



# Ageing and Health

Norwegian National Centre

## ECT in Norway – Research Activity and Quality Improvement

- Eivind Aakhus
- MD, specialist in psychiatry, PhD
- Head of Mental Health Research and Development
- The Norwegian Centre for Ageing and Health

# Clinical research in Norway 2022-23

ECT and other neurostimulation therapies

# ECT - research

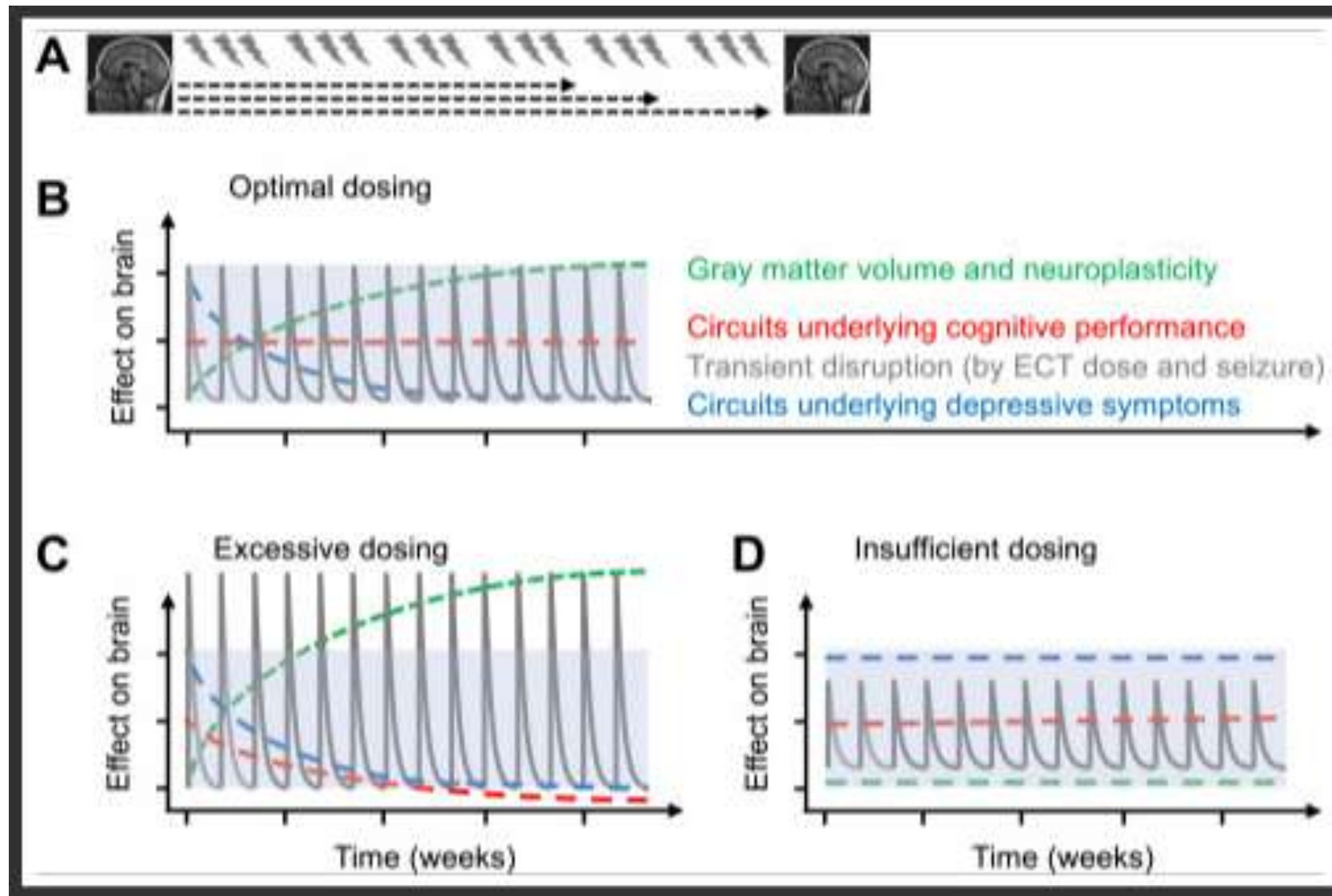
- Coman. Recipients' experience with information provision for electroconvulsive therapy (ECT). BMC Psychiatry 2022; 22: 86
  - 21 patients recruited from web advertisements or from clinics.
  - Their consent was based mostly on oral information, insufficient and unvaried information on official health websites and media. Further, patients reported a lack of follow-up services that can attend to (neuro) psychological concerns.
- Blanken et al. Sex-specifics of ECT outcome. J Affect Disord, 2023;326:243-248
  - 500 patients with MDD (58.6 % women) with a mean age of 54.8 years
  - Remission rates of ECT were independent of sex. A shorter index episode was an additional sex-specific predictor for remission in women.

# ECT – research *contd.*

- Van de Mortel et al. Multimodal multi-center analysis of electroconvulsive therapy effects in depression: Brainwide gray matter increase without functional changes. *Brain Stimul* 2022;15:1065-1072
  - N=88, 4 centres Functional measuring: functional connectivity (FC) and degree centrality (DC)
- Takamiya et al. Neural Substrates of Psychotic Depression: Findings From the Global ECT-MRI Research Collaboration. *Schizophr Bull*, 2022;48:514-523
  - N=108 (56 psychotic, 52 non-psychotic late-life depression), 8 centres
  - Lower gray matter volume in patients with psychotic depression in MPFC

# ECT - reviews

- Bergsholm/Bjølseth Dosing methods in electroconvulsive therapy: should the Scandinavian time-titration method be resumed? Nord J Psychiatry. 2022:159-161
- Aarsland et al Changes in Tryptophan-Kynurenine Metabolism in Patients with Depression Undergoing ECT-A Systematic Review. Pharmaceuticals 2022;15
  - 17 studies, N=386 Trp/Kyn levels and ratios before and after ECT
- Ousdal et al. The Neurobiological Effects of Electroconvulsive Therapy Studied Through Magnetic Resonance: What Have We Learned, and Where Do We Go? Biol Psychiatry 2022; 91: 540-549



# Other neurostimulation methods – tDCS

- Ulrichsen et al. *No add-on effect of tDCS on fatigue and depression in chronic stroke patients: A randomized sham-controlled trial combining tDCS with computerized cognitive training.* Brain Behav 2022;12.doi: 10.1002/brb3.2643
  - 54 patients (of 74!) completed the intervention
  - NB! A total of **six tDCS sessions** were administered, **2/week**, Active tDCS stimulation was administered at **1 mA**, Each stimulation lasted for **20 min**
- Grønli et al. *A four-month home-based tDCS study on patients with Alzheimer's disease* Neurocase. 2022;28:276-282.
  - 8 participants were recruited. No significant effects of treatment were found after 4 months.
  - 2 mA 30 minutes daily for 4 months.
- Marquardt et al: *Pilot-RCT Finds No Evidence for Modulation of Neuronal Networks of Auditory Hallucinations by Transcranial Direct Current Stimulation.* Brain Sci. 2022;12:1382
  - 21 patients receiving either sham or real tDCS treatment (2 mA) twice daily (20 mins) for 5 days
  - small reduction in AVH severity in the real tDCS group, but no corresponding neuroimaging changes in either DLPFCD or TPC. Conclusion: The results suggest that the currently leading theory behind tDCS treatment of AVH may need to be revised, if confirmed by studies with larger N. Tentative findings point to the involvement of Broca's area as a critical structure for tDCS treatment.



# tDCS as a New Method for depression and aphasia

- The National System for Managed Introduction of New Health Technologies within the Specialist Health Service (“Nye Metoder”)
- Full HTA report from the Norwegian institute of public health April 2022
- Recommendation given December 2022:
- tDCS may be an alternative for patients with moderate-to-severe depression who do not wish, respond to or get severe adverse events from ECT/Ads
- tDCS may be an alternative in treatment for stroke-induced aphasia combined with language training
- Should be initiated and followed up in specialist healthcare





# Quality improvement

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The background of the slide features a complex abstract design. It includes vibrant green paint splashes and smudges, bright yellow swirling lines, and intricate black line art that resembles a stylized figure or a complex network. The overall aesthetic is dynamic and artistic.

**CHAOS  
AND  
ORDER**

# Craving a guideline!

## Elektrokonvulsiv terapi (ECT) 2010

*På tide med norske retningslinjer?*

Svein Martin Luth



 Helsedirektoratet

Nasjonal faglig retningslinje om bruk av  
elektrokonvulsiv behandling - ECT

Nasjonale faglige retningslinjer  
IS-2629



## Bruk av strømbehandling mot depresjon får FN til å kritisere Norge

Norge får kritikk av FNs menneskerettighetskomité for elektrosjokkbehandling uten samtykke.

2018 –  
annus horribilis



Returadresse: Helsedirektoratet, Pb. 7000 St. Olavs plass, 0130

Kontrollkomisjonene i psykisk helsevern

## VG avslører: Ga elektrosjokk 166 ganger uten pasientenes godkjenning

Minst 40 psykiatriske pasienter har fått minst 166 elektrosjokkbehandlinger d  
siste tre årene – uten å ha gitt sitt samtykke.

Behov for styrket kontroll med bruk av elektrokonvulsiv behandling (ECT) uten samtykke

Helsedirektoratet ser behov for å styrke kontrollen ved bruk av elektrokonvulsiv behandling (ECT) på nødrettsgrunnlag innen det psykiske helsevern.



- Working group = Professional council
- User organisations
  - Bipolar organisation. Mental Health (Stig Bech, Ole Marius Minde Johnsen)
- Professional groups
  - The Norwegian
    - Psychological Assoc (Christine Mohn),
    - Psychiatric Assoc (Magritt S Ræder), and
    - Nurse Assoc (Lisa Digerud, Central Norway))
    - Anestesiological assoc (Bente Mogaard)
  - And Ute Kessler, Lena Kristin Nerdal (North), Pernille Sørensen (West), Eivind Aakhus (South-East)

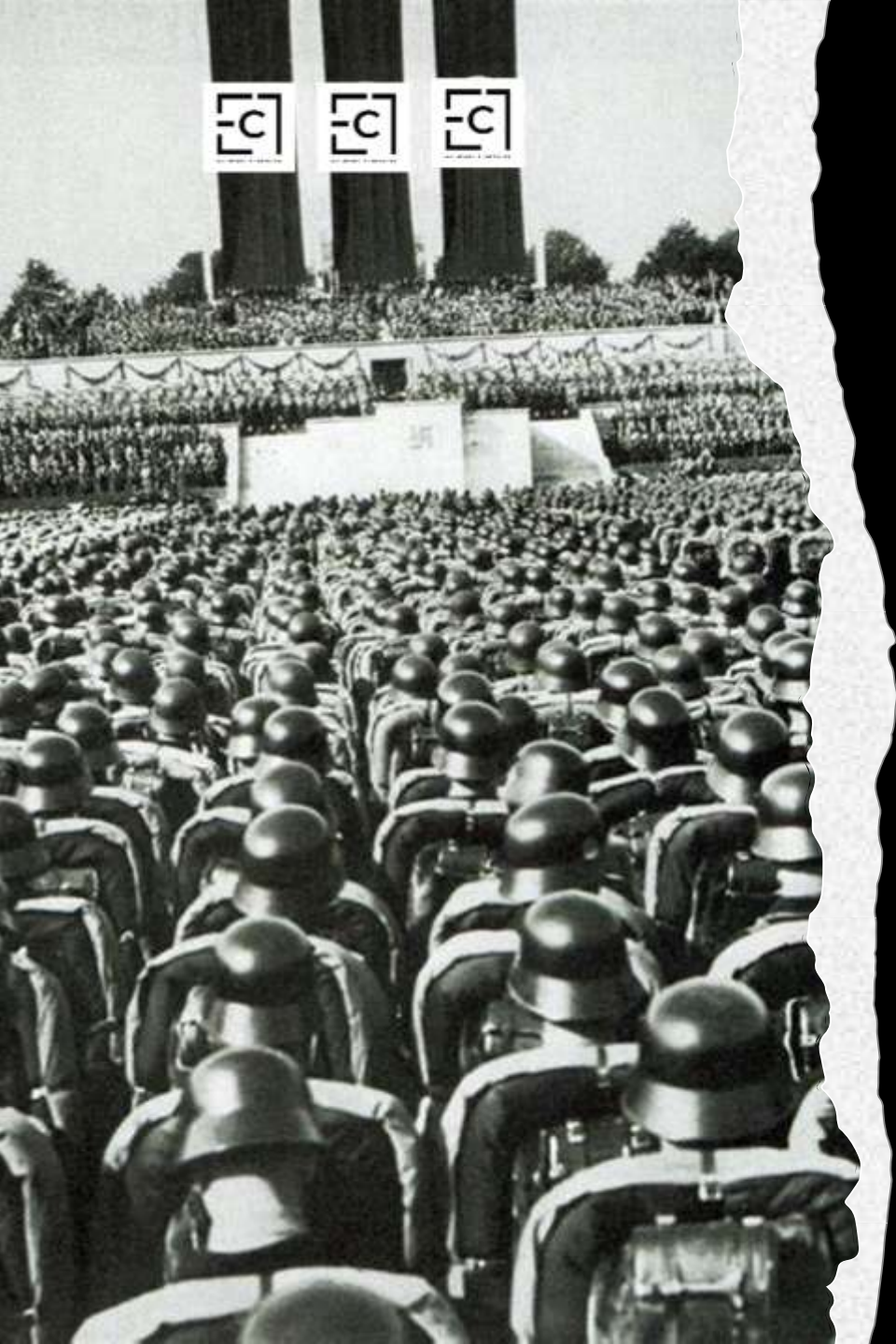


# The National Quality Registry for ECT

- Approved by the Norwegian Health Directorate in 2022
- Is implemented solely on a digital platform
- Reservation based
- Register clinical and technical data and patient reported outcome
  - During a course
  - 6 months after the course
- Collects information annually
  - Responsibility
  - Technical device an facilities
  - Training and certification

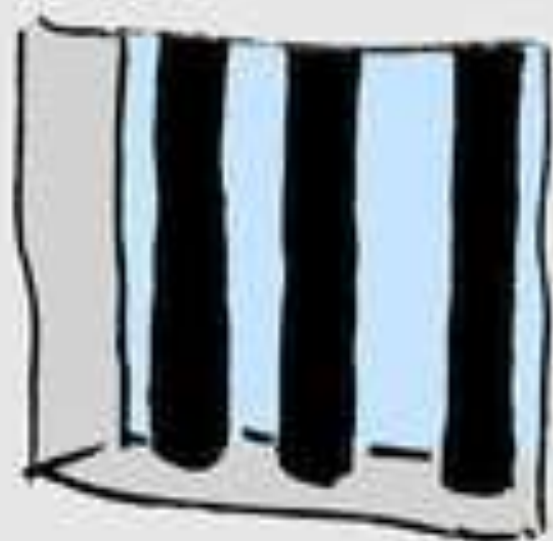


Kristine Elsa Krokli, Hallvard Lund-Heimark *Foto: Ute Kessler*



Do we expect 100%  
commitment,  
compliance and  
loyalty?

ARMED ROBBERY, EH? I'M IN  
FOR BEING OUT OF COMPLIANCE  
WITH A FEDERAL GUIDELINE.





# Five Quality Indicators to measure and improve practice + 1

1. Is there an established indication for ECT?
  2. Is symptom intensity recorded after a finished course?
  3. Does the patient remit during ECT?
  4. Are memory problems present within the first week after ECT?
  5. Does the ECT-clinic offer maintenance ECT?
- (Future QI): What proportion of patients with severe depression receive ECT?



# 14 variables that check adherence to the ECT-guideline, including

- The proportion of patients who have consented written or orally to the treatment
- The proportion of patients who are offered 6 month control
- The proportion of patients who receive maintenance treatment
- Initial electrode placements, dosing strategy, and pulse width

# Will we write a book?



## *Authors*

Stig Bech,  
Per Bergsholm,  
Therese Bigseth,  
Tor Magne Bjølseth,  
Martin Bystad,  
Alina Coman,  
Rikke Folstad,  
Gorm Grammeltvedt,  
Hallvard T Lund Heimark,  
Per Anders Hunderi,  
Ute Kessler,  
Kristine Elsa Krokli,  
Svein Martin Luth,  
Christine Mohn,  
Leif Oltedal, and  
Eivind Aakhus (ed.)