



Who benefits from ECT?

technique and patient selection
Tallinn, May 21-23 2014

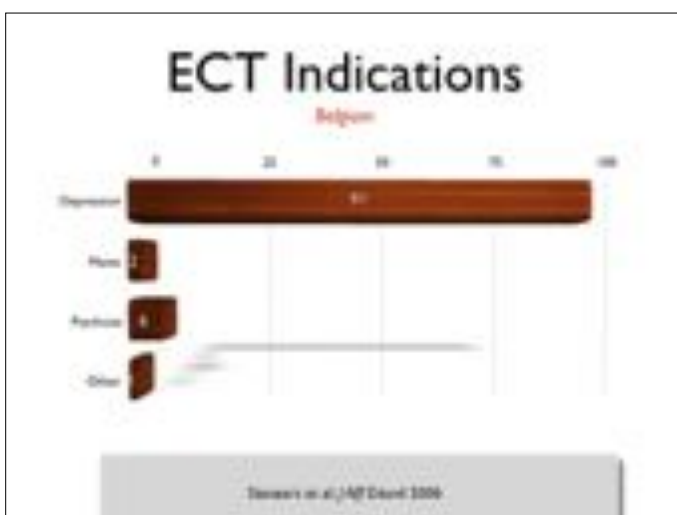
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UPC KU Leuven

UPC K.U.Leuven



campus Leuven ——— 13 km ——— campus Kortenberg



Indications for ECT

as a first line treatment - mood disorders

Indications	
• Acute suicidal ideation (Level 1)	• Repeated medication intolerance (Level 3)
• MDE with psychotic features (Level 1)	• Rapidly deteriorating physical status (Level 3)
• Treatment resistant depression (Level 1)	• During pregnancy, for any of the above indications (Level 3)
• Cataplexy (Level 3)	• Patient choice (Level 4)
• Prior satisfactory response (Level 3)	

CANMAT, Journal of Affective Disorders, 2009

ECT Appropriateness Scale

Appropriateness for electroconvulsive therapy (ECT) can be assessed on a three-item scale

Demers et al. (2006) "Guidelines for ECT" (http://www.kuleuven.be/psychiatrie/ECT/ECT_guidelines.pdf)

2012

Severity - Heritability - Episodic nature

ECT Appropriateness Scale

Item	Score	Total
1. Severity	1	3
2. Heritability	1	
3. Episodic nature	1	
score > 6 patient may be appropriate candidate for ECT		



Who benefits from ECT?

Lessons from 70 Years Experience

- More **severe**
- More **acute**
- **Older**

Who benefits from ECT?

Lessons from 70 Years Experience

- **Common characteristics**
 - Disturbance of **mood**
 - Disturbance of **psychomotor activity**
 - **Abnormal vegetative functions**

Attributes of responsive syndromes

	Mood	Motor	Vegetative
Melancholia	depression	retarded, agitated	abnormal
Catatonia	depressed, manic	1+ CRS signs, 24 hrs	often abnormal
Dolirium	depressed, manic	agitated	usually abnormal
Mania	excited	agitated	usually abnormal

Thanks to Peter First



DSM melancholic features

unreliable predictors of ECT response

- Anhedonia
- Lack of mood reactivity
- Depression subjectively effortless (no grief / loss)
- Weight loss / loss of appetite
- Psychomotor agitation / retardation
- Early morning awakening
- Excessive guilt
- Worse mood in the morning

First and Gibbon independently identify the unreliable predictors of ECT response in DSM melancholic features. J Clin Psychiatry 1998; 59: 100-105

Melancholia

- **observable** psychomotor retardation or agitation
- **delusional** thoughts

• **DSM criteria of melancholia feature:**

All or a DSM criteria feature or a clinically significant
 50% reduction in weight, appetite, or sleep

Who benefits from ECT?

Who Benefits from Electroconvulsive Therapy? Combined Results of the Lancaster and Northwick Park Trials

DAVIDSON MURRAY, JUDY ANDERSON, & MARGARET A. C. FRASER
 J. A. COLLIER and S. MENDS

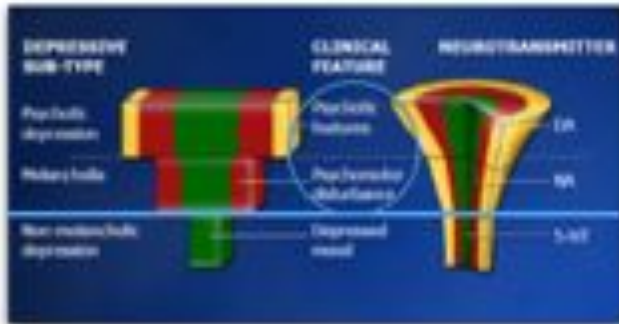
This paper examines the results obtained by providing data from the Lancaster and Northwick Park electroconvulsive therapy (ECT) studies. The results are compared with those of the two studies of treatment by antidepressant medication in the form of two weeks of treatment by tricyclic antidepressants in the form of imipramine and those who received ECT. However, the results are not yet published in an accessible form. Patients who were treated by ECT were not included in the analysis.

Electroconvulsive therapy (ECT) has been a frequently used treatment for depression since its early days. During the last decade, there has been considerable debate about whether the electrically induced convulsions play a critical role in producing their acute benefit on depression, whether this is due to a patient's electric response. This question was examined in the combined study.

paper gives the results of a combined analysis of the data from these two trials with the aim of identifying the effects of real ECT compared with simulated therapy.

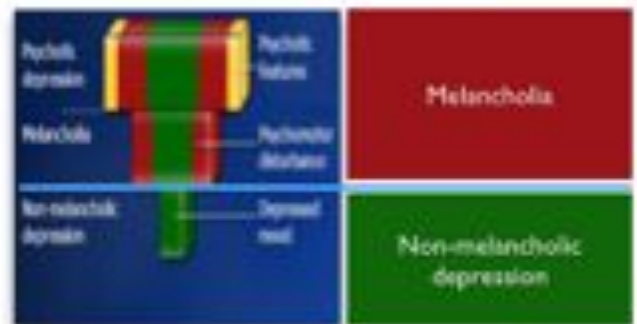
Medical

Melancholia



Paykel & Prusoff (1981) Modeling and Planning the Depressive Disorders: A Clinical Guide
 Cambridge University Press, United Kingdom, 2002

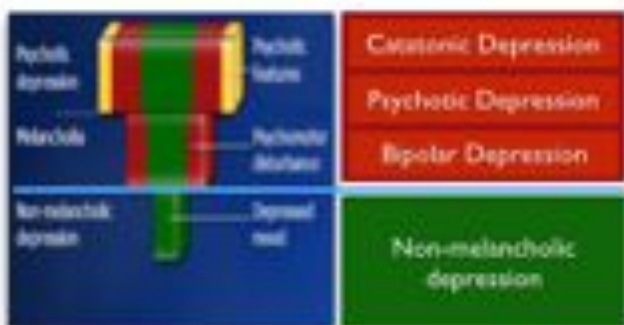
Melancholia



Paykel & Prusoff (1981)

Tajiri & Frei (1990)

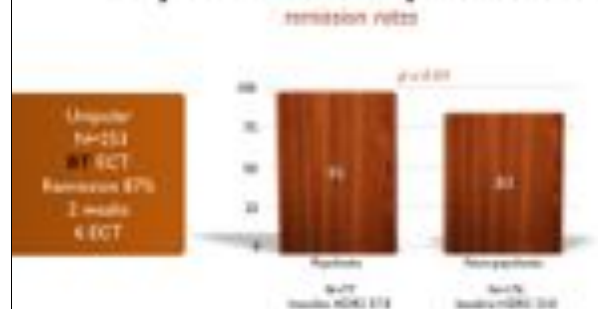
Melancholia



Paykel & Prusoff (1981)

Tajiri & Frei (1990)

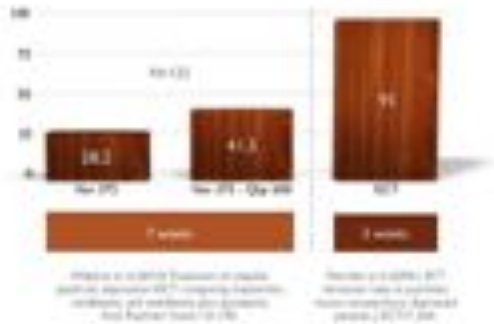
Psychotic Depression



Paykel & Prusoff (1981) Modeling and Planning the Depressive Disorders: A Clinical Guide
 Cambridge University Press, United Kingdom, 2002

ECT in Psychotic Depression

"bolder, better, faster, stronger"



"ECT treats only illness that is *observable*"

David W. Brown
From *Journal of ECT*, 2008

CORE

assessment of psychomotor change

- 18 items
- score after 20' interview
- *observable* signs
- 4-point-scale

David Parker - West-Ed Institute



CORE?

CORE is a way of assessing psychomotor changes in mood disorders!

CORE is a Consortium for Research in ECT



David Parker & Phil Fish



7. Gait or gait irregularities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Restlessness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Facial agitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Body incoordinability (amount, not speed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Motor agitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Restlessness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Overall movement (speed, not amount)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Verbal incoordinability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Delay in motor activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Impaired spontaneity of talk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Slowing of speech rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Stereotyped movements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BI = Non-observed
 BT = Borderline
 AI = Agitated

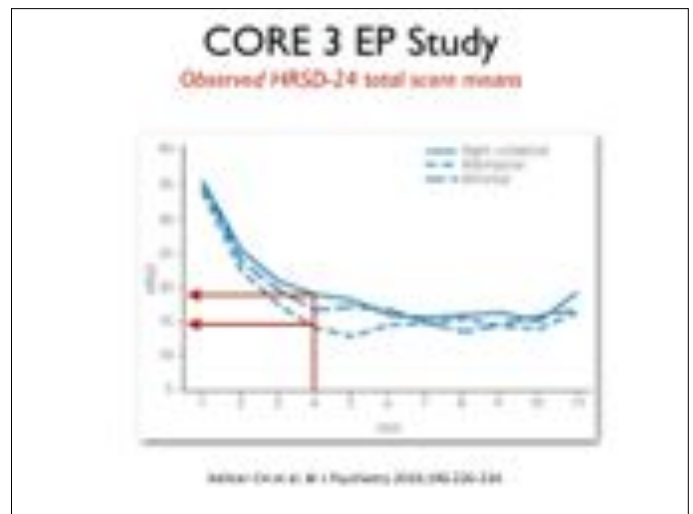
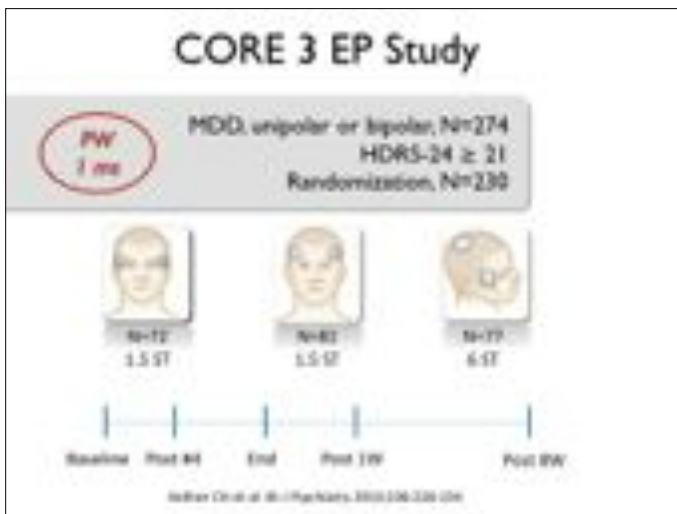
BI BT AI

Total CORE score = BI + BT + AI = melancholic depression

Melancholia, as defined by CORE, predicts ECT response!

Study on the Predictors of ECT response published in the Journal of ECT, 2008





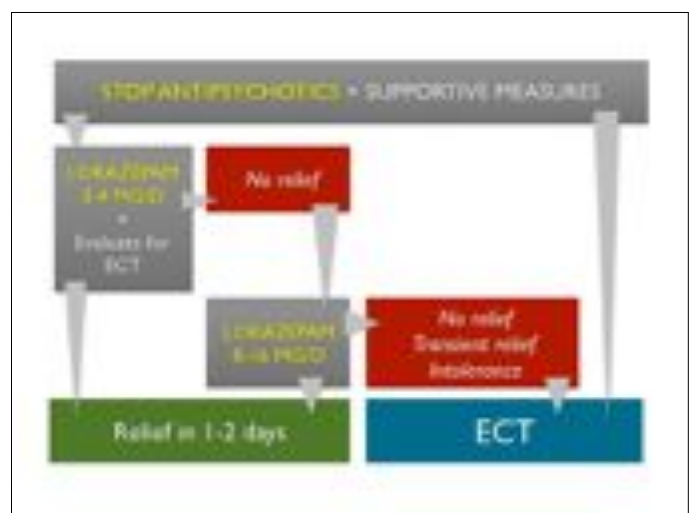
CORE 3 EP Study

- All 3 EP are very effective antidepressants.
 - Slight efficacy advantage for BT over RUL, and BF is in the middle.
- Cognitive profiles do not differ markedly.
 - Acute reorientation also favor RUL.

Charles Fisher



a syndrome of
specific
MOTOR
abnormalities



Catatonia Case P

- F 27
- Psychiatric history: -
- -30 d: GP - URTI
- -14 d: GP - 'nervous' (stop OAC)
- -10 d:
 - GP 'Stoked completely', 'obsessed'
 - ER 'tired', 'stunned'
 - Several nights without sleeping
- -5d: admission PAAZ
- Referral
- Anxious ++
- No contact
- Perseveration
 - 'I've told you so'
 - 'he've already fallen'
 - 'everything is going to fall'
 - 'the world is falling apart'

Catatonia Case N

- M, 18
- Psychiatric history: -
- - 6 w
 - 'less talkative'
 - 'living hell'
 - 'I can't do anything, I'm doing everything wrong'
- After a few days withdrawn, anxious, not eating....
- 5 w of AD
- Lorazepam 10 mg
- Prompt improvement
 - 'seeing bad things'
 - 'wounds in my face' (in mirror)
 - 'It's like war, and people are dying'
- Day 2 somnolence +++

Successful Use of Right Unilateral ECT for Catatonia: A Case Series

Miles R, Alexander, MD¹, Nishida, Maki, MD², Pappas, Alex, MD, FACP³, and Calkins, Henry, MD⁴

Catatonia is a treatable condition, but it is often difficult to diagnose and manage. In a case series of 10 patients with catatonia, we found that right unilateral ECT was highly effective in resolving the condition. This study highlights the importance of recognizing catatonia as a distinct clinical entity and the potential of ECT as a first-line treatment. The authors report on 10 patients who were treated with right unilateral ECT, resulting in a 100% response rate. The patients presented with various symptoms, including mutism, stupor, and echolalia. The ECT protocol used was 2000 pulses at 100 Hz. The study concludes that right unilateral ECT is a safe and effective treatment for catatonia, and it should be considered as a first-line option for patients who do not respond to pharmacological treatments.

Does ECT work in bipolar depression?



Depression, $n=18$ HCR117
No history of Psychotic disorder, Cognitive disorder, Substance abuse/
dependence past 12 m, ECT past 6 m
No concurrent antidepressants



Shaw et al (2016). Treatment comparison of rTMS vs ECT in Major Depression. *Journal of Affective Disorders*, 195, 108-112

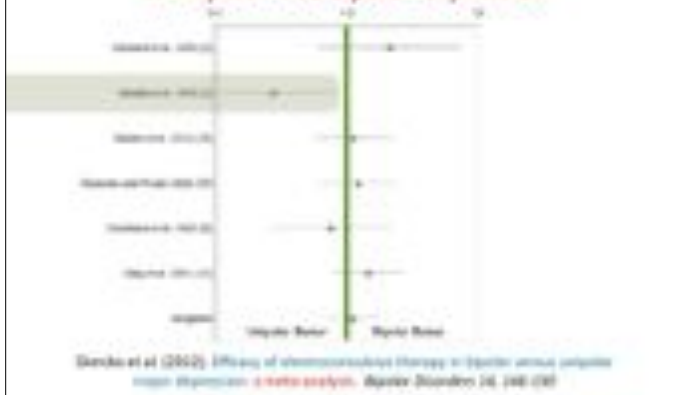
Shaw et al (2016). Unilateral vs ECT in bipolar and unipolar depression: clinical outcomes in a trial of response. *Bipolar Disorders*, 18(4), 413-420

COMPLETED 14-44 (2016)

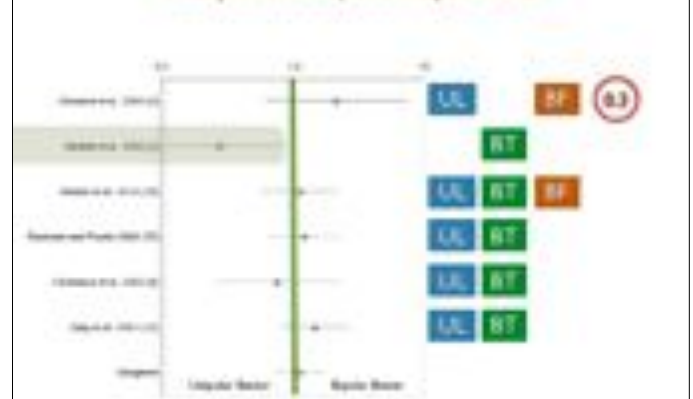


* Higher N = greater representation (0.11x1 vs 0.20x1.7)

ECT is equally effective in unipolar and bipolar depression



ECT equally effective in unipolar and bipolar depression independent of technique used



ECT is a consideration
in a patient with a severe depressive episode,
not responding to ongoing therapy,
regardless of the primary diagnosis.

Samson, What We Have Learned About Electroconvulsive Therapy and its Relevance for the
Practicing Psychiatrist. *Can J Psychiatry* 2015

Suicidality



ECT is *antisuicidal*



Bitemporal Belgian recommendations



severe and/or life-threatening
condition, in which rapid
symptom relief is more
important than avoiding
cognitive side-effects

Suicidality

warrants bilateral ECT

6. SUICIDE AFTER UNILATERAL ECT IN A PATIENT PREVIOUSLY RESPONSIVE TO BILATERAL ECT

John R. Goodwin, M.D.

Paul S. Wilkins, M.D.

Psychiatry 13, 1964, 175-181

A 34-year-old schizophrenic, unresponsive to all the known antipsychotic medications, was previously hospitalized repeatedly in acute psychotic states. The authors hypothesize that unilateral ECT was just a gross risk for bilateral ECT for the subsequent suicidal gesture. The authors, controlling the hypothesis, state that the gross response, therefore, to unilateral and bilateral ECT is usually thought to be a suicidal gesture, although it is an unusual side effect in nonpsychotic patients. These cases and several others suggest further studies, whether ECT does actually influence during the state of treatment.

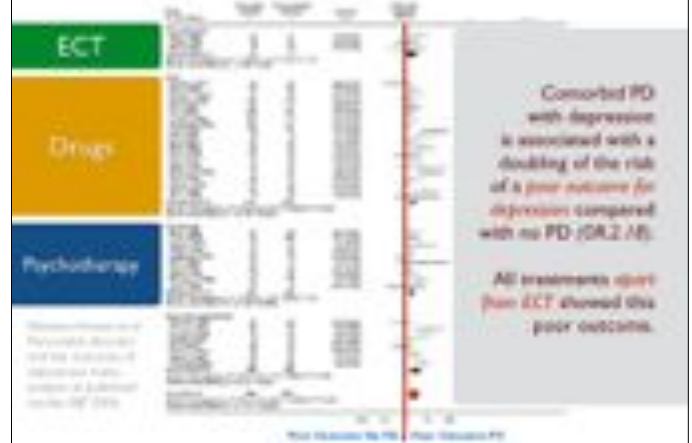
Personality Disorder



ECT is not helpful in patients with a **lifelong** history of emotional dysfunction, situational maladjustment, or PD.

Of course not... ECT responsive syndromes have an **'episodic nature'**

NAECT TALLINN



Comorbid BPDS

lowers the chance of achieving a favourable response



Selkowitz et al (2001) Combination pharmacotherapy in the prevention of relapse following ECT (JAMA 285, 1276)

the presence of a **comorbid PD** should not exclude patients from ECT treatment

Samson, What We Have Learned About Electroconvulsive Therapy and Its Relevance for the Treating Population. Can J Psychiatry 2013

if results are less pronounced
the 'burden' of side-effects
probably weighs more

if results are less pronounced the 'burden'
of side-effects probably weighs more

'safest' techniques (RUL, LBP)
to avoid side-effects

VERSUS

'strongest' techniques (BT/BF BP)
to maximize the (lower) success rate

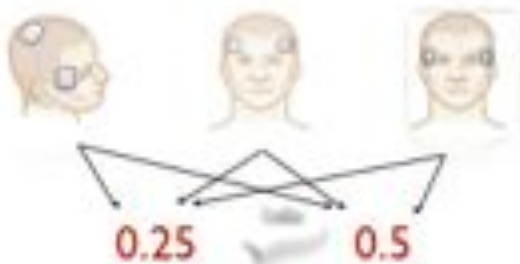
Does a different
indication warrants a
different technique?

Does a different indication warrants a different technique?

probably not

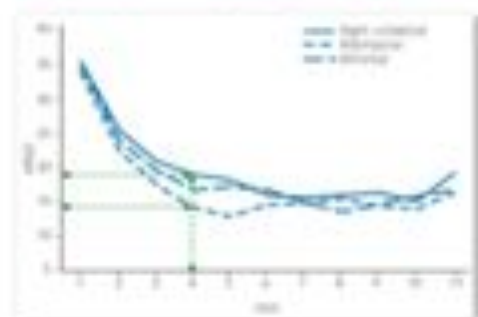
There is no such thing
as the best electrode position or the best pulse width.

Antidepressant efficacy and cognitive side-effects depend on an
interaction of electrode position and stimulus parameters.



CORE 3 EP Study

Interpretation (standard pulse) is probably faster



McIntyre CK et al. W J Psychiatry 2013;193:226-234

Does a different indication warrants a different technique?

*standard pulse
is probably stronger
than ultrabrief
but provokes more cognitive side-effects
(with all EPs)*

