Electroconvulsive Therapy

–Notes for Debate,

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–Bioethics Meeting

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–8 May 2007

Who am I?

- Academic community psychiatrist
- Coordinator, ECT Service, Counties Manukau, 2005 – 2006.
  - Attended ECT training, Northside Clinic, 2005
  - Member AREAN, (Auckland Regional ECT Audit Network) 2005 -- 2006.
- On list to approve ECT (Section 60 Mental Health Act).

When is ECT used.

- Depression.
  - Severe, melancholic.
  - Resistant to treatment.
  - Treatment options not tolerated, or higher risk
  - Patient preference.
- Mania
- Acute relapse schizophrenia, esp. catatonia.
- Neurological disorders, esp. Parkinson's & status epilepticus.

Evidence for ECT

- Depression.
  - Three meta-analyses
    - ECT > sham ECT
    - ECT > medications (TCA, MAOI, paroxetine)
    - ECT > rTMS
- Mania
  - Open trials
- Schizophrenia
  - Open trials
  - ECT < antipsychotics.

Cognitive effects

- Acute
  - Confusion.
  - Disorientation
    - Measured as Time to reorientation or time to talking.
- Up to four weeks
  - Decreased learning of new material
- Longer term?
  - Loss of autobiographical material.

Reduction of side effects and effect.

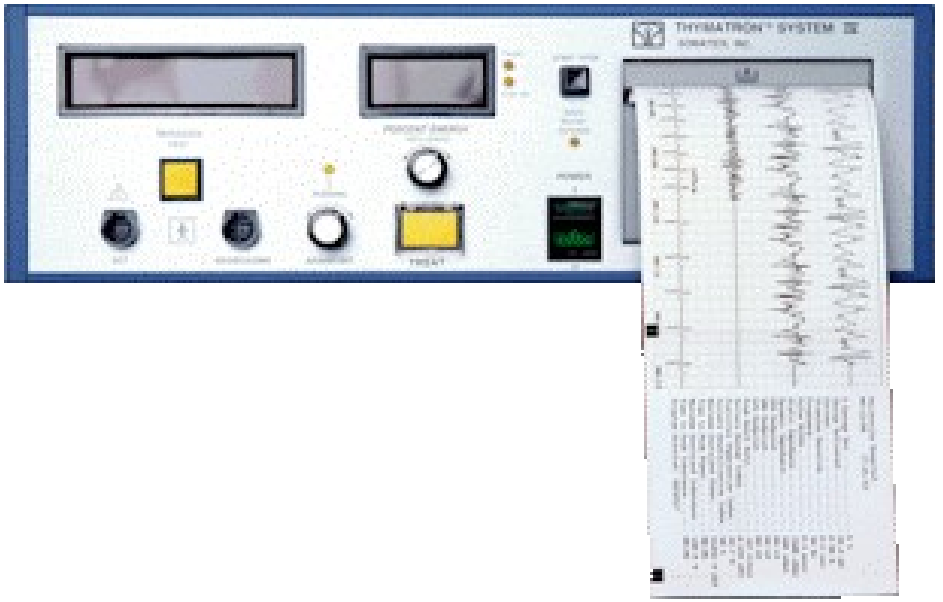
- Placement
  - Right Unilateral (RUL)
  - Bilateral
  - Bifrontal
- Dosage
  - 2-3x threshold
  - 6-8x threshold
  - Fixed
- Type current
  - Sine
  - Square

- Sine worse than square.
- Low dose less effective, less side effects
- Bilateral more effective, more side effects
- RUL @ 6x as effective as Bilat. @ 2x but less side effects.

Long term effects.

- Naturalistic trial 375 patients, 9 centres.
  - 2 using sine wave machine has more cog. side effects (also fixed dosing)
  - Site mattered more than type.
- Bilateral lead to more autobiographical memory losses.
- Some memory loss persisted for six months.

What ECT now involves



- A brief anaesthetic (including paralysis)
- EEG (brainwave) monitoring.
- ECG (heartbeat) monitoring.
- Use of minimal dose of electricity to cause an effective seizure.
- Monitoring clinical outcome.

ECT in Australia & New Zealand.

- RANZCP guidelines ECT mandate:
  - Levels of equipment.
  - Supervision by consultant psychiatrist and consultant anaesthetist
  - All trainees must.
    - be aware of the
      - nature of ECT
      - Seriousness of ECT
      - Experience of patients undergoing ECT.
    - Treat 10 patients under supervision, using a stimulus titration method.

Rate of ECT use.

	per 100 000 population.
New Zealand	8
Scotland	19.7
Wales	22
Victoria (Australia)	44
Queensland (Australia)	34
Western Australia	14

From Melding, NZMJ 2006

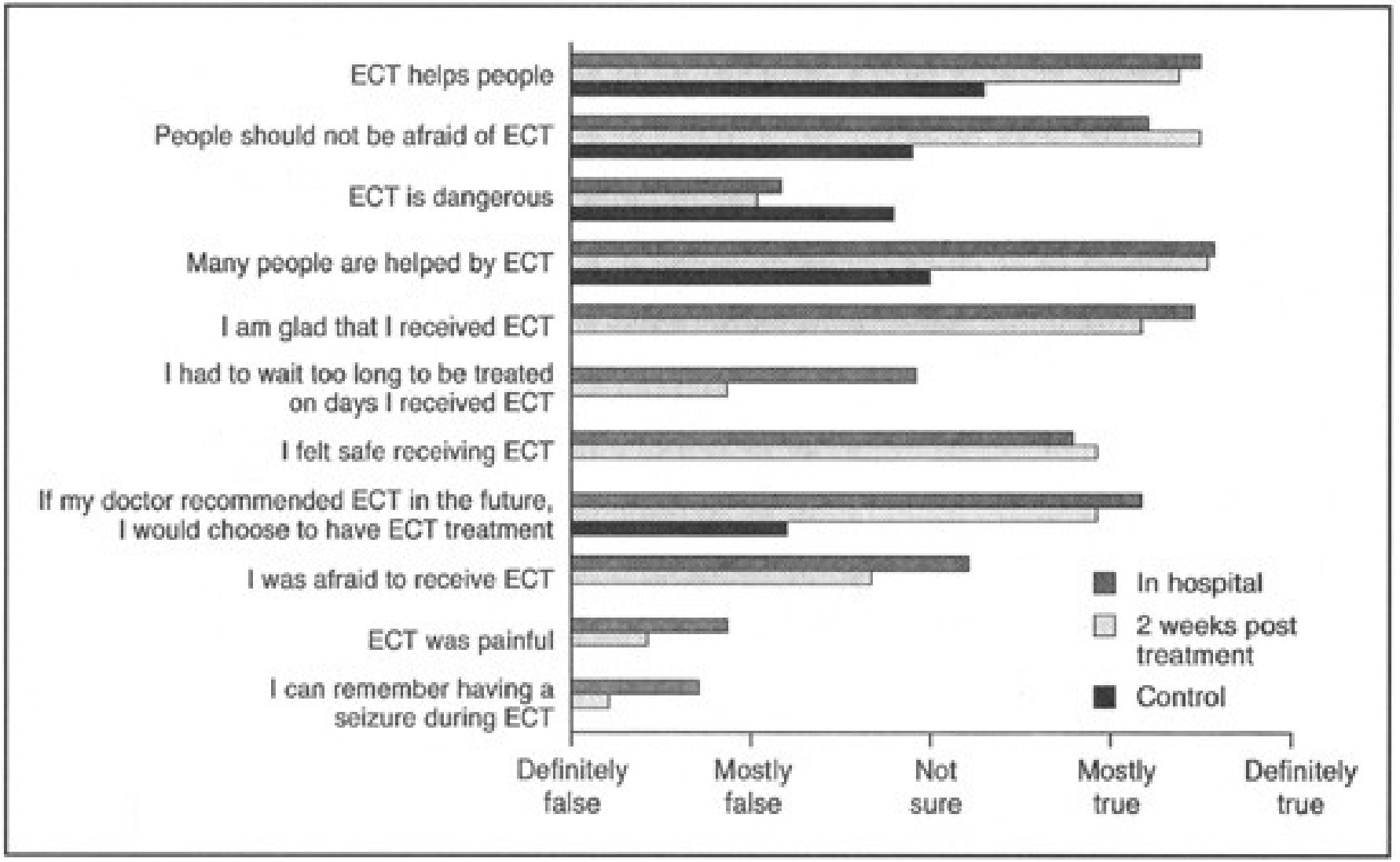
Consent for ECT.

- Consent
  - Must include giving information in writing.
- If unable to consent.
  - If is not mentally disordered (in terms mental health act), cannot treat.
  - If is mentally disordered, cannot treat without second opinion that in patients' best interests.
  - This opinion can only be given by those approved by the (National) MHA review tribunal.

Research.

- Most recent meta-analysis (J ECT, 1995)
  - Efficacy when compared to:
    - Placebo
    - Sham ECT.
- Cognition testing improves with ECT (AREAN data, unpublished.
- There are at times loss of declarative memory.
- 85% of psychiatrists would receive ECT if depressed (Scot Med J, 2007)

Patient's attitudes to ECT (Mayo Clinic Proc 1999)



Suggestions.

- ECT remains useful as a treatment.
- Like all psychiatric treatments, it has side effects.
- The safeguards within the current system are not perfect, but good enough
- We are probably too cautious in using ECT.
- Removal of ECT as an option is highly likely to be life threatening for profoundly depressed and catatonic patients.