PubMed, CCTR, Web of Science, Embase, EAGLE, NTIS, CBM-disc, CNKI, Current Controlled Trials, Clinical Trials, International Clinical Trials Registry, and Internet Stroke Center) was conducted dating until December 2012. After exclusion of low-quality studies, the key search terms ('depressive', 'depression', 'transcranial magnetic stimulation', 'TMS', 'repetitive TMS', 'electroconvulsive therapy', and 'ECT') produced nine high-quality randomized controlled trials (RCTs) of rTMS versus ECT. Results: These nine studies, composed of 395 patients, were meta-analyzed through assessment of odds of remission, response, and drop-out. Two rTMS subgroups displayed non-significant superiority to ECT: 20 Hz (odds ratio (OR) = 1.20; P > 0.05) and > 1200 daily stimuli (OR = 1.06; P > 0.05). One rTMS subgroup displayed non-significant inferiority to ECT: four-week treatment period (OR = 0.65; P > 0.05). The other rTMS subgroups were significantly inferior to ECT. Repetitive transcranial magnetic stimulation was associated with a 30% relative reduction in the odds of drop-out, however non-significantly (95% confidence interval (CI), 0.36-1.39). Discussion: The results indicate that the efficacy of rTMS is tied to its stimulus parameters. Varying stimulus parameters can result in varying antidepressive effects. Consequently, future research on rTMS or rTMS versus ECT should take the influence of rTMS stimulus parameters into consideration.

Aarre (38) 2003

Efficacy of repetitive transcranial magnetic stimulation in depression: a review of the evidence

Repetitive transcranial magnetic stimulation (rTMS) is a novel treatment in psychiatry. We reviewed all published evidence on the efficacy of this treatment option in depressive disorders. An extensive electronic and manual search for eligible research reports identified only 12 studies that met the pre-determined criteria for inclusion. rTMS was administered differently in most studies, and patient characteristics varied widely. A formal meta-analysis of the studies was thus not possible. Instead, we conducted a qualitative evaluation of the included studies. The antidepressive efficacy was not consistent, and where efficacy was demonstrated, it was modest in most studies. Some patients had good but transient responses to rTMS. Treatment gains were not maintained beyond the treatment period. Comparisons with electroconvulsive therapy (ECT) indicated the superiority of ECT. More, larger and more carefully designed studies are needed to demonstrate convincingly a clinically relevant effect of rTMS. We conclude that there is insufficient evidence for rTMS as a valid treatment for depression at present. [References: 63]

Allan (39) 2011

The use of ECT and MST in treating depression

Electroconvulsive therapy (ECT) has been used clinically since 1938. Its most common use is in the treatment of depression: first line treatment where rapid recovery is a priority, but more frequently as an effective treatment for patients who do not respond to pharmacological and psychological approaches. Whilst it is widely hailed as an effective treatment, concerns about its effect on cognition remain. The development of magnetic seizure therapy (MST) over the past decade has attempted to devise a therapy with comparable efficacy to ECT, but without the associated cognitive side effects. The rationale for this is that MST uses magnetic fields to induce seizures in the cortex, without electrical stimulation of brain structures involved with memory. MST has been used successfully in the treatment of depression, yet there is a dearth of literature in comparison with ECT. We present a sys-

	tematic review of the literature on ECT (from 2009-2011) and MST (from 2001-2011)
Loo (40) 2011	<p>Physical treatments for bipolar disorder: a review of electroconvulsive therapy, stereotactic surgery and other brain stimulation techniques</p> <p>BACKGROUND: Despite pharmacological advances, bipolar disorder continues to be difficult to treat. This article reviews the evidence base for the use of electroconvulsive therapy (ECT) and other brain stimulation therapies in bipolar disorder</p> <p>METHODS: The evidence base for the efficacy of ECT and transcranial magnetic stimulation in the treatment of mania, bipolar depression and mixed affective states was reviewed. Reports on the use of vagus nerve stimulation, stereotaxic surgery, deep brain stimulation, magnetic seizure therapy and transcranial direct current stimulation in treating depression, as well as bipolar disorder were also reviewed. Studies were identified from Medline and Embase database searches</p> <p>RESULTS: There are a few randomized controlled trials of ECT in mania and bipolar depression, and none in mixed affective states. Nevertheless, such studies consistently reported clinically meaningful efficacy, with a majority of pharmacotherapy resistant patients responding to ECT. Evidence for the use of other brain stimulation therapies in treating bipolar mood states is preliminary and limited</p> <p>CONCLUSIONS: ECT is an effective treatment for acute mania, bipolar depression and mixed affective states and has useful efficacy even in pharmacotherapy-resistant patients. Other brain stimulation techniques may have potential for the treatment of bipolar disorder and should be further re-searched</p>
Andrade (41) 2010	<p>Neurostimulatory and ablative treatment options in major depressive disorder: a systematic review</p> <p>INTRODUCTION: Major depressive disorder is one of the most disabling and common diagnoses amongst psychiatric disorders, with a current worldwide prevalence of 5-10% of the general population and up to 20-25% for the lifetime period.</p> <p>HISTORICAL PERSPECTIVE: Nowadays, conventional treatment includes psychotherapy and pharmacotherapy; however, more than 60% of the treated patients respond unsatisfactorily, and almost one fifth becomes refractory to these therapies at long-term follow-up.</p> <p>NONPHARMACOLOGICAL TECHNIQUES: Growing social incapacity and economic burdens make the medical community strive for better therapies, with fewer complications. Various nonpharmacological techniques like electroconvulsive therapy, vagus nerve stimulation, transcranial magnetic stimulation, lesion surgery, and deep brain stimulation have been developed for this purpose.</p> <p>DISCUSSION: We reviewed the literature from the beginning of the twentieth century until July 2009 and described the early clinical effects and main reported complications of these methods</p>

6) Kognitive funksjoner (hukommelsesfunksjoner) (11)

Kognitive mål er også omtalt i Dunne og McLoughlin (23) (se avsnitt 3) Parametre mm).

Kognitive funksjoner (N=11)	
Førsteforfatter og årstall	Tittel og Sammendrag
Quiles (42) 2013	<p>Objective memory impairment and memory complaints in subjects treated with electroconvulsive therapy: Selective literature review.</p> <p>Objectives: Electroconvulsive treatment (ECT) is an efficient treatment of depression, mania or acute episode of schizophrenia. However, ECT can lead to several side effects, particularly regarding cognitive functioning. Neuropsychological tests show that memory impairment is the most common cognitive disturbance. Memory impairments are also self-reported by 29 % to 55 % of patients treated with ECT. The subjective perception of memory impairment belongs to the field of metacognition (or, in this case, metamemory). Metacognition is indeed defined as monitoring and control of its own cognitive processes, and can be evaluated during or after cognitive task (on line or off line). The subjective perception of memory impairment after ECT treatment has been scarcely explored in</p>

the literature. The aims of this review of the literature are to describe the "objective" characteristics of memory impairment, the "subjective" characteristics of memory complaints observed after treatment with ECT, and the relationships that exist between objective and subjective memory impairment. Methods: This review is based on a selection of articles identified using PubMed. Three exhaustive literature searches of Medline databases between years 1970 and 2012 were performed. The first search used the words "Electroconvulsive therapy" and "Anterograde Memory Loss" from the Medical Subject Headings or MESH (41 articles). The second search used the MESH words "Electroconvulsive therapy" and "Retrograde Amnesia" (103 articles). The third search used the MESH words "Electroconvulsive therapy" and the words "Subjective Memory" not listed in the MESH (29 articles). Titles and abstracts of literature review or meta-analysis in English and French were carefully screened. Regarding "objective" memory impairment, only studies comparing neuropsychological tests assessing memory conducted before and after treatment with curative ECT were selected. Regarding "subjective" memory impairment, only studies assessing memory complaints were selected. A selection of 29 relevant articles was carried out. Results: The only "objective" long-term cognitive impairment observed after treatment with ECT is retrograde autobiographical memory impairment. Anterograde memory performances (learning, episodic and visuospatial memory) are disrupted in the short-term period following ECT, but no longer several months later. Three self-administered questionnaires assessing "subjective" memory complaints are available: Cognitive Failure Questionnaire or CFQ (assessing perceived learning, attention and memory functions), Squire Subjective Memory Questionnaire or SSMQ (evaluating perceived specific memory functions) and Global Self-Evaluation-Memory or GSE-My (evaluating perceived global memory impairment). After ECT treatment, improvement in the CFQ scores and SSMQ (less memory complaints) is observed. However, scores at GSE-My are significantly lower after treatment, suggesting that subjects rate their global memory functioning as impaired by ECT. "Subjective" memory complaints are correlated with "objective" memory impairment, when complaints are globally assessed using the GSE-My. Conclusion: The fact that there is no long-term cognitive impairment after treatment with ECT is an important information that must be shared within the healthcare team and the patients in order to improve adherence to ECT. Few studies have investigated subjective complaints, and no study has evaluated metacognitive skills during the cognitive task. It might be of interest to explore subjective memory changes after ECT by using on line metacognitive skills evaluation.

Verwijk (43)
2012

Neurocognitive effects after brief pulse and ultrabrief pulse unilateral electroconvulsive therapy for major depression: a review

BACKGROUND: Neurocognitive functioning is well known to be affected after ECT. However quantified data about the severity of the cognitive impairment after ultrabrief pulse and brief pulse ECT are limited, which makes it hard to judge its clinical relevance.

METHODS: To review all prospective studies using right unilateral (ultra) brief pulse index electroconvulsive therapy published up until February 2011 which used at least one instrument for cognitive assessment before and after ECT. The severity and persistence of neurocognitive side effects immediately (one to seven days post ECT), between one and six months and after six months post ECT were assessed by calculating effect sizes using Cohen's d.

RESULTS: Ten studies fulfilled the inclusion criteria and provided detailed information to compute effect sizes. The results indicate loss of autobiographical memory and impairment of verbal fluency, anterograde verbal and non-verbal memory immediately after brief pulse RUL ECT. To a lesser extent impairment of working memory and reduced speed of processing is found. Autobiographical memory is the only domain still being impaired between one and six months post ECT, but improved in this period. Verbal fluency normalized to baseline performance between one and six months post ECT whereas anterograde verbal and non-verbal memory normalized or even improved. Speed of processing improved within six months after ECT. Long-term data on these cognitive domains were not available. Based on two of the ten included studies the results suggest that ultrabrief pulse RUL ECT causes less decline in autobiographical and anterograde memory after ECT than brief pulse RUL ECT.

LIMITATIONS: This review may be limited because of the small number of included studies and due to unreliable effect sizes. Furthermore, few data were available for non-memory domains and cognitive functioning after six months.

	<p>CONCLUSIONS: Loss of autobiographical memory is still present between one and six months after unilateral brief pulse ECT. Ultrabrief pulse RUL ECT shows less decline in autobiographical memory. Other neurocognitive impairments after brief pulse RUL ECT seem to be transient.</p>
<p>McClintock (44) 2011</p>	<p>The effects of electroconvulsive therapy on neurocognitive function in elderly adults Electroconvulsive therapy (ECT) is a commonly used treatment for elderly adults with severe major depressive disorder. Technical advances have maximized the efficacy of ECT while reducing side effects, particularly cognitive adverse effects. Careful monitoring of depressive symptomatology and neurocognitive functions using measurement-based care methods are recommended during the treatment course to systematically guide the administration of ECT. In this systematic review, the authors describe the advances in ECT administration that have improved its efficacy and summarize the available information regarding the associated adverse cognitive effects in elderly adults</p>
<p>Semkowska (45) 2011</p>	<p>Unilateral brief-pulse electroconvulsive therapy and cognition: effects of electrode placement, stimulus dosage and time To clarify advantages of unilateral electrode placement as an optimisation technique for electroconvulsive therapy (ECT) for depression, aims were to meta-analyse unilateral ECT effects on cognitive performance relative to: (1) bitemporal electrode placement, (2) electrical dosage, and (3) time interval between final treatment and cognitive reassessment. Relevant electronic databases were systematically searched through May 2009, using the terms: "electroconvulsive therapy" and ["cogniti*", "neuropsycholog**", "memory", "attention", "executive", "spatial", or "intellectual"]. Inclusion criteria were: independent study of depressed patients receiving unilateral or bitemporal brief-pulse ECT; within-subjects design; use of objective cognitive assessments; available mean electrical dosage for unilateral samples. Standardized pre-post ECT weighted effect sizes were computed and pooled within 16 cognitive domains by a mixed-effects model. Thirty-nine studies (1415 patients) were meta-analysed. Up to three days after final treatment, unilateral ECT was associated with significantly smaller decreases in global cognition, delayed verbal memory retrieval, and autobiographical memory, compared to bitemporal ECT. Significant publication bias was found for autobiographical memory, favouring reporting of larger percentage loss. Higher unilateral ECT electrical dosage predicted larger decreases in verbal learning, delayed verbal memory retrieval, visual recognition, and semantic memory retrieval. When retested more than three days after completing ECT, no significant differences remained between the two electrode placements; for unilateral ECT, electrical dosage no longer predicted cognitive performance whereas increasing interval between final treatment and retesting predicted growing improvement in some variables. This interval is a more useful long-term predictor of cognitive function than electrode placement or electrical dosage following unilateral ECT</p>
<p>Semkowska (46) 2010</p>	<p>Objective cognitive performance associated with electroconvulsive therapy for depression: a systematic review and meta-analysis BACKGROUND: Electroconvulsive therapy (ECT) is the most acutely effective treatment for depression, but is limited by cognitive side effects. However, research on their persistence, severity, and pattern is inconsistent. We aimed to quantify ECT-associated cognitive changes, specify their pattern, and determine progression METHODS: MEDLINE, EMBASE, PsycArticles, PsychINFO, PsychLIT, and reference lists were systematically searched through January 2009. We included all independent, within-subjects design studies of depressed patients receiving ECT where cognition was assessed using standardized tests. Main outcome was change in performance after ECT relative to pretreatment scores with respect to delay between finishing ECT and cognitive testing. We explored potential moderators' influence, e.g., electrode placement, stimulus waveform RESULTS: Twenty-four cognitive variables (84 studies, 2981 patients) were meta-analyzed. No standardized retrograde amnesia tests were identified. Significant decreases in cognitive performance were observed 0 to 3 days after ECT in 72% of variables: effect sizes (ES) ranging from -1.10 (95% confidence interval [CI], -1.53 to -.67) to -.21 (95% CI, -.40 to .01). Four to 15 days post-ECT, all but one CI included zero or showed positive ES. No negative ES were observed after 15 days, with 57% of variables showing positive ES, ranging from .35 (95% CI, .07-.63) to .75 (95% CI, .43-1.08). Moderators did not influence cognitive outcomes after 3 days post-ECT CONCLUSIONS: Cognitive abnormalities associated with ECT are mainly limited to the first 3 days posttreatment. Pretreatment functioning levels are subsequently recovered. After 15 days, pro-</p>

	<p>cessing speed, working memory, anterograde memory, and some aspects of executive function improve beyond baseline levels</p>
<p>McLoughlin (47) 2010</p>	<p>Meta-analysis of the cognitive side-effects of electroconvulsive therapy BACKGROUND: Electroconvulsive therapy (ECT) for depression may be limited by cognitive side-effects although their nature is unclear. We did a systematic review and meta-analysis to quantify ECT-associated cognitive dysfunctions, specify their configuration and determine how they progress over time. METHODS: We searched MEDLINE, EMBASE, PsycARTICLES, PsychINFO, PsychLIT up to January 2009. Eligible studies had within-subjects design, involving depressed patients receiving ECT and assessed with standardised cognitive tests. Main outcome was performance change after ECT relative to pre-treatment scores. We extracted delays between finishing ECT and cognitive testing. RESULTS: Twenty-four cognitive variables from 84 studies (2981 patients) were meta-analysed. Significant decreases in performance were observed 0-3 days post-ECT in 72% of variables, effect sizes (ES) range -110 (95% CI, -153 to -067) to -021 (95% CI, -040 to -001). Four to 15 days after ECT, all but one CI included zero or showed positive ES. No negative ES were observed after 15 days with 57% of variables showing a positive ES, range 035 (95% CI, 007 to 063) to 075 (95% CI, 043 to 108). CONCLUSIONS: Cognitive abnormalities associated with ECT, and as detected by standardised tests, are mainly limited to the first three days post-treatment. Moderators (e.g. electrode placement and stimulus waveform) did not influence cognitive outcomes after three days post-ECT. Pre-treatment function was subsequently recovered. After two weeks, processing speed, working memory, anterograde memory and some aspects of executive function improved beyond baseline levels</p>
<p>Plakiotis (48) 2009</p>	<p>Bifrontal ECT: A systematic review and meta-analysis of efficacy and cognitive impact The aim of this paper is to review the literature regarding bifrontal electroconvulsive therapy (ECT) and provide recommendations for future research in this area. Original publications were retrieved using PubMed, EMBASE, PsycINFO, and Google Scholar. A systematic review and meta-analysis of randomised clinical trials examining efficacy and/or cognitive effects of bifrontal ECT for the treatment of depression is the centrepiece of this paper. The literature regarding bifrontal ECT is limited, with small patient numbers and treatment variation across studies complicating result interpretation. However, our findings suggest that while bifrontal and bitemporal ECT may have similar efficacy, bifrontal ECT is associated with less cognitive impairment immediately after a treatment course. Bifrontal ECT may have greater efficacy than low-dose right unilateral ECT but less efficacy than high-dose right unilateral ECT. Conversely, bifrontal ECT may affect cognition more adversely than low-dose right unilateral ECT, but less so than high-dose right unilateral ECT. To further investigate the likely favourable benefit to cognitive risk profile of bifrontal ECT, detailed cognitive testing should be undertaken as part of any future, large scale studies comparing the efficacy of adequately-dosed bifrontal, bitemporal and right unilateral ECT.</p>
<p>Gardner (49) 2008</p>	<p>A review of the cognitive effects of electroconvulsive therapy in older adults OBJECTIVE: To review studies that examined the impact of electroconvulsive therapy (ECT) on cognitive functioning in depressed older people METHODS: Studies were systematically retrieved using PsychINFO and MEDLINE, with additional articles sourced from lists of references. Given our aged-care focus, study participants had a minimum mean age of 60 years, with no single participant younger than 50 years RESULTS: Twenty-seven studies met our criteria. Apart from evidence of interictal slowing of information processing speed, there were mixed results with regard to the impact of ECT on other cognitive domains. Factors contributing to this variability in results include the lack of discrimination between unilateral, bilateral, or mixed electrode placement; the inclusion of patients with dementia; the small sample sizes; and the use of tests insensitive to subtle cognitive changes CONCLUSIONS: The effect of ECT in elderly recipients' cognition remains unclear, and further research with more critically selected methods is required. In the meantime, we recommend that clinicians regularly administer brief focused cognitive tests before, during, and after treatment to monitor progress. [References: 67]</p>
<p>Fraser (50) 2008</p>	<p>The effect of electroconvulsive therapy on autobiographical memory: a systematic review OBJECTIVES: In the last 20 years, an increasing number of articles have been published about</p>

	<p>effects of electroconvulsive therapy (ECT) on memory. Here, we review autobiographical memory studies in particular because there have been conflicting reports about the extent and persistence of ECT effects and the period before treatment from which memories are most likely to be affected</p> <p>METHODS: Five psychological and medical databases (MEDLINE, PubMed, PsychINFO, ScienceDirect, and Web of Knowledge) were searched from 1980 to 2007, yielding 15 studies of ECT and autobiographical memory</p> <p>RESULTS: Evidence suggests that autobiographical memory impairment does occur as a result of ECT. Objective measures found memory loss to be relatively short term (<6 months posttreatment), whereas subjective accounts reported amnesia to be more persistent (>6 months post-ECT). Electroconvulsive therapy predominantly affects memory of prior personal events that are near the treatment (within 6 months). Autobiographical memory loss is reduced by using brief pulse ECT rather than sine wave-unilateral positioning of electrodes rather than bilateral-and by titrating electrical current relative to the patient's own seizure threshold</p> <p>CONCLUSIONS: Further research is required to determine memory loss associated with ECT, controlling for the direct effects of the depressive state. [References: 37]</p>
<p>Koopowitz (51) 2004</p>	<p>Review: at least one third of people report persistent memory loss after electroconvulsive therapy</p> <p>What are patients' views on the treatment benefits of electroconvulsive therapy and to what extent is persistent loss of memory an adverse effect of this treatment?</p> <p>METHODS: Design: Systematic review Data sources: MEDLINE, PsycINFO, Web of Science, and the Social Science Citation Index (search date 2001); hand searches of reference lists</p> <p>Study selection and analysis: Studies were included if they reported on people's views on treatment with electroconvulsive therapy (ECT). Exclusions: reports of lay or professional opinions, studies in children or adolescents, or if not all people received treatment. Data were extracted for the proportion of people with "positive responses" to statements on ECT (a positive response was defined as an affirmative response to either of the following statements: "ECT is helpful" or "I would have ECT again"); the time between treatment and interview; the number of questions asked; the complexity of the interview, and the setting of interview and status of interviewer. Outcomes: Patients' views on electroconvulsive therapy, memory loss</p> <p>MAIN RESULTS: Thirty five studies met inclusion criteria. Perceived benefit: there was substantial heterogeneity among studies (see Notes). The studies reported that between 20% and 90% of people found ECT helpful. However, the reported efficacy was related to methodological features of the included studies. People were more likely to report positive views on ECT if they were interviewed soon after treatment. Conversely, people who were not interviewed by their treating doctor or who were interviewed at home were less likely to report positive views. Safety: among 7 studies that reported on memory loss, the rate of persistent or permanent memory loss after ECT ranged from 29% to 55%</p> <p>CONCLUSIONS: Studies examining perceived benefits of ECT among patients may be biased by their methods. However, there appears to be consistent evidence that memory loss is common following ECT.</p> <p>NOTES: The systematic review did not exclude studies based on their design or quality of their methods. It is not surprising, therefore, to find heterogeneity of results. However the study goes further in examining sources of heterogeneity, and importantly it demonstrates consistent evidence of harm (memory loss).</p>
<p>Khan (52) 1993</p>	<p>Can ECT-induced cognitive effects be altered pharmacologically?</p> <p>1. A systematic review of the literature revealed twelve clinical trials that evaluated nine different drugs, and used three different conceptual models to prevent, restore or treat ECT-induced cognitive deficits. 2. This review indicated inconclusive results regarding clinical utility of any of the drugs. 3. Major factors discussed include the complexities involved in the evaluation of ECT-induced cognitive deficits, and the techniques of evaluating changes in cognitive functions. 4. Our conclusion is that future research should emphasize understanding the neural mechanisms related to ECT-induced cognitive deficits. We suggest several areas for future exploration. [References: 54]</p>

7) Tilbakefall, forebygging, vedlikeholds ECT (M-ECT) (7)

Vedlikeholds (continuation, maintenance) ECT (M-ECT) (N=7)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Fink (53) 2014	<p>What was learned: studies by the consortium for research in ECT (CORE) 1997-2011</p> <p>OBJECTIVE: To review the findings of the four-hospital collaborative studies of electroconvulsive therapy (ECT) in unipolar depressed patients known as CORE between 1997 and 2011. Unipolar depressed patients were treated with bilateral ECT, and on remission were randomly assigned to a fixed schedule continuation ECT or to combined lithium and nortriptyline for 6 months. A second study compared three electrode placements in unipolar and bipolar depressed patients. METHOD: Nineteen published reports were reviewed. The findings are compared with those of a parallel multi-hospital study of ECT led by a Columbia University Collaboration (CUC) team that studied right unilateral ECT in a similar population with similar inclusion/exclusion and remission criteria. Successful ECT was followed by placebo, nortriptyline alone, or combined lithium, and nortriptyline. RESULTS: Relapse rates after remission were similar with fixed schedule ECT as with medications. Predictors of outcome (psychosis, suicide risk, polarity, melancholia, atypical depression, age) and technical aspects (electrode placement, seizure threshold, speed of response) are discussed, CONCLUSION: The findings offer criteria to optimize the selection of patients, the technique, and outcome of ECT for unipolar and bipolar depressed patients. Continuation ECT is an effective alternative to continuation treatment with lithium and nortriptyline. Bilateral electrode placement is more efficient than alternative placements. ECT relieves both bipolar and unipolar depression</p>
Rabheru (54) 2012	<p>Maintenance electroconvulsive therapy (M-ECT) after acute response: examining the evidence for who, what, when, and how?</p> <p>OBJECTIVE: To examine the evidence for maintenance electroconvulsive therapy (M-ECT) to help determine who, when, and how long ECT should be continued</p> <p>METHOD: A review of published literature on the use of maintenance ECT (M-ECT) was conducted. It focused primarily on trials published since 1997, meeting the following additional criteria: randomized controlled trial or cohort study with a comparison (matched group or before and after), and at least 10 patients receiving M-/continuation ECT. Where such data are not available, recent case series were reviewed</p> <p>RESULTS: Relapse rates after discontinuation of ECT are very high. Maintenance ECT is an underused treatment option that can substantially reduce risks of relapse in patients with major depressive disorder and likely in bipolar disorder and schizophrenia as well. Little data are available for the use of M-ECT in neurological disorders, and no cost-effectiveness analyses in the maintenance setting were found.</p> <p>CONCLUSIONS: Whereas no clear answers emerge from the literature, there is now a growing body of evidence to suggest that for those who have not responded well to medications but have responded to ECT, M-ECT must be presented as an option to the patient and the family for consideration. Clear consensus guidelines for the use of M-ECT are needed</p>
van Schaik (55) 2012	<p>Efficacy and safety of continuation and maintenance electroconvulsive therapy in depressed elderly patients: a systematic review.</p> <p>BACKGROUND: Electroconvulsive therapy (ECT) is the most efficacious treatment in severely depressed elderly patients. Relapse and recurrence of geriatric depression after recovery is an important clinical issue, which requires vigorous and safe treatment in the long term. Continuation or maintenance ECT (M-ECT) may play an important role in this respect METHODS: In this systematic search, we evaluate the efficacy and safety of M-ECT in preventing depressive relapse in patients age 55 or older. Computer databases were searched for relevant literature published from 1966 until August 2010 with additional references</p> <p>RESULTS: Twenty-two studies met the search criteria including three randomized clinical trials. M-ECT was studied in nine studies exclusively in the elderly patients.</p> <p>CONCLUSIONS: Research on this clinically important topic is sparse. On the basis of available literature, M-ECT is probably as effective as continuation medication in severely depressed elderly patients after a successful course of ECT and is generally well tolerated. To date, methodologically sound studies, which take into account important issues in geriatric depression like cognition,</p>

	comorbidity, and clinical parameters, are lacking.
Petrides (56) 2011	<p>Continuation and maintenance electroconvulsive therapy for mood disorders: Review of the literature</p> <p>BACKGROUND: Electroconvulsive therapy (ECT) is a highly effective treatment for mood disorders. Continuation ECT (C-ECT) and maintenance ECT (M-ECT) are required for many patients suffering from severe and recurrent forms of mood disorders. This is a review of the literature regarding C- and M-ECT.</p> <p>METHODS: We conducted a computerized search using the words continuation ECT, maintenance ECT, depression, mania, bipolar disorder and mood disorders. We report on all articles published in the English language from 1998 to 2009.</p> <p>RESULTS: We identified 32 reports. There were 24 case reports and retrospective reviews on 284 patients. Two of these reports included comparison groups, and 1 had a prospective follow-up in a subset of subjects. There were 6 prospective naturalistic studies and 2 randomized controlled trials.</p> <p>CONCLUSIONS: C-ECT and M-ECT are valuable treatment modalities to prevent relapse and recurrence of mood disorders in patients who have responded to an index course of ECT. C-ECT and M-ECT are underused and insufficiently studied despite positive clinical experience of more than 70 years. Studies which are currently under way should allow more definitive recommendations regarding the choice, frequency and duration of C-ECT and M-ECT following acute ECT</p>
Vaidya (57) 2003	<p>Continuation and maintenance ECT in treatment-resistant bipolar disorder</p> <p>Continuation and maintenance electroconvulsive therapy (c/mECT) is a treatment alternative for the long-term management of mood and psychotic disorders, especially in chronic, recurring, medication-resistant illnesses and in patients who are medication-intolerant, are non-compliant, and have a high risk of suicide with medications. A MEDLINE search was performed with maintenance electroconvulsive therapy (ECT), continuation ECT, and prophylactic ECT as keywords. The relevant literature was obtained and reviewed. Despite methodologic flaws, the overwhelming majority of the studies report the effectiveness of c/mECT in bipolar mood disorder. We also reviewed the charts of 13 patients with mood disorder receiving maintenance ECT in the ECT service of a Veterans Administration medical center. Despite good results, c/mECT is underused in the treatment of bipolar mood disorder. More research with better study design is needed to define the predictors of response to c/mECT and to develop c/mECT treatment protocols for treatment-resistant bipolar patients. [References: 66]</p>
Jelovac (58) 2013	<p>Relapse following successful electroconvulsive therapy for major depression: A meta-analysis</p> <p>High rates of early relapse following electroconvulsive therapy (ECT) are typically reported in the literature. Current treatment guidelines offer little information to clinicians on the optimal nature of maintenance therapy following ECT. The aim of this study was to provide a systematic overview of the existing evidence regarding post-ECT relapse. A keyword search of electronic databases was performed for studies appearing in the peer-reviewed literature before January 2013 reporting on relapse rates in responders to an acute course of ECT administered for a major depressive episode. Meta-analyses were performed where appropriate. Thirty-two studies with up to 2 years' duration of follow-up were included. In modern era studies of continuation pharmacotherapy, 51.1% (95% CI=44.7-57.4%) of patients relapsed by 12 months following successful initial treatment with ECT, with the majority (37.7%, 95% CI=30.7-45.2%) relapsing within the first 6 months. The 6-month relapse rate was similar in patients treated with continuation ECT (37.2%, 95% CI=23.4-53.5%). In randomized controlled trials, antidepressant medication halved the risk of relapse compared with placebo in the first 6 months (risk ratio=0.49, 95% CI=0.39-0.62, p<0.0001, number needed to treat=3.3). Despite continuation therapy, the risk of relapse within the first year following ECT is substantial, with the period of greatest risk being the first 6 months. The largest evidence base for</p>

	efficacy in post-ECT relapse prevention exists for tricyclic antidepressants. Published evidence is limited or non-existent for commonly used newer antidepressants or popular augmentation strategies. Maintenance of well-being following successful ECT needs to be improved
Wijkstra (59) 2002	Relapse prevention of depression with continuation of electroconvulsive therapy Describes a literature search conducted to determine whether maintenance ECT is more effective than maintenance pharmacotherapy in preventing relapse in medication-resistant patients with major depressive disorder. Data from 7 studies are discussed.

8) Uønsket effekt, bivirkninger (4)

Uønsket effekt/hendelser (harm) (N=4)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Gahr (60) 2014	<p>Safety of electroconvulsive therapy in the presence of cranial metallic objects</p> <p>OBJECTIVES: Little is known regarding the safety of electroconvulsive therapy (ECT) in the presence of cranial metallic objects (cMO) such as medical devices or metallic foreign bodies. The presence of cMO raises 3 theoretical concerns toward the safety of ECT: (1) cMO may significantly alter the ECT-induced electric field distribution in the brain regarding field strength and focality, (2) vascular complications at the location of the cMO due to the ECT-induced hyperdynamic state may occur, and (3) possible development of a prolonged seizure/status epilepticus during ECT as a consequence of a device-induced symptomatic epilepsy. In the light of missing systematic approaches, we intended to assess the safety of ECT in the presence of cMO with particular regard to the concerns as specified previously</p> <p>METHODS: A systematic review of previously published cases of ECT in patients with cMO was conducted</p> <p>RESULTS: We identified 23 publications reporting 24 cases of ECT in the presence of cMO (cerebral clipping systems, 8 cases; cerebral coils, 2 cases; deep brain stimulator, 4 cases; osteosynthesis materials or other metallic medical devices, 7 cases; foreign bodies, 3 cases). Modified placement of ECT-electrodes was reported in 10 cases (42%). No ECT-related complications with regard to the proposed theoretical concerns were reported</p> <p>CONCLUSIONS: The absence of cMO-related complications during ECT in the reported cases implies that cMO might not represent an absolute contraindication for the performance of ECT. However, the indication for ECT should be put in place thoroughly in patients with cMO. Further research is necessary for an adequate safety assessment</p>
Mortier (61) 2013	<p>Is Electroconvulsive Therapy Safe in the Presence of an Intracranial Metallic Object? Case Report and Review of the Literature</p> <p>Background: Little is known about the use of electroconvulsive therapy (ECT) in patients with intracranial metallic objects. Theoretically, electric current might cause heating of the metal and damage of the surrounding brain tissue. Moreover, intracranial foreign objects increase the risk for epileptic phenomena and could thus complicate the treatment course. Methods: The case of a man with intracranial bullet fragments as a result of a headshot, treated with ECT for mania, is presented. We conducted a PubMed literature search for other relevant cases. Results: In our patient, ECT was completed without complication. Electroconvulsive therapy was safely administered in 22 published cases of patients with intracranial metallic objects. Conclusion: After carefully weighing benefits and risks in each individual case, psychiatrists should not be reluctant to use ECT in patients with intracranial metallic objects. Apart from avoiding empirical dosage titration to minimize the exposure to current, positioning the electrodes to avoid the electric current of heating the metal, and continuing anti-epileptic agents in high-risk patients, no precautions need to be considered</p>

Sienaert (62) 2013	<p>Menstrual disturbances during electroconvulsive therapy: The forgotten adverse effect: Case report and review of the literature</p> <p>BACKGROUND: A transient but robust increase in prolactin levels during and after electroconvulsive therapy (ECT) has been shown repeatedly. Reports on menstrual disturbances during a course of ECT are scarce.</p> <p>METHODS: The case of a woman treated with ECT for depression that developed menstrual disturbances early in the course of the treatment is presented. We conducted a PubMed literature search, supplemented with an Internet (Google) search using the same strategy, and a hand search of the indexes of textbooks on ECT.</p> <p>RESULTS: Publications on the emergence of menstrual disturbances during ECT are virtually nonexistent, although some textbooks mention amenorrhea as a possible adverse effect of ECT. The mechanism of ECT-related amenorrhea is unknown but is supposed to be related to the transient hyperprolactinemia.</p> <p>CONCLUSION: Electroconvulsive therapy can cause menstrual disturbances. These adverse effects are benign and transient. The exact mechanism remains unknown. More research could help to clarify the possible role of a transient but robust hyperprolactinemia.</p>
Sharp (63) 2011	<p>Takotsubo cardiomyopathy as a complication of electroconvulsive therapy</p> <p>OBJECTIVE: To examine the evidence regarding takotsubo cardiomyopathy as a complication of electroconvulsive therapy (ECT)</p> <p>DATA SOURCES: Searches in MEDLINE, EMBASE, and International Pharmaceutical Abstracts (1966-August 2011) were conducted</p> <p>STUDY SELECTION AND DATA EXTRACTION: Published studies and case reports that mentioned takotsubo cardiomyopathy following ECT were reviewed</p> <p>DATA SYNTHESIS: Twelve case reports were available for review. There were 7 documented cases of takotsubo cardiomyopathy, 4 cases of myocardial stunning, and 1 case of cardiogenic shock following ECT. Although takotsubo cardiomyopathy was not mentioned in 5 of the cases, some clinical characteristics were consistent with this diagnosis. Left ventricular ejection fraction and the electrocardiogram returned to normal within a few days in the majority of the cases. All cases were in women, the majority of whom were postmenopausal (average age 64 years). Takotsubo cardiomyopathy developed after a single course of ECT in 6 of the cases, while the syndrome developed after more than 1 course in the other 6 cases. ECT was successfully readministered without syndrome recurrence in 4 of the cases, but only after 3 of the 4 patients received a -adrenergic receptor blocking agent prior to each subsequent therapy session. The -adrenergic blocking agents used were esmolol in 1 case and labetalol in the other 2.</p> <p>CONCLUSIONS: Takotsubo cardiomyopathy is a serious but transient potential complication of electroconvulsive therapy. Limited evidence indicates that -adrenergic receptor blocking agents may help prevent its reoccurrence in patients needing further electroconvulsive treatment. Health care providers in psychiatry should be aware of this potential complication of electroconvulsive therapy, especially in postmenopausal women. However, many questions remain regarding this issue.</p>

9) Spesielle kliniske grupper («special populations») (13)

Spesielle kliniske grupper/populasjoner er her for eksempel, barn og ungdom, eldre, gravide, barsel perioden (post partum). Neuromodulasjonsteknikker (som inkluderer ECT) for alkohol misbruk av Herremans (64) er en systematisk oversikt uten inkluderte studier om ECT.

Barn og ungdom (N=3)	
Førsteforfatter (årstall)	Tittel og Sammendrag

Lima (65) 2013	<p>Electroconvulsive therapy use in adolescents: a systematic review</p> <p>BACKGROUND: Considered as a moment of psychological vulnerability, adolescence is remarkably a risky period for the development of psychopathologies, when the choice of the correct therapeutic approach is crucial for achieving remission. One of the researched therapies in this case is electroconvulsive therapy (ECT). The present study reviews the recent and classical aspects regarding ECT use in adolescents.</p> <p>METHODS: Systematic review, performed in November 2012, conformed to the PRISMA statement.</p> <p>RESULTS: From the 212 retrieved articles, only 39 were included in the final sample. The reviewed studies bring indications of ECT use in adolescents, evaluate the efficiency of this therapy regarding remission, and explore the potential risks and complications of the procedure.</p> <p>CONCLUSIONS: ECT use in adolescents is considered a highly efficient option for treating several psychiatric disorders, achieving high remission rates, and presenting few and relatively benign adverse effects. Risks can be mitigated by the correct use of the technique and are considered minimal when compared to the efficiency of ECT in treating psychopathologies</p>
Hazell (66) 2011	<p>Depression in children and adolescents</p> <p>INTRODUCTION: Depression may affect 2% to 8% of children and adolescents, with a peak incidence around puberty. It may be self-limiting, but about 40% of affected children experience a recurrent attack, one third of affected children will make a suicide attempt, and 3% to 4% will die from suicide.</p> <p>METHODS AND OUTCOMES: We conducted a systematic review and aimed to answer the following clinical questions: What are the effects of pharmacological, psychological, combination, and complementary treatments for depression in children and adolescents? What are the effects of treatments for refractory depression in children and adolescents? We searched: Medline, Embase, The Cochrane Library, and other important databases up to July 2011 (Clinical Evidence reviews are updated periodically; please check our website for the most up-to-date version of this review). We included harms alerts from relevant organisations such as the US Food and Drug Administration (FDA) and the UK Medicines and Healthcare products Regulatory Agency (MHRA)</p> <p>RESULTS: We found 21 systematic reviews, RCTs, or observational studies that met our inclusion criteria. We performed a GRADE evaluation of the quality of evidence for interventions</p> <p>CONCLUSIONS: In this systematic review we present information relating to the effectiveness and safety of the following interventions: citalopram, cognitive behavioural therapy (CBT) (individual or group, to prevent relapse), electroconvulsive therapy, escitalopram, family therapy, fluoxetine (alone or with cognitive therapy or CBT), fluvoxamine, group therapeutic support (other than CBT), guided self-help, individual psychodynamic psychotherapy, interpersonal therapy, lithium, mirtazapine, monoamine oxidase inhibitors (MAOIs), omega-3 polyunsaturated fatty acids, paroxetine, sertraline (alone or with CBT), St John's Wort (<i>Hypericum perforatum</i>), tricyclic antidepressants, and venlafaxine</p>
Baldwin (67) 1996	<p>Multiple case sampling of ECT administration to 217 minors: Review and meta-analysis</p> <p>A multiple case sampling framework was used to produce a review and meta-analysis of the published cases of ECT administration with minors. An extensive search of the published literature located 217 minors who had been given ECT treatment between 1947 and 1996. These cases were analysed via demographic data (ie gender, age) and clinical data (ie diagnostic criteria, presenting behaviours, mode of ECT administration, consent, index behaviours, drug therapies, outcomes and side-effects). Three behavioural predictors (PB3) were identified which were associated with an increased likelihood of a minor receiving ECT. Interpretations of the analysis revealed that the data are at variance with psychiatrists' claims that ECT is given as a 'life saving' (sic) treatment for minors. Suicide was mentioned in only 5% of cases. Some speculative comments are also provided</p>
Eldre (N=3)	
Førsteforfatter (årstal)	Tittel og Sammendrag
Van der Wurff (68) (Cochrane review) 2003	<p>Electroconvulsive therapy for the depressed elderly</p> <p>BACKGROUND: Depressive disorder is a common mental disorder in old age, with serious health consequences such as increased morbidity, disability, and mortality. The frailty of elderly may seriously hamper the efficacy and safety of pharmacotherapy in depressed elderly. Electroconvulsive therapy (ECT) in depressed elderly therefore may be an alternative to treatment with antidepressants</p> <p>OBJECTIVES: To assess the efficacy and safety of ECT (compared to simulated ECT or antidepres-</p>

sants) in depressed elderly

SEARCH STRATEGY: We searched the CCDANCTR database, Medline 1966-2000, EMBase 1980-2000, Biological abstracts 1985-2000, Cinahl 1982-2000, Lilacs from 1982 onwards, Psycit 1887-2000, Sigle 1980-2000. The reference lists of relevant papers were scanned for published reports. Hand searching of the Journal of ECT and the Journal of Geriatric Psychiatry was done. Based on the title of the publication and its sammendrag, non-eligible citations were excluded

SELECTION CRITERIA: Data were independently extracted by at least two reviewers. Randomised, controlled trials on depressed elderly (> 60 years) with or without concomitant with conditions like cerebrovascular disease, dementia of the Alzheimer's type, vascular dementia or Parkinson's disease were included

DATA COLLECTION AND ANALYSIS: Data were independently extracted by at least two reviewers. For continuous data weighted mean differences (WMD) between groups were calculated

MAIN RESULTS: Randomised evidence is sparse. Only three trials could be included, one on the efficacy of real ECT versus simulated ECT (O'Leary et al 1994), one on the efficacy of unilateral versus bilateral ECT (Fraser 1980) and the other comparing the efficacy of ECT once a week with ECT three times weekly (Kellner 1992). All had major methodological shortcomings; data were mostly lacking essential information to perform a quantitative analysis. Although the O'Leary study concluded that real ECT was superior over simulated ECT, these conclusions need to be interpreted cautiously. Only results from the second trial (unilateral versus bilateral ECT) could be analysed, not convincingly showing efficacy of unilateral ECT over bilateral ECT, WMD 6.06 (CI -5.20,17.32). Randomised evidence on the efficacy and safety of ECT in depressed elderly with concomitant dementia, cerebrovascular disorders or Parkinson's disease is completely lacking. Possible side-effects could not be adequately examined because the lack of randomised evidence and the methodological shortcomings

REVIEWER'S CONCLUSIONS: None of the objectives of this review could be adequately tested because of the lack of firm, randomised evidence. Given the specific problems in the treatment of depressed elderly, it is of importance to conduct a well designed randomised controlled trial in which the efficacy of ECT is compared to one or more antidepressants. [References: 184]

Van der Wurff (69) 2003	<p>The efficacy and safety of ECT in depressed older adults: A literature review</p> <p>Although little doubt exists among practising clinicians in old age psychiatry about the efficacy and safety of ECT in depression, opinions about acceptability differ widely. The objectives of this review were to determine the efficacy and safety of ECT based on both randomised and non-randomised evidence in elderly with a major depressive disorder. Randomised and non-randomised studies on efficacy and safety of ECT in elderly with and without concomitant disorders such as cerebrovascular disorders, Alzheimer's dementia, vascular dementia and Parkinson's disease were selected. Literature was systematically searched in a number of electronic databases. Although 121 studies were included in the review process, only four provided randomised evidence. No negative studies with respect to efficacy were found. ECT is effective in the acute treatment of late life depression. ECT is generally safe, although a number of serious complications possibly related to ECT have been described. Most of the objectives of this review could not be answered or refuted with certainty, because firm randomised evidence on the efficacy and safety of ECT in the depressed elderly is missing. ECT is effective in the acute treatment of late life depression and is generally safe.</p>
Salzman (70) 2002	<p>Drug and ECT treatment of depression in the elderly, 1996-2001: A literature review</p> <p>A computer-based literature search of all antidepressant and electroconvulsive therapy (ECT) treatment studies published between 1995 and September 2001 was conducted. In addition, a review of published chapters, review articles, and metaanalyses was also conducted. Articles were categorized into those reporting comparative studies, those in which the therapeutic agent was not compared with another, articles about ECT, and review articles. These recent publications support the conclusions from prior reviews that antidepressants and ECT are effective and safe treatments for depressed elderly patients. Differences in efficacy and side effects appear to be slight among the various types of antidepressants. Research studies of depressed elderly increased markedly since 1995 compared with all previous years although more studies are still necessary.</p>
Post partum (N=1)	
Førsteforfatter (årstall)	Tittel og Sammendrag

Focht (71)
2012

Electroconvulsive therapy (ECT) in the treatment of postpartum psychosis

Postpartum psychosis is one of the most severe manifestations of postpartum mental illness. A psychiatric emergency, the prompt recognition and treatment of postpartum psychosis is essential in insuring maternal and infant well-being and safety. Here, we review the literature on the phenomenology of postpartum psychosis and the prevalence of use, safety, and efficacy of electroconvulsive therapy as a treatment. Studies were searched using CINAHL, EMBASE, MEDLINE, PsycINFO, and PubMed databases. Based on our review, we argue that for some patients, electroconvulsive therapy should be the treatment of choice

Gravide (N=3)

Førsteforfatter (årstall)

Tittel og Sammendrag

Leiknes (72)
2013

Electroconvulsive therapy during pregnancy: a systematic review of case studies

This study aims to explore practice, use, and risk of electroconvulsive therapy (ECT) in pregnancy. A systematic search was undertaken in the databases Medline, Embase, PsycINFO, SveMed and CINAHL (EBSCO). Only primary data-based studies reporting ECT undertaken during pregnancy were included. Two reviewers independently checked study titles and abstracts according to inclusion criteria and extracted detailed use, practice, and adverse effects data from full text retrieved articles. Studies and extracted data were sorted according to before and after year 1970, due to changes in ECT administration over time. A total of 67 case reports were included and studies from all continents represented. Altogether, 169 pregnant women were identified, treated during pregnancy with a mean number of 9.4 ECTs, at mean age of 29 years. Most women received ECT during the 2nd trimester and many were Para I. Main diagnostic indication in years 1970 to 2013 was Depression/Bipolar disorder (including psychotic depression). Missing data on fetus/child was 12 %. ECT parameter report was often sparse. Both bilateral and unilateral electrode placement was used and thiopental was the main anesthetic agent. Adverse events such as fetal heart rate reduction, uterine contractions, and premature labor (born between 29 and 37 gestation weeks) were reported for nearly one third (29 %). The overall child mortality rate was 7.1 %. Lethal outcomes for the fetus and/or baby had diverse associations. ECT during pregnancy is advised considered only as last resort treatment under very stringent diagnostic and clinical indications. Updated international guidelines are urgently needed

Anderson (73)
2009

ECT in pregnancy: A review of the literature from 1941 to 2007

OBJECTIVE: To review the literature on the use of electroconvulsive therapy (ECT) during pregnancy and to discuss its risks and benefits for treating severe mental illness during pregnancy.
METHOD: PubMed and PsycINFO databases were searched for English or English-translated articles, case reports, letters, chapters, and Web sites providing original contributions and/or summarizing prior data on ECT administration during pregnancy.
RESULTS: A total of 339 cases were found. The majority of patients were treated for depression and at least partial remission was reported in 78% of all cases where efficacy data were available. Among the 339 cases reviewed, there were 25 fetal or neonatal complications, but only 11 of these, which included two deaths, were likely related to ECT. There were 20 maternal complications reported and 18 were likely related to ECT.
CONCLUSIONS: Although there are limited available data in the literature, it seems that ECT is an effective treatment for severe mental illness during pregnancy and that the risks to fetus and mother are low.

Saatcioglu (74)
2011

The use of electroconvulsive therapy in pregnancy: A review

Treating psychiatric disorders during pregnancy poses a challenge. Both medication and maternal illness may have adverse effect on the fetus and balancing the risks and benefits of symptoms and treatments is crucial. Medications may affect the fetus adversely, especially in the first trimester. Electroconvulsive therapy (ECT) is not known to have adverse fetal effects and therefore may be preferred. A review of the literature and our clinical experience highlight the role of ECT during pregnancy, sometimes offering advantages over pharmacotherapy

Andre kliniske grupper (N=3)

Førsteforfatter (årstall)

Tittel og Sammendrag

Atmaca (75) 2013	<p>Somatic treatments excluding psychopharmacology in obsessive- compulsive disorder: a review.</p> <p>Somatic treatments other than psychotropic drugs are increasingly used in the patients with obsessive compulsive disorder (OCD), however there has been little systematic review of them. Therefore, the present review deals with a variety of somatic treatment methods excluding psychotropic drugs. A literature search was performed on the PubMed database from the beginning of 1980, to September 2012, for published English, Turkish and French-language articles of somatic treatment approaches (excluding psychopharmacological agents) in the treatment of OCD. The search was carried out by using some terms in detail. Afterwards, the obtained investigations on electroconvulsive therapy (ECT), deep brain stimulation (DBS), neurosurgical methods and transcranial magnetic stimulation (TMS) were presented. Although psychopharmacological treatment and psychotherapeutic approaches are primary treatment modalities in the management of OCD, other somatic treatment options seem to be used as alternatives, especially for patients with treatment-resistant OCD.</p>
Herremans (64) 2012	<p>The current perspective of neuromodulation techniques in the treatment of alcohol addiction: A systematic review</p> <p>BACKGROUND: Alcohol dependency can be considered as a chronic mental disorder characterized by frequent relapses even when treated with appropriate medical or psychotherapeutic interventions. Here, the efficacy of different neuromodulation techniques in alcohol addiction, such as transcranial direct current stimulation (tDCS), repetitive transcranial magnetic stimulation (rTMS), deep brain stimulation (DBS), vagal nerve stimulation (VNS) and electroconvulsive therapy (ECT) is critically evaluated.</p> <p>METHODS: A broad literature search on electronic databases such as NCBI PubMed, the Web of Knowledge, the Cochrane Library was conducted. Additionally, we searched recent handbooks on neuromodulation and/or addiction.</p> <p>RESULTS: Studies investigating these neuromodulation techniques in alcohol addiction remain to date rather limited and especially tDCS and rTMS applications have been investigated. Overall, the clinical effects seem modest. <i>The use of VNS and ECT has yet to be investigated in alcohol dependent patients.</i></p> <p>CONCLUSIONS: Neuromodulation techniques have only recently been subject to investigation in alcohol addiction and methodological differences between the few studies restrict clear-cut conclusions. Nevertheless, the scarce results encourage further investigation in alcohol addiction.</p>
Hackett (76) (Cochrane review) 2008	<p>Interventions for treating depression after stroke</p> <p>BACKGROUND: Depression is an important consequence of stroke that impacts on recovery yet is often not detected or inadequately treated. This is an update of a Cochrane review first published in 2004</p> <p>OBJECTIVES: To determine whether pharmaceutical, psychological, or electroconvulsive treatment (ECT) of depression in patients with stroke can improve outcome</p> <p>SEARCH STRATEGY: We searched the trials registers of the Cochrane Stroke Group (last searched October 2007) and the Cochrane Depression Anxiety and Neurosis Group (last searched February 2008). In addition, we searched the Cochrane Central Register of Controlled Trials (The Cochrane Library, Issue 1, 2008), MEDLINE (1966 to May 2006), EMBASE (1980 to May 2006), CINAHL (1982 to May 2006), PsycINFO (1967 to May 2006) and other databases. We also searched reference lists, clinical trials registers, conference proceedings and dissertation abstracts, and contacted authors, researchers and pharmaceutical companies</p> <p>SELECTION CRITERIA: Randomised controlled trials comparing pharmaceutical agents with placebo, or various forms of psychotherapy or ECT with standard care (or attention control), in patients with stroke, with the intention of treating depression</p> <p>DATA COLLECTION AND ANALYSIS: Two review authors selected trials for inclusion and assessed methodological quality; three review authors extracted, cross-checked and entered data. Primary analyses were the prevalence of diagnosable depressive disorder at the end of treatment. Secondary outcomes included depression scores on standard scales, physical function, death, recurrent stroke and adverse effects</p> <p>MAIN RESULTS: Sixteen trials (17 interventions), with 1655 participants, were included in the review. Data were available for 13 pharmaceutical agents, and four trials of psychotherapy. <i>There were no trials of ECT.</i> The analyses were complicated by the lack of standardised diagnostic and outcome criteria, and differing analytic methods. There was some evidence of benefit of pharmacotherapy in terms of a complete remission of depression and a reduction (improvement) in scores on depression rating scales,</p>

	but there was also evidence of an associated increase in adverse events. There was no evidence of benefit of psychotherapy
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10) Anestesi (5)

Anestesi (N=4)	
Førsteforfatter (årstal)	Tittel og Sammendrag
Sundsted (77) 2014	<p>Preanesthesia medical evaluation for electroconvulsive therapy: a review of the literature</p> <p>OBJECTIVE: Electroconvulsive therapy (ECT) is widely used for the treatment of psychiatric disorders, yet there is few published literature to guide the practitioner in the preprocedural evaluation of patients. Based on a review of the literature, we sought to develop a concise, algorithmic approach to be used when evaluating patients for ECT, including those with underlying conditions, such as cardiovascular and neurological disorders</p> <p>METHODS: The databases of Ovid MEDLINE, PubMed, the Web of Knowledge, and PsychINFO were searched from January 2000 through December 2011. All abstracts were reviewed for relevancy to preprocedural ECT evaluation, and full articles of selected abstracts were reviewed in full, along with bibliographies of each. Algorithms were then constructed using the clinical information obtained from the selected articles</p> <p>RESULTS: Our review of the literature located 275 articles using the search criteria. After review, 38 articles were selected. A total of 167 articles were excluded because they did not pertain to medical comorbidities in patients undergoing ECT, and an additional 70 were excluded because they did not pertain to ECT. Bibliography review of the selected articles located an additional 10 articles</p> <p>CONCLUSIONS: Although ECT is generally a safe and effective therapy, some patient subgroups, such as those with certain cardiac conditions or history of cerebrovascular disease, require additional evaluation or, rarely, postponement of ECT. Chronic medical conditions should be optimized before undergoing ECT. Most patient populations are able to undergo ECT safely and effectively</p>
Lihua (78) 2012 (Cochrane Protocol)	<p>Different regimens of intravenous sedatives or hypnotics for electroconvulsive therapy (ECT) in adult patients with depression</p> <p>This is the protocol for a review and there is no abstract. The objectives are as follows: This review will evaluate the effects of different regimens of intravenous sedatives and hypnotics on recovery, quality of cognition and seizure quality in adult patients undergoing modified ECT (MECT). This review will also assess their efficacy in modulating the risk of adverse events and death</p>
Mirzakhani (79) 2011	<p>Neuromuscular blocking agents for electroconvulsive therapy: a systematic review</p> <p>Electroconvulsive therapy (ECT) is the transcutaneous application of small electrical stimuli to the brain to induce generalised seizures for the treatment of selected psychiatric disorders. The clinical indications for ECT as an effective therapeutic modality have been considerably expanded since its introduction. Anaesthesia and neuromuscular blocking agents (NMBAs) are required to ensure patients' safety during ECT. The optimal dose of muscle relaxant for ECT reduces muscle contractions without inducing complete paralysis. Slight residual motor convulsive activity is helpful in ascertaining that a seizure has oc-</p>

	<p>curred, while total paralysis prolongs the procedure unnecessarily. Suxamethonium is commonly used, but nondepolarising NMBA are indicated in patients with certain comorbidities. In this review, we summarise current concepts of NMBA management for ECT.</p>
Chen(80) 2011	<p>Remifentanil: a review of its use in electroconvulsive therapy OBJECTIVE: The primary objectives were to review studies that used remifentanil in electroconvulsive therapy (ECT) and to determine whether remifentanil has potential advantages over other anesthetics MATERIALS AND METHODS: The author reviewed 12 original studies obtained through a MEDLINE database search that examined remifentanil as an anesthetic in patients receiving ECT RESULTS: Remifentanil was associated with longer seizure durations when used as the sole anesthetic or as an adjunct when the primary anesthetic dose was lowered. Individual studies reported higher postictal suppression index and lower initial seizure thresholds and less rise in seizure thresholds with remifentanil. Data on hemodynamic effects were mixed but suggested favorable effects with remifentanil when seizure duration was not prolonged CONCLUSIONS: Studies support the use of remifentanil in ECT, particularly in patients with brief seizures, high seizure thresholds, and postictal hemodynamic instability. Broad variability in study design, selection and dosing of anesthetics, electrode placement, and limited examination of potentially relevant variables such as age, sex, concomitant medications; and stimulus parameters attenuate the certainty of these results. Advantages in safety and efficacy over other anesthetics remain undetermined. Further study of remifentanil in ECT is warranted, given the methodological limitations and exclusion of important outcomes in the current</p>
Hooten (81) 2008	<p>Effects of general anesthetic agents in adults receiving electroconvulsive therapy: a systematic review OBJECTIVES: Our primary objective was to conduct a systematic review to determine the differential effects of general anesthetic agents on electroconvulsive therapy (ECT) induced motor and electroencephalogram seizure duration. Our secondary objective was to determine the differential effects of induction agents on emergence time, recovery time, and the occurrence of adverse cardiac events and drug effects MATERIALS AND METHODS: We searched 4 electronic databases for randomized, crossover, and parallel trials. The weighted mean difference was calculated for continuous variables, whereas the risk difference was assessed for dichotomous variables. We combined crossover- and parallel-designed trials using the inverse variance method, and the random-effects model was used throughout RESULTS: Forty-one randomized trials involving 14 induction agents were included. The quality of trials was poor. Clinical and statistical heterogeneity were identified throughout. The most commonly studied comparison was methohexital versus propofol, where the mean motor seizure duration with methohexital was longer compared with that of propofol (weighted mean difference, 9.06 seconds; 95% confidence interval, 5.72-12.40). However, combining methohexital or propofol with a short-acting opioid prolonged seizure duration. Small but significant variations in emergence and recovery times were identified. Inadequate data were available to draw conclusions regarding adverse cardiac events and drug effects. No deaths were reported CONCLUSIONS: Whereas the relationship between ECT seizure length and efficacy remains unclear, all of the available induction agents in this review would be appropriate for ECT. When the clinician needs to prolong seizure length, methohexital or the addition of a short-acting opioid to methohexital or propofol should be considered. The small variations in emergence and recovery times should not govern the choice of an induction agent. [References: 76]</p>

11) Pasient perspektiver, etikk og historie (3)

Pasient perspektiver, etikk (N=3)	
Førsteforfatter (årstall)	Tittel og Sammendrag
Rose (82) 2003	<p>Patients' perspectives on electroconvulsive therapy: systematic review OBJECTIVE: To ascertain patients' views on the benefits of and possible memory loss from electroconvulsive therapy DESIGN: Descriptive systematic review</p>

	<p>DATA SOURCES: Psychinfo, Medline, Web of Science, and Social Science Citation Index databases, and bibliographies</p> <p>STUDY SELECTION: Articles with patients' views after treatment with electroconvulsive therapy</p> <p>DATA EXTRACTION: 26 studies carried out by clinicians and nine reports of work undertaken by patients or with the collaboration of patients were identified; 16 studies investigated the perceived benefit of electroconvulsive therapy and seven met criteria for investigating memory loss</p> <p>DATA SYNTHESIS: The studies showed heterogeneity. The methods used were associated with levels of perceived benefit. At least one third of patients reported persistent memory loss</p> <p>CONCLUSIONS: The current statement for patients from the Royal College of Psychiatrists that over 80% of patients are satisfied with electroconvulsive therapy and that memory loss is not clinically important is unfounded. [References: 5]</p>
Fink (83) 2001	<p>Convulsive therapy: A review of the first 55 years</p> <p>Convulsive therapy was introduced to psychiatric practice in 1934. It was widely hailed as an effective treatment for schizophrenia and quickly recognized as equally effective for the affective disorders. Like other somatic treatments, it was replaced by psychotropic drugs introduced in the 1950s and 1960s. But 2 decades later, ECT was recalled to treat pharmacotherapy-resistant cases. Avid searches to optimize seizure induction and treatment courses, to reduce risks and fears, to broaden the indications for its use, and to understand its mechanism of action followed. Unlike other medical treatments, however, these searches were severely impeded by a vigorous antipsychiatry movement among the public and within the profession. ECT is effective in the treatment of patients with major depression, delusional depression, bipolar disorder, schizophrenia, catatonia, neuroleptic malignant syndrome, and parkinsonism, and this breadth of action is both remarkable and unique. ECT is a safe treatment. Its major limitations are the high relapse rates and the occasional profound effects on memory and recall that mar its success. Experiments to sustain its benefits with medications and with continuation ECT are underway</p>
Hilton (84) 2007	<p>An exploration of the patient's experience of electro-convulsive therapy in mid-twentieth century creative literature: A historical study with implications for practice today</p> <p>BACKGROUND: Understanding a patient's subjective experience of electro-convulsive therapy (ECT) is important. Creative literature may both express such experiences and influence how ECT is perceived since scenarios and characters in literature become incorporated into cultural stereotypes and mythologies. Clinical discussions with patients and their families suggest that <i>One Flew over the Cuckoo's Nest</i> still has an impact on their perceptions of ECT, and therefore still has clinical relevance today. This study aims to explore experiences of ECT through creative literature focusing on novels from the 1960s.</p> <p>METHOD: Study of three novels depicting ECT in their historical context.</p> <p>RESULTS: Various factors identified in the books studied may be associated with reluctance to accept ECT as a treatment, in particular images related to electricity. LIMITATIONS: Since this is a historical survey rather than a clinical research project, and is based on creative literature, it may not reflect 21st century reality.</p> <p>CONCLUSIONS: Fear of electricity and other factors in the practice of ECT in the past may still be important in the acceptance of ECT as a clinical treatment. This warrants further qualitative exploration</p>

Resultat av sortering søk 2: retningslinjer, veiledninger, prosedyrer, informasjonsbrosjyrer, rapporter, utredninger, manualer, bøker

Nedenfor følger de to listene over de mulige 28 publikasjonene om retningslinjer, informasjonsbrosjyrer, prosedyrer, rapporter, utredninger, håndbøker og manualer. Vi oppgir førsteforfatter, årstall og tittel på publikasjonen, på norsk, dansk, svensk eller engelsk med sammendrag slik det fremkommer i publikasjonen.

1) Retningslinjer, veiledninger, prosedyrer, pasientinformasjon (12)

Retningslinjer (N=7)	
Førsteforfatter (årstall) og land	Tittel, nettsted og sammendrag
NICE guidelines (85) 2011	<p>Electroconvulsive therapy (ECT) (TA59) http://www.nice.org.uk/TA059</p> <p>NICE has looked carefully at the evidence and has recommended that ECT should only be used for the treatment of severe depressive illness, a prolonged or severe episode of mania, or catatonia if the conditions described in the following paragraphs are applied.</p> <p>ECT should be used to gain fast and short-term improvement of severe symptoms after all other treatment options have failed, or when the situation is thought to be life-threatening.</p> <p>A risk–benefit assessment for the individual should be made and documented. It should include the risks associated with the anaesthetic, whether the person has other illnesses, the possible adverse effects of ECT (particularly problems with memory), and the risks of not having treatment.</p> <p>Doctors should be particularly cautious when considering ECT treatment for women who are pregnant and for older or younger people, because they may be at higher risk of complications with ECT.</p> <p>Someone who is mentally capable of making a decision about their treatment should decide, after discussion with the doctor, whether or not they want to give their consent to have ECT. To help in the discussion, full and appropriate information about ECT should be given, including information about its potential risks and benefits, both general and specific to the individual. NICE recommends that information leaflets to help people to make an informed decision about their treatment should be developed nationally and should be available in formats and languages that will make them accessible to a wide range of service users.</p> <p>The doctor should keep strictly to recognised guidelines about consent, should not put any pressure on the person to give their consent and should remind the person that they have the right to change their mind either for or against treatment at any time. NICE considers that doctors should encourage the involvement of an independent person who speaks on behalf of the service user (an 'advocate') or the person's carer(s).</p> <p>If discussion and informed consent are not possible at the time treatment is needed, any advance directive should be fully taken into account and someone who speaks on behalf of the person who is ill, or their carer(s), should be consulted.</p> <p>The person should be re-assessed after every session of ECT. There should be ongoing checks for any signs of memory loss, and as a minimum, a check at the end of each course of treatment.</p> <p>The treatment should be stopped as soon as the person has responded, if there are any adverse effects, or if they withdraw their consent.</p> <p>It is recommended that more than one course of ECT should be considered only for people who have severe depressive illness, catatonia or mania and who have previously responded well to ECT. As for the first course of treatment, it should be used only to gain fast and short-term improvement of severe symptoms after all other treatment options have failed or when the situation is thought to be life-threatening. For someone who is experiencing an episode of severe depressive illness, catatonia or mania and who has not responded to a previous course of ECT, the doctor should consider a repeat course of ECT only if all other treatment options have been considered and after discussion of the risks and benefits with the service user and where appropriate their advocate or carer.</p> <p>NICE recommends that ECT should not to be used as a long-term treatment to prevent recurrence of depressive illness, and that it should not be used in the general management of schizophrenia.</p> <p>The recommendations in this technology appraisal relating to the treatment of depression have been replaced by recommendations in the Depression (update) clinical guideline (CG90) published in October 2009. Note that the recommendations in this technology appraisal relating to the treatment of catatonia, prolonged or severe manic episodes and schizophrenia have not changed.</p>
Waite & Easton (eds) (86) 2013	<p>The ECT Handbook (3rd edn) http://www.rcpsych.ac.uk/usefulresources/publications/books/rcpp/9781908020581.aspx</p> <p>"College report CR 176 ; approved by the Central Policy Committee: September 2012 ; due for review:</p>

<p>www.rcpsych.ac.uk</p> <p>Royal College of Physicians</p> <p>UK</p>	<p>2017"</p> <p>This presents the latest clinical guidelines on the prescription and practical administration of electroconvulsive therapy (ECT). It clarifies the place of ECT in contemporary practice and reviews the evidence for its efficacy. The ECT Handbook is an essential reference manual for all psychiatrists, for anaesthetists and nurses who work in ECT clinics, for everyone professionally involved in caring for patients for whom ECT may be recommended, and for second-opinion appointed doctors working for the Care Quality Commission.</p> <ul style="list-style-type: none"> •Substantially revised to take account of new research. •Covers issues of capacity and consent. •New chapters on the mode of action of ECT, cognitive adverse effects, dental effects, other brain stimulation techniques and patient and carer perspectives. •New evidence of the benefits and risks of unilateral v. bilateral electrode placement. •Reflects changes in mental health and mental capacity legislation since the second edition.
<p>Enns (87)</p> <p>www.cpa-apc.org</p> <p>Canadian Psychiatric Association</p> <p>Canada</p>	<p>Electroconvulsive therapy.</p> <p>http://publications.cpa-apc.org/media.php?mid=978</p> <p>This position paper was reviewed and approved for republication with major revisions by the Canadian Psychiatric Association's Board of Directors on June 2, 2009. This is the third position paper issued by the CPA on electroconvulsive therapy (ECT). Previous position papers were published in 1980 and 1992. Substantial new findings related to the use of ECT have resulted in the need to update the position of the CPA on ECT. The position paper was developed by the CPA's Standing Committee on Professional Standards and Practice.</p> <p>© Copyright 2010, Canadian Psychiatric Association.</p>
<p>American Psychiatric Association 2001 (88)</p> <p>www.appi.org</p> <p>USA</p>	<p>The practice of electroconvulsive therapy: recommendations for treatment, training, and privileging: a task force report of the American Psychiatric Association</p> <p>Since the development of pharmacoelectroconvulsive therapy in 1934 and of electroconvulsive therapy (ECT) in 1938, ECT has proven far more valuable than just the intervention of last resort. In comparison with psychotropic medications, we now know that ECT can act more effectively and more rapidly, with substantial clinical improvement that is often seen after only a few treatments. This is especially true for severely ill patients—those with severe major depression with psychotic features, acute mania with psychotic features, or catatonia. For patients who are physically debilitated, elderly, or pregnant, ECT is also safer than psychotropic medications.</p> <p>The findings of the American Psychiatric Association (APA) Task Force on ECT were published by the APA in 1990 as the first edition of <i>The Practice of Electroconvulsive Therapy</i>, inaugurating the development of ECT guidelines by groups both within the United States and internationally. Since then, advances in the use of this technically demanding treatment prompted the APA to mandate a second edition. The updated format of this second edition presents background information followed by a summary of applicable recommendations for each chapter. This close integration of the recommendations with their justifications makes the material easy to read, understand, and use. To further enhance usability, recommendations critical to the safe, effective delivery of treatment are marked with the designation "should" to distinguish them from recommendations that are advisable but nonessential (with the designations "encouraged," "suggested," "considered").</p> <p>The updated content of this second edition, which spans indication for use of ECT, patient evaluation, side effects, concurrent medications, consent procedures (with sample consent forms and patient information booklet), staffing, treatment administration, monitoring of outcome, management of patients following ECT, and documentation, as well as education, and clinical privileging.</p> <p>This volume reflects not only the wide expertise of its contributors, but also involved solicitation of input from a variety of other sources, including applicable medical professional organizations, individual experts in relevant fields, regulatory bodies, and major lay mental health organizations. In addition, the bibliography of this second edition is based upon an exhaustive search of the clinical ECT literature over the past decade and contains more than four times the original number of citations.</p> <p>Complemented by extensive annotations and useful appendixes, this remarkably comprehensive yet practical overview will prove an invaluable resource for practitioners and trainees in psychiatry and related disciplines.</p>

Nordanskog (89)	Svenska Psykiatriska Föreningens Riktlinjer för ECT
Sverige	<p><u>Sammanfattning</u></p> <p>Elektrokonvulsiv terapi (ECT) är en vetenskapligt och erfarenhetsmässigt väl etablerad behandlingsmetod vid flera av de allvarligaste sjukdomstillstånden inom psykiatri.</p> <p>Behandlingen består av att man under muskelrelaxation och narkos utlöser ett generaliserat epileptiskt anfall som avslutas av sig självt efter 30-60 sekunder. Anfallet utlöses genom att stimulera centrala nervsystemet med elektriska impulser under några få sekunder via elektroder på huden.</p> <p>Den främsta indikationen för ECT är svår depression, där ECT i upprepade studier visat sig överlägsen annan behandling. Vid förekomst av psykotiska symptom vid en depression är det särskilt angeläget att ECT används i första hand. Patienter med katatoni förbättras i en mycket hög andel av fallen oavsett underliggande diagnos. Malign katatoni och deliriös mani är syndrom där ECT har en snabb och ibland direkt livräddande effekt. Även vid mani, cykloid psykos och postpartumpsykos ger ECT snabb och säker effekt.</p> <p>Ett generaliserat epileptiskt anfall skall utlösas vid varje behandlingssession. Därför behöver krampanfallets kvalitet övervakas och stimuleringen anpassas så att ett epileptiskt anfall blir optimalt. Stimuleringen kan anpassas genom att variera elektrodplaceringen och laddningsdosen via justering av stimuleringsstid, strömstyrka, pulsfrekvens och pulsbredd. Även vald anestesimetod och samtidig läkemedelsbehandling har inverkan på anfallets kvalitet.</p> <p>Unilateral teknik rekommenderas oftast såtillvida man tillförsäkras sig om att utlösa ett maximalt anfall. Bitemporal teknik ger en snabbare effekt och rekommenderas vid svåra tillstånd med psykotiska eller katatona symptom samt vid svårigheter att med unilateral teknik utlösa maximala anfall. Det är osäkert vilken betydelse pulsbredden har för relationen mellan effekt och biverkningar, tillsvidare rekommenderas kort pulsbredd (0,5-1,0 ms).</p> <p>Utvärdering av symptom och biverkningar under seriens gång är avgörande för att ställa den kliniska indikationen i relation till behandlingseffekterna. Ansvarig läkare behöver ha kunskap om krampanfallets kvalitet och använd simulerings teknik samt kliniska bedömningar vid ställningstagande anpassning av behandlingen.</p> <p>Antalet behandlingar och deras intervall i en ECT-serie ska inte bestämmas på förhand för hela serien, utan justeras efter hur behandlingssvaret blir. Vanligen krävs 4-12 behandlingar, men en liten andel av patienterna behöver upp till 20 ECT i en index-serie. Symptomfrihet bör i regel vara målet med behandlingen och behandlingen kan förlängas till symptomfrihet uppnåtts. Den kliniska effekten bör dokumenteras fortlöpande och med ett tätt intervall under en index-serie. Regelbundna skattningar med exempelvis Clinical Global Impression (CGI) och Montgomery Åsberg Depression Rating Scale (MADRS) rekommenderas.</p> <p>Otillräckligt eller atypiskt behandlings svar bör föranleda förnyad diagnostisk bedömning med omprövning av indikationen för behandlingen. Det är angeläget att patienter med partiell och kortvarig effekt av behandlingen inte utsätts för upprepade fruktlösa behandlingsförsök.</p> <p>Vid förvirring eller besvärande minnesstörning under behandlingen bör behandlingstekniken anpassas. Faktorer som kan modifieras är elektrodplaceringen, kvantiteten och kvaliteten av strömdosen, intervallet mellan behandlingarna, anestesimetoden och den samtidiga läkemedelsbehandlingen.</p> <p>Övergående minnessvårigheter förekommer hos många patienter i anslutning till ECT. Behandlingen kan också orsaka kortvarig förvirring. Minnesstörningen måste ses i relation till önskad och nödvändig klinisk effekt. Med de mätmetoder som vi idag har tillgång till kan man påvisa att förmågan att lagra ny information påverkas negativt av ECT i upp till ett par veckor efter avslutad behandling, innan den häfter återställs. Denna tillfälliga störning bidrar till kvarstående minnesluckor framför allt rörande perioden i anslutning till sjukdomsskoven och behandlingstiden. Detta är också i överensstämmelse med hur majoriteten av patienter upplever minnesstörningens förlopp och under vilken period som minnesluckor förekommer. För en del patienter kvarstår dock upplevelsen av försämrat minne över längre tid än så och en del patienter upplever minnesluckor för andra perioder än sjukdomsskoven och behandlingstiden. Därför är det viktigt med fortsatt forskning och utveckling av mätmetoder av minnesfunktioner.</p> <p>Vid uppföljning ska den egna upplevelsen av minnesfunktion efterfrågas och objektivt bedömas, i första hand inom ramen för psykiatrisk status och genom funktionell testning. Vid kvarstående besvär längre tid än förväntat föreslås fördjupad utredning. Att beakta vid kvarstående minnessvårigheter efter ECT är utebliven effekt av behandlingen (d.v.s. kvarstående eller recidiverande psykiska besvär med påverkan</p>

	<p>på kognition), inverkan av samtidig medicinering eller annan organisk genes. Det är av särskild vikt då behandling i en del fall har potential att leda till besvärslindring. Bland ECT-behandlade patienter finns också patienter med kognitiva nedsättningar orsakade av grundsjukdomen, där varje skov innebär en risk för försämring. Klinisk erfarenhet och fallrapporter visar på betydelsen av information till patienter och anhöriga om de minnessvårigheter som förekommer i samband med ECT.</p> <p>Risken för återinsjuknande är hög för patienter som behandlats för svår depression och uppgår i flera studier till omkring hälften av patienterna inom ett år. Det är inte ovanligt att svåra symptom utvecklas snabbt. Patienter som behandlats akut med ECT bör därför följas tätt, särskilt under det första året efter ett depressivt skov. Uppföljande behandling är i regel motiverad och antidepressiva läkemedel i kombination med litium bör vara förstahandsval vid återkommande svår depression.</p> <p>ECT kan ges som <i>index-serie</i> (initial behandlingsserie till dess att symptomfrihet inträder), <i>fortsättnings-ECT</i> (behandlingsserie med glesare intervall i en period upp till max 6 månader med syfte att bibehålla behandlingssvar och förhindra snabbt återfall) och <i>underhålls-ECT</i> (behandlingsserie med syfte att förebygga återkommande sjukdomsskov). Fortsättnings-ECT och i vissa fall underhålls-ECT rekommenderas för patienter där effekten av ECT varit tydlig och behandling med läkemedel ensamt inte haft tillräcklig effekt.</p> <p>Varje psykiatrisk klinik som tillhandahåller ECT ska bidra till utbildning och fortbildning av dem som ordinerar och administrerar ECT. Utbildning och tjänstgöring vid ECT-enhet ska ingå i ST-utbildningen. En psykiater ska vara ansvarig för ECT-verksamheten och ha tid avsatt för att aktivt delta i behandlingsrummet samt ansvara för utbildning, uppföljning, kvalitetsarbete och forskning. Det är ECT-ansvarig läkares uppgift att säkerställa att verksamhetens ECT ges med väl avvägd och individuellt anpassad behandlingsteknik samt bevaka att behandlingen ges vid rätt indikationer, att samtidig medicinering är korrekt övervägd, att recidivprofylax säkerställs och att uppföljning görs. Tillgången till behandling med ECT får ej begränsas av organisationen t.ex. otillräcklig anestesiresurs. Behandlingsresultaten ska rapporteras till Kvalitetsregister ECT. Förslag på olika kvalitetsindikatorer för att mäta och följa upp användningen av ECT i Sverige och redovisas fortlöpande under respektive kapitel i riktlinjerna.</p>
<p>Dansk Psykiatrisk Selskab (90) www.dpsnet.dk Danmark</p>	<p>ECT vejledning 2011 http://www.dpsnet.dk/publikationer/dps-rapporter/ Udarbejdet i henhold til kommissorium fra Dansk Psykiatrisk Selskab. En revision af tilsvarende 2002 rapport. Af ECT udvalget: John Erik Anderson, Jeanett Bauer, Tom G Bolwig, Martin Balslev Jørgensen (formand) og Poul Videbech.</p> <p><i>19. Kort Resumé av DPS's ECT-Rapport:</i> Denne rapport, udarbejdet af en arbejdsgruppe udpeget af Dansk Psykiatrisk Selskab, omhandler retningslinier vedrørende anvendelse af elektrokonvulsiv terapi (ECT). Der redegøres for ECT's udvikling fra den første behandling blev givet i 1938 og frem til i dag, hvor teknikken er blevet forbedret, således at behandlingen må anses for særdeles sikker i sin terapeutiske virkning og skånsom hvad angår bivirkninger.</p> <p>Et afsnit omhandler de formodede virkningsmekanismer, selv om disse langt fra er fuldt belyst. De sygdomstilstande hvor man behandler med ECT er helt overvejende svær depression (melankoli), men også ved delirøse reaktioner, svær mani, og i sjældnere tilfælde kataton skizofreni og visse former for Parkinsons sygdom er ECT en effektiv behandling.</p> <p>Rapporten beskriver bivirkningerne, som i det væsentlige er hukommelsesforstyrrelser. Disse er af varierende sværhedsgrad, men altid forbigående. Der er ingen holdepunkter for at antage blivende forandringer i hjernefunktionen, specielt indlæring og hukommelse, lige som der ikke udvikles personlighedsforandringer. Vedrørende mulige skader på hjernestrukturer tyder den omfattende videnskabelige litteratur på, at sådanne ikke opstår, selv efter flere behandlingsserier.</p> <p>ECT gives under helbedøvelse og med indgift af et muskelafslappende middel. Selve strømstødet er normalt af 2-8 sekunders varighed, der udløser et generaliseret, men afsvækket krampetilfælde af 20-60 sekunders varighed. Patientens hjerneaktivitet følges med EEG under behandlingen. En behandlingsserie omfatter normalt 8-12 behandlinger, som gives 3 gange om ugen under medvirken af narkoselæge. Rapporten giver praktiske anvisninger vedrørende behandlingsteknik, bedøvelse, overvågning og efterbehandling. Rapporten anbefaler at behandlingerne gives med apparatur, som leverer kortvarige elekt-</p>

	<p>riske impulser og som har indbygget mulighed for at følge krampeaktiviteten med EEG. I sværere sygdomstilfælde anbringes elektroder i begge tindingeregioner. Hvor der ikke er tale om svært helbreds-truende tilstande, placeres begge elektroder over den ikke-dominante (højre) hjernehalvdel. Med den først omtalte teknik opnås en hurtigere effekt, men med lidt flere hukommelsesforstyrrelser, end ved den ensidige behandling hvor effekten er lidt langsommere indsættende, men hvor patienten til gengæld har færre hukommelsesforstyrrelser.</p>
<p>Kellner (91) 2014</p> <p>www.uptodate.com</p> <p>UpToDate USA</p>	<p>Overview of electroconvulsive therapy (ECT) for adults</p> <p>http://www.uptodate.com/contents/overview-of-electroconvulsive-therapy-ect-for-adults?source=search_result&search=electroconvulsive+therapy&selectedTitle=1%7E90#H23</p> <p>SUMMARY AND RECOMMENDATIONS</p> <ul style="list-style-type: none"> ▪ Indications include severe unipolar depression, bipolar disorder, schizophrenia, schizoaffective disorder, delirium, and neuroleptic malignant syndrome. (See "Unipolar major depression in adults: Indications for and efficacy of electroconvulsive therapy (ECT)".) ▪ The pre-ECT evaluation should include a complete medical history emphasizing cardiopulmonary disease and prior surgeries. Appropriate physical examination and laboratory evaluation, guided by the relevant history, should be performed. Medical consultation prior to ECT is indicated for most patients 40 years or older, and is frequently obtained in younger patients as well. (See 'Pre-ECT evaluation' above.) ▪ Inducing a seizure causes transient increases in blood pressure, pulse, and intracranial pressure, which can have deleterious effects. Organ systems of most concern are cardiovascular, pulmonary, and central nervous system. Medication to blunt increases in heart rate and blood pressure is indicated prior to ECT and during the procedure in patients for whom these increases would be detrimental. (See 'Patients with comorbid general medical illness' above.) ▪ Cardiac complications are the most common cause of serious morbidity and mortality during ECT. Patients with coronary heart disease should be evaluated prior to ECT with a careful cardiac history and ECG. Additional cardiovascular diagnostic testing and evaluation by a cardiology consultant may be indicated for selected patients, and for any patient with unstable disease. (See 'Coronary heart disease' above.) ▪ Recent myocardial infarction and unstable angina present increased risk. Careful consideration of the risk/benefit ratio of ECT in such cases is essential. The key factors are the extent of myocardial damage and subsequent healing, and the residual functional cardiac status. In general, the longer one waits after a myocardial infarction, the safer it is to perform ECT. For patients who have had a myocardial infarction and are not at imminent risk from their depressive episode, we suggest waiting a minimum of three months prior to starting a course of ECT. (See 'History of myocardial infarction' above.) ▪ Many psychotropic medications may be continued during a course of ECT for their synergistic effect without compromising safety, including antidepressants, antipsychotics, and lithium. Morning doses on the day of ECT are given after the patient has recovered from that day's procedure. Anticonvulsants and benzodiazepines often interfere with ECT and may need to be tapered and discontinued. (See 'Psychotropic drugs' above.) ▪ Most cardiac, antihypertensive, and anti-reflux medications should be taken with a small sip of water approximately two hours before each ECT treatment. (See 'Other drugs' above.) ▪ The psychiatrist should ensure that the consent process conforms to all state and local laws and statutes, and hospital policies. Informed consent requires that the patient receives adequate information about depression and ECT, is capable of understanding and acting reasonably on this information, and is given the opportunity to consent in the absence of coercion. (See 'Informed consent' above.) ▪ A typical course of ECT consists of 6 to 12 treatments, individualized for each patient. Treatment should usually continue until remission of mood or psychotic symptoms. (See 'Number of treatments' above.) ▪ Standard practice in the United States is to give ECT three times per week. The routine in many other countries is twice a week. (See 'Treatment frequency' above.) ▪ Continuation ECT is the practice of providing a single ECT treatment, at an interval of one to eight weeks, during the first six months after remission. Maintenance ECT refers to ECT given beyond contin-

	<p>uation ECT. Continuation and maintenance ECT are usually provided on an outpatient basis to prevent relapse or recurrence of the mood or psychotic episode that prompted the acute course of ECT. (See 'Continuation and maintenance ECT' above.)</p> <ul style="list-style-type: none"> ▪ The mortality rate of ECT is 2 to 4 deaths per 100,000 treatments, making it one of the safest procedures performed under general anesthesia. Mortality is mostly related to cardiopulmonary events. Other adverse medical effects include aspiration pneumonia, fracture, dental and tongue injuries, headache, and nausea. (See 'Adverse medical effects' above.) ▪ Most patients report some adverse cognitive effects during and after a course of ECT, including acute confusion (delirium), anterograde amnesia, and retrograde amnesia. (See 'Adverse cognitive effects' above.)
Prosedyrer (N=2)	
Førsteforfatter (årstall) og land	Tittel, nettsted og sammendrag
Moksnes (92) 2008 Norge	Grunnkurs i elektrostimulasjonsbehandling (ECT) God klinisk praksis Dette hefte er laget ved Alderspsykiatrisk avdeling, Ullevål universitetssykehus. Det som er skrevet gjenspeiler tenkningen og bakgrunnen for prosedyrene ved avdelingen. Ansvarlig for heftet er seksjonsoverlege Kjell Martin Moksnes. Avdelingssykepleier Torbjørg Ilebakk Dahle har bidratt med sykepleietiltak.
Ødegård (93) 2008 Norge	Standardisert behandlingsplan for elektrostimulerende behandling ved Diakonhjemmet Sykehus. Revidert utgave 2008. Gjennomgangen tar sikte på å standardisere og sikre kvaliteten på elektrostimulerende behandling ved alderspsykiatrisk avdeling Søndre Borge og psykiatrisk avdeling Vinderen. Målgruppa er primært involverte helsearbeidere. Første hefte kom ut våren 2006. Kapitlene 4,8,11,14 og 15 er skrevet om i den redigerte 2008 utgaven.
Pasientinformasjon (N=3)	
Førsteforfatter (årstall) og land	Tittel, nettsted og sammendrag
Mental Health Comission (MHC) (94) www.mhcirl.ie Ireland	What you need to know about the Rules and Code of Practice on Electro-Convulsive Therapy (ECT) http://www.mhcirl.ie/File/Leaflet_RsCOP_ECT.pdf
American Psy- chiatric Associa- tion (95) www.appi.org USA	Let's Talk Facts About Electroconvulsive Therapy (ECT) Pamphlet Item #2436 The APA Let's Talk Facts brochure series is designed to improve mental health by promoting informed factual discussion of psychiatric disorders and their treatments. They were developed for educational purposes for the general public and provide answers to commonly asked questions on mental health issues and disorders. Electroconvulsive therapy (ECT) is a medical treatment most commonly used in patients with severe major depression or bipolar disorder that has not responded to other treatments. It involves a brief electrical stimulation of the brain while the patient is under anesthesia. A patient typically receives ECT 2-to-3 times a week for a total of 6 to 12 treatments, depending on the severity of symptoms and how quickly the symptoms respond to the treatment. Brochures are sold in packages of 50.
Ministry of Health – Manatū Hauora (96) www.health.govt	Electroconvulsive Therapy (ECT) in New Zealand:What you and your family and whanau need to know http://www.health.govt.nz/publication/electroconvulsive-therapy-ect-new-zealandwhat-you-and-your-family-and-whanau-need-know

.nz	<p>Summary</p> <p>Every person for whom electroconvulsive therapy (ECT) is a treatment choice has the right to up-to-date information about ECT in New Zealand. This consumer information pack provides information and answers to the many questions someone considering ECT as a treatment choice, is likely to have about ECT.</p> <p>The booklet contains information covering what individuals and their families and whanau need to know when considering ECT as a treatment choice. The booklet includes:</p> <ul style="list-style-type: none"> •what ECT is and why ECT is recommended as a treatment option; •how ECT is thought to work; •how a treatment of ECT is given and what you can expect including side effects; •the informed consent process; •considerations for older people, Maori, Pacific peoples, and Asian peoples; and •treatments that may be alternative to ECT
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2) Rapporter, utredninger, manualer, bøker (16)

Rapporter, utredninger (N=12)	
Førsteforfatter (årstall) og land	Tittel, nettsted og sammendrag
<p>Victorian Government Department of Human Services (97)</p> <p>www.health.vic.gov.au</p> <p>Australia</p>	<p>Electroconvulsive therapy manual. Licensing, legal requirements and clinical guidelines (2009)</p> <p>http://www.health.vic.gov.au/mentalhealth/ect/</p> <p>Electroconvulsive Therapy: Overview</p> <p>Electroconvulsive therapy (ECT) is most commonly prescribed for treating severe depression but may also be used for other types of serious mental illness such as mania, schizophrenia, catatonia and other neuropsychiatric conditions.</p> <p>ECT is a procedure performed under general anaesthesia and muscle relaxation in which modified seizures induced by the selective passage of an electrical current through the brain are used for therapeutic purposes. Where ECT is prescribed, it should form part of a treatment plan in combination with other therapies.</p> <p>Guidelines for the practice of ECT in Victoria were first published by the Chief Psychiatrist in June 1991. Since that time there has been significant growth in knowledge about ECT, advances in the available technology and major changes to the treatment environment. The 2009 manual provides contemporary guidance to service providers – public and private – in relation to ECT licensing, administration and clinical practice.</p> <p>Licensing aims to provide assurance to mental health consumers that both services and the practitioners administering ECT meet established standards. All services performing ECT must be licensed. This manual sets out the requirements for the licensing of premises, the performance of ECT, minimum standards for resources and equipment, and provides practical clinical guidance for staff prescribing ECT or engaged in its administration.</p> <p>The skill requirements for staff involved in administering ECT are also articulated in this guideline together with the new requirement for appropriately trained psychiatrists and senior registrars to either deliver or personally supervise all ECT administration. An inaugural guideline for providing ECT training has also been developed in recognition of the need to ensure that all clinicians involved in delivering ECT have the necessary expertise. A training curriculum and a training course certification process have also been established.</p>
<p>Ministry of Health (98)</p> <p>2006</p> <p>www.health.govt.nz</p>	<p>Electroconvulsive Therapy Annual Statistics For the period 1 July 2003 to 30 June 2005</p> <p>http://www.health.govt.nz/publication/electroconvulsive-therapy-annual-statistics-period-1-july-2003-30-june-2005</p> <p>Summary</p> <p>This Ministry of Health annual report on ECT covers the two reporting periods from 1 July 2003 to 30 June 2005. In accordance with the Health Select Committee's recommendations, it shows statistics for</p>

<p>.nz</p>	<p>the total number of people who received ECT, plus breakdowns by a number of socio-demographic variables. The report also presents statistics on the number of patients who were treated with ECT under compulsion.</p>
<p>New Zealand</p>	<p>Where possible this report includes data gathered by the Ministry of Health for the previous reporting period from 1 July 2003 to 30 June 2004. Data from the previous year is included for the total number of patients treated with ECT, the percentage of patients (aged 20+ years) seen at a mental health service treated with ECT and demographic information such as age, sex and gender.</p>
<p>Sundhedsstyrelsen (99) 2010 www.sundhedsstyrelsen.dk</p>	<p>Elektroconvulsiv terapi (ECT-behandling) og dødsfald - en udredning http://sundhedsstyrelsen.dk/publ/Publ2010/TILSYN/ECT/ECTbehl_doed_udredn.pdf Denne udredning omfatter en gennemgang af 78 patientforløb, hvor der er givet elektroconvulsiv terapi (ECT-behandling), og hvor patienterne efterfølgende er døde indenfor 30 dage efter sidste ECT-behandling. Et af formålene med udredningen var at vurdere, om der var en sammenhæng mellem ECT-behandling og død.</p>
<p>Danmark</p>	<p>Undersøgelsen finder ingen påviselig sammenhæng mellem ECT-behandling og død. Det er Sundhedsstyrelsens vurdering, at ECT-behandlingen generelt blev anvendt med den fornødne omhu og samvittighedsfuldhed og på korrekt indikation. Udredningen viste også, at hvis patienterne havde somatiske lidelser, var disse ikke altid tilstrækkeligt udredte og behandlede inden ECT-behandlingen blev indledt. Sundhedsstyrelsen finder, at der som minimum bør være foretaget en objektiv undersøgelse og foreligge relevante parakliniske undersøgelser. Dette gælder for såvel indlagte patienter som ambulante patienter og patienter i vedligeholdelsesbehandling. Der bør desuden være foretaget en risikovurdering af ECT-behandling ved anæstesi/silæge/psykiater før behandlingen bliver givet. Vurderingen bør omfatte stillingtagen til eksempelvis krav til intubation eller særlige krav til præoperative parakliniske undersøgelser. Ved gennemgangen af patientjournalerne fandt Sundhedsstyrelsen, at journalføringer i forbindelse med ECT-behandling kan forbedres. Indikationen skal altid tydeligt fremgå af patientjournalen. Den systematiske vurdering af effekten af den givne ECT-behandling skal ligeledes fremgå af journalen. Endelig bør der foreligge en behandlingsplan, der omfatter en plan for ECT-behandlingen herunder varigheden af den planlagte behandling. Sundhedsstyrelsen skal bemærke, at det altid er den for behandlingen ansvarlige læge, som har ansvaret for at tage stilling til, om en planlagt ECT-behandling skal gives. De fremsendte instrukser for ECT-behandling på de psykiatriske afdelinger var som hovedregel fagligt dækkende. Sundhedsstyrelsen har dog bemærket, at flere af instrukserne ikke indeholdt oplysninger om, hvem der var ansvarlig for udarbejdelse af instrukserne, ligesom det ikke klart fremgik, hvornår instrukserne skulle revideres. Sundhedsstyrelsen skal påpege, at instrukserne skal omfatte den præoperative vurdering samt håndtering af patienter i ambulante behandling og patienter i vedligeholdelsesbehandling. Ved ustabile patienter er der skærpede krav til, at den præoperative vurdering ikke er forældet, hvilket også bør fremgå af instrukserne.</p>
<p>Dansk Psykiatrisk Selskab (100) 1996 www.dpsnet.dk</p>	<p>ECT-Udvalgets betænkning. Dansk Psykiatrisk Selskab http://www.dpsnet.dk/fileadmin/user_upload/menu/publikationer/rapporter/043_ect_betaenkning.pdf Forord: Herværende udvalgsarbejde er blevet til efter anmodning fra bestyrelsen for Dansk Psykiatrisk Selskab, som i 1992 nedsatte et udvalg bestående af: Professor, dr. med. Per Bech, Professor, dr. med. Tom G. Bolwig (formand), Klinisk assistent, læge Shashi Kant Jha, Overlæge, dr. med. Lizzie Sand Strömgen</p>
<p>Danmark</p>	<p>Udvalgets kommissorium var at udarbejde en revision af Dansk Psykiatrisk Selskabs ECT-rapport (NCE-rapport) fra 1986 mhp. at opdatere den eksisterende viden om ECT og fremkomme med rekommandationer, således at der kan foreligge et grundlag for anvendelse af ECT med størst mulig behandlingseffektivitet samtidig med, at sikkerheden tilgodeses. Betænkningen er udformet som et redskab, der kan anvendes i daglig praksis, og publikationen vil indgå i rækken af ajourførte retningslinier for forskellige psykiatriske behandlingsmetoder, som Selskabet løbende agter at udgive som et led i udviklingen af kvalitetssikring. Udvalget har i sit arbejde, foruden at fastlægge retningslinier for de tekniske sider af ECT, også beskrevet den omfattende forskningsaktivitet, som gennem de senere år har gjort, at denne vigtige, omend omdiskuterede behandlingsform, i dag har et særdeles veldokumenteret grundlag. Det</p>

	<p>har ikke været muligt at dække hele området, og specielt spørgsmålet om ECT's virkningsmåder har udvalget valgt at belyse ud fra de teoridannelser, som findes mest lovende. Udvalget er opmærksomt på, at den meget aktive forskning, der sker inden for ECT-området om få år meget vel kan opvise resultater, der tilfører området yderligere værdifuld viden, og Dansk Psykiatrisk Selskab vil nøje følge udviklingen, således at der kan foretages den nødvendige revision. Der arbejdes på oprettelse af en særskilt ECT-kvalitetssikringsdatabase, ved Povl Munk-Jørgensen, Raben Rosenberg og Tom G. Bolwig. Bestyrelsen takker udvalgets medlemmer for den store arbejdsindsats, som skal bidrage til at fremme kvaliteten af ECT-behandling i Danmark.</p> <p>På vegne af Dansk Psykiatrisk Selskabs bestyrelse Annette Gjerris, Formand, Februar 1996</p>
Luth (101) 2010	Elektrokonvulsiv terapi (ECT) 2010: på tide med norske retningslinjer?
Norge	Masteroppgave i helseledelse og helseøkonomi - Universitetet i Oslo, 2010
Kvalitetsregister ECT (102) 2012	Kvalitetsregister ECT Årsrapport 2012 http://registercentrum.se/content/kvalitetsregister-ect-%C3%A5rsrapport-2012
Sverige	Samtlige behandlende enheter i landet rapporterede under 2012 till Kvalitetsregister ECT. Täckningsgraden för Kvalitetsregister ECT under 2012 var 76% av totalt 3 806 patienter i kvalitetsregistret och Patientregistret. Andelen kvinnor av de registrerade var 63%. Patienternas ålder varierade mellan 16 och 95 år. De flesta behandlades för depression. Medianen för antalet ECT per behandlingsserie var sju. Man inledde behandlingen med unilateral elektrodplacering i 88% av serierna.
Mental Health Comission (MHC) (103) www.mhcirl.ie	The Administration of Electro-convulsive Therapy in Approved Centres: Activity Report 2011 http://www.mhcirl.ie/File/The-Administration-of-ECT-in-approved-centres-Activity-Report-2011.pdf
Ireland	<p>Summary</p> <p>This activity report includes data reported to the Mental Health Commission on the administration of ECT during 2011. Data are presented based on returns from 68 approved centres.</p> <p>There were 332 programmes of ECT administered in 2011. This represents a rate of 7.2 programmes per 100,000 total population and a 4.3% decrease in comparison to the number of programmes administered in 2010 (347). The average number of treatments per programme of ECT was 6.8.</p> <p>In 2011, 20 approved centres (29.4%) administered ECT and a further nine (13.2%) referred one or more patients to another approved centre for ECT treatment.</p> <p>A total of 262 individuals received ECT treatment in 2011, which equates to a rate of 5.7 people per 100,000 total population. The majority (78.6%) had one programme of ECT in the reporting period. The overall mean age of residents was 56 and the median age was 57. A higher proportion of females (69.8%) than males (30.2%) were administered ECT.</p> <p>In all quarters, the proportion of residents that were administered ECT who were voluntary patients was greater than 80%. The majority of those who were administered ECT in 2011 were capable of giving their consent to the treatment. In 2011, the Commission was notified of 25 programmes of ECT where a patient was either unwilling or unable to give consent and the administration of ECT without consent did proceed, which represents 7.5% of all programmes. Therefore, there has been a decrease in the number (35) and percentage (10.1%) of programmes of ECT that were administered without patient consent since 2010.</p> <p>St Patrick's University Hospital recorded the highest number (129) of programmes of ECT, in 2011, accounting for over one-third (38.9%) of all ECT. Department of Psychiatry, Waterford Regional Hospital reported the second highest number of programmes (36) which represents 10.8% of all programmes administered, followed by St John of God Hospital Limited (26).</p> <p>Depressive disorders continue to be indicated as the diagnostic group that applies to a large majority (77.4%) of ECT programmes. This diagnostic grouping was followed by Schizophrenia (10.1%) and Mania (7.8%).</p> <p>Refractory to medication was by far the most prevalent indication for ECT. It accounted for 61.9% of all programmes of ECT and was followed by "multiple indications" (15.9%) and "rapid response required" (11.1%).</p> <p>The consultant psychiatrist responsible for the care and treatment of the resident is required to indicate an outcome at the termination of a programme of ECT. In 2011, the most common outcome was 'complete recovery' indicated for 38.3% of programmes followed by 'significant improvement' indicated for 36.2% of programmes. In the overwhelming majority (94.7%) of programmes some level of improvement</p>

	was indicated.
FDA U.S. Food and Drug Administration (104) 2011 www.fda.gov USA	<p>FDA Executive Summary Prepared for the January 27-28, 2011 meeting of the Neurological Devices Panel Meeting to Discuss the Classification of Electroconvulsive Therapy Devices (ECT) http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/MedicalDevicesAdvisoryCommittee/neurologicalDevicesPanel/UCM240933.pdf</p> <p>Draft Executive Summary Electroconvulsive Therapy (ECT) devices induce seizure by applying electricity to the scalp and are used "for treating severe psychiatric disturbances (e.g., severe depression)." See 21 CFR 882.5940. These devices were legally marketed in the United States prior to the Medical Devices Amendments of 1976. Although classified into Class III, the highest risk-based classification for devices, FDA has not yet established a requirement for premarket approval (PMA) to affirmatively demonstrate a reasonable assurance of safety and effectiveness. ECT devices have instead been regulated through the premarket notification [510(k)] regulatory pathway, which requires a showing of substantial equivalence to a legally marketed device and is usually reserved for intermediate and low risk devices. In January 2009, the Government Accounting Office (GAO) recommended that the FDA take steps to issue regulations for class III device types currently allowed to enter the market via the 510(k) process (including ECT devices) by either requiring PMAs or reclassifying them into Class I or Class II [GAO-09-190]. On April 9, 2009, FDA issued a Federal Register Notice [Docket No. FDA-2009-M-0101] requesting safety and effectiveness information from manufacturers to determine whether ECT devices should remain in Class III, requiring PMAs, or whether they should be reclassified into Class I or II. A subsequent notice [Docket No. FDA-2009-N-0392] requested public comment on the classification of ECT devices. To assess safety and effectiveness of ECT devices, FDA has conducted an independent, comprehensive, systematic review of the scientific literature and when possible, has performed meta-analyses of safety and effectiveness using studies satisfying the most rigorous data criteria (e.g. randomized controlled trials). This executive summary presents a brief clinical background, regulatory considerations, FDA review methodology, review of public and manufacturer dockets, safety review of the literature, effectiveness review of the literature, and potential mitigating factors of specific risks for ECT devices. The purpose of this advisory panel meeting is to supplement FDA's review with expert recommendations regarding the appropriate classification of ECT devices. The discussion will include discussion of the safety and effectiveness of ECT devices, and whether sufficient information exists to develop special controls to adequately mitigate the risks of ECT to support reclassification into Class II.</p>
FDA (U.S. Food and Drug Administration) (105) www.fda.gov USA	<p>MAUDE Adverse Event Report: SOMATICS, LLCTHERAPY UNIT, ELECTROCONVULSIVE http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfmaude/detail.cfm?mdrfoi_id=1101693</p> <p>SOMATICS, LLC THERAPY UNIT, ELECTROCONVULSIVE Model Number DGX Event Date 04/11/2008 Event Type Malfunction Event Description The patient was scheduled to have electroconvulsive therapy (ect) treatment. The patient was attached to the ect machine, and when the unit was turned on, while the doctor was checking the electrical amount to be administered, the machine shocked the patient without the doctor pressing the treatment button. The machine was immediately unplugged and the anesthesia and medical staff assessed the patient for any problems. When the device was returned to the manufacturer, the factory found that the actual push button for the treat switch was inserted the wrong way. This could have caused the switch to stick in the treat mode, and could have caused the problem. One way, the switch works smoothly, the other way it can stick in the "in" position. The manufacturer stated that with the red button, if it is put in upside down, it will stick every 2-3 times. Therefore, they have started using a yellow button, (part# sw201p for \$14) because it can be inserted in any orientation and it will work appropriately. However, the</p>

	equipment used during this incident already had a yellow button (not a red one), which apparently can not be inserted "upside down". Additionally, the unit had been used for months and has not stuck before, thus, this explanation did not apply to our unit. Currently, the cause of the problem has not yet been identified.
FDA (U.S. Food and Drug Administration) (106) www.fda.gov USA	Product classification http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpd/classification.cfm?ID=3315 Device, electroconvulsive therapy Regulation Description: Electroconvulsive therapy device. Regulation Medical Specialty: Neurology Review Panel: Neurology Product Code: GXC Premarket Review: Office of Device Evaluation 6(ODE), Division of Neurological and Physical Medicine Devices (DNPMD), Physical Medicine and Neurotherapeutic Devices Branch (PNDB) Submission Type: 510(k) Regulation Number: 882.59407 Device Class: 3 Total Product Life Cycle (TPLC): TPLC Product Code Report8 GMP Exempt?: No Third Party Review: Not Third Party Eligible
Grammeltvedt (107) 2001 www.helsetilsynet.no Norge	Kan elektrokonvulsiv behandling gis med tvang? http://tidsskriftet.no/article/388616 Elektrokonvulsiv behandling er det ikke adgang til å gi under tvang, unntatt dersom det foreligger nødrett. Helsetilsynet har nylig fastslått at så var tilfellet i en sak med en eldre pasient.
Helsetilsynet (108) 2003 www.helsetilsynet.no Norge	Avslutning av tilsynssak http://www.helsetilsynet.no/no/Tilsyn/Tilsynssaker/Ingen-reaksjon-elektrokonvulsiv-behandling-ECT-gitt-pa-nodrett/ Det forelå forsvarlige vurderinger før oppstart av behandlingene, og det var derfor ikke uforsvarlig å behandle pasienten med ECT på nødrett.
Manualer, bøker (N=4)	
Førsteforfatter (årstall) og land	Tittel, nettsted og sammendrag
Kasper (109) 2013	Treatment-resistant depression (from the cover) Successful management of patients with treatment-resistant depression requires a thorough understanding of the biological basis for both the depression and its failure to respond to standard treatments. This book summarizes the latest scientific research and its applications in clinical practice. A first step is a clear definition of what constitutes treatment-resistant depression so that clinical trials and other studies are using common criteria, enabling comparison and meta-analysis of their outcomes. The opening chapter reviews definitions and predictors of treatment-resistant depression originating from different fields and discusses their usefulness in clinical practice and clinical research. The next chapter proposes a new definition, adapting terminology from medicine. Biological classification requires identification of genetic risk factors and gene variants have been identified as accounting for 50% of the variance in the clinical outcomes of antidepressant treatments. Chapter 3 describes several genes already associated with treatment-resistant depression and, while further work is needed to translate findings into clinical recommendations, suggests that genetic prediction of treatment resistance could become a widespread clinical reality within a few years. Most patients with treatment-resistant depression will be treated pharmacologically, so three chapters review the latest evidence for pharmacological best practice in switching strategies for antidepressants, the role of antipsychotics and augmentation strategies to complement lithium. There are two major alternatives to pharmacotherapy: neuromodulation and psychotherapy. The brain intervention chapter summarizes clinical research and experience with electroconvulsive therapy, transcranial magnetic stimulation, vagus nerve stimulation, deep brain stimulation and magnetic seizure therapy. The final chapter reviews the literature pertaining to the effectiveness of various forms of psychotherapy in patients who have not responded to antidepressant pharmacotherapy, explaining that patients who have not responded to one or two trials of antidepressant medication have a

	30%-50% chance of responding to a focused psychotherapy. It proposes indications for psychotherapy in treatment-resistant depression and summarizes general therapeutic principles.
Swartz (110) 2009 www.cambridge.org	Electroconvulsive and neuromodulation therapies BOK Sider i-xxx, 1 til 609 ISBN 978-0521-88388-7 (hardback) © Cambridge University Press 2009 Book review by Klaus P.Ebmeier (http://bjp.rcpsych.org/content/196/4/335.2.full) This monumental work is a handbook covering every conceivable aspect of electroconvulsive therapy (ECT). More than 50 international authors with experience in the field have contributed. It is also a very personal work, coloured by the opinions and experiences of Swartz (who also contributes six chapters and the preface). These take the form of journalistic 'editor's notes' after other authors' chapters, often somewhat elliptic or even eccentric comments, usually critical of the chapter authors' contribution. I would not recommend the book to trainees or even for a training library. The highly personal approach to evidence requires the critical sifting of the material by a mature reader, who may then even take a certain amount of enjoyment from the quirky presentation. The book is written from the US perspective and may not be relevant in some aspects to UK National Health Service practice. There are some rather arcane chapters, such as 'ECT in biographical books and movies', 'ECT availability in the US', 'ECT forms', but this makes it likely that everybody interested in ECT will find something useful in the book. In contrast, the four chapters on neuromodulation treatments appear as an afterthought and are not sufficiently detailed to provide more than a cursory look at these methods.
Mankad (111) www.appi.org USA	Clinical Manual of Electroconvulsive Therapy BOK, Sider i-xiv, 1 til 225 ISBN 978-158562-269-6 © 2010 American Psychiatric Publishing Inc. The book updates the 1985 original and 1998 second edition of <i>Electroconvulsive Therapy: A Programmed Text</i> , and provides readers with a scheduled approach to understanding the fundamental concepts of ECT while offering practical guidance for establishing and maintaining an ECT program. Topics include the history of ECT, indications for use, patient referral and evaluation, the basics of ECT, clinical applications, anesthetics and other medications, seizure monitoring and management, ictal motor and cardiovascular response, adverse effects, and maintenance ECT. Included are detailed descriptions of recent advances including ultra-brief pulse ECT, oxygenation, muscle relaxation, and other modifications that have made this very effective treatment much safer and more acceptable to patients. Currently, it is estimated that more than 100,000 people receive ECT treatments each year in the U.S. Indications for use of ECT are for mood disorders such as major depressive disorder and mania, and thought disorders including schizophrenia and schizoaffective disorder. Indications for use in other psychiatric disorders and general medical disorders such as Parkinson's disease, which appears to respond especially well to ECT, are reviewed as well.
Rothschild (112) www.appi.org USA	Treatment (Chapter 6) In: Clinical manual for diagnosis and treatment of psychotic depression BOK Kapittel, Sider 77-114 ISBN 978-158562-292-4 © 2009 American Psychiatric Publishing Inc.

Resultat av sortering søk 3: norsk vitenskapelig publikasjoner

Nedenfor følger listen over 83 mulige relevante norske vitenskapelige publikasjoner fra 1954 til 2014. Referanselisten er sortert etter årstall. Listen er

ikke tematisk kategorisert. Litteratursøket ble ikke avgrenset mht årstall. Sammendrag er tatt med der hvor denne finnes.

Søket inkluderte i tillegg 2 systematiske oversikter av Leiknes et al. (18;72), en systematisk oversikt SINTEF rapport av Aarre (38) og en Masteroppgave i helseledelse og helseøkonomi rapport av Luth (101). Alle disse er oppgitt i Resultat av sortering søk 2 og derfor ikke gjengitt her.

Tabell liste over norske vitenskapelige publiksjoner om ECT (82)

Førsteforfatter og årstall	Tittel og sammendrag
Bjartveit (113) 2014	Kvinne i 30-årene med kronisk utmattelse En kvinne i 30-årene ble innlagt på akuttpsykiatrisk avdeling fra sykehjem. Hun var sengeliggende, sondeernært og diagnostisert med kronisk utmattelsessyndrom/myalgisk encefalopati (CFS/ME). Det videre forløpet ble uvanlig. [Behandlet med ECT]
Berg (114) 2013	Benefits of Returning to Work After ECT BACKGROUND: Severe unipolar or bipolar depression is often not helped by pharmacotherapy and/or psychotherapeutic treatment alone, whereas more than 80% of these patients remit after sessions of electroconvulsive treatment (ECT). Getting patients back to work after a severe depression may be important for maintaining the effect of ECT. METHODS: Twenty consecutive patients remitted to an acute psychiatric hospital for depression underwent ECT. None of the patients had been working before the inpatient stay. Four patients were living on a permanent sickness allowance from the State (invalidity pension) before ECT, and thus were not expected to start work thereafter. RESULTS: Ten of the patients returned to work. Hospital treatment in Norway (including ECT) is provided free of charge with no copayments from the patient. The mean length of sick leave before ECT was 14.7 months. The 10 patients who returned to work had accrued public costs before their inpatient stays totalling NOK (Norwegian krone) 2,994,635 or a mean of NOK 299,463 per patient (NOK 1 = 9 NOK or \$1 = 6 NOK). The total public cost of their inpatient stays was NOK 1,680,000. During the first year after ECT, these 10 patients received NOK 2,680,000 in wages (NOK 3,238,300 during the mean number of months they were observed). CONCLUSION: Most of the patients (10 of 16) receiving ECT returned to work and within 2 years had earned more than the total cost both of their sick leave before admittance to hospital and the public cost of their 4 weeks' inpatient treatment. It is a pity that many countries, including Norway, only allow ECT as a treatment of last resort after failed psychotherapy or pharmacotherapy. Higher public spending is an inadvertent result of such a policy toward ECT
Bergsholm (115) 2013	Tvilsom kritikk av elektrokonvulsiv behandling
Bergsholm (116) 2013	Mytene lever videre
Fosse (117) 2013	Electroconvulsive Treatment: Hypotheses about Mechanisms of Action No consensus has been reached on the mode of action of electroconvulsive treatment (ECT). We suggest that two features may aid in the delineation of the involved mechanisms. First, when effective, ECT would be likely to affect brain functions that are typically altered in its primary recipient group, people with severe depression. Central among these are the frontal and temporal lobes, the hypothalamus-pituitary-adrenal (HPA) stress axis, and the mesocorticolimbic dopamine system. Second, the involved mechanisms should be affected for a time period that matches the average endurance of clinical effects, which is indicated to be several days to a few weeks. To identify effects upon frontal and temporal lobe functioning we reviewed human studies using EEG, PET, SPECT, and fMRI. Effects upon the HPA axis and the dopamine system were assessed by reviewing both human and animal studies.

	<p>The EEG studies indicate that ECT decelerates neural activity in the frontal and temporal lobes (increased delta and theta wave activity) for weeks to months. Comparable findings are reported from PET and SPECT studies, with reduced cerebral blood flow (functional deactivation) for weeks to months after treatment. The EEG deceleration and functional deactivation following ECT are statistically associated with reduced depression scores. FMRI studies indicate that ECT flattens the pattern of activation and deactivation that is associated with cognitive task performance and alters cortical functional connectivity in the ultra slow frequency range. A common finding from human and animal studies is that ECT acutely activates both the HPA axis and the dopamine system. In considering this evidence, we hypothesize that ECT affects the brain in a similar manner as severe stress or brain trauma which activates the HPA axis and the dopamine system and may compromise frontotemporal functions</p>
Fosse (118) 2013	Tvilsomme effekter av elektrokonvulsiv behandling
Fosse (119) 2013	R. Fosse svarer
Kessler (120) 2013	<p>Neurocognitive profiles in treatment-resistant bipolar I and bipolar II disorder depression</p> <p>Background: The literature on the neuropsychological profiles in Bipolar disorder (BD) depression is sparse. The aims of the study were to assess the neurocognitive profiles in treatment-resistant, acutely admitted BD depression inpatients, to compare the neurocognitive functioning in patients with BD I and II, and to identify the demographic and clinical illness characteristics associated with cognitive functioning. Methods: Acutely admitted BD I (n = 19) and BD II (n = 32) inpatients who fulfilled the DSM-IV-TR criteria for a major depressive episode were tested with the MATRICS Consensus Cognitive Battery (MCCB), the Wechsler Abbreviated Scale of Intelligence, the National Adult Reading Test, and a battery of clinical measures. Results: Neurocognitive impairments were evident in the BD I and BD II depression inpatients within all MCCB domains. The numerical scores on all MCCB-measures were lower in the BD I group than in the BD II group, with a significant difference on one of the measures, category fluency. 68.4% of the BD I patients had clinically significant impairment (>1.5 SD below normal mean) in two or more domains compared to 37.5% of the BD II patients (p = 0.045). A significant reduction in IQ from the premorbid to the current level was seen in BD I but not BD II patients. Higher age was associated with greater neurocognitive deficits compared to age-adjusted published norms. Conclusions: A high proportion of patients with therapy-resistant BD I or II depression exhibited global neurocognitive impairments with clinically significant severity. The cognitive impairments were more common in BD I compared to BD II patients, particularly processing speed. These findings suggest that clinicians should be aware of the severe neurocognitive dysfunction in treatment-resistant bipolar depression, particularly in BD I. Trial registration: Trial registration number: NCT00664976. 2013 Kessler et al.; licensee BioMed Central Ltd</p>
Moksnes (121) 2013	<p>Elektrokonvulsiv terapi uten samtykke</p> <p>BACKGROUND: In principle, electroconvulsive therapy (ECT) can only be administered to patients who consent to the treatment. If the patient does not consent, the treatment can be given in exceptional cases, in situations where a plea of necessity can be made. The purpose of this study was to investigate whether the issue of consent was documented in the patient records at Dikemark Hospital in the period 1960-95, and to study the outcomes for patients who were given ECT treatment without having consented. MATERIAL AND METHOD: The article is based on a review of the ECT protocols and the records of patients who were given this treatment during the period 1960-95 in three psychiatric wards at Dikemark Hospital. We registered whether the issue of consent had been documented, and if so, whether consent had been provided or not. The material encompasses 241 ECT series administered to 141 patients. RESULTS: The issue of consent had been documented for 107 of a total of the 241 series. Seven patients were given the therapy against their wishes. The median age of these seven was 68 years (range 56-82 years). All of them had been diagnosed with depressive psychosis and were given electroconvulsive therapy on a vital indication under a plea of necessity. Insufficient intake of nourishment was described as the main reason for the vital indication in all the seven patients. According to their records, they</p>

	showed signs of improvement on the day after the first treatment. Their lifespan after the treatment varied from three to 19 years INTERPRETATION: On the basis of the records in which it was documented that the patient had not provided consent, electroconvulsive therapy was administered exclusively as a life-saving intervention
Moksnes (122) 2013	Elektrokonvulsiv behandling
Poverud (123) 2013	Elektrokonvulsiv behandling
Steen (124) 2013	Elektrokonvulsiv terapi ute av kontroll?
Berg (125) 2012	Intractable schizo-affective disorder successfully treated with electroconvulsive treatment over six years Some patients with severe mental disorders are refractory to psychotherapeutic or psychopharmacological interventions. We describe a patient with severe symptoms from the age of 16 to 44. Her illness is best described as a schizo-affective disorder. Several series of electroconvulsive therapy (ECT) followed by maintenance once a week for more than six years has kept her out of hospital beds for three years. The patient demonstrates the feasibility of long term ECT and the absence of disturbing cognitive reductions.
Bergsholm (126) 2012	Patients' perspectives on electroconvulsive therapy: a reevaluation of the review by Rose et al on memory loss after electroconvulsive therapy OBJECTIVES: In 2003, based on a review of 7 studies, Rose et al concluded that at least one third of patients report significant memory loss 6 months or more after electroconvulsive therapy (ECT). However, few details on the included studies were given. The present study evaluates factors that may have influenced the results METHODS: The 7 studies were scrutinized as to the 6-month assessment criterion, whether the data represent ECT-treated patients in general, specification and significance of the memory loss, stimulus type, and electrode placement RESULTS: In 3 studies, the 6-month inclusion criterion was not met, including 1 study with 98% satisfied patients and 1 study with only 37% valid response rate. Two other studies selected individuals from user/advocacy groups generally biased against ECT and were probably overlapping. The significance of memory problems was not mentioned in any of the studies. Two studies reported that 30% and 55% of patients treated with bilateral ECT in the 1970s felt they had persistent memory gaps around the time of treatment, but the long-obsolete sine wave stimulus type was used. The results mostly concerned bilateral ECT, whereas unilateral ECT seemed to cause little complaints CONCLUSIONS: Data used by Rose et al are severely flawed, making their results inconclusive and misleading
Brauer (127) 2012	En forvirret nybakt mor: noe å lære av Shortly after the birth of her first child a young woman became confused and agitated and was finally involuntarily admitted to an acute psychiatric ward. In spite of appropriate treatment with narcoleptics, she deteriorated from day to day and the staff members were uncertain what to do. New information from her close family concerning previous depressive and hippomanic episodes pointed to probable bipolar disorder. The treatment of choice was electroconvulsive therapy (ECT). In Norway this treatment requires informed consent, which she was not able to give. After consideration and discussions she was finally given ECT as emergency treatment. This had an immediate effect, and after a few treatments she recovered. She was given lithium to prevent relapse. At her 18 month follow-up visit she was stable and functioning well and had a good relationship with her child. Aspects of diagnostics and treatment as well as legal and ethical aspects are discussed
Ekeland (128) 2012	ECT og epistemologiske feil
Fosse (129) 2012	Elektrosjokk og alternativer
Fosse (130) 2012	Mer skade enn effekt
Gazdag (131) 2012	The practice of consenting to electroconvulsive therapy in the European Union OBJECTIVES: To survey major aspects of obtaining informed consent to electroconvulsive therapy (ECT) in the countries of the European Union METHODS: Leading professionals in

	<p>the field of biological psychiatry in all European Union countries and Norway and Switzerland were approached by e-mail asking about the national practice of obtaining consent to ECT including the form of consent, the legality of consent by proxy, and consent to anesthesia and maintenance treatment</p> <p>RESULTS: A considerable diversity was found across Europe regarding consent to ECT. In Slovenia and Luxembourg, ECT is not available at all. Informed consent is needed in written form in most European countries except for Sweden, Denmark, Finland, and Slovakia, where verbal consent is sufficient. Italy, Ireland, and Latvia are stricter in their approach because separate written consent is required before each ECT session</p> <p>CONCLUSION: The practice of obtaining informed consent varies from country to country reflecting the individual European Union countries' jurisdiction and their sociocultural traditions as well as their different development of psychiatric services. In line with the increasing cooperation in health care, developing a unified way of obtaining consent for ECT is recommended</p>
Moksnes (132) 2012	Usaklig om ECT
Moksnes (133) 2012	Elektrokonvulsiv behandling - i konflikt med den hippokratiske eden?
Berg (134) 2011	<p>Memory loss after electroconvulsive treatment--may the sudden alleviation of depression-inducing memories explain patient despair?</p> <p>UNLABELLED: Electroconvulsive treatment (ECT) has developed over 70 years to a modern, effective way of lifting depressive moods. Memory loss after electroconvulsive treatment is the only remaining relevant criticism of the treatment modality when considering the overall rate of remission from this treatment compared to all other treatment modalities. A depressive state impedes memory. After treatment memory improves on several qualities of cognition. However, comparing a person's memory ability from the months before depression started to the level after a course of ECT is never done, of obvious reasons. There are great clinical difficulties explaining who would develop memory problems, regardless of stimulation techniques, age or sex of the patient</p> <p>HYPOTHESES: The memory loss seen in some patients undergoing electroconvulsive treatment (ECT) is not explained by the treatment alone. After ECT unpleasant memories are disclosed rapidly and the patient may unconsciously try to defend herself by extending memory repression to other areas of memory. This may be unrelated to treatment modality, number of sessions or severity of depression. Psychological factors may partly explain why some patients unfold memory problems when the depression is rapidly lifted, rather than the treatment modality itself. Copyright 2011 Elsevier Ltd. All rights reserved</p>
Berg (135) 2011	<p>Electroconvulsive treatment of a patient with Parkinson's disease and moderate depression</p> <p>Depression is a usual comorbidity in patients with Parkinson's disease. It has been known for more than 50 years that electroconvulsive treatment (ECT) has a positive effect on the muscular symptoms of Parkinson's disease. Many countries do not allow giving ECT for this indication. We have recently treated a resident patient in an acute psychiatric facility referred to the hospital with moderate depressive symptoms and strong suicidal ideation. Before and after a series of ECT he filled out the Beck Depression Inventory and the Antonovsky Sense of Coherence test. The scores before ECT were 20 and 2.69, respectively, and after 12 treatments 14 and 3.38. Both test results indicate improvement regarding level of depression and coping in life. The physiotherapists treating him observed that his rigidity was reduced and his gait improved. Muscular tonus was reduced and increased his tendency of falling as he had less tonus in muscles close to joints. Self help efficiency in daily tasks improved. He got cognitive impairment during and in the weeks after ECT. Electroconvulsive treatment should be offered to more patients with Parkinson disease and depression in order to lessen the burden of both depression and Parkinson symptoms. J.E. Berg, 2011</p>
Berg (136) 2011	Protecting the skin and hair of the patient from the electrode gel with 1-layer semiporous gauze during electroconvulsive therapy
Fosse (137) 2011	Elektrokonvulsiv behandling ved alvorlig depresjon - i konflikt med den hippokratiske eden?

	<p>Electroconvulsive treatment (ECT) often is described as particularly effective with severe depression. We argue that available placebo-controlled evidence does not support this contention, instead showing marginal effects of ECT at treatment end and the absence of positive long term effects. In contrast, the literature on neuropsychological effects suggests that ECT weakens cognitive functions, in particular memory, for weeks or months in most participants. Neurophysiologically, ECT lowers the regional activation level and slows down neural firing in the frontal and temporal lobes (deceleration). ECT also blocks long term potentiation necessary for memory formation, and it activates the hypothalamus-pituitary-adrenal stress axis. The frontotemporal deceleration following ECT empirically is associated with changes in the patients' behavior viewed as 'therapeutic response' by clinicians, such as improved appetite and sleep. Increased doses of ECT are associated with a stronger 'therapeutic response*' as well as with gradually increased neurophysiological deficits and memory problems. It may appear that the response to ECT seen in the clinic reflects the neurophysiological deficits that the treatment incurs, indicating a violation of the Hippocratic oath - first, do no harm.</p>
<p>Moksnes (138) 2011</p>	<p>Tilbakefall etter elektrokonvulsiv terapi BACKGROUND: Irrespective of the treatment method used, there is a strong tendency to relapse into depression if treatment terminates. The purpose of this retrospective study is to investigate the relapse rate and the time elapsing before relapse after electroconvulsive treatment (ECT) and what was done to prevent this MATERIAL AND METHOD: The ECT records and case notes of patients who received electroconvulsive therapy in the period 1960 - 1995 at three psychiatric departments at Dikemark Hospital were systematically reviewed. Relapse was defined as recorded, definite recurrence of depressive symptoms in patients who had achieved an improvement following a series of ECT treatments. The observation period is defined as the time since completing the first ECT series at Dikemark, up to and including 31 December 1995 RESULTS: The median observation period following the patient's first ECT series at Dikemark was nine years (spread: 3 months - 44 years). Of 120 patients, 56 (47 %) who were described as showing an improvement after the first ECT series suffered a relapse in the course of the first six months. A total of 86 (72 %) suffered a relapse after an average of 13 months (median three months), but none of the seven who improved following their first-time depression suffered a relapse. After the first ECT series, 84 patients (70 %) received antidepressants and/or lithium to prevent relapse. An improvement was described after 87 of 100 repeated ECT series that were administered to 46 patients. In 58 (67 %) of these cases, relapse occurred within six months INTERPRETATION: The relapse rate was high. The results indicate that follow-up treatment with antidepressants after electroconvulsive therapy should be supplemented with other measures to reduce the rate of relapse in cases of depression</p>
<p>Schweder (139) 2011</p>	<p>Electroconvulsive therapy in Norway: rates of use, clinical characteristics, diagnoses, and attitude OBJECTIVES: The aim of the study was to describe the rate of use and demographic distribution of electroconvulsive therapy (ECT) in Norway in 2004, as well as the attitudes among Norwegian psychiatrists about ECT METHODS: A 42-item questionnaire on the practice of ECT was sent to 125 Norwegian psychiatric hospitals, district psychiatric centers, and child and adolescent psychiatric units in 2004 RESULTS: A total of 67 (54%) psychiatric units responded, including 26 (67%) of 39 psychiatric hospitals, 32 (46%) of 69 district psychiatric centers, and 9 (53%) of 17 child and adolescent units. There were 672 patients who received ECT during 2004, which gives a yearly incidence of 2.4 of 10,000 inhabitants. A total of 5.3% of all inpatients received ECT. The rate of ECT use varied from 1.83 to 3.44 per 10,000 inhabitants per year between the different health regions. Of the 672 patients, 394 reported their sex (59%), of which 135 were men and 259 were women (male-female ratio, 1:2). The most common diagnosis treated with ECT was depression, followed by bipolar disorder and schizoaffective disorder. The responders expressed generally positive attitudes toward ECT. Almost all considered ECT important, that hospitals should offer ECT, and that there are solid indications for such treatment. Most of the responders expressed concern about the underuse of ECT CONCLUSIONS: Electroconvulsive therapy is widely available in Norway but its use is unevenly distributed between health regions. The attitudes toward ECT are gene-</p>

	rally positive among psychiatrists
Schweder (140) 2011	<p>Questionnaire study about the practice of electroconvulsive therapy in Norway</p> <p>OBJECTIVES: The aim of the study was to describe the contemporary practice of electroconvulsive therapy (ECT) in Norway</p> <p>METHODS: A 42- item questionnaire on the practice of ECT was sent to all the 125 Norwegian psychiatric hospitals, district psychiatric centers, and child and adolescent psychiatric units in 2004</p> <p>RESULTS: A total of 67 (54%) psychiatric units responded, including 26 (67%) of 39 psychiatric hospitals, 32 (46%) of 69 district psychiatric centers, and 9 (53%) of 17 child and adolescents units. Trainee psychiatrists mostly administered ECT, with or without supervision, but underwent a training program before administering ECT. Written informed consent was used in 50% of institutions providing ECT. Right unilateral electrode placement was preferred but with variations in dosage strategies. The practice in most of the departments was to discontinue some classes of psychotropics before ECT, mostly benzodiazepines and anticonvulsants. Antidepressants and antipsychotics were most often continued. Continuation/maintenance and ambulatory ECT were used. Most patients benefited from ECT. Headache and memory impairment were frequent but seldom were serious adverse effects</p> <p>CONCLUSIONS: The administration of ECT in Norway in 2004 was mostly in accordance with international guidelines. All institutions used modified ECT and brief pulse machines, and unilateral ECT was the preferred electrode placement. National guidelines should be developed, as there were great variations in practice among the hospitals</p>
Jentoft (141) 2010	Facilitating practical knowledge by using ECT
Kessler (142) 2010	<p>The study protocol of the Norwegian randomized controlled trial of electroconvulsive therapy in treatment resistant depression in bipolar disorder</p> <p>BACKGROUND: The treatment of depressive phases of bipolar disorder is challenging. The effects of the commonly used antidepressants in bipolar depression are questionable. Electroconvulsive therapy is generally considered to be the most effective treatment even if there are no randomized controlled trials of electroconvulsive therapy in bipolar depression. The safety of electroconvulsive therapy is well documented, but there are some controversies as to the cognitive side effects. The aim of this study is to compare the effects and side effects of electroconvulsive therapy to pharmacological treatment in treatment resistant bipolar depression. Cognitive changes and quality of life during the treatment will be assessed</p> <p>METHODS/DESIGN: A prospective, randomised controlled, multi-centre six- week acute treatment trial with seven clinical assessments. Follow up visit at 26 weeks or until remission (max 52 weeks). A neuropsychological test battery designed to be sensitive to changes in cognitive function will be used. Setting: Nine study centres across Norway, all acute psychiatric departments. Sample: n = 132 patients, aged 18 and over, who fulfil criteria for treatment resistant depression in bipolar disorder, Montgomery Asberg Depression Rating Scale Score of at least 25 at baseline. Intervention: Intervention group: 3 sessions per week for up to 6 weeks, total up to 18 sessions. Control group: algorithm-based pharmacological treatment as usual</p> <p>DISCUSSION: This study is the first randomized controlled trial that aims to investigate whether electroconvulsive therapy is better than pharmacological treatment as usual in treatment resistant bipolar depression. Possible long lasting cognitive side effects will be evaluated. The study is investigator initiated, without support from industry</p> <p>TRIAL REGISTRATION: NCT00664976</p>
Moksnes (143) 2010	<p>Elektrokonvulsiv terapi - virkninger og bivirkninger</p> <p>BACKGROUND: Efficacy of electroconvulsive therapy (ECT) and duration of associated side effects is uncertain. We wanted to study indications, efficacy, time to response and side effects</p> <p>MATERIAL AND METHODS: ECT-protocols and medical records (from the period 1960-95) in three psychiatric wards of Dikemark Mental Hospital, Norway were systematically assessed</p> <p>RESULTS: 141 persons underwent 241 ECT series comprising 1960 treatment sessions. Major depressive disorder was the main diagnosis in most patients 124 [88 %]. Before ECT, 129 (91 %) patients had been treated with at least one antidepressant, 107 (76 %) with at least two and 67 (48 %) with two different classes of antidepressants without sufficient clinical recovery from the incident. 31 (22 %) had received lithium before ECT. Within four weeks after the first ECT, 120 (85 %) patients had recovered. 61 of these achieved remission</p>

	<p>and were discharged within four weeks. After the first ECT series, 92 patients showed signs of improvement. 71 (77 %) had signs of improvement within 6 days. Side effects were noted after 123 of totally 241 series (51 %). Five patients experienced serious complications. Interpretation. The immediate effect of ECT was good and signs of recovery were observed in most patients during the first week. Depressed psychotic patients and the elderly seemed to respond best. Considering these patients' serious and long-lasting disorders ECT was fairly safe and well tolerated</p>
Berg (144) 2009	<p>Sense of coherence in patients treated for depression with ECT OBJECTIVE: The purpose of the study was to investigate whether the Antonovsky Sense of Coherence test administered before and after electroconvulsive treatment (ECT) can contribute more information pertinent to outcome than a test of depression METHOD: Twenty patients with a severe unipolar or bipolar depression underwent a series of unipolar ECT under standard conditions. As part of the routine of the department, the patients filled in, before and after ECT, the following questionnaires: Beck Depression Inventory (Beck), 20-item version and Antonovsky Sense of Coherence test (SOC), 13-item version. Mean age was 40.3, somewhat less for women RESULTS: A reduction was obtained from 35 to 17 in total score on Beck, i.e., to mild depression. The SOC value increased to the normal range from a mean of 2.5 to 3.2, indicating a better manageability, comprehensibility and meaningfulness in life. Four patients had an invalidity pension. Ten of the 16 remaining patients attained work after ECT, and scored better than those not starting to work on both tests, SOC > Beck. A low SOC value may indicate increased mortality risk CONCLUSIONS: Patients who are favorably treated with ECT against any depression, but who do not show a considerable improvement in SOC, would need special follow-up on factors not directly related to mental illness to reduce relapse and mortality risk</p>
Berg (145) 2009	<p>Electroconvulsive treatment--more than electricity?: An Odyssey of facilities OBJECTIVE: To investigate whether the practice of electroconvulsive treatment (ECT) today is done in a comparable way in different hospitals on several continents MATERIALS AND METHODS: During visits to the ECT facilities of 14 hospitals on 3 continents, comparisons were made, and responsible health professionals were interviewed using a semistructured guide. It is emphasized that the present article is not the result of a well-structured research, but of reflections after observing a lack of homogeneity among facilities RESULTS: A total of more than 18,000 modified ECT sessions were given per year in the 14 hospitals. The opinion of the public and regulatory bodies on ECT strongly influences the possibility of giving ECT to patients. Indications for ECT are wider than the cases of depression in most facilities visited. A psychiatrist gives ECT in all but 1 facility. Anesthesia is given by an anesthesiologist in all but 1 facility. A mouthpiece was not used in 2 (or 3) facilities, although the rationale was the same as in facilities using mouthpieces. No facility gave unmodified ECT. Holding on to the patient during seizures was judged unnecessary in 12 of 14 facilities CONCLUSIONS: In severe mental illness, the practice of using ECT seems to have its merit also in cases with debilitating illnesses other than unipolar and bipolar depression. Giving ECT may be done by qualified or specially certified nurses, but the giving of anesthesia should be the realm of the anesthesiologist. Mouthpieces are judged by some facilities to be a superfluous device. The holding of patients during seizure can be omitted. Some of the facilities visited give ECT to a huge number of patients each year. They differ in the practice of ECT and could be the focus of comparative research. Despite the differences observed, and procedures that could be altered, giving ECT in a modified way effectively relieves suffering in the patients</p>
Gronli (146) 2009	<p>Neurotrophic factors in serum following ECT: a pilot study We examined changes in serum levels of a selection of neurotrophic factors, TSH, HGH and cortisol in conjunction with ECT treatment. Fifteen patients suffering from affective disorders were included, all were treated with antidepressants and psychotherapy and 10 also with ECT. The patients were examined clinically and with blood samples during treatment. Serum levels of cortisol, thyroid stimulating hormone (TSH), nerve growth factor (NGF), brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT3), neuropeptide Y (NPY) and human growth hormone (HGH) were studied. No significant changes were found in levels of NGF, BDNF, NT3, HGH and TSH. A change in NPY levels was statistically significant, but of un-</p>

	certain clinical value as it affected only two patients. Levels of cortisol rose significantly during treatment. We did find significant correlations between the base values of NGF and HAM-D scores at inclusion and between the end-values of NT3 and NPY and the HAM-D scores prior to discharge. We were unable to reproduce findings from animal studies suggesting that a range of neurotrophic factors rise during ECT treatment. This may be because of physiological differences between animals and humans or, possibly, a result of the small number of patients included in this pilot study
Poverud (147) 2009	Noen tanker om bruk av ECT overfor eldre
Urstad (148) 2009	Har elektrokonvulsiv behandling effekt ved depresjoner?: en litteraturstudie. Prosjekt-oppgave i profesjonsstudiet medisin
Helmers (149) 2008	Elektrosjokk: Høyspent behandling
Helmers (150) 2007	Kritisk til elektrosjokk pør suicidale
Kornør (151) 2007	Skadevirkninger av elektrokonvulsiv behandling (ECT) for stemningslidelser Bakgrunn: Dette notatet gir en kort oppsummering av systematiske oversikter om skadevirkninger ved elektrokonvulsiv behandling (ECT) for mennesker med stemningslidelser. Metode: Systematiske litteratursøk i fem internasjonale vitenskapelige databaser identifiserte 327 referanser etter at vi hadde slettet dubletter. Av disse var det ni systematiske oversikter som stemte med inklusjonskriteriene. Etter å ha ekskludert tre oversikter med mangelfull metodisk kvalitet og tre overlappende oversikter, satt vi igjen med tre systematiske oversikter som ble inkludert i oppsummeringen. Konklusjon: De inkluderte oversiktene kunne ikke dokumentere langtidsskadevirkninger som økt dødelighet, nedsatt kognitiv fungering og generelle bivirkninger.
Matre (152) 2007	ECT - eit pilotstudium for å kartleggje pasientars haldningar til og erfaringar med ECT-behandling. Prosjektoppgave i Profesjonsstudiet medisin
Moksnes (153) 2007	Elektrostimulasjonsbehandling (ECT) - en viktig behandling som møter motbør i media
Ekeberg (154) 2006	Bruk av elektrokonvulsiv terapi
Mehlum (155) 2006	Forebygging av selvmord: Del 1: Psykoterapi, medikamentelle intervensjoner og elektrokonvulsiv terapi Om rapporten: Rapporten er bestilt av Shdir og ser på effekten av psykoterapi, medikamentelle intervensjoner og elektrokonvulsiv terapi for å hindre selvmord i psykiatrisk spesialisthelsetjeneste. Det vil komme en del to som også ser på andre tiltak. Til sammen er ti studier av høy kvalitet og 52 studier av moderat kvalitet med i oppsummeringen. Disse ble funnet etter systematiske litteratursøk i medisinske databaser. Konklusjoner. Psykoterapi: • Enkelte studier rapporterte at psykoterapi reduserte selvmordsatferd mer enn kontrollbehandling. Dette var studier av kognitiv atferdsterapi, dialektisk atferdsterapi gitt til pasienter med borderline personlighetsforstyrrelse og dagavdelingsbasert psykodynamisk orientert psykoterapi gitt til pasienter med borderline personlighetsforstyrrelse. Multisystemisk terapi gitt til ungdommer med behov for akuttinnleggelse i psykiatrisk avdeling ble også rapportert å redusere selvmordsatferd mer enn kontrollbehandling. • Ingen studier rapporterte økt selvmordsatferd i intervensjonsgruppen sammenliknet med kontrollgruppen. Medikamentelle intervensjoner: • I flertallet av studiene som inngår i kunnskapsoversikten reduserte antidepressiver (hovedsakelig SSRI, TCA og MAOI) nivå på depresjon, selvmordstanker, og i noen få tilfeller selvmordsatferd mer enn placebo hos pasienter med markert depresjon, men relativt lav grad av selvmordsrisiko. I om lag halvparten av disse studiene var selvmordstruede pasienter ekskludert. • En har ikke funnet holdepunkter for at det skjer en forverring av selvmordsrisiko under behandling med antidepressiver sammenliknet med kontrollbetingelser.

	<ul style="list-style-type: none"> • For barn og unge under 18 år har flere lands legemiddelmyndigheter nå vurdert at de fleste SSRI har en uheldig balanse mellom nytte- og skadevirkninger og frarår derfor bruk av preparatene i behandling av depresjon i denne aldersgruppen. • Det ble funnet en signifikant effekt av litium for å redusere selvmord og selvmordsforsøk hos pasienter med stemningslidelser. • Enkelte studier rapporterte at atypiske nevroleptika reduserer selvmordsatferd hos pasienter med schizofreni sammenliknet med andre antipsykotika. Elektrokonvulsiv terapi : • Det ble ikke funnet studier som kan belyse mulige effekter av elektrokonvulsiv terapi på selvmordsatferd.
Moksnes (156) 2006	<p>Elektrokonvulsiv terapi i Ullevål sektor i Oslo 1988-2002</p> <p>BACKGROUND: Electroconvulsive treatment (ECT) has been used less frequently in Norway than in Denmark and Sweden. The aim of this investigation was to study the use of ECT in female and male patients in different age-groups in the Ullevaal region of Oslo from 1988 to 2002, and to compare the results with studies in Denmark and Sweden</p> <p>METHOD: The protocols of ECT treatments in three clinical departments serving the Ullevaal region and relevant population data were used to calculate the annual number of ECT courses per age- and gender-specified population groups of 100,000</p> <p>RESULTS: Use of ECT increased progressively from 2.3 to about 20 patients per 100,000 per year ($p < 0.001$). In the late 90s the increased use of ECT approached the use in Denmark and Stockholm. From 1988-92 to 1993-97 the use of ECT increased significantly in all age groups in women and men above 70 years. From 1993-97 to 1998-2002 the increase was significant in women and men above 70 years. From 1998 to 2002 the annual rates of ECT increased with increasing age for both sexes. In women aged ≥ 70 years the rate of ECT was only 1.5 times higher than in men</p> <p>INTERPRETATION: The study confirms increased use of ECT in the Ullevaal region after 1988. The use of ECT in this region approached the decreased use in Denmark and Stockholm. The increased use occurred particularly in patients above 70 years</p>
Verde (157) 2006	ECT: teori og praksis
Hem (158) 2005	<p>Should catatonia be part of the differential diagnosis of coma?</p> <p>The descriptions of catatonia are complex and unclear. More than 40 different signs and symptoms have been included, but coma is not among them. Recently, a case report of coma in relation to catatonia was presented. We report two further cases where coma was a part of this syndrome of disturbed motility. They were successfully treated with ECT. Consequently, we suggest that catatonia may be a differential diagnosis of coma. 2005 Taylor & Francis</p>
Hestad (159) 2003	<p>Raised plasma levels of tumor necrosis factor alpha in patients with depression: normalization during electroconvulsive therapy</p> <p>OBJECTIVE: To examine whether electroconvulsive therapy (ECT) could modulate tumor necrosis factor (TNF)alpha levels in patients with depressive disorders</p> <p>METHOD: Plasma levels of TNFalpha were analyzed in 23 depressed patients, mainly with severe depressive disorders, and in 15 sex- and age-matched healthy controls. Fifteen depressed patients were followed longitudinally with measurement of TNFalpha before, during, and after repeated ECT treatment. For comparison, TNFalpha levels were also analyzed longitudinally in the 8 depressed patients not receiving ECT</p> <p>RESULTS: Patients with depressive disorders had markedly raised TNFalpha levels compared with healthy controls. The clinical improvement during repeated ECT was accompanied by a gradual and significant decline in TNFalpha level, reaching levels comparable with those in healthy controls at the end of the study. Such a decline was not seen in the depressed patients not receiving ECT, who instead showed raised TNFalpha levels throughout the study period</p> <p>CONCLUSION: Our findings support an association between inflammation and TNFalpha in particular and severe depression, and suggest that ECT may down-regulate this immune activation</p>
Kujala (160) 2002	<p>Clinical outcome and adverse effects of electroconvulsive therapy in elderly psychiatric patients</p> <p>We evaluated the short-term outcome and side effects of electroconvulsive treatment (ECT) in a population of elderly psychiatric patients. The material included patients consecutively hospitalized at a psychogeriatric department within a period of 5 years. From a total number</p>

	<p>of 239 patients, we included 52 treated with ECT (22%). Altogether, 41 patients (79%) improved clinically. Of them, 21 (40%) of the patients went home after the treatment. Twenty patients (38%) developed adverse reactions from the ECT treatment. Impaired memory (14%), confusion (6%), and hypertension (6%) represented the most commonly reported negative reactions secondary to the treatment. The findings from the study support previous assumptions that ECT is effective in the treatment of serious psychiatric disorders in elderly patients. Because of the relative high frequency of side effects, the patients should be selected</p>
Berle (161) 1999	<p>Alvorlig depresjon og psykose post partum: når bør elektrokonvulsiv behandling brukes?</p> <p>Numerous reports indicate that severe depression responds well to electroconvulsive therapy. Four cases of severe postpartum depression are presented, three of which had psychotic features. All patients were successfully treated with electro-convulsive therapy. This form of therapy might be the treatment of choice for severe postpartum depressions and for all cases of postpartum psychosis where pharmacological therapy does not give a rapid restoration of the patient's function. A limited number of studies are published on this topic. Guidelines for treatment of these disorders are lacking, resulting in variable treatment practice</p>
Robertsen (162) 1998	<p>Ect og holdninger. Studentarbeid - Høgskolen i Bodø</p>
Aarsland (163) 1997	<p>Maintenance electroconvulsive therapy for Parkinson's disease</p> <p>In two patients with severe Parkinson's disease (PD) whose response to levodopa had decreased, the parkinsonian motor symptoms responded to acute and maintenance unilateral electroconvulsive therapy (ECT). Case 1 relapsed while taking antiparkinsonian medication 2 and 3 months after two brief courses of ECT. After another relapse, he received maintenance ECT and stayed well for 13 months. Case 2 relapsed 4 months after a course of ECT. Acute and maintenance ECT induced improvement for 14 months. Further relapses were treated with brief courses of ECT followed by maintenance ECT. Three and 4 years after their first ECT, the parkinsonian motor symptoms in these two patients are still markedly improved. Neuropsychological assessments did not suggest ECT-induced long-term cognitive impairment. We conclude that maintenance ECT should be considered in PD patients who relapse after having responded to an initial course of ECT. There is an urgent need for controlled studies</p>
d'Elia (164) 1997	<p>Spørsmål og svar om ECT-behandling: informasjon til pasienter og pårørende</p>
Arsland (165) 1996	<p>Electroconvulsive therapy of depression in Alzheimer's disease. A case presentation of acute and maintenance electroconvulsive therapy</p> <p>Depression and other neuropsychiatric symptoms are frequently reported in patients with dementia. These symptoms may seriously compromise the function and quality of life of demented patients. Both biologic and behavioral strategies are necessary in dealing with these problems. This article documents the efficacy of electroconvulsive therapy (ECT) in a 67-year-old woman with early-onset Alzheimer's disease. She developed severe depression that did not respond to drug therapy. Unilateral ECT was immediately effective, and she was given maintenance therapy with paroxetine. Two post-ECT relapses were effectively treated with further ECT series, and maintenance ECT was the most efficient prophylactic treatment. It is recommended that ECT is prescribed for demented patients with treatment refractory, severe depression</p>
Bergsholm (166) 1996	<p>Anesthesia in electroconvulsive therapy and alternatives to barbiturates</p> <p>Discusses aspects of anesthesia in ECT. The authors address several issues including general aspects of anesthesia in ECT, concurrent drug therapy, ventilation, premedication, barbiturate anesthesia, and alternatives to barbiturate anesthesia. The authors note that the minimization and withdrawal from benzodiazepines and anticonvulsants should always be considered before ECT. Positive pressure hyperventilation with oxygen should be carried out via a face mask throughout the period of apnea. The usual anesthetic drug of choice is methohexital at the lowest dose at which the patient cannot speak, often 0.67 mg/kg. Etomidate, in doses of 0.15-0.30 mg/kg, is typically the best alternative and might sometimes improve efficacy, but it is much more costly. Propofol inhibits seizure, but at 0.75 mg/kg, this</p>

	effect seems small. Propofol might be desirable for patients who tend to have excessively prolonged seizures. Ketamine, most strongly augments the seizure and might be considered for those patients most resistant to seizure induction. Thiopental, Althesin, propanidid, and fentanyl with droperidol have shown no specific advantages over methohexital for ECT anesthesia. (PsycINFO Database Record (c) 2012 APA, all rights reserved)
Strømman (167) 1996	Renessanse for elektrosjokk
Lamy (168) 1994	The antidepressant efficacy of high-dose nondominant long-distance parietotemporal and bitemporal electroconvulsive therapy While unilateral electroconvulsive therapy (U-ECT) is generally considered to induce negligible disturbances of memory as compared with bilateral bitemporal ECT, its relative antidepressant efficacy has been questioned. The aim of the present study was to compare, in a double-blind design, clinicians' ratings of global clinical impression of the antidepressant efficacy of the two treatment modalities. The treatment technique included avoidance of benzodiazepines, prolonged hyperventilation with oxygen, intermittent unidirectional pulses distributed in a long pulse train, permitting individualized and relatively high doses of electrical charge at each treatment occasion, and nondominant long-distance (12-13 cm) parietotemporal (d'Elia) electrode placement in the U-ECT group. The results indicated no therapeutic advantage for either treatment modality, which was also in accordance with the symptom ratings by an independent nonblinded rater. The findings encourage the continued use of nondominant long-distance parietotemporal ECT with a treatment technique that induces fully generalized seizures as the modality of choice in the convulsive treatment of depression
Sigurdsson (169) 1994	The effects of electroconvulsive therapy and depression on confabulation, memory processing, and suggestibility
Barstad (170) 1993	Electroshock--witchcraft or wrong treatment?
Bergsholm (171) 1993	Cardiovascular response and seizure duration as determined by electroencephalography during unilateral electroconvulsive therapy The effect of pulse unilateral electroconvulsive therapy (ECT) on heart rate, blood pressure and the product of heart rate and systolic blood pressure, an index of myocardial oxygen consumption, was studied during 48 ECT sessions in 7 patients with major depression. Intraventricularly, hyperventilation-induced hypocapnia compared with normocapnia markedly augmented the ECT-induced increase in heart rate (47% vs 28%) and the product of heart rate and systolic blood pressure (82% vs 60%). Over all ECT seizures, the maximum and increase in heart rate and the product of heart rate and systolic blood pressure were significantly correlated with seizure duration as determined by electroencephalography. However, significant correlations were only present for the seizures during hypocapnia and not during normocapnia. Combining measures of magnitude and length of ECT-induced tachycardia to motor responses may increase the potential for clinical seizure evaluation
Årslund (172) 1993	Elektrokonvulsiv behandling ved parkinsonisme This article describes three patients with different causes of parkinsonian syndromes where electroconvulsive treatment markedly improved their symptoms. The results are discussed and compared with those of previously published studies. Most of these studies, however, have substantial methodological shortcomings. The mechanism inducing the improvement is unknown, but could possibly be increased postsynaptic dopamine function. The literature indicates that electroconvulsive treatment has antiparkinsonian effects independent of any effect on mental state. We suggest that patients with parkinsonian syndromes, who respond unsatisfactorily to conventional therapy, as well as patients who develop severe neuropsychiatric manifestations, should be considered for a course of electroconvulsive treatment
Bergsholm (173) 1992	Affektive lidelser: medikamentell behandling og elektrokonvulsiv terapi Optimal treatment of mood disorders and prevention of suicide requires biological and psychosocial methods, therapeutic alliance and psycho-education. In moderate unipolar depression an antidepressant may be sufficient, if necessary potentiated by another antidepressant or triiodothyronine. In moderate bipolar depression lithium or carbamazepine are preferred. In severe unipolar and bipolar depression the combination of an antidepressant and lithium

	(or carbamazepine) or electroconvulsive therapy (ECT) is indicated, in psychotic depression neuroleptics, too. Non-selective monoamine oxidase inhibitors (MAOIs) are the most potent antidepressants. Moderate acute mania and mixed state may respond to lithium, carbamazepine or valproate only. In severe cases a neuroleptic and lithium are combined, or these drugs may be combined with carbamazepine or valproate. Electroconvulsive therapy is preferable in acute mixed states with marked confusion or depression. In chronic mixed state and rapid cycling, withdrawal of antidepressants and neuroleptics should be tried. Most patients will need a combination of lithium and carbamazepine or valproate. Added to these drugs, antidepressants are less risky. Adding thyroxin may stabilize rapid cycling. The combination of lithium and an antidepressant is the most potent prophylaxis in unipolar disorder and bipolar disorder dominated by depression
Stromgren (174) 1991	Electroconvulsive therapy in the Nordic countries, 1977-1987 In 1977 a questionnaire was sent to all psychiatric departments in the Nordic countries: Sweden, Norway, Denmark, Finland and Iceland, concerning indications for electroconvulsive therapy (ECT) and the use of unilateral and bilateral treatment, respectively. The inquiry was repeated in 1987 and the answers compared with those obtained in 1977. In addition, the answers from Denmark were compared with previously performed inquiries. The use of exclusively unilateral treatment (U) and of both unilateral and bilateral treatment (UB) has increased in most of the countries and exclusively bilateral treatment (B) has decreased drastically. In Denmark the situation has not changed for ECT in endogenous depression and acute delirium, and the use in reactive psychosis, mania and schizophrenia decreased somewhat during the 1970s and then again stabilized or increased during the 1980s. Nearly all departments in the Nordic countries used ECT in endogenous depression in 1977 and were still doing it in 1987. In mania, about 50% of all departments have found ECT indicated occasionally or exceptionally both in 1977 and 1987. Manic-depressive mixed states have been regarded as an indication in somewhat more than two thirds of departments, increasing during the period. The use of ECT in schizophrenia has been rare and somewhat decreasing, but still about half of the departments apply it once in a while. In reactive psychosis the use of ECT decreased slightly, but in 1987 it was still in use for this indication in about 50% of all departments. In acute delirium there has been an overall increase in the use of ECT. (ABSTRACT TRUNCATED AT 250 WORDS)
Tranøy (175) 1991	Elektrosjokk: hjerneskade, hukommelsestap og hjernevask
Tranøy (176) 1991	Lobotomi og elektrosjokk i skandinavisk psykiatri
Opjordsmoen (177) 1990	Delusional jealousy (conjugal paranoia): Course and outcome Reports the long-term course and outcome in 18 patients (aged 33-67 yrs at index hospitalization) with pure jealousy-paranoid psychoses. Five Ss were not given any specific treatment. Other Ss were treated with neuroleptics, antidepressants, electroconvulsive shock therapy (ECT), or psychodynamically oriented psychotherapy. The observation period from index hospitalization to last personal follow-up ranged from 3 to 27 yrs. At follow-up, 11 Ss had recovered. Case histories of 2 male Ss (aged 39 and 40 yrs) illustrate different treatment outcomes from follow-ups in 1963, 1967, and 1983. (PsycINFO Database Record (c) 2012 APA, all rights reserved)
Bergsholm (178) 1989	Electroconvulsive therapy and cerebral computed tomography. A prospective study Cerebral computed tomography (CT) was performed before and after right-sided electroconvulsive therapy (ECT) in 40 patients aged 26-87 years with major affective disorders. Nine patients with a concomitant definite or possible non-acute organic brain disorder were included. Several patients had long seizure durations, maximum 6.5 min, caused by hyperventilation-induced hypocapnia. Twenty-nine patients received at least 16 treatments (maximum 46). No CT changes occurred following ECT. A questionable dilatation of the left temporal horn in a 69-year-old hypertensive man who recovered completely without side effects after 3 ECT sessions was probably unrelated to the ECT. Provided sufficient oxygenation, even relatively long ECT series and seizures lasting several minutes do not cause any brain damage visible on CT
Horneland (179)	The changing utilization of electroconvulsive therapy: A longitudinal study in a Nor-

1989	<p>wegian catchment area, 1970-1986</p> <p>Studied electroconvulsive shock therapy (ECT) utilization from 1970 to 1986 at the Central Hospital, Rogaland county (SIR), Norway. In the whole period, a mean of 2.8% of inpatients were treated with ECT; in the last 3 yrs, 3-4%. In the catchment area of SIR a mean of 10.1 per 100,000 inhabitants received ECT yearly from 1980 to 1986. There was a marked yearly variation in the utilization. Two outstanding peaks occurred: one in 1971, when 4.4% of inpatients received ECT, and the other in 1981, when 8.2% received ECT. Only 0.9% underwent ECT at the lowest level in 1974. The variation could not be explained by changes in patient turnover or diagnostic distribution but rather seemed to be due to the psychiatrists' changing attitude toward ECT. The most frequent diagnoses among ECT-treated patients were depressive neurosis, affective psychosis, and reactive depressive psychosis. ECT was given most frequently to the elderly. (PsycINFO Database Record (c) 2012 APA, all rights reserved)</p>
Landmark (180) 1987	<p>Characteristics of schizophrenic patients and the outcome of fluphenazine and of electroconvulsive treatments</p> <p>We examined the outcome with fluphenazine treatment and ECT in a group of 120 patients according to the incidence of psychopathological symptoms, the patients' status on a variety of sociodemographic and anamnestic variables, and their diagnoses according to 13 systems for diagnosing schizophrenia. All had previously been considered to be schizophrenic patients at least once in hospital settings. The outcome with fluphenazine was better in patients with passivity feelings, auditory hallucinations and other hallucinations and delusions. The outcome with patients who had ECT, as judged from the hospital files, was better in those who were preoccupied with delusions or hallucinations and less successful in those who had been diagnosed as having schizophrenia on the first previous occasion when they had been discharged from the hospital</p>
Tauboll (181) 1987	<p>Effects of electroconvulsive therapy (ECT) on thyroid function parameters</p> <p>Serum concentrations of thyroxine, triiodothyronine, TSH and prolactin were measured in 10 patients with affective disorders receiving ECT. Samples were drawn at -15 min, 0, +30 min, +60 min and +3 hr after ECT. A significant increase in both prolactin and TSH was observed 30 min after ECT. A small but significant decrease in triiodothyronine but no change in thyroxine was found in all post-ECT samples. The increase in TSH may be caused by an anti-dopaminergic effect of ECT at either the pituitary or the hypothalamic level</p>
Bergsholm (182) 1984	<p>Seizure duration in unilateral electroconvulsive therapy. The effect of hypocapnia induced by hyperventilation and the effect of ventilation with oxygen</p> <p>Seizure duration in unilateral electroconvulsive therapy (ECT) was recorded by means of EEG in an intraindividual comparison under different alveolar O₂- and CO₂-concentrations. Hypocapnia induced by hyperventilation to an alveolar CO₂-concentration of 2% (2 kPa) resulted in a highly significant increase in seizure duration compared to a normal CO₂ of 5%, when the alveolar O₂-concentration was constant at 92%. Oxygen ventilation to an alveolar O₂-concentration of 92% gave no significant increase in seizure duration compared to 15%, obtained by ventilation with air, when the CO₂-concentration was kept constant at 5%. Seizure duration seems to augment progressively with decreasing alveolar CO₂-concentration</p>
Gran (183) 1984	<p>Seizure duration in unilateral electroconvulsive therapy. A comparison of the anaesthetic agents etomidate and Althesin with methohexitone</p> <p>Seizure duration in unilateral electroconvulsive therapy (ECT) was recorded by means of EEG in an intraindividual comparison of etomidate (dissolved in a soy-bean oil emulsion) 0.3 mg/kg and Althesin (alphaxalone 9 mg and alphadolone 3 mg/ml) 0.6 mg/kg with methohexitone 1 mg/kg weight. The patients were intubated and alveolar CO₂- and O₂-concentrations kept constant at 3% (3 kPa) and 92% (92 kPa) respectively. Seizure duration was the same when either etomidate or methohexitone were used, whereas Althesin significantly shortened seizure duration in comparison with methohexitone. Local pain on injection and a subsequent superficial thrombophlebitis occurred frequently with methohexitone. This did not occur with etomidate or Althesin</p>

Bratfos (184) 1982	Elektrokonvulsiv behandling (ECT) : terapeutisk effekt og skadevirkninger
Götestam (185) 1982	Changes in the circadian temperature rhythm during electroconvulsive treatment (ECT) of depression
Retterstol (186) 1982	Electroconvulsive therapy
Volden (187) 1982	Bruk av elektrokonvulsiv behandling (ECT) i Norge i tidsrommet 1968-1978
d'Elia (188) 1981	The effect of fronto-frontal and temporo-parietal unilateral ECT on retrograde memory An intraindividual, double-blind crossover comparison of the retrograde effect on memory of unilateral nondominant fronto-frontal and temporoparietal ECT was performed in connection with the second and third treatments of an ECT series. Treatment technique was standardized and seizure duration was measured by means of EEG. Memory functions were examined 1 hr before and 2 hr after ECT. Three operationally defined memory variables: immediate memory, delayed memory, and their difference, forgetting, were scored. There were no differences between fronto-frontal and temporo-parietal ECT in regard to the amount of methohexital and suxamethonium chloride employed, the mean time of electrical stimulation, and the seizure duration. There were significantly higher delayed memory and lower forgetting scores after fronto-frontal electrode placement
d'Elia (189) 1980	ACTH4-10 and memory in ECT-treated patients and untreated controls: II. Effect on retrieval Examined whether a single dose of ACTH4-10 could alleviate the retrograde dysmnesic effects of unilateral ECT and improve retrieval. 20 depressive inpatients (23-67 yrs) participated in the study, which was a double-blind intraindividual cross-over comparison between ACTH4-10 (30 mg sc) and placebo. The drug was administered 150 min after learning and 90 min after the 2nd or 3rd ECT unilateral treatment. Retrieval was tested 30 min after the administration of the drug. An identical design was used with 20 unmedicated healthy females (20-63 yrs old). Results of Ss' scores on the 30 Word Pair Test, the 30 Figure Test, the 30 Geometrical Figure Test, and the 30 Face Test do not support the hypothesis that a single dose of ACTH4-10 facilitates memory retrieval. (14 ref) (PsycINFO Database Record (c) 2012 APA, all rights reserved)
d'Elia (190) 1980	ACTH4-10 and memory in ECT-treated and untreated patients: I. Effect on consolidation Investigated the possible effect of a single dose of ACTH4-10 (30 mg sc) on memory as measured with a test battery appropriate for the study of 'consolidation.' 20 depressive inpatients (33-60 yrs) participated in the intraindividual double-blind cross-over comparison between ACTH4-10 and placebo in connection with the 2nd and 3rd treatment in the ECT series. ACTH4-10 (or placebo) was administered sc 30 min after unilateral ECT. Memory functions were examined 90 min before and 150 min after the administration of the drug. A similar design was used in a study of 20 inpatients (21-66 yrs) with neurotic depression not treated with ECT. All Ss were administered the 30 Word Pair Test, the 30 Figure Test, the 30 Geometrical Figure Test, and the 30 Face Test. Results give no evidence of a positive influence of a single dose of ACTH4-10 on consolidation of memory. (39 ref) (PsycINFO Database Record (c) 2012 APA, all rights reserved)
Flatten (191) 1975	The opinion of 377 patients on the electroshock therapy. A questionnaire survey With the aid of a questionnaire, 377 patients were interviewed to survey their opinion of electroshock treatment, its effect and complications. The material represented about 1/3 of all electroshock treated patients in the period 1951-1968 in a psychiatric ward, and included outpatients as well as inpatients. About 3/4 found that the treatment had helped them and about 2/3 recommended the treatment to others without reservation. Seven per cent were negative in their judgement. Four per cent found it had injured their health and 2% found the damage to consist of permanent memory deficiency
Flatten (192) 1975	Should electroshock therapy be reassessed? 18 years material. Variations in treatment frequency. Methods, indications, complications The author discusses the history of electro shock therapy, its methodology and the risk of complications. These data are elucidated in relation to alternative methods of treatment, pri-

	<p>marily psychopharmaca. Subsequently, the practical use of electro shock therapy at a psychiatric ward between 1951 and 1968 is mentioned. It is shown how the introduction of neuroleptic and antidepressive drug has influenced the use of electroconvulsive therapy. The indication has primarily been depression, including psychosis; these patients could for the most part, be treated as outpatients. The outpatients are assessed as a special group and the treatment of these patients showed a maximum in May. Death has not occurred during any of the treatments in all 14,144 patients, but 2 patients died some days after treatment. The cause of death is discussed. There have been few other complications. The importance of having an anesthetist on the staff is emphasized. The author concludes that electro shock therapy should, in the future, be a practical alternative treatment at every psychiatric ward, both for outpatients and inpatients</p>
Ravn (193) 1964	Treatment of endogenous depressions with antidepressive agents and electroshock and treatment before 1937
Sirnes (194) 1963	Is the use of electroshock an indispensable form of therapy in psychiatry?
Langfeldt (195) 1954	Ambulant electroshock therapy of mental disorders; experience with Reiter's electrostimulator

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Vedlegg

Søkestrategier

Søk 1A Søk etter systematisk oversikter

Søk: Marita Heintz

Kommentar: Avgrenset til søk på systematiske oversikter. Søkeprofilene er utarbeidet av Hege Sletsjøe, Spesialbibliotekar Helsedirektoratet.

Antall treff før dublettsjekk: 931

Antall treff etter dublettsjekk: 525

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R)

Daily and Ovid MEDLINE(R) 1946 to Present

Dato: 04.06.2013

Antall treff: 189

Kommentarer: Filter for systematiske oversikter i OVID: "Reviews (specificity)".

#	Searches	Results
1	exp Electroconvulsive Therapy/	9312
2	electroshock/	11219
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	5639
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	6376
5	electroshock*.tw.	3198
6	or/1-5	26799
7	limit 6 to "reviews (maximizes specificity)"	189

Database: Embase 1974 to 2013 June 03

Dato: 04.06.2013

Antall treff: 162

Kommentarer: Filter for systematiske oversikter i OVID: "Reviews (specificity)".

#	Searches	Results
1	exp electroconvulsive therapy/	15160
2	electric shock/	10639
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	7291
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	7619
5	electroshock*.tw.	3932
6	or/1-5	31549
7	limit 6 to "reviews (maximizes specificity)"	162

Database: PsycINFO 1806 to May Week 4 2013

Dato: 04.06.2013

Antall treff: 171

Kommentarer: Filter for systematiske oversikter i OVID: "Reviews (spesificity)".

#	Searches	Results
1	electroconvulsive shock/	1216
2	exp electroconvulsive shock therapy/	4922
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	5529
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	6560
5	electroshock*.tw.	1282
6	or/1-5	12418
7	limit 6 to "reviews (maximizes specificity)"	171

Database: Cinahl

Dato: 04.06.2013

Antall treff: 19

#	Query	Results
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S6	S1 OR S2 OR S3 OR S4 Limiters - Clinical Queries: Review - High Specificity	19
S5	S1 OR S2 OR S3 OR S4	1,302
S4	TI ((electroshock*)) OR AB ((electroshock*))	25
S3	TI (((electric* or electro*) N2 (shock* or convulsive))) OR AB (((electric* or electro*) N2 (shock* or convulsive)))	304
S2	TI (((electroconvulsive or electroconvulsant or ect or ecs) N1 (therapy or therapies or treatment))) OR AB (((electroconvulsive or electroconvulsant or ect or ecs) N1 (therapy or therapies or treatment)))	451
S1	(MH "Electroconvulsive Therapy")	931

Database: Cochrane Issue 5 of 12, April 2013, Other Reviews (DARE) Issue 2 of 4, April 2013, Methods Studies Issue 2 of 4, July 2013, Technology Assessments Issue 2 of 4, April 2013, Economic Evaluations Issue 2 of 4, April 2013

Dato: 04.06.2013

Antall treff: 58 (Cochrane Reviews: 14, Other Reviews: 25, Methods Studies: 4, Technology Assessments: 8, Economic Evaluations: 7)

#	Searches	Results
1	MeSH descriptor: [Electroconvulsive Therapy] explode all trees	475
2	MeSH descriptor: [Electroshock] this term only	125
3	((electroconvulsive or electroconvulsant or ect or ecs) near/2 (therapy or therapies or treatment)):ti,ab,kw	777
4	((electric* or electro*) near/3 (shock* or convulsive)):ti,ab,kw	252
5	(electroshock*):ti,ab,kw	142
6	#1 or #2 or #3 or #4 or #5	1082
7	#1 or #2 or #3 or #4 or #5 in Cochrane Reviews (Reviews and Protocols), Other Reviews, Methods Studies, Technology Assessments and Economic Evaluations	58

Database: CRD

Dato: 04.06.2013

Antall treff: 92

Search	Hits	
1	MeSH DESCRIPTOR Electroconvulsive Therapy EXPLODE ALL TREES	40
2	MeSH DESCRIPTOR Electroshock	1
3	((electroconvulsive or electroconvulsant or ect or ecs) NEAR2 (therapy or therapies or treatment)))	82
4	((electric* or electro*) NEAR3 (shock* or convulsive)))	14
5	((electroshock*))	3
6	#1 OR #2 OR #3 OR #4 OR #5	92

Database: Web of Science

Dato: 04.06.2013

Antall treff: 238

# 6	238	#4 AND #5 <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 5	127,554	Topic=("systematic review*" or "systematically review*" or medline or pubmed or psycinfo or cinahl or "meta-analys*" or "meta analys*" or hta or "technology assessment*") <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 4	14,079	#3 OR #2 OR #1 <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 3	2,043	Topic=(electroshock*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 2	6,347	Topic=((electric* or electro*) NEAR/2 (shock* or convulsive))) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 1	6,265	Topic((((electroconvulsive or electroconvulsant or ect or ecs) NEAR/1 (therapy or therapies or treatment))) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>

Database: Pubmed

Dato: 04.06.2013

Antall treff: 2

Kommentar: Avgrenset til artikler som er publisert "epub ahead of print"

#6	Search (Pubstatusaheadofprint AND #5)	<u>2</u>
#5	Search (systematic[sb] AND (#4))	<u>192</u>
#4	Search (#1 OR #2 OR #3)	<u>11226</u>
#3	Search electroshock*[Title/Abstract]	<u>3500</u>
#2	Search electric* shock*[Title/Abstract] OR electric* convulsive[Title/Abstract] OR electro shock*[Title/Abstract] OR electro convulsive[Title/Abstract]	<u>992</u>
#1	Search electroconvulsive[Title/Abstract] OR electroconvulsant[Title/Abstract] OR "ect therapy"[Title/Abstract] OR "ect therapies"[Title/Abstract] OR "ect treatment"[Title/Abstract] OR "ecs therapy"[Title/Abstract] OR "ecs therapies"[Title/Abstract] OR "ecs treatment"[Title/Abstract]	<u>7013</u>

Søk 1B Oppdateringssøk etter systematisk oversikter

Søk: Marita Heintz

Prosjektnr:

Kommentar: Oppdateringssøk (juni) 2013- Avgrenset til søk på systematiske oversikter.

Antall treff før dublettsjekk: 98

Antall treff etter dublettsjekk: 67

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R)

Daily and Ovid MEDLINE(R) 1946 to Present

Dato: 04.03.2014

Antall treff: 24 (22 uten dubletter)

Kommentarer: Filter for systematiske oversikter i OVID: "Reviews (specificity)".

#	Searches	Results
1	exp Electroconvulsive Therapy/	9430
2	electroshock/	11290
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	5845
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	6504
5	electroshock*.tw.	3261
6	or/1-5	27223
7	limit 6 to "reviews (maximizes specificity)"	202
8	(2013* or 2014*).ed,ep,yr,dp,dc.	1549665
9	7 and 8	24

Database: Embase 1974 to 2014 March 03

Dato: 04.03.2014

Antall treff: 32

Kommentarer: Filter for systematiske oversikter i OVID: "Reviews (specificity)".

#	Searches	Results
1	exp electroconvulsive therapy/	15918
2	electric shock/	10950
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	7749
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	7878

5	electroshock*.tw.	4055
6	or/1-5	32838
7	limit 6 to "reviews (maximizes specificity)"	184
8	(2013* or 2014*).yr,em,dd,dp.	1918992
9	7 and 8	32

Database: PsycINFO 1806 to May Week 4 2013

Dato: 04.03.2014

Antall treff: 16

Kommentarer: Filter for systematiske oversikter i OVID: "Reviews (specificity)".

#	Searches	Results
1	electroconvulsive shock/	1224
2	exp electroconvulsive shock therapy/	5108
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	5745
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	6642
5	electroshock*.tw.	1293
6	or/1-5	12718
7	limit 6 to "reviews (maximizes specificity)"	184
8	(2013* or 2014*).yr,dp.	166905
9	(201306* or 201307* or 201308* or 201309* or 201310* or 201311* or 201312* or 201401* or 201402* or 201403*).up.	143081
10	8 or 9	189972
11	6 and 10	16

Database: Cinahl

Dato: 04.06.2013

Antall treff: 0

#	Query	Results
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S7	S1 OR S2 OR S3 OR S4 Limiters - Clinical Queries: Review - High Specificity ; Published Date: 20130101-20141231	0
S6	S1 OR S2 OR S3 OR S4 Limiters - Clinical Queries: Review - High Specificity	19
S5	S1 OR S2 OR S3 OR S4	1,344
S4	TI ((electroshock*)) OR AB ((electroshock*))	26
S3	TI (((electric* or electro*) N2 (shock* or convulsive))) OR AB (((electric* or electro*) N2 (shock* or convulsive)))	308
S2	TI (((electroconvulsive or electroconvulsant or ect or ecs) N1 (therapy or therapies or treatment))) OR AB (((electroconvulsive or electroconvulsant or ect or ecs) N1 (therapy or therapies or treatment)))	473
S1	(MH "Electroconvulsive Therapy")	968

Database: Cochrane Issue 3 of 12, March 2014, Other Reviews (DARE) Issue 1 of 4, Jan 2014, Methods Studies Issue 3 of 4, Jul 2012, Technology Assessments Issue 1 of 4, Jan 2014, Economic Evaluations Issue 2 of 4, April 2013

Dato: 04.03.2014

Antall treff: 2 (fra Other Reviews)

#	Searches	Results
1	MeSH descriptor: [Electroconvulsive Therapy] explode all trees	491
2	MeSH descriptor: [Electroshock] this term only	131
3	((electroconvulsive or electroconvulsant or ect or ecs) near/2 (therapy or therapies or treatment)):ti,ab,kw	824
4	((electric* or electro*) near/3 (shock* or convulsive)):ti,ab,kw	268
5	(electroshock*):ti,ab,kw	149
6	#1 or #2 or #3 or #4 or #5	1147
7	#1 or #2 or #3 or #4 or #5 in Cochrane Reviews (Reviews and Protocols), Other Reviews, Methods Studies, Technology Assessments and Economic Evaluations	60
8	CD000076 or CD003593 or CD002903 or CD006570 or CD003465 or CD002911 or CD003437 or CD005049 or CD009105 or CD004541 or CD009763 or CD003713 or	14

	CD003493 or CD004411 in Cochrane Reviews (Reviews and Protocols)	
9	DARE-12003008414 or DARE-12003001993 or DARE-12003006812 or DARE-11997000633 or DARE-12012023388 or DARE-11996000336 or DARE-12005006087 or DARE-12010004357 or DARE-12012025252 or DARE-12003009795 or DARE-12006006198 or DARE-12008105223 or DARE-12012017204 or DARE-12009105549 or DARE-12006006104 or DARE-12008105222 or DARE-11999001201 or DARE-12011005324 or DARE-12009103990 or DARE-12010007402 or DARE-12001000902 or DARE-12005004728 or DARE-12010006603 or DARE-12001000956 or DARE-12002000063 in Other Reviews	25
10	CMR-15513 or CMR-13975 or CMR-13550 or CMR-1213 or NHSEED-21995001293 or NHSEED-22004006512 or NHSEED-22007008253 or NHSEED-22006008139 or NHSEED-22006000235 or NHSEED-22008101452 or NHSEED-22006006585 or HTA-32003000600 or HTA-32011000218 or HTA-32007000523 or HTA-32011001375 or HTA-32003000498 or HTA-32005000183 or HTA-32003000032 or HTA-32006001279 in Methods Studies, Technology Assessments and Economic Evaluations	19
11	#8 or #9 or #10	58
12	#7 not #11	2

Database: CRD

Dato: 04.03.2014

Antall treff: 2

Search	Hits	
1	MeSH DESCRIPTOR Electroconvulsive Therapy EXPLODE ALL TREES	42
2	MeSH DESCRIPTOR Electroshock	1
3	((electroconvulsive or electroconvulsant or ect or ecs) NEAR2 (therapy or therapies or treatment))	84
4	((electric* or electro*) NEAR3 (shock* or convulsive))	9
5	((electroshock*))	3
6	#1 OR #2 OR #3 OR #4 OR #5	91

7	3200000856 OR 32002000555 OR 32003000032 OR 32003000498 OR 32003000600 OR 32005000183 OR 32006001279 OR 32007000523 OR 21997008290 OR 22001008092 OR 22004008062 OR 22004006512 OR 21995005082 OR 22006000235 OR 22006000554 OR 21995001293 OR 22007001060 OR 11997000633 OR 11998003291 OR 12001002507 OR 12002001294 OR 12003001993 OR 12003006812 OR 12004008573 OR 12005004728 OR 12006006064 OR 12002000063 OR 11999003389 OR 11999001201 OR 12006004077 OR 12001000902 OR 12001000956 OR 12005006302 OR 12003008033 OR 12002004318 OR 12003008414 OR 12004009808 OR 11998002137 OR 12006000270 OR 11996000336 OR 12005009125 OR 12008005155 OR 12003009795 OR 12004001703 OR 12005006087 OR 12006006104 OR 12006006198 OR 22006008139 OR 22006006585 OR 22007008253 OR 12008105222 OR 12008105223 OR 22008101452 OR 12009101649 OR 22009101001 OR 12009103484 OR 12009103990 OR 12009105549 OR 12010001772 OR 12010002329 OR 12010002832 OR 12010004357 OR 12010006603 OR 32010001156 OR 12010007402 OR 32011000218 OR 32011000732 OR 22011001010 OR 22011001011 OR 12011005001 OR 12011005324 OR 32011001375 OR 12011006348 OR 12012017204 OR 12012025252 OR 10000000076 OR 10000002903 OR 10000002911 OR 10000003437 OR 10000003465 OR 10000003493 OR 10000003593 OR 10000003713 OR 10000004411 OR 10000004541 OR 10000005049 OR 10000006570 OR 10000009105 OR 10000009763 OR 32012000595 OR 12012023388 OR 12010001138	92
8	6 NOT 7	2

Database: Web of Science

Dato: 04.03.2014

Antall treff: 21

# 8	21	[# 6 not # 7]
# 7	238	ACCESSION NUMBER: (000317336500001 OR 000317464100005 OR 000315333000022 OR 000313892900006 OR 000314107400015 OR 000313381900001 OR 000312200700004 OR 000311415300003 OR 000311415300004 OR 000309981200007 OR 000311929800009 OR 000308714000007 OR 000310405500013 OR 000309574500012 OR 000309094600004 OR 000306115300014 OR 000306864500011 OR 000303904800007 OR 000303391400003 OR 000302976100001 OR 000301759900005 OR 000300630400010 OR 000301530800003 OR 000301013400001 OR 000299842800003 OR 000299377700013 OR 000299377700024 OR 000315049300089 OR 000303542600001 OR 000300458800015 OR 000297918400002 OR 000298639300002 OR 000297837700005 OR 000298519200011 OR 000297908200001 OR 000297910500015 OR 000296803400016 OR 000296585700013 OR 000295704200001 OR

000295399500008 OR 000294250500017 OR 000294250500019 OR 000293310600003 OR
000293950200002 OR 000293938900001 OR 000292438400001 OR 000291573400009 OR
000291341500007 OR 000290871300015 OR 000290731800003 OR 000290532200004 OR
000290789300013 OR 000290789300015 OR 000292753600009 OR 000289794900001 OR
000286937200007 OR 000289451500014 OR 000299423100002 OR 000299423100003 OR
000287021000016 OR 000289612500007 OR 000286025300002 OR 000284398900006 OR
000287345800010 OR 000282488000003 OR 000281846400020 OR 000281625500010 OR
000280210200001 OR 000280407500001 OR 000280156200005 OR 000280470700007 OR
000280628500013 OR 000278659600002 OR 000277064200724 OR 000277069800011 OR
000278214500030 OR 000275945600001 OR 000281952000017 OR 000275978100006 OR
000275571000006 OR 000275062300002 OR 000276194700001 OR 000275588700009 OR
000278755600003 OR 000272464800014 OR 000280975000016 OR 000275388800001 OR
000271531000004 OR 000271387700008 OR 000271042300006 OR 000270873000003 OR
000271214300008 OR 000266685200009 OR 000266357900014 OR 000265345100006 OR
000263657000012 OR 000267184700003 OR 000275107100001 OR 000275107100002 OR
000272556400006 OR 000265454900002 OR 000277762700017 OR 000261112100013 OR
000261273900018 OR 000260311100010 OR 000258850600001 OR 000259339500008 OR
000259084600008 OR 000257092800010 OR 000256510800015 OR 000256319500008 OR
000261639600006 OR 000255446300007 OR 000254867100003 OR 000254867100012 OR
000253167800012 OR 000252905300023 OR 000258310900001 OR 000259895000100 OR
000253519200010 OR 000261092300011 OR 000250371000002 OR 000251079800007 OR
000247603000008 OR 000247603000010 OR 000247114700019 OR 000247349100004 OR
000243709800008 OR 000246006100005 OR 000246732300002 OR 000243085800004 OR
000241093900007 OR 000240507800004 OR 000240394300011 OR 000239019700006 OR
000239973800001 OR 000237178300006 OR 000238205800003 OR 000241639300008 OR
000238070300005 OR 000236822100005 OR 000236822100013 OR 000234340900004 OR
000237270600012 OR 000235021600011 OR 000243713400020 OR 000249575000002 OR
000235531300002 OR 000233316900004 OR 000233225400002 OR 000232271600003 OR
000233773000007 OR 000231559300003 OR 000231072300017 OR 000230951500009 OR
000229649900002 OR 000229649900003 OR 000229649900004 OR 000228142400001 OR
000227125300002 OR 000226264400010 OR 000232202500112 OR 000232199200075 OR
000232199200111 OR 000241402100034 OR 000229938900002 OR 000231496700002 OR
000226788400003 OR 000224083600014 OR 000224068000012 OR 000223845800002 OR
000221969200001 OR 000222263400006 OR 000221171300001 OR 000220643200004 OR
000188434000015 OR 000188808300002 OR 000187165200001 OR 000186231900017 OR
000185218400005 OR 000183756400020 OR 000183392000007 OR 000182610400004 OR
000183196400010 OR 000182568300011 OR 000181466600007 OR 000183254100002 OR
000183701800005 OR 000181499200003 OR 000180729100013 OR 000183161400006 OR
000186056100002 OR 000179856700010 OR 000178678000002 OR 000177484400013 OR
000175561000010 OR 000174437200009 OR 000183258700001 OR 000173099800013 OR
000172663000002 OR 000172284200009 OR 000171668800001 OR 000171068600011 OR
000169553100005 OR 000169377300007 OR 000168752200004 OR 000167764800004 OR

		000173331600018 OR 000165121200002 OR 000087085500010 OR 000087765600015 OR 000083883000022 OR 000083616200007 OR 000082577200009 OR 000082401100016 OR 000080557300010 OR 000075841900001 OR 000072967200002 OR A1997XR65600001 OR A1997YB14000003 OR A1997YA23100001 OR A1997XK74700003 OR A1997WX13000003 OR A1997XC11700014 OR A1996UT25500008 OR A1996UG78400029 OR A1996UJ46900004 OR A1995TF12700006 OR A1995RQ26900014 OR A1995RJ73700010 OR A1995QE91900004 OR A1993ML89500005 OR A1993MF10200003 OR A1993MF00600001 OR A1993KN39700006 OR A1992HE18300034 OR A1992HB40000003 OR A1991GD74800007)
# 6	259	#4 AND #5 <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 5	144,272	Topic=("systematic review*" or "systematically review*" or medline or pubmed or psycinfo or cinahl or "meta-analys*" or "meta analys*" or hta or "technology assessment*") <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 4	14,675	#3 OR #2 OR #1 <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 3	2,129	Topic=(electroshock*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 2	6,584	Topic=((electric* or electro*) NEAR/2 (shock* or convulsive))) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 1	6,549	Topic(((electroconvulsive or electroconvulsant or ect or ecs) NEAR/1 (therapy or therapies or treatment))) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>

Database: Pubmed

Dato: 04.03.2014

Antall treff: 3

Kommentar: Avgrenset til artikler som er publisert "epub ahead of print"

#6	Search (Pubstatusaheadofprint AND #5)	3
#5	Search (systematic[sb] AND (#4))	200
#4	Search (#1 OR #2 OR #3)	11520
#3	Search electroshock*[Title/Abstract]	3567
#2	Search electric* shock*[Title/Abstract] OR electric* convulsive[Title/Abstract] OR electro shock*[Title/Abstract] OR electro convulsive[Title/Abstract]	1009

#1	Search electroconvulsive [Title/Abstract] OR electroconvulsant [Title/Abstract] OR "ect therapy" [Title/Abstract] OR "ect therapies" [Title/Abstract] OR "ect treatment" [Title/Abstract] OR "ecs therapy" [Title/Abstract] OR "ecs therapies" [Title/Abstract] OR "ecs treatment" [Title/Abstract]	7226
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Søk 2 Søk etter retningslinjer

Søk: Marita Heintz

Dato: 12.03.2013

Søk: electroshock or electroconvulsive or electroconvulsant or electroconvulsion or ect		
Database	Antall treff	Kommentar
TRIP+ http://www.tripdatabase.com/	Aus. & NZ 10 Canada 12 UK 56 USA 94 Other 8	Fulltekstsøk
NHS Evidence in Health and Social Care http://www.evidence.nhs.uk/default.aspx	106	Fulltekstsøk
G-I-N http://www.g-i-n.net/	1	
CMA INFOBASE http://www.cma.ca/index.php	5	Ikke søkt på ect pga automatisk høyre og venstre trunkering
National Guideline Clearing-house http://www.guideline.gov/	28	
BIBSYS	3	SØK: ((bd = "ect") OR (bd = "elektosjokk")) AND ((bd = "Retningslinje?") OR (bd = "Veilede?"))
Sundhedsstyrelsen http://www.sst.dk/	1	SØK: elektroconvulsiv OR ECT
Manuell leting på siden (kilder uten søkemotor, eller lite innhold)		
Database, internettside	Antall treff	Kommentar
SIGN http://www.sign.ac.uk/	11 i kategorien Mental health	Se: http://www.sign.ac.uk/guidelines/published/index.html#Mental
Socialstyrelsen http://www.socialstyrelsen.se	-	Plukket ut de som har med psykisk helse å gjøre <ul style="list-style-type: none">• Schizofreni• Demens• Depression och ångest• Missbruk och beroende
New Zealand Guidelines Group http://www.nzgg.org.nz/	5 i kategorien Mental	Se: http://www.health.govt.nz/about-

	health and behavioural conditions	ministry/ministry-health-websites/new-zealand-guidelines-group
GAC (Guideline Advisory Committee) http://www.gacguidelines.ca/	-	Plukket ut de som har med psykisk helse å gjøre: ADHD Management - Summary available Anxiety Bipolar Disorder - Summary available Depression: Screening for Depression - Summary available Depression: Management of Mild Depression - Summary available Depression: Management of Moderate to Severe Depression - Summary available Managing Dementing Disorders: Behavioural Disturbances - Summary available Managing Dementing Disorders: Caregiving - Summary available Managing Dementing Disorders: Depression - Summary available Managing Dementing Disorders: Diagnosis and Assessment - Summary available Managing Dementing Disorders: Ethical Issues - Summary available Managing Dementing Disorders: Pharmacologic Therapy - Summary available Managing Dementing Disorders: Prevention - Summary available Managing Dementing Disorders: Referral - Summary available Managing Dementing Disorders: Screening and Case Finding - Summary available Psychological Therapy and Counseling - Summary available
CTFPHC (Canadian Task Force on Preventive Health Care) http://www.ctfphc.org/	-	Plukket ut de som har med psykisk helse å gjøre: Screening for Depression in Primary Care 2005 Prevention and Treatment of Violence Against Women 2003 Screening for Cognitive Impairment and Dementia in the Elderly 2001 Periodic health examination, 1990 update: 2. Early

		detection of depression and prevention of suicide Early detection of depression by primary care physicians 1990 Prevention of Suicide 1990
Center for Kliniske Retningslinjer http://kliniskeretningslinjer.dk/	-	Fant ingen innen Psykisk helse
Helsebibliotekets retningslinjedatabase http://www.helsebiblioteket.no/Retningslinjer	-	Liste over retningslinjer innen Psykisk helse: http://www.helsebiblioteket.no/retningslinjer/psykisk-helse
Best Practice	5 retningslinjer nevnt i artikkelen Bipolar disorder in adults Kanskje sjekke andre sykdommer innen psykisk helse?	http://bestpractice.bmj.com/best-practice/monograph/488/diagnosis/guidelines.html
UpToDate	Overview of electroconvulsive therapy (ECT) for adults	Ikke en retningslinje, men denne bør være nyttig for å skaffe seg oversikt over hva som er gjort på temaet. http://www.uptodate.com/contents/overview-of-electroconvulsive-therapy-ect-for-adults?source=search_result&search=electroconvulsive+therapy&selectedTitle=1%7E90
FDA (U.S. Food and Drug Administration) www.fda.gov USA	3 treff	SØK: Electroconvulsive http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpd/classification.cfm?ID=3315 http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfmaude/detail.cfm?mdrfoi_id=1101693 http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpd/classification.cfm?ID=3315
American Psychiatric Publishing www.appi.org www.cambridge.org	5 treff	SØK: Electroconvulsive

Søk 3 Søk etter norske vitenskapelig artikler

Søk: Marita Heintz

Prosjektnr:

Kommentar: Norske forhold.

Antall treff før dublettsjekk: 583

Antall treff etter dublettsjekk: 408

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R)

Daily and Ovid MEDLINE(R) 1946 to Present

Dato: 04.03.2014

Antall treff: 97 (96 uten dubletter)

#	Searches	Results
1	exp Electroconvulsive Therapy/	9430
2	electroshock/	11290
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	5845
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	6504
5	electroshock*.tw.	3261
6	or/1-5	27223
7	exp Norway/	29242
8	(norway or norwegian).tw,cp,in,lg.	158183
9	(Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvaag or Kirkenes or Vadsø or Vardo or Finnsnes or Harstad or Tromsø or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjøen or Narvik or Sandnessjøen or Sortland or Stokmarknes or Svolvaer or Kolvareid or Levanger or Namsos or Naeroy or Steinkjer or Stjørdal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Florø or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risør or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjøvik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg).tw,cp,in.	82643
10	tidsskrift for den norske laegeforening.jn.	28870

11	or/7-10	174150
12	6 and 11	127
13	Animals/ not (Animals/ and Humans/)	3794595
14	12 not 13	97

Database: Embase 1974 to 2014 March 03

Dato: 04.03.2014

Antall treff: 245

1	exp electroconvulsive therapy/	15918
2	electric shock/	10950
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	7749
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	7878
5	electroshock*.tw.	4055
6	or/1-5	32838
7	norway/ or "svalbard and jan mayen"/	33187
8	(norway or norwegian).cp,in,ad,tw,lg.	240238
9	(Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvåg or Kirkenes or Vadsø or Vardo or Finnsnes or Harstad or Tromsø or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjøen or Narvik or Sandnessjøen or Sortland or Stokmarknes or Svolvær or Kolvereid or Levanger or Namsos or Naeroy or Steinkjer or Stjørdal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Florø or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risør or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjøvik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg).cp,in,ad,tw.	221933
10	(tidsskrift for den norske laegeforening or tidsskrift for den norske laegeforening tidsskrift for praktisk or tidsskrift for den norske laegeforening tidsskrift for praktisk medicin ny raekke).jn.	35078

11	or/7-9	332881
12	6 and 11	302
13	limit 12 to embase	245
14	Nonhuman/ or ANIMAL/ or Animal Experiment/	6478577
15	14 not (14 and Human/)	5123761
16	13 not 15	209

Database: PsycINFO 1806 to February Week 4 2014

Dato: 04.03.2014

Antall treff: 53

#	Searches	Results
1	electroconvulsive shock/	1224
2	exp electroconvulsive shock therapy/	5108
3	((electroconvulsive or electroconvulsant or ect or ecs) adj2 (therapy or therapies or treatment)).tw.	5745
4	((electric* or electro*) adj3 (shock* or convulsive)).tw.	6642
5	electroshock*.tw.	1293
6	or/1-5	12718
7	(norway or norwegian).in,cq,lo,tw,lg,ca.	23687

8	(Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvåg or Kirkenes or Vadso or Vardo or Finnsnes or Harstad or Tromsø or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjøen or Narvik or Sandnessjøen or Sortland or Stokmarknes or Svolvaer or Kolvereid or Levanger or Namsos or Naeroy or Steinkjer or Stjørdal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Floro or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpe-land or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risør or Tvede-strand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjøvik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg).in,cq,lo,tw,ca.	21188
9	("tidsskrift for norsk psykologforening" or "tidsskrift for den norske lægeforening").jn.	1284
10	or/7-9	26495
11	6 and 10	67
12	(animal not (animal and human)).po.	278061
13	11 not 12	53

Database: Cinahl

Dato: 04.06.2013

Antall treff: 0

#	Query	Results
S7	S5 and S6	0
S6	TI ((norway or norwegian* or Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvåg or Kirkenes or Vadso or Vardo or Finnsnes or Harstad or Tromsø or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjøen or Narvik or Sandnessjøen or Sortland or Stokmarknes or Svolvaer or Kolvereid or Levanger or Namsos or Naeroy or Steinkjer or Stjørdal* or Verdalsora or Trond-	5111

	heim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Floro or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risor or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjovik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg)) OR AB ((norway or norwegian* or Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trondelag or Trondelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trondelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvaag or Kirkenes or Vadso or Vardo or Finnsnes or Harstad or Tromso or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjoen or Narvik or Sandnessjoen or Sortland or Stokmarknes or Svolvaer or Kolvereid or Levanger or Namsos or Naeroy or Steinkjer or Stjordal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Floro or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risor or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjovik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg))	
S5	S1 OR S2 OR S3 OR S4	1,344
S4	TI ((electroshock*)) OR AB ((electroshock*))	26
S3	TI (((electric* or electro*) N2 (shock* or convulsive))) OR AB (((electric* or electro*) N2 (shock* or convulsive)))	308
S2	TI (((electroconvulsive or electroconvulsant or ect or ecs) N1 (therapy or therapies or treatment))) OR AB (((electroconvulsive or electroconvulsant or ect or ecs) N1 (therapy or therapies or treatment)))	473

S1	(MH "Electroconvulsive Therapy")	968
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Database: Cochrane Issue 3 of 12, March 2014, Other Reviews (DARE) Issue 1 of 4, Jan 2014, Trials Issue 1 of 12, Jan 2014, Methods Studies Issue 3 of 4, Jul 2012, Technology Assessments Issue 1 of 4, Jan 2014, Economic Evaluations Issue 2 of 4, April 2013

Dato: 04.03.2014

Antall treff: 1 (fra Trials)

#	Searches	Results
1	MeSH descriptor: [Electroconvulsive Therapy] explode all trees	491
2	MeSH descriptor: [Electroshock] this term only	131
3	((electroconvulsive or electroconvulsant or ect or ecs) near/2 (therapy or therapies or treatment)):ti,ab,kw	824
4	((electric* or electro*) near/3 (shock* or convulsive)):ti,ab,kw	268
5	(electroshock*):ti,ab,kw	149
6	#1 or #2 or #3 or #4 or #5	1147
7	(norway* or norwegian*):ti,ab,kw	1451
8	(Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sør-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvåg or Kirkenes or Vadso or Vardo or Finnsnes or Harstad or Tromsø or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjøen or Narvik or Sandnessjøen or Sortland or Stokmarknes or Svolvær or Kolværed or Levanger or Namsos or Naerøy or Steinkjer or Stjørdal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Florø or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risør or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjøvik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrøm or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg):ti,ab,kw	688

9	#8 or #7	1765
10	#6 and #9	1

Database: CRD

Dato: 04.03.2014

Antall treff: 2

Search	Hits	
1	MeSH DESCRIPTOR Electroconvulsive Therapy EXPLODE ALL TREES	42
2	MeSH DESCRIPTOR Electroshock	1
3	((electroconvulsive or electroconvulsant or ect or ecs) NEAR2 (therapy or therapies or treatment))	84
4	((electric* or electro*) NEAR3 (shock* or convulsive))	9
5	((electroshock*))	3
6	#1 OR #2 OR #3 OR #4 OR #5	91
7	norway* or norwegian*	334
8	Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvåg or Kirkenes or Vadso or Vardo or Finnsnes or Harstad or Tromso or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjoen or Narvik or Sandnessjoen or Sortland or Stokmarknes or Svolvaer or Kolvereid or Levanger or Namsos or Naeroy or Steinkjer or Stjordal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Floro or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risor or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjovik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or	245

	Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg	
9	#7 or #8	456
10	#6 and #9	2

Database: Web of Science

Dato: 04.03.2014

Antall treff: 15

# 6	15	#5 AND #4 <i>Indexes=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 5	91,020	TOPIC: (norway or norwegian* or Akershus or Aust-Agder or Agder or Buskerud or Finnmark or Hedmark or Hordaland or Romsdal or Nordland or Nord-Trøndelag or Trøndelag or Oppland or Oslo or Rogaland or Fjordane or Sor-Trøndelag or Telemark or Troms or Vest-Agder or Vestfold or Ostfold or Alta or Hammerfest or Honningsvåg or Kirkenes or Vadso or Vardo or Finnsnes or Harstad or Tromsø or Bodo or Bronnoysund or Fauske or Leknes or "Mo i Rana" or Mosjøen or Narvik or Sandnessjøen or Sortland or Stokmarknes or Svolvær or Kolvæeid or Levanger or Namsos or Naeroy or Steinkjer or Stjørdal* or Verdalsora or Trondheim or Brekstad or Fosnavaag or Kristiansund or Molde or Ulsteinvik or aalesund or aandalsnes or Florø or Forde or Maaloy or Bergen or Stord or Odda or Bryne or Egersund or Haugesund or Jorpeland or Kopervik or Sandnes or Sauda or Skudeneshavn or Stavanger or aakrehamn or Flekkefjord or Kristiansand or Farsund or Lyngdal or Mandal or Arendal or Grimstad or Lillesand or Risør or Tvedestrand or Brevik or Kragero or Langesund or Notodden or Porsgrunn or Rjukan or Skien or Stathelle or Holmestrand or Horten or Larvik or Sandefjord or stavern or Svelvik or Tonsberg or asgardstrand or Drammen or Hokksund or Honefoss or Ringerike or Kongsberg or Fagernes or Gjøvik or Lillehammer or Otta or vinstra or Elverum or Hamar or Kongsvinger or Brumunddal or Moelv or Drobak or jessheim or Lillestrom or Sandvika or Baerum or Ski or Askim or Fredrikstad or Halden or Moss or Mysen or Sarpsborg) <i>Indexes=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 4	14,675	#3 OR #2 OR #1 <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 3	2,129	Topic=(electroshock*) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>

# 2	6,584	Topic=((electric* or electro*) NEAR/2 (shock* or convulsive))) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>
# 1	6,549	Topic=((electroconvulsive or electroconvulsant or ect or ecs) NEAR/1 (therapy or therapies or treatment))) <i>Databases=SCI-EXPANDED, SSCI, A&HCI Timespan=All years</i>

Database: Pubmed

Dato: 04.03.2014

Antall treff: 0

Kommentar: Avgrenset til artikler som er publisert "epub ahead of print"

	Search (Pubstatusaheadofprint AND #6)	0
#6	Search (#4 and #5)	15
#5	Search ("norway"[Title/Abstract] or norwegian*[Title/Abstract] or "Akershus"[Title/Abstract] or "Aust-Agder"[Title/Abstract] or "Agder"[Title/Abstract] or "Buskerud"[Title/Abstract] or "Finnmark"[Title/Abstract] or "Hedmark"[Title/Abstract] or "Hordaland"[Title/Abstract] or "Romsdal"[Title/Abstract] or "Nordland"[Title/Abstract] or "Nord-Trondelag"[Title/Abstract] or "Trondelag"[Title/Abstract] or "Oppland"[Title/Abstract] or "Oslo"[Title/Abstract] or "Rogaland"[Title/Abstract] or "Fjordane"[Title/Abstract] or "Sor-Trondelag"[Title/Abstract] or "Telemark"[Title/Abstract] or "Troms"[Title/Abstract] or "Vest-Agder"[Title/Abstract] or "Vestfold"[Title/Abstract] or "Ostfold"[Title/Abstract] or "Alta"[Title/Abstract] or "Hammerfest"[Title/Abstract] or "Honningsvaag"[Title/Abstract] or "Kirkenes"[Title/Abstract] or "Vadso"[Title/Abstract] or "Vardo"[Title/Abstract] or "Finnsnes"[Title/Abstract] or "Harstad"[Title/Abstract] or "Tromso"[Title/Abstract] or "Bodo"[Title/Abstract] or "Bronnoysund"[Title/Abstract] or "Fauske"[Title/Abstract] or "Leknes"[Title/Abstract] or "Mo i Rana"[Title/Abstract] or "Mosjoen"[Title/Abstract] or "Narvik"[Title/Abstract] or "Sandnessjoen"[Title/Abstract] or "Sortland"[Title/Abstract] or "Stokmarknes"[Title/Abstract] or "Svolvaer"[Title/Abstract] or "Kolvereid"[Title/Abstract] or "Levanger"[Title/Abstract] or "Namsos"[Title/Abstract] or "Naeroy"[Title/Abstract] or "Steinkjer"[Title/Abstract] or "Stjordal"[Title/Abstract] or "Verdalsora"[Title/Abstract] or "Trondheim"[Title/Abstract] or "Brekstad"[Title/Abstract] or "Fosnavaag"[Title/Abstract] or "Kristiansund"[Title/Abstract] or "Molde"[Title/Abstract] or "Ulsteinvik"[Title/Abstract] or "aaesund"[Title/Abstract] or "aandalsnes"[Title/Abstract] or "Floro"[Title/Abstract] or "Forde"[Title/Abstract] or "Maaloy"[Title/Abstract] or "Bergen"[Title/Abstract] or "Stord"[Title/Abstract] or "Odda"[Title/Abstract] or "Bryne"[Title/Abstract] or "Egersund"[Title/Abstract] or "Haugesund"[Title/Abstract] or "Jorpeland"[Title/Abstract] or "Korpervik"[Title/Abstract] or "Sandnes"[Title/Abstract] or "Sauda"[Title/Abstract] or	38374

	"Skudeneshavn"[Title/Abstract] or "Stavanger"[Title/Abstract] or "aakrehamn"[Title/Abstract] or "Flekkefjord"[Title/Abstract] or "Kristiansand"[Title/Abstract] or "Farsund"[Title/Abstract] or "Lyngdal"[Title/Abstract] or "Mandal"[Title/Abstract] or "Arendal"[Title/Abstract] or "Grimstad"[Title/Abstract] or "Lillesand"[Title/Abstract] or "Risor"[Title/Abstract] or "Tvedestrand"[Title/Abstract] or "Brevik"[Title/Abstract] or "Kragero"[Title/Abstract] or "Langesund"[Title/Abstract] or "Notodden"[Title/Abstract] or "Porsgrunn"[Title/Abstract] or "Rjukan"[Title/Abstract] or "Skien"[Title/Abstract] or "Stathelle"[Title/Abstract] or "Holmestrand"[Title/Abstract] or "Horten"[Title/Abstract] or "Larvik"[Title/Abstract] or "Sandefjord"[Title/Abstract] or "stavern"[Title/Abstract] or "Svelvik"[Title/Abstract] or "Tonsberg"[Title/Abstract] or "asgardstrand"[Title/Abstract] or "Drammen"[Title/Abstract] or "Hokksund"[Title/Abstract] or "Honefoss"[Title/Abstract] or "Ring-erike"[Title/Abstract] or "Kongsberg"[Title/Abstract] or "Fagernes"[Title/Abstract] or "Gjovik"[Title/Abstract] or "Lillehammer"[Title/Abstract] or "Otta"[Title/Abstract] or "vinstra"[Title/Abstract] or "Elverum"[Title/Abstract] or "Hamar"[Title/Abstract] or "Kongsvinger"[Title/Abstract] or "Brumunddal"[Title/Abstract] or "Moelv"[Title/Abstract] or "Drobak"[Title/Abstract] or "jessheim"[Title/Abstract] or "Lillestrom"[Title/Abstract] or "Sandvika"[Title/Abstract] or "Baerum"[Title/Abstract] or "Ski"[Title/Abstract] or "Askim"[Title/Abstract] or "Fredrikstad"[Title/Abstract] or "Halden"[Title/Abstract] or "Moss"[Title/Abstract] or "Mysen"[Title/Abstract] or "Sarpsborg"[Title/Abstract])	
#4	Search (#1 OR #2 OR #3)	11520
#3	Search electroshock*[Title/Abstract]	3567
#2	Search electric* shock*[Title/Abstract] OR electric* convulsive[Title/Abstract] OR electro shock*[Title/Abstract] OR electro convulsive[Title/Abstract]	1009
#1	Search electroconvulsive[Title/Abstract] OR electroconvulsant[Title/Abstract] OR "ect therapy"[Title/Abstract] OR "ect therapies"[Title/Abstract] OR "ect treatment"[Title/Abstract] OR "ecs therapy"[Title/Abstract] OR "ecs therapies"[Title/Abstract] OR "ecs treatment"[Title/Abstract]	7226

Database: SveMed+

Dato: 05.03.2014

Antall treff: 86

1	exp:"Electroconvulsive Therapy"	74
2	noexp:"Electroshock"	1
8	electric* shock*	7
9	electric* convulsive	1
10	electro shock*	0

12	electroconvulsiv* OR electroconvulsant OR ect OR "ecs therapy" OR "ecs therapies" OR "ecs treatment" OR "electro convulsive" OR elektrosjokk OR elektrokonvulsiv OR elektrochok OR elchock	80
13	#1 OR #2 OR #8 OR #9 OR #10 OR #12	86

Database: Norart

Dato: 05.03.2014

Antall treff: 45

ect OR elektrosjokk OR elektrokonvulsiv

Database: BIBSYS (oria.no)

Dato: 05.03.2014

Antall treff: 40

Kommentar: Avgrenset til: Materiale fra bibliotek katalogen og Språk: Norsk

ect OR elektrosjokk OR elektrokonvulsiv

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