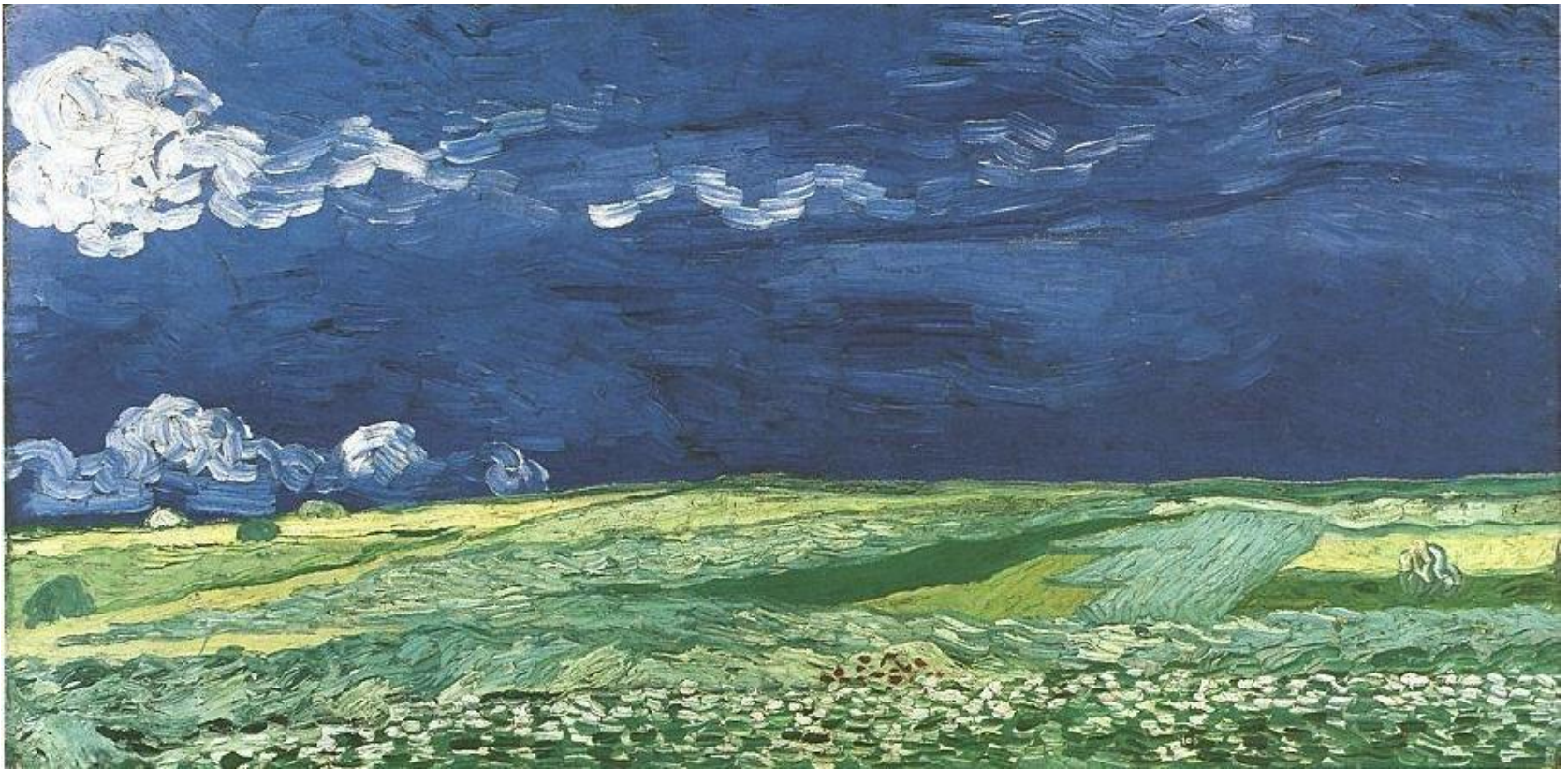


Termination of acute ECT – When and what next?

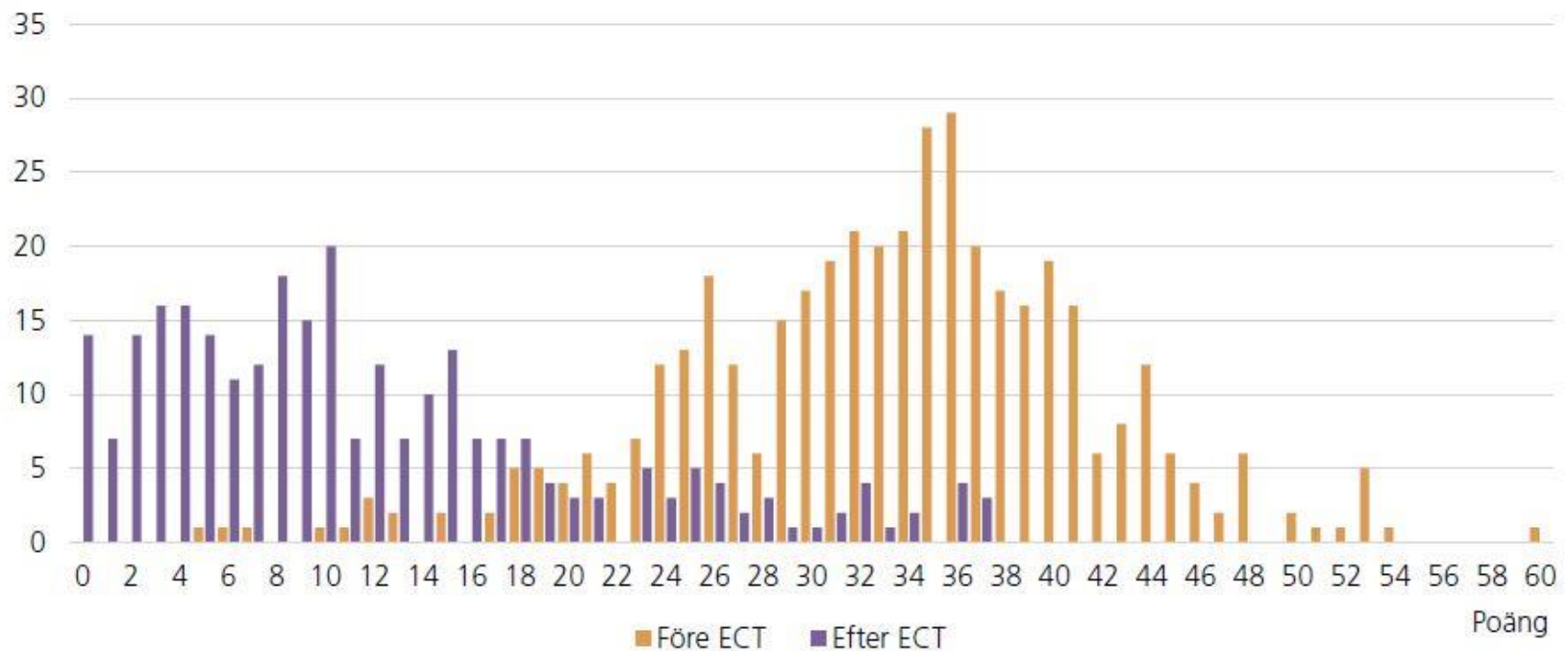


Håkan Odeberg; NACT meeting, Tallin, May 25th, 2022

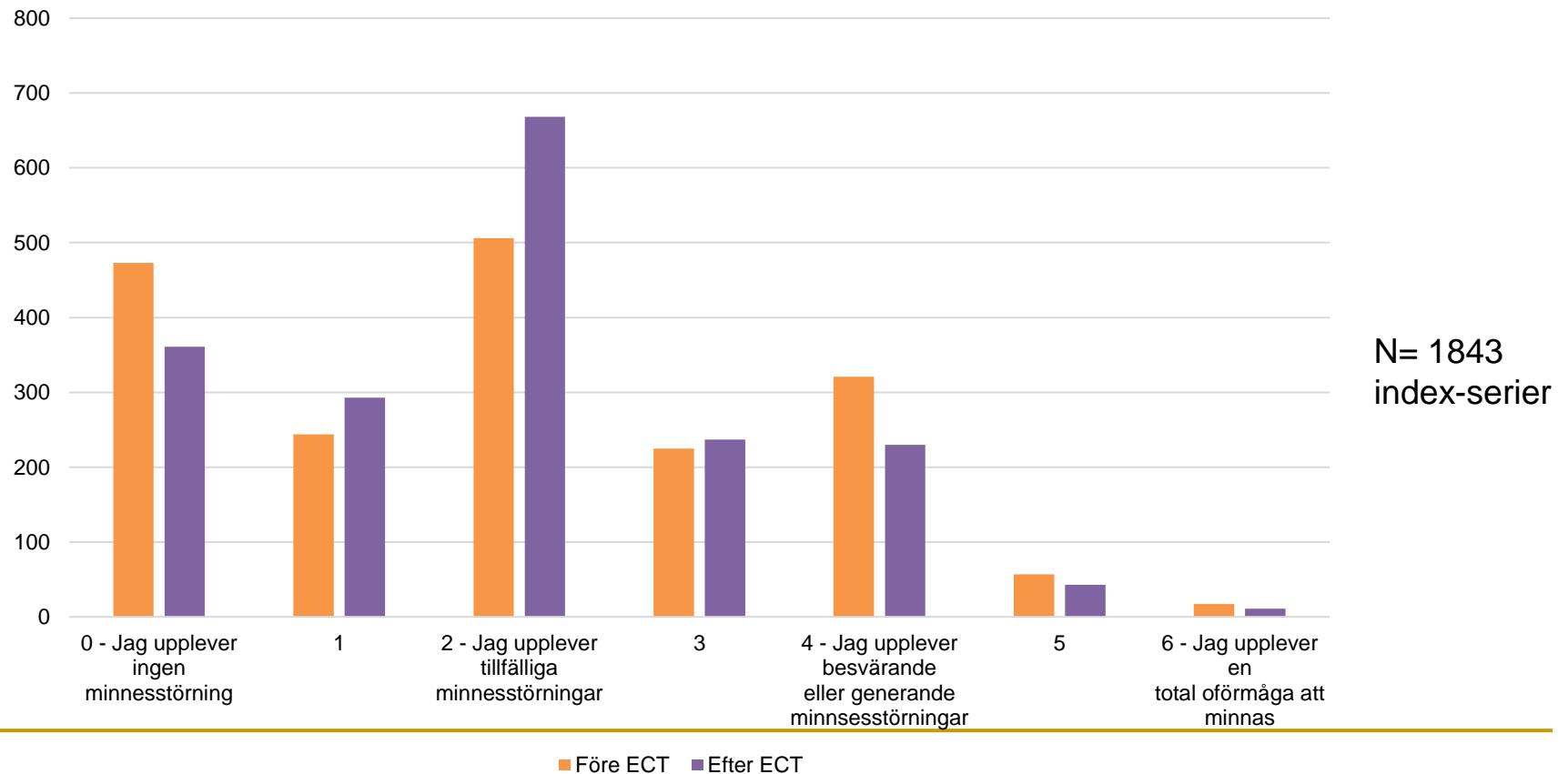
Swedish Quality Register ECT 2020, MADRS before – after ECT

Figur 16. Bedömning med MADRS före och efter ECT

Antal behandlingsserier



CPRS-minne före och efter ECT 2021



BULLETIN OF
THE NEW YORK ACADEMY
OF MEDICINE



SEPTEMBER 1949

PRESENT STATUS OF
ELECTRIC SHOCK THERAPY*

LOTHAR B. KALINOWSKY

Research Associate in Psychiatry, College of Physicians and Surgeons, Columbia University



*"It cannot be emphasized enough that **contrary to psychotics, some neurotics may be harmed by ECT.** Anxiety, as the most frequent symptom in neurotics, is often aggravated. Many neurotics react badly to the memory impairment and complain of it long after psychological tests have shown that actually no impairment persists."*

Autobiography

- 40 years of ECT
- 20 years of maintenance-ECT
- 20 years secretary of NACT
- Regular Hands-on courses
- Now working in Örebro,

Unit for Brain Stimulation with Axel Nordenskjöld

Clinical work

Research center

Swedish Quality Register



Financial disclosures



- ❑ If patients and colleagues are happy, I keep my job.
- ❑ If participants are happy, they come to my courses

REVIEW ARTICLE

Allan H. Ropper, M.D., *Editor*

Electroconvulsive Therapy

Randall T. Espinoza, M.D., and Charles H. Kellner, M.D.

COURSE OF TREATMENT

ECT comprises two phases of care (Table 1). In the initial phase, the goal is a response or, ideally, remission. Patients are assessed clinically after each treatment for benefit and side effects, with subsequent periodic assessments based on commonly used mood and cognition rating scales. The initial phase continues until patients have a maximal sustained treatment response or side effects limit further use of the treatment.

After patients have had sufficient clinical improvement, ECT is generally not stopped abruptly, owing to the risk of relapse. In a ran-

N Engl J Med 2022;386:667-72.

DOI: 10.1056/NEJMr2034954

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CME
at NEJM.org

Five patients with Major Depression, severe episode, ECT-treated

- M-74 Living in the small northern village of his wife's family.
Divorce at mother's funeral
- M-78 Belonging to strict religious cult; excluded, drinking, divorce
- M-54 Recurrent Bipolar disorder, psychosis
- M-58 Well functioning, married, clear-cut episodes of depression
- K-47 Neurotic traits, overconsumption of alcohol, hip operation.



Relapse is not equal to failure



*“Don’t you bother,
I can do it myself!”*



No sign of mental illness





Seemingly needing ECT

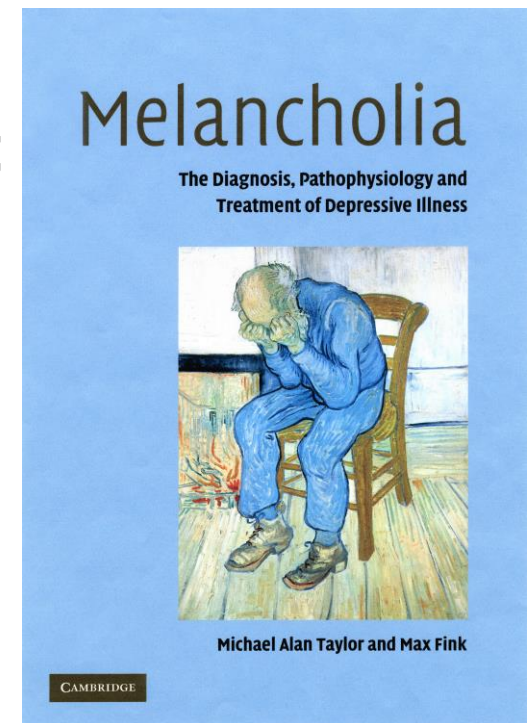




**The patient
failed
everything
else, maybe
it's time for
ECT**

Identifying Melancholia as Syndrome

Identifiable syndrome of mood disorder;
now lost amid major depression,
bipolar disorder, dysthymia, and
post-partum states.



Specific Efficacy of ECT

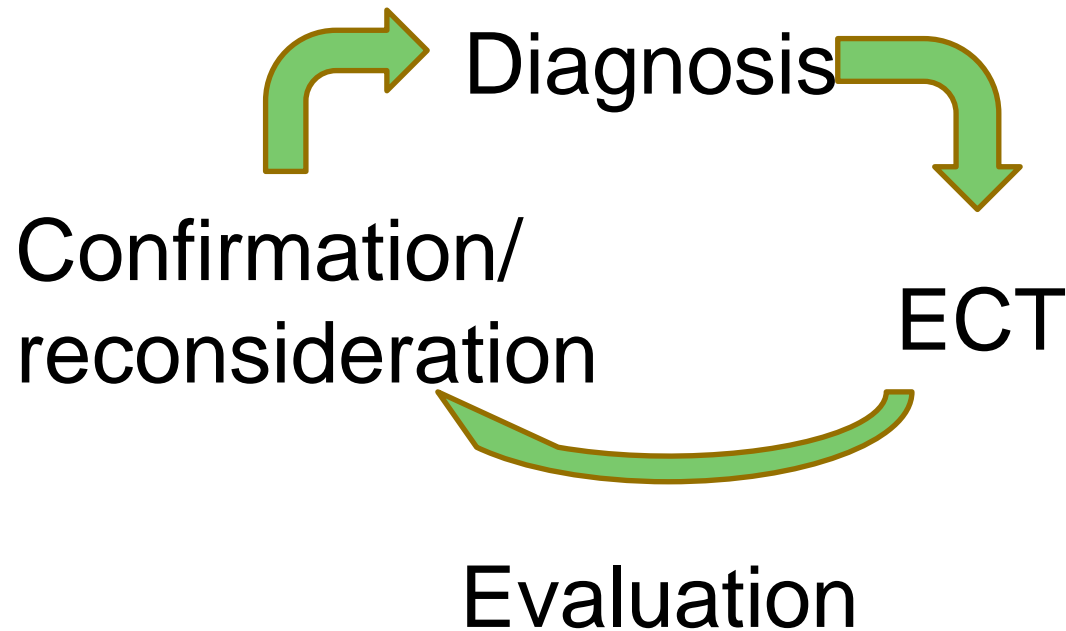
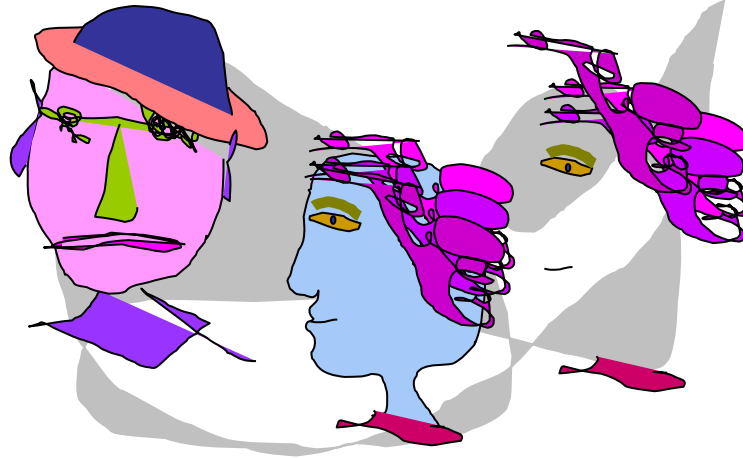


Max Fink, Nyköping meeting 2010:

The efficacy and speed of ECT in Melancholia is a validation of successful diagnosis.

*Fink got the **Lifetime Achievement Award** from International Society for ECT and Neurostimulation, ISEN, 2014, for his achievements in his 65-years career in ECT*

The role of ECT in the diagnostic process



Syndromatic remission ("True" ECT response)

- Symptoms, observable retardation/agitation
- Family history
- Periodic illness – free intervals
- Early observable improvement
 - Staff/relatives note before patients
- Gradually increased stability
- **Clearly observable** improvement after 6-10 treatments
 - Confirmed by staff, relatives and patient
- **Maintained** improvement for **at least** a week
 - Depending on the number of treatments

Symptomatic improvement (“False” ECT-response)

- ECT sometimes powerful placebo-effect
 - Reduced anxiety (but often concerns about memory!)
 - Improved energy and mood
 - Transient euphoria (side-effect!)
 - Fluctuating status through treatment series
 - Short-lived relief, often less than a week
 - *When going through the patient's file, no lasting stable improvement can be found.*
-

ECT-confirmed diagnosis

- "Genuine" biological affective disorder
- Continue treatment along this line
 - Maintenance ECT
 - Lithium
 - Antidepressants
 - "Mood stabilizers"

} Often to be combined – process!
- Psychoeducation
 - Early signs
- ECT again at signs of relapse

Always consider lithium in
periodic illness

Continuation ECT during the period
when the dose is adjusted and efficacy
established (3-6 months).

Unspecific, short-lived improvement

■ Reevaluate diagnosis

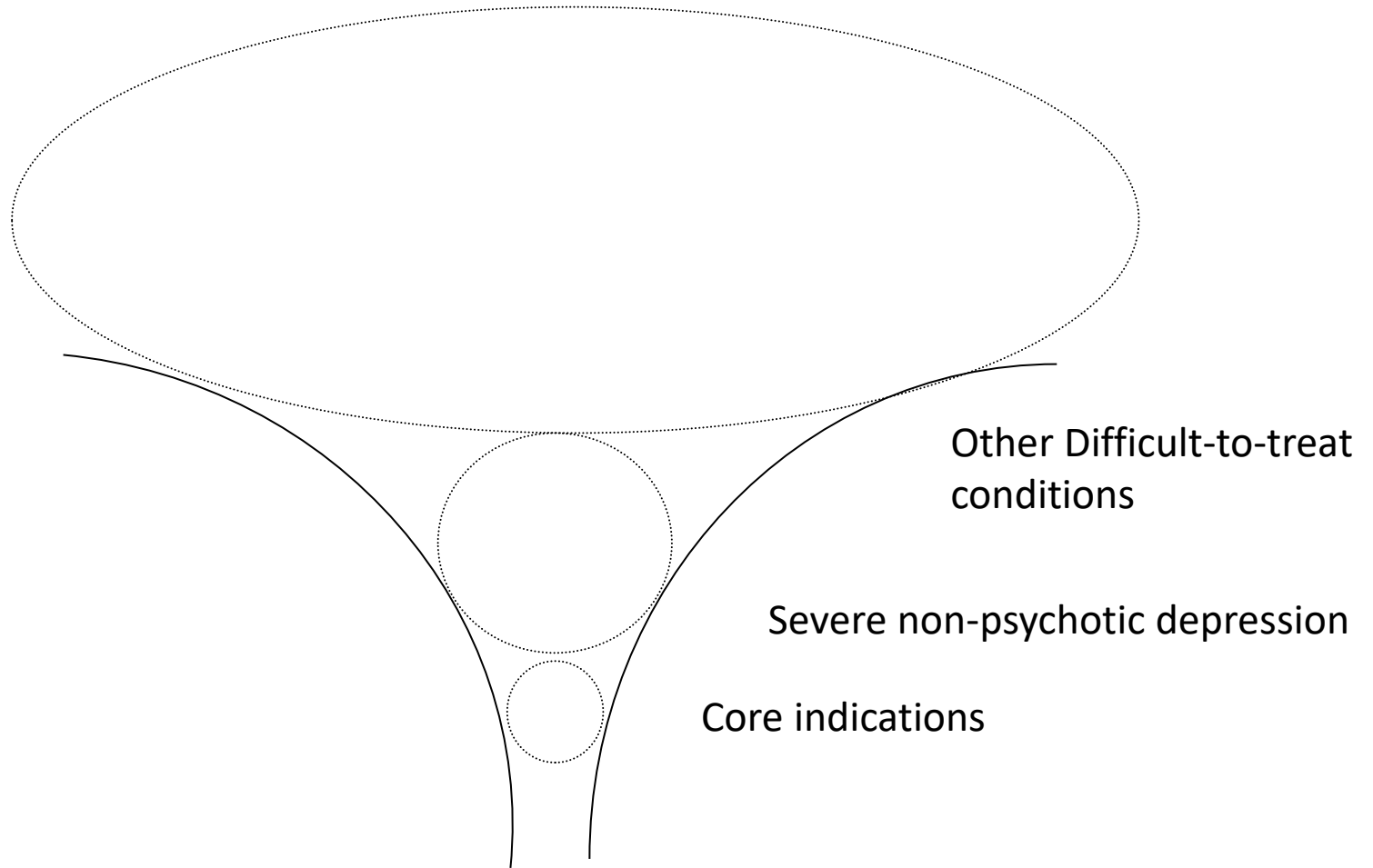
- ❑ Alienation, isolation, neuropsychiatric
 - Women with "hidden" autism
- ❑ Percieved shortcomings, failures
- ❑ Loss of dignity/self-esteem
- ❑ Substance abuse
- ❑ Personality disorders



■ *Psychological focus*

- Avoid further "medicalization", future ECT
- *Given that treatment series was adequate*

Indication and number of patients



Aim of index series



Remission
or plateau

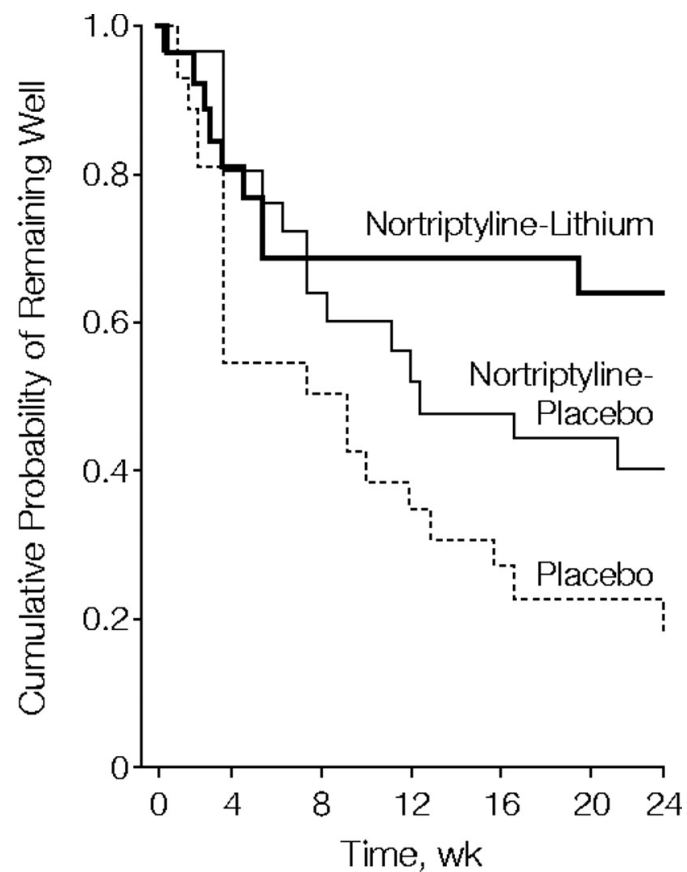
Most common:
4-16 (6-12) treatments

The great challenge:

To prevent relapse



Kaplan-Meier Estimates



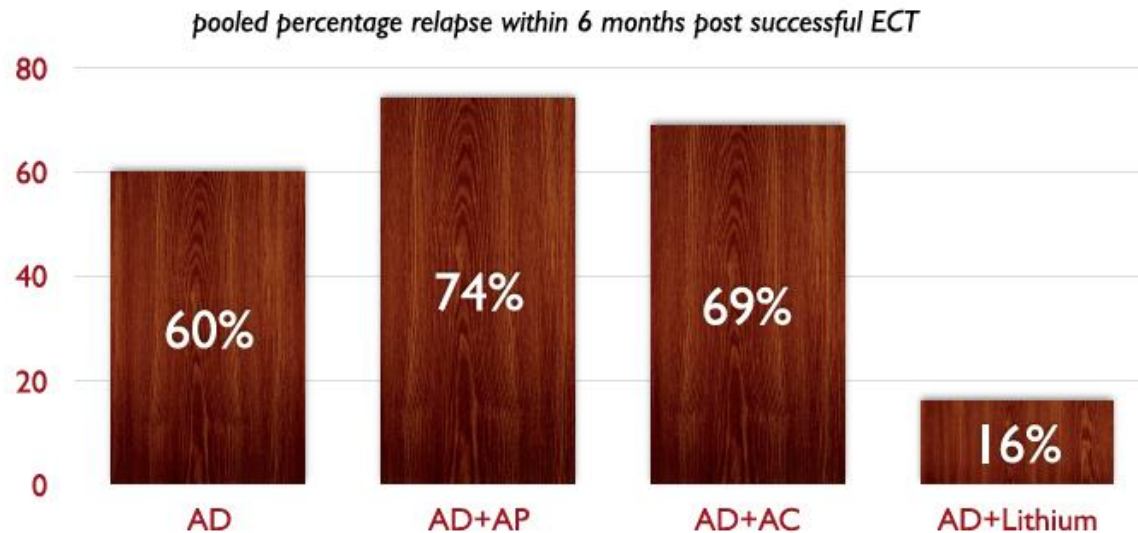
No. at Risk

Placebo	29	14	13	9	6	5	4
Nortriptyline-Placebo	27	20	15	13	12	11	10
Nortriptyline-Lithium	28	18	15	15	15	14	14

Sackeim, H. A. et al. JAMA 2001;285:1299-1307.

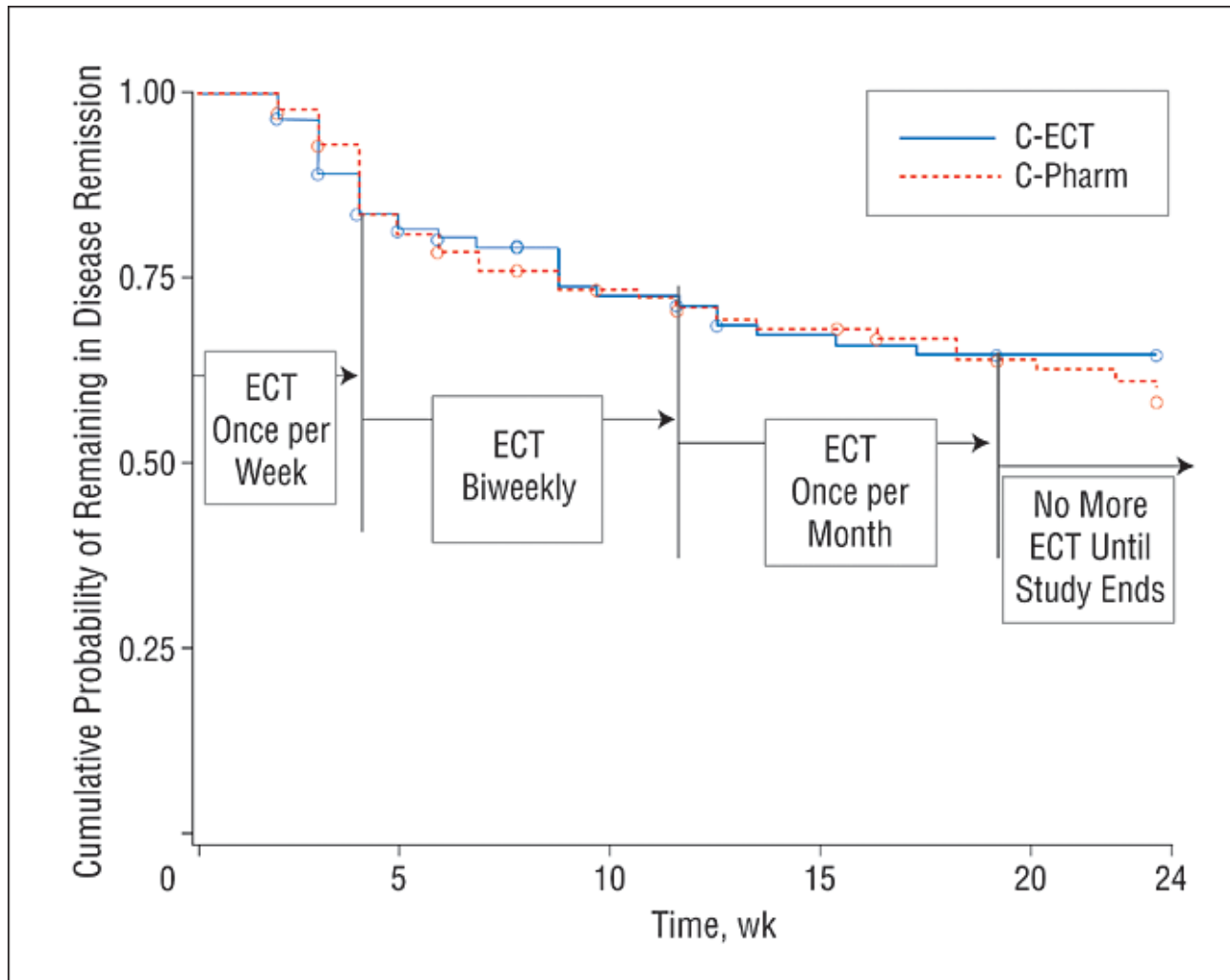
Lithium

in relapse prevention - combi-therapy



Atiku et al (2015). Improving Relapse Prevention After Successful ECT For Patients With Severe Depression: Completed Audit Cycle Involving 102 Full ECT Courses in West Sussex, UK. *J ECT* 31(1):34-6

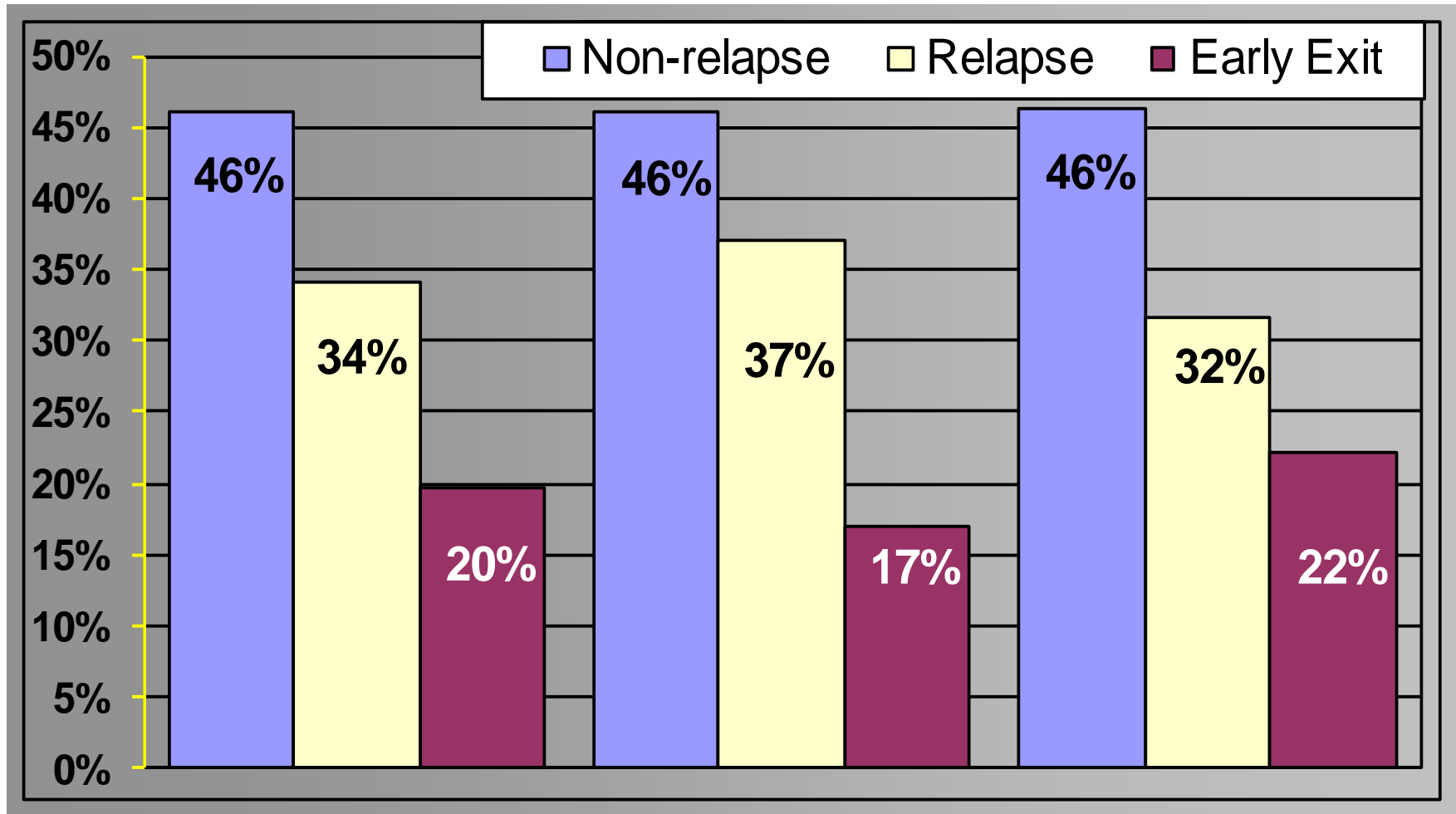
Kaplan-Meier curves showing proportion of patients who remained in disease remission (not disease relapse) during the continuation phase (phase 2)



C-Pharm:
Li +
Venlafaxin

Kellner, C. H. et al. Arch Gen Psychiatry 2006;63:1337-1344.

Relapse Status at 6 Months



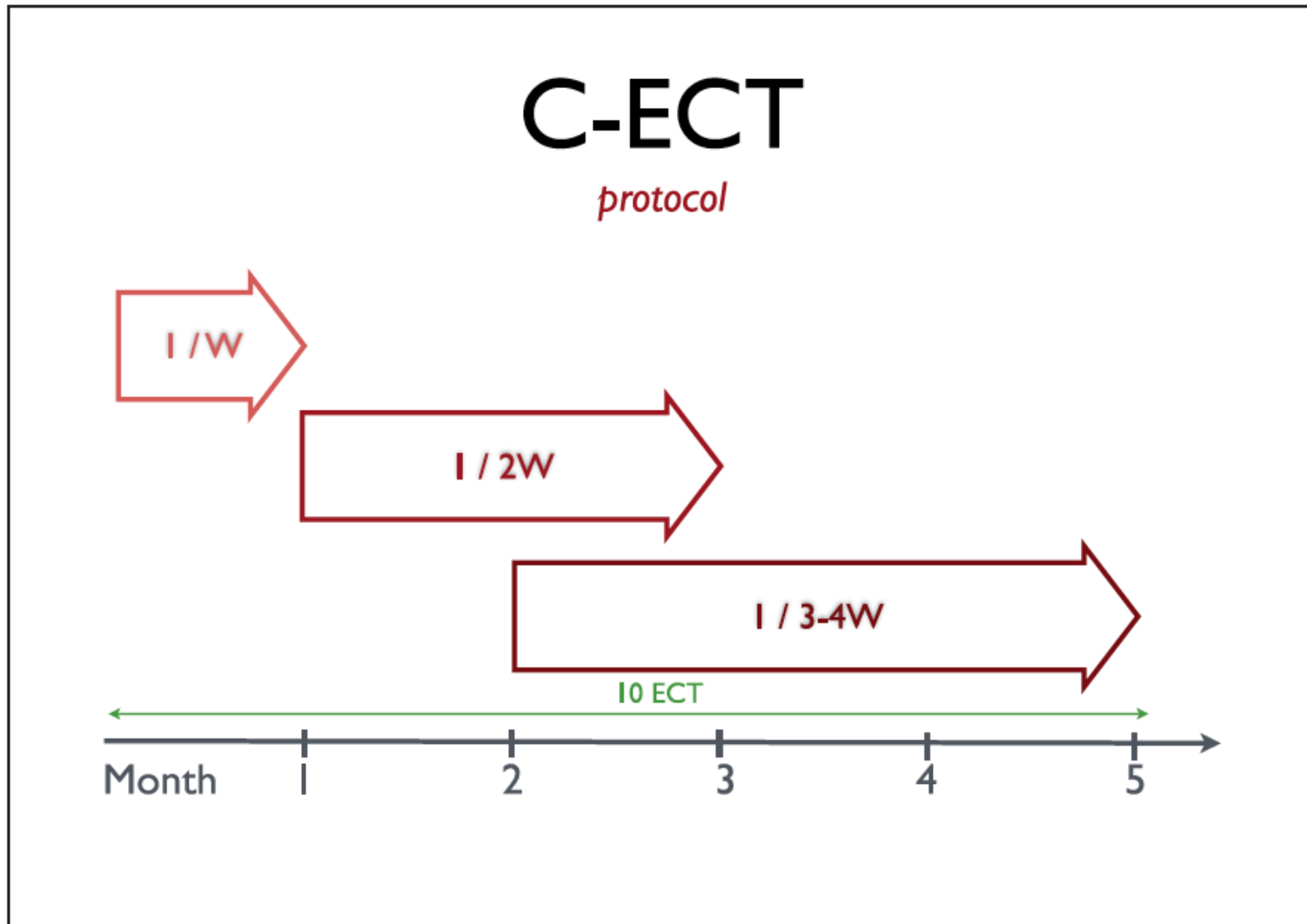
Total
(n=184)

C-ECT
(n=89)

p = n.s.

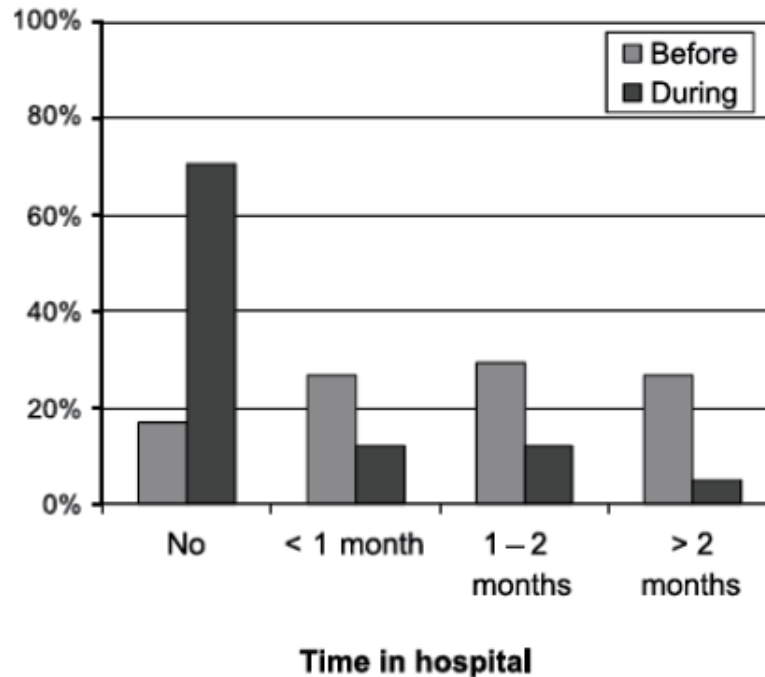
C-Pharm
(n=95)

Typical C-ECT protocol



*‘Fixed’
is not good enough*

Individualized continuation ECT



Percentage of patients and time spent in hospital,
3 y before and during 3 y of M-ECT + Med (N = 41)



Odeberg et al (2008).
Individualized C-ECT and
medication as a bridge to
relapse prevention after an
index course of ECT in severe
mood disorders: a naturalistic
3-year cohort study
J ECT 24, 183-190

Individualized Continuation Electroconvulsive Therapy and Medication as a Bridge to Relapse Prevention After an Index Course of Electroconvulsive Therapy in Severe Mood Disorders: A Naturalistic 3-Year Cohort Study

Håkan Odeberg, MD,† Bruce Rodriguez-Silva, MD,† Pirjo Salander, MD,†
and Björn Mårtensson, MD, PhD‡*

Abstract: Electroconvulsive therapy (ECT) is recognized as an effective acute treatment for mood disorders but is associated with high risk of relapse. To minimize this risk, we introduced as a routine individually tapered continuation ECT with concomitant medication (C-ECT + Med) after an index series in January 2000. In August 2002, a chart review of all patients ($n = 41$) who had received C-ECT + Med for more than 4 months was carried out. Sixteen patients also participated in an extensive interview. Mean duration of administered C-ECT at follow-up was 1 year, but for most patients (63%), C-ECT had been terminated. For 49% of patients, adjustments between ECT sessions had been made due to early signs of relapse. Two weeks was the most common interval between sessions for patients with ongoing C-ECT. The frequency of lithium-treated patients had increased from 12% before index to 41% during C-ECT. However, the rated response to the drug varied.

Need for hospital care 3 years before and after the initiation of C-ECT + Med was compared in a second evaluation of the cohort. The number of patients hospitalized, number of admissions, and total days in hospital were all significantly reduced. Hospital days were reduced by 76% ($P < 0.001$). Three patients with previously cumulative years

stopped immediately after remission is achieved. This distinguishes practice of ECT from pharmacological treatment, which is normally continued for stabilization or used eventually for long-term relapse prevention once the patient has responded. To avoid relapse after ECT, psychotropic medication can be introduced during or immediately after the acute treatment series. In early studies with tricyclics alone, this strategy seemed to be rather successful, preventing relapse in approximately 80% of cases.^{1,2} However, in modern studies, relapse rates of approximately 50% within 6 to 12 months—despite intensive pharmacological treatment—have repeatedly been reported, with pre-ECT medication resistance indicating even more unfavorable outcome.^{3–7} In a study by Sackeim et al,⁴ relapse within 1 year after index ECT was 84% on placebo, 60% on nortriptyline alone, and 39% on a combination of nortriptyline and lithium, thus establishing the latter combination as the to-date best proven pharmacological strategy for relapse prevention after acute ECT for major depression.

Continuation ECT (C-ECT) and maintenance ECT are other strategies for relapse prevention after the index series.

Flexible Dosing Schedules for Continuation Electroconvulsive Therapy

Author(s): Kellner, Charles MD*; Lisanby, Sarah H. MD†

Issue: Volume 24(3), September 2008, pp 177-178

Publication Type: [Editorial]

Publisher: © 2008 Lippincott Williams & Wilkins, Inc.



Clinical practice is inherently more flexible than randomized trial design, and it stands to reason that practitioners would like to optimize patient outcomes by both combining treatment modalities (keeping patients on medications while they receive continuation/maintenance ECT) and not having to adhere to a rigid, fixed schedule of ECT that may not be suitable for each patient's needs.

The study by Odeberg et al 3 suggests that an individually tailored ECT schedule based on "catching" symptom recurrence before the patient fully relapses is effective in maintaining long-term remission. Their study is small, retrospective, and uncontrolled. It is, despite these limitations, an intriguing first step toward individualizing care for the post-ECT patient. In fact, the next study proposed by the CORE group, currently under review by the



PRIDE -> STABLE

Integrated C-ECT and medication

Episode of illness



Long-term relapse prevention

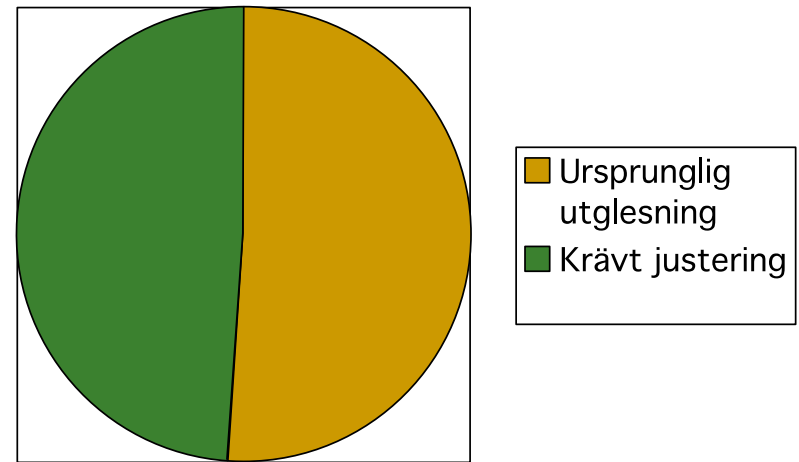
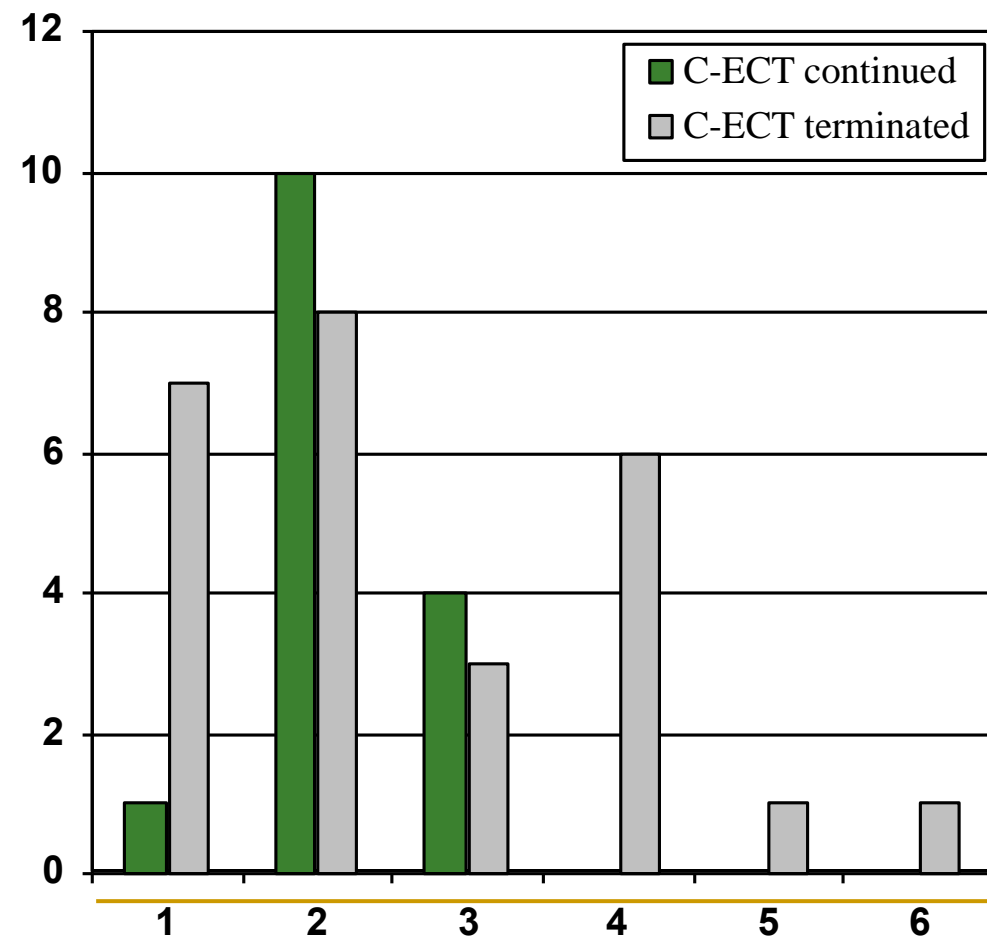
Diagnostic evaluation

Acute treatment (ECT)

Continuation treatment

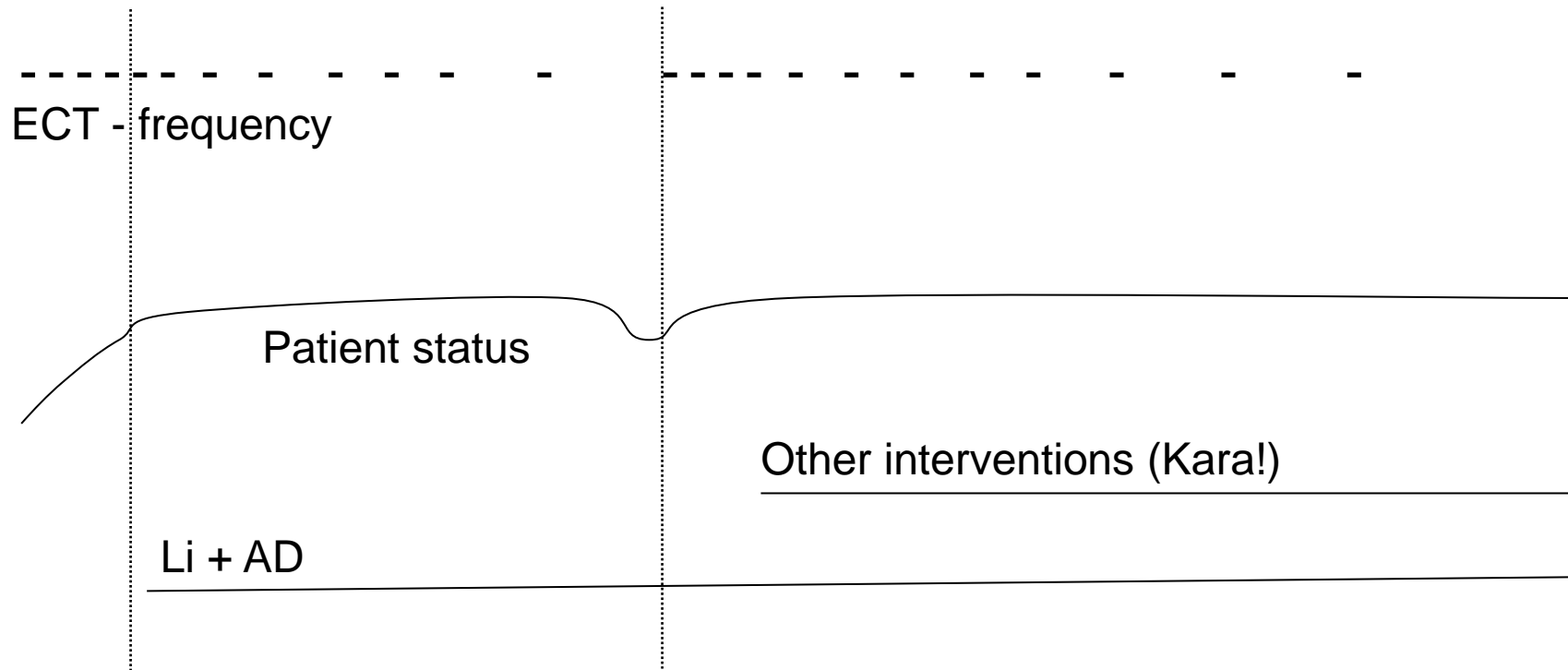


Treatment frequency in C/M-ECT



Odeberg et al, 2008

Integrerad M-ECT + medication.



If the patient relapses in spite of prophylactic medication , M-ECT will continue
M ECT interval: 1 week -> 1/2 weeks -> 3 – 4 (– 5 – 6) weeks. On demand!

Fundamental for treatment adjustment



Knowing how the patient is doing, and history

Basic principles of treatment evaluation

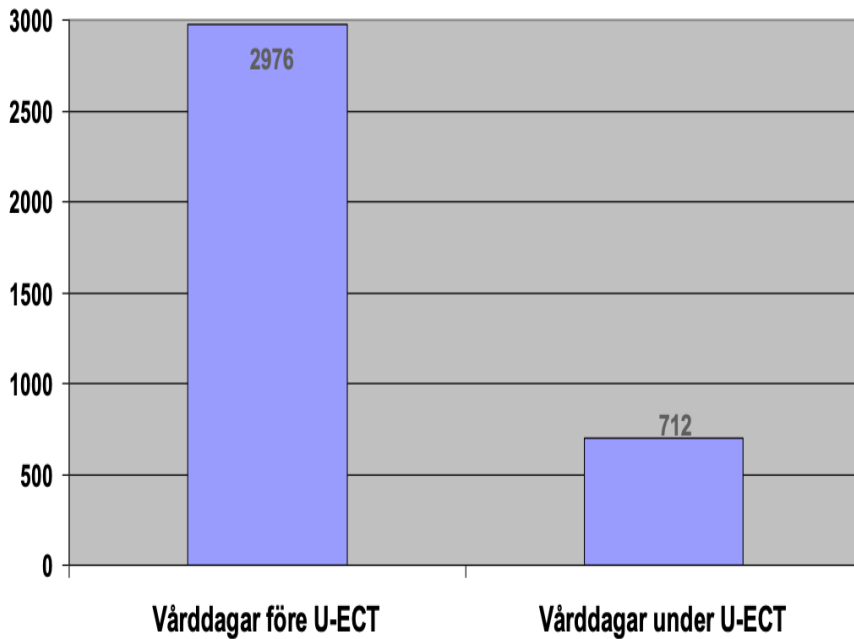
- Nurse interview on morning of treatment
 - Description of clinical status
 - Mood, subjective well-being
 - Activities
 - Observations
 - Side-effects (observed, subjective, functional)
 - Worries, views and requests
- Regular systematic evaluations (every 3-4 treatments)
 - Rating scales (MADRS, CGI, Subjective memory)
- Clinical summary and plan – ECT/regular doctor

”MODE”

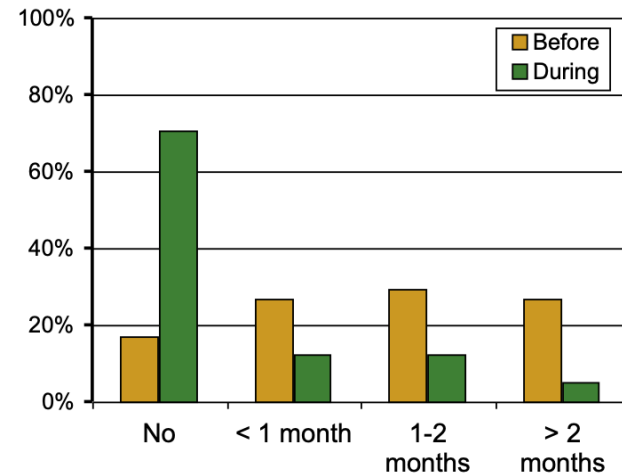
Experience during follow-up period(n=15)

	Number of patients				
	Negative		Neutral	Positive	
	-2	-1	0	+1	+2
Overall satisfaction with treatment		2	3	3	7
Comparison to previous treatments		1	3	2	7
Satisfaction with care	1		1	1	12
Development of memory	5	3	5	1	1
Development of close relationships			8	3	4
Life situation as a whole		1	5	6	3

Hospital days during 3 years before and after introduction of Continuation-ECT+med. (N=41)



Percentage of patients with no hospital days, short term, intermediate or long-term hospitalization, three years before and during three years of integrated C-ECT and medication.

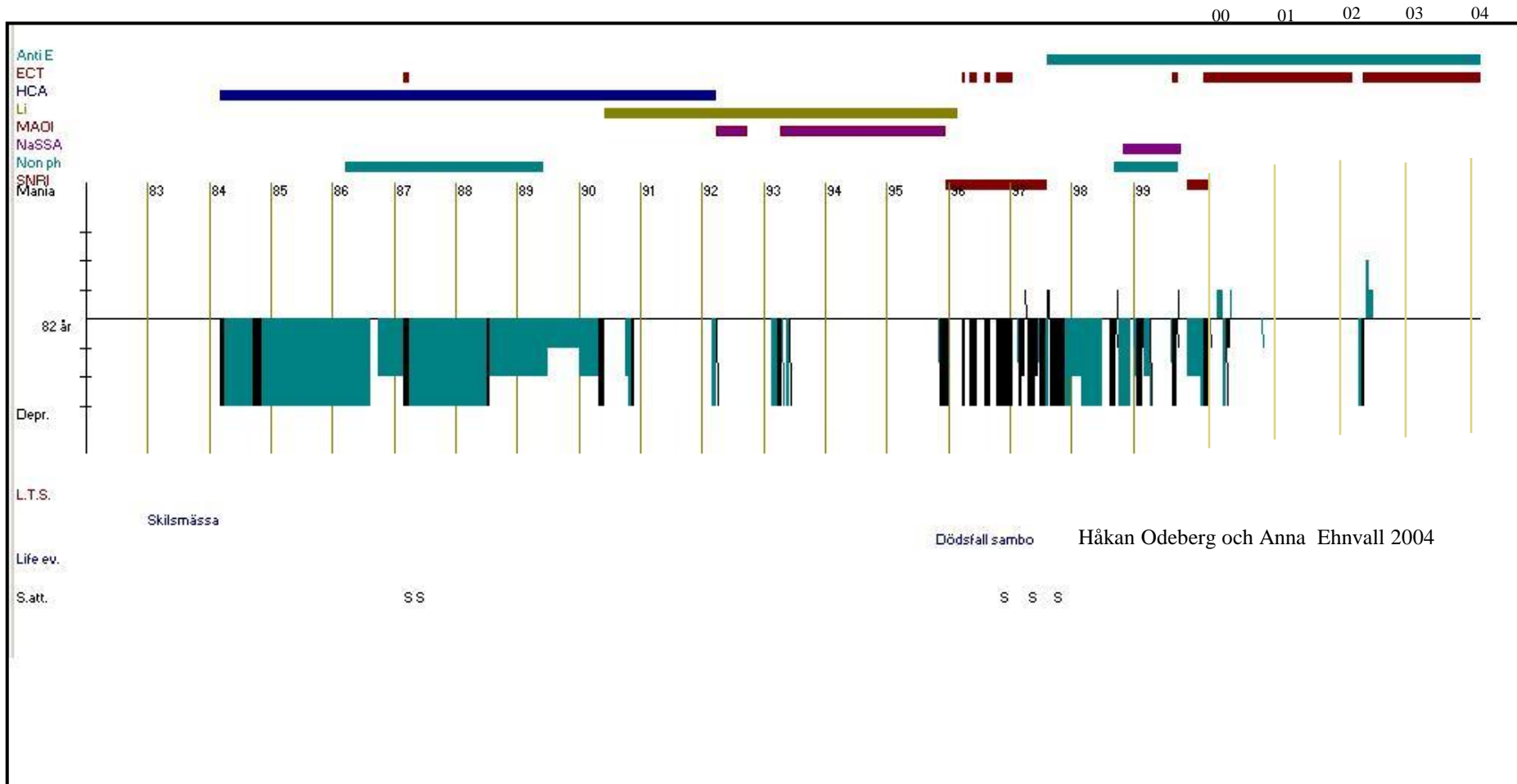


N=41

Odeberg et al, 2008

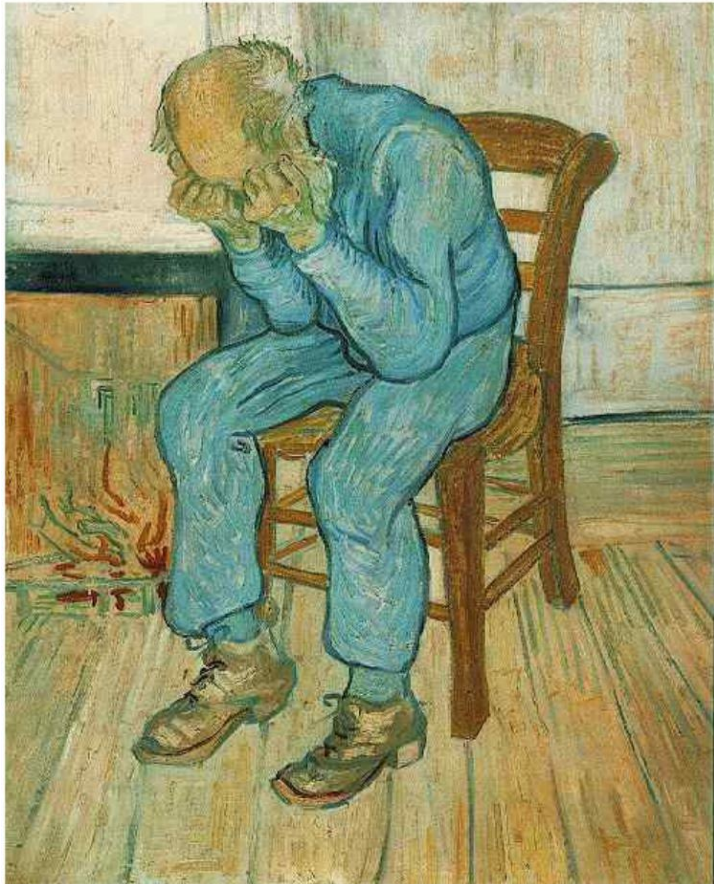
	Number of patients hospitalized	Admissions	Hospital days
Before U-ECT + med	33	81	2976
During	12	19	712

Patient 1 Woman 80 yrs



Clinical monitoring

MODE evaluation instrument



Mårtensson Odeberg
Dimensional Evaluation

MADRS – Montgomery Asberg Depression Rating Scale

PSYCH
ROYAL COLLEGE OF
PSYCHIATRISTS

The British Journal of Psychiatry
BJPPsych

A new depression scale designed to be sensitive to change.

S A Montgomery and M Asberg *BJP* 1979, 134:382-389. Access the most recent version at DOI: [10.1192/bjp.134.4.382](https://doi.org/10.1192/bjp.134.4.382)

References

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A New Depression Scale Designed to be Sensitive to Change

By STUART A. MONTGOMERY and MARIE ÅSBERG

SUMMARY The construction of a depression rating scale designed to be particularly sensitive to treatment effects is described. Ratings of 54 English and 52 Swedish patients on a 65 item comprehensive psychopathology scale were used to identify the 17 most commonly occurring symptoms in primary depressive illness in the combined sample.

be made with an independent measure. An experienced clinician's global judgement as to whether the patient has responded or not is the criterion against which depression scales should be judged. As a preliminary validation of this

MADRS – 10 items

- 0: No symptoms
 - 2: Mild / transient symptoms
 - 4: Marked symptoms with duration
 - 6: Maximal symptoms the whole time
-

Table 1

CGI-S guidelines

-
- 1 = Normal—not at all ill, symptoms of disorder not present past seven days
 - 2 = Borderline mentally ill—subtle or suspected pathology
 - 3 = Mildly ill—clearly established symptoms with minimal, if any, distress or difficulty in social and occupational function
 - 4 = Moderately ill—overt symptoms causing noticeable, but modest, functional impairment or distress; symptom level may warrant medication
 - 5 = Markedly ill—intrusive symptoms that distinctly impair social/occupational function or cause intrusive levels of distress
 - 6 = Severely ill—disruptive pathology, behavior and function are frequently influenced by symptoms, may require assistance from others
 - 7 = Among the most extremely ill patients—pathology drastically interferes in many life functions; may be hospitalized

Adapted from Kay SR. Positive and negative symptoms in schizophrenia: Assessment and research. Clin Exp Psychiatry Monograph No 5. Brunner/Mazel, 1991.

Problems with MADRS and CGI

- CGI
 - Based on experience
 - No guidance
 - Difficult to remember
 - MADRS
 - Time hard to predict
 - Difficult to conduct in the most severely ill patients
 - Observation a minor part
 - Self-ratings no observation
-

Development of MODE

- Evaluation project in ECT
 - Ambition: MADRS
 - Time hard to predict
 - Self rating unsatisfactory
 - Systematic clinical evaluation
 - How do we do in "real life"?
 - Illustrate clinical development
 - A number for registration
 - Short description
-

MODE – based on MADRS and CGI

CGI

- Based on clinical experience

■ MADRS

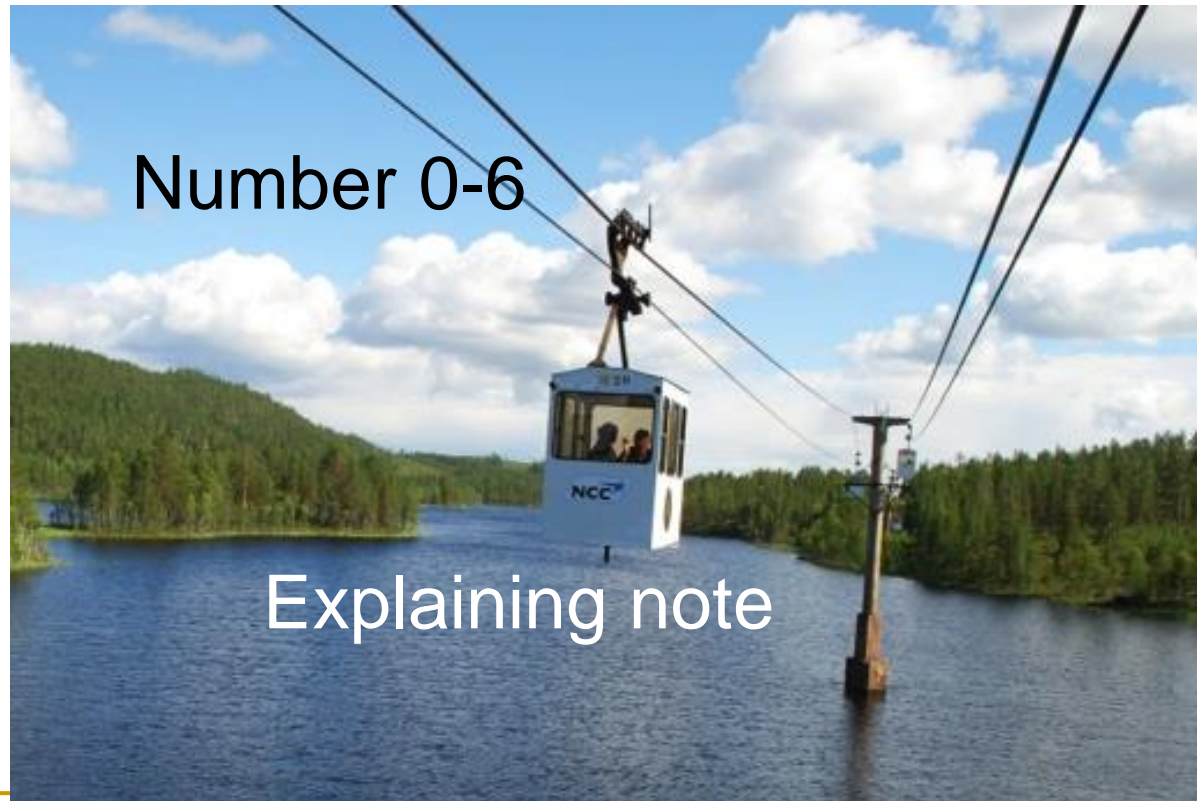
- Structured interview

MODE – Mårtensson Odeberg Dimensional Evaluation

- Semi-structured interview, based on CPRS (MADRS)
 - Global evaluation as with CGI
 - Explaining note
-

Principles of MODE

- Natural clinical interview
- Three dimensions:
 - Reported
 - Observed
 - Activity



Comparison of MADRS and MODE

■ MADRS

- 0 Not ill
- 10
- 20 Moderate
- 30
- 40 Severe (35)
- 50
- 60 Maximal

■ MODE

- 0 Not ill
- 1
- 2 Moderate
- 3
- 4 Severe / marked
- 5
- 60 Maximal / extreme

Comparison of CGI and MODE

■ CGI

- 0. Not assessed
- 1. Normal
- 2. Borderline mentally ill
- 3. Mildly ill
- 4. Moderately ill
- 5. Markedly ill
- 6. Severely ill
- 7. Among the most extremely ill patients

■ MODE

- 0 Not ill, normal
- 1
- 2 Mild / Moderate
- 3
- 4 Severe / marked
- 5
- 6 Maximal / extreme

A photograph of a white cable car with 'NCC' on its side, suspended from cables and crossing a blue lake. The background features green forested hills under a blue sky with white clouds. The text 'Transition from MODE to CGI' is overlaid in green.

Transition from MODE to CGI

MODE rating (0-6) + 1

Principles of MODE-interview - depression

- Relate to what the patient brings up
 - "Ring så spelar vi" / "Phone and we play"-technique
- Ask further about mood, interest or ability to think about the future/pessimism; what comes naturally
- Ask about activities, what the patient has done lately
- Observe
- Make a global assessment 0-6, and make a short note of what you found important.

Depression

■ OBSERVED

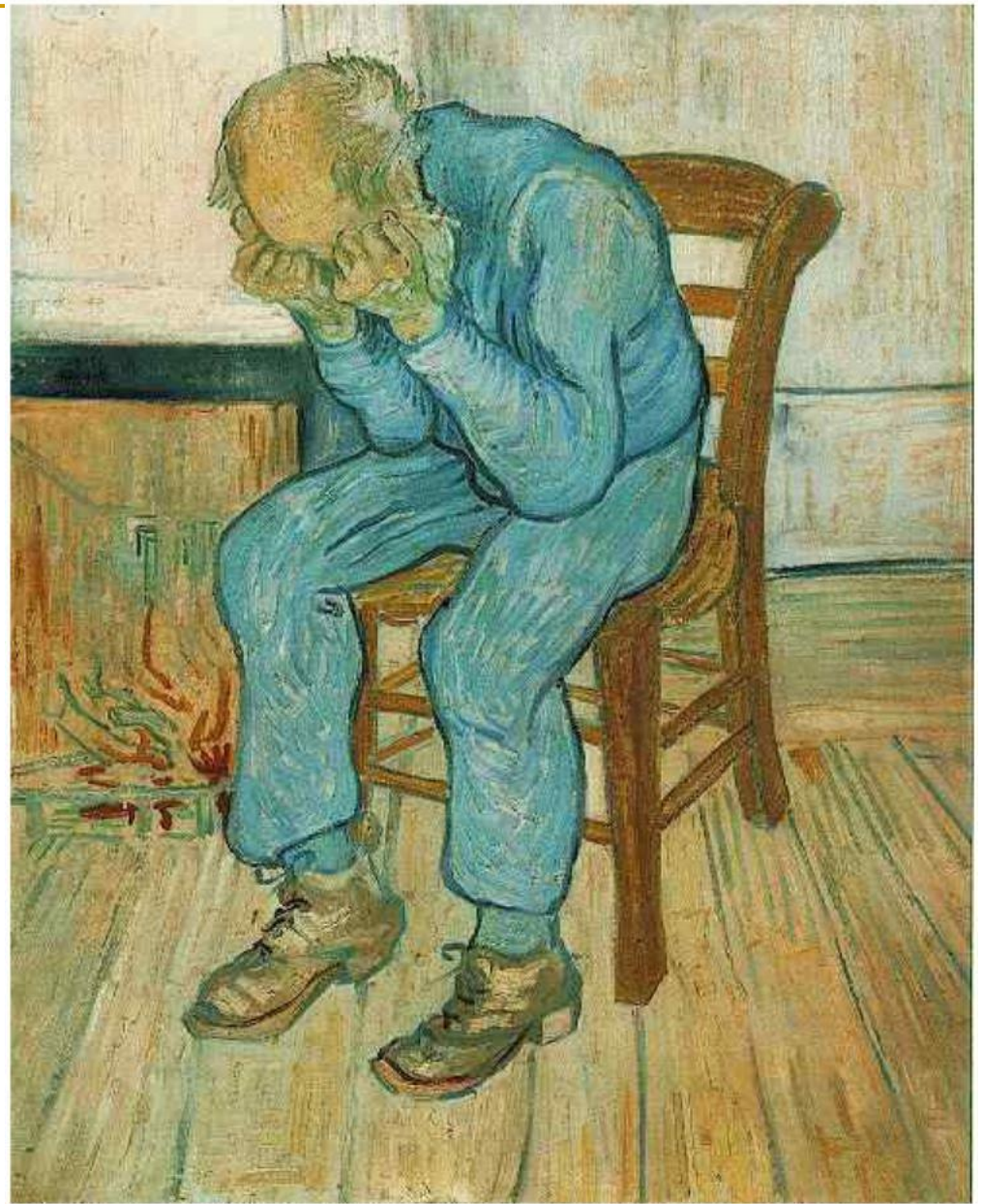
- ❑ Psychomotor
- ❑ Hygiene
- ❑ Voice – tempo, variability
- ❑ Attitude
- ❑ Jokes!

■ REPORTED

- ❑ Mood, interest
- ❑ Pessimism
- ❑ Sleep, appetite

■ ACTIVITY

- ❑ What has the patient been doing lately?



Principles of MODE interview: Memory

- Inform about it being common, ask about problems
- Check problems in every-day life
 - Visual: Recognizing people, finding one's way
 - Procedures (for instance computer inlog)
 - Facts: Codes
- Note if the patient seems orientated, ask if necessary about time, place and situation
- Conclude in a number, explain in a note

Memory disturbance

■ OBSERVED

□ Orientation

- Time
- Place

□ Confusion

■ REPORTED (=CPRS)

□ Transcient

□ Troubling, embarrassing

□ Total inability to remember

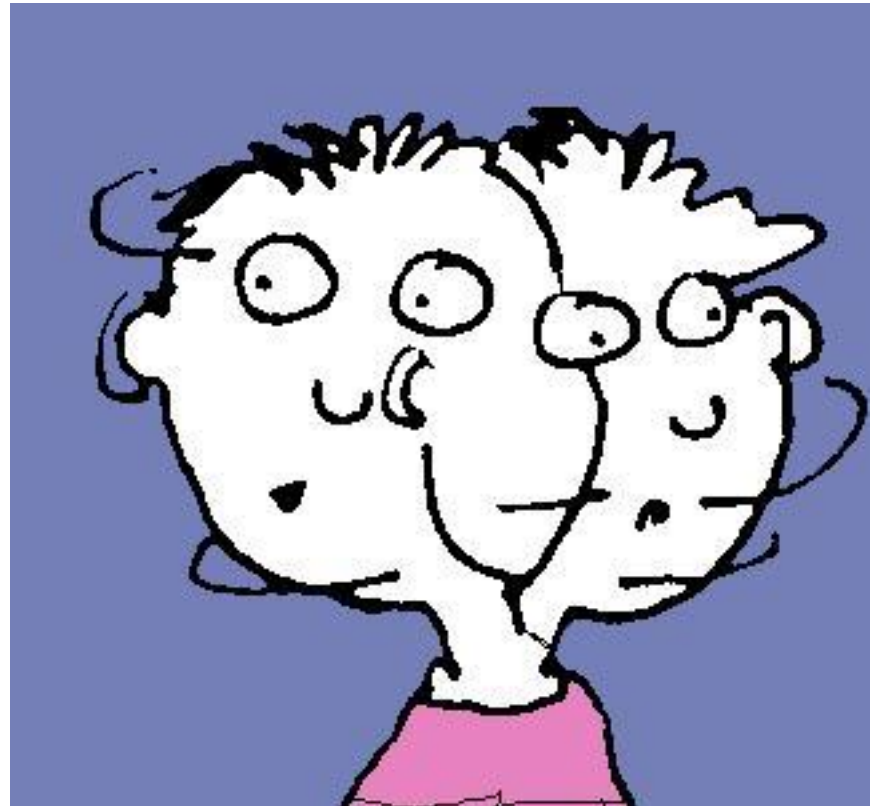
■ ACTIVITY / FUNCTION

□ Temporary

- Find the way, recognize places
- Recognize people
- Codes etc.

□ Marked disturbance, influencing every day life

□ Severely disabled



”Piteå model”



Treatment = Evaluation

Follow up and evaluation – The art of teamwork

- Observations at each treatment session
 - Supported by MODE
 - Patient's report, activity, observations
 - Observant to any sign of worsening
 - "Problematization" – not least about treatment!
- Contact with family
 - Relationship, comfort, alliance
- Cooperation with prescribing doctor
 - Give enough – not to widely spaced treatments.
- Long-term considerations

Too widely spaced Maintenance ECT

- Gradual worsening, often delay
 - Go back in time
- Negative perception of treatment
 - "Doesn't help"
 - Increased ECT-related anxiety
 - More subjective side-effects
- Problems of interpretation
 - "ECT doesn't work"
- Risk that the only efficient treatment available is terminated.

Case report

- Woman 63 years
- Decades of severe manic/psychotic episodes
- Long and repeated hospital stays, compulsory care
- ECT acutely, compulsory x MANY
- Only effective treatment
- When worse – negative, hostile, refuses treatment



Case report

- January – April 2015 MECT 1/v. DOING WELL!
 - April attempt to taper -> Every two weeks
 - End of May hospitalized. Refuses ECT.
 - 3 weeks later compulsory ECT. Improves
 - Discharged in September
 - Spacing of ECT due to memory complaints
 - Hospitalized November – januari 2016 (= June)
 - MECT once a week thereafter
 - Celebration 22nd Februari 2017. Grandchildren.
-

February 2018



Other examples

Patient	Period before	Hospital days	Period after	Hospital days
Född-47	130402-140610	182	140611-180320	0
Född-57	110103-120827	585	2013-2017	25 per år
Född-63	120507-141231	532	141229-180320	0
Född-89	140801-151020	137	151021-180327	0

The take home message, I:

- **Evaluation of index ECT**
 - ❑ Cooperation!
 - ❑ "MODE", observations
 - "Cell phone pictures"
 - ❑ Continuous evaluation
 - 3 – 6 – 9 -12 treatments
 - ❑ Evaluate continuity, stimulus technique, seizure quality
 - ❑ Insufficient effect → Reevaluation of diagnosis
 - ❑ **ECT NOT "LAST RESORT" – IMPORTANT MESSAGE**



The take home message, II:

- **Out-patient tapering of successful ECT.**
 - ❑ Continuous nurse evaluation
 - Careful treatment adjustment
 - Enough!
 - Relationship – family!
 - ❑ Visits to ECT doctor
 - ❑ ECT-“rounds”
 - ❑ Cooperation ECT nurse, ECT doctor, “regular” doctor
 - ❑ Adequate medication - **LITHIUM**



THANK YOU FOR YOUR ATTENTION!



**Many thanks to Svante Bäck and Mattias Sköld,
For wonderful pictures and illustrations**