Electroconvulsive Therapy (ECT)

Who Should Push the Button?

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My Initial Experience

- Medical student
  - Psychotic patient naked in padded cell
  - Screaming out, covered in excrement
  - 5 Orderlies, nurses in starch and capes
  - Psychiatrist in full Scottish dress kilt
  - ECT machine in mahogany box
  - Saline gauze soaked silver electrodes
  - Charged in, patient held down, unmodified ECT

Who did what?

- Psychiatrist determined ECT was needed
- Charge nurse coordinated process
- Orderlies held the patient
- Senior nurse held electrodes
- Psychiatrist operated the switch
- No anaesthetic

Registrar Training

- Question from senior registrar
  - “Can you give a thiopentone/ suxamethonium anaesthetic?”
  - Bitemporal treatment
  - “When unconcious and relaxed, dial 8 on the ECT machine” (telephone dial timer, one dose for all)
- Anaesthetised, nurse held electrodes in place, treatment administered
- 5 minutes
  - “OK, carry on, I will treat those in the next ward”

Who did what?

- Psychiatrist determined ECT was needed
- Charge nurse coordinated process
- Trainee psychiatrist
  - Gave the anaesthetic and muscle relaxant
  - Administered the set treatment
  - Trained the next registrar
- Senior nurse held electrodes
- Psychiatrist
  - Not present
  - Disengaged from the treatment
  - Disengaged from ECT training
  - No quality improvement

1980s What Changed?

- Anaesthetic (GP, or anaesthetist trainee)
  - Not an anaesthetist
- Psychiatry trainee still pushed the button
- Psychiatrists show the importance of ECT
  - By their absence
- If under resourced
  - Devolve all, except anaesthetic, to nurses

1980s Who Decides?

- Treating psychiatrist
  - Decides ECT indicated
- Treatment
  - Anaesthetic (GP, or anaesthetist trainee), nurse care to recovery
    - Not an anaesthetist
  - Psychiatry trainee presses the button
  - Bitemporal, or RUL ECT with fixed dose
  - RUL not as effective
- Psychiatrists show the importance of ECT
  - By their absence
- If under resourced
  - Devolve all, except anaesthetic, to nurses

Who Should Push the Button?

- The answer seemed quite clear
- Whoever it is
  - It should not be the psychiatrist
- Except in a very few centres

Fast Forward to the Present

(or almost to the present)

Public Hospitals

- Large institutions
- Operating theatres and day surgery
- Very bureaucratic
- Registrar run
  - Psychiatrists have consultant role
    - Not very hands on (80% of time – paper work)
- Compliance with institutional standards
  - Not necessarily in patients or psychiatrists interest

Private Hospitals

- Corporation owns and runs hospital
- Consultant psychiatrists
  - Independent private practices
  - Each psychiatrist treats their own patients
    - Including ECT
  - Individualistic, and diverse
- Medical Advisory Committee
  - Practice standards

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Changes

- Advent of specialist ECT services
  - Except for smallest hospitals
- Expert trained team
- Psychiatrists now administer ECT
  - There are still facilities where they do not
- Psychiatrists engaged in the ECT process
  - Adopt improved techniques (sometimes)
- Interest in quality
  - So can effect changes (in some centres)

What Treatment is Given?

- Public sector (mostly OTD)
  - Mostly involuntary patients
  - 50% bitemporal, broad pulse width
    - 50:50 aged based or titration to determine dose
  - 50% RUL broad pulse width
    - Mostly with titration
- Private sector (mostly Australian trained)
  - Almost exclusively voluntary patients
  - Mostly RUL with 0.3ms stimulus, or
    - Mixture of BF, BT, and broad pulse width
  - Dose titration the norm[1]

1. Tiller , JWG and Ingram N (2006) *Seizure threshold determination for electroconvulsive therapy: Stimulus dose titration versus age-based estimations. Australian and New Zealand Journal of Psychiatry*, 2006. **40**(2): p. 188-192.

Common Understanding

- Anaesthetists gives an anaesthetic
- The psychiatrist “hits the button”
- There is an “anaesthetic” nurse present

But…

- ECT is not a treatment in isolation
- Entails a whole of hospital service

ECT as a Service

- Specialist team
  - not just primary treating psychiatrist
- Risks in relation to
  - Diagnosis (appropriate and warranting ECT?)
  - Specific ECT settings to be used
    - Does the primary treating doctor know the options and their implications?
    - Management of concurrent illnesses and concurrent pharmacotherapy

ECT as a Service

Multiple Operational Risks

- Pre-ECT evaluation
  - May be by psychiatrist other than ECT psychiatrist
- Concurrent pharmacotherapy?
- Adequate patient information?
- Complete and valid consent forms?
- Identifying and treating the intended patient?
- Giving the right treatment at the right dose?
- Post-ECT review
  - By whom and when?
- Duration of treatment, maintenance treatment?

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Hospital-wide Approach to ECT

- ECT is a hospital-wide process
- From admission to discharge
- Ensure legislative compliance
  - Explicit and with potential hospital-wide implications
- Responsibilities to key specific people
  - Not general responsibilities with no “flag carrier”
- Review hospital-wide communications to support and reflect this activity
- Work on communications, engagement, commitment, and responsibility
- Transition and implementation process

Process of Change Management

- Planning and resourcing hospital-wide communications
- People engaged
- Culture to evolve, focus on transitions
- Power and influence devolved
- Monitor, and respond to consequent changes
- Management decisions, implementation and KPI
- Adopt changes agreed to by consensus
- Quality assurance and feedback to all participants, including patient engagement

Process of Change Management

- Planning to underpin this process
- Resourced effective hospital-wide communications
- People engaged and empowered
- Culture to support constructive elements, but to evolve when needed
- Power and influence devolved
- Control relinquished, but implementation continued
- Monitor, and respond to consequent changes
- Management decisions, implementation and KPI
- Adopt changes agreed to by consensus
- Quality assurance and feedback to all participants, including patient engagement, inputs and outputs

Hospital-wide Processes

- Effective and appropriate patient information
- Consent according to legislation
- Appropriate patient evaluation and preparation before ECT
- ECT administered by trained and accredited psychiatrist, anaesthetist and nurse
- Inpatients returned to ward with staff communication
- Day patients to recovery waiting area, or ward
- All patients medically reviewed post-ECT
- Effective communications about patient status
- Process to maintain ECT and anaesthetic equipment, drugs, and environment

Staffing for One Treatment

- Not just three people
- > 30


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Quality Assurance and Review

- ECT to contemporaneous clinical standards
- Weekly review by psychiatrists and nursing staff
  - of every ECT treatment administered that week
- Actual conduct of ECT reviewed in multidisciplinary team meetings
  - Trained ECT psychiatrists
  - ECT nurse coordinator
  - Consultant anaesthetists
- Hospital-wide process of review, re-evaluation and modification of clinical practice, processes, and communications in relation to ECT
- Planned implementation of benchmark database

Upgrade Documentation

- Recognise multiple people are involved
  - Not just a specialist team
- Modified documentation to recognise hospital-wide process
- Identify the patient
- Prescribe the treatment, and consent
- Checklists
  - static, sequential, with verification and crosscheck
- Document the outcomes

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WARD TASKS

ECT IDENTIFICATION PROCEDURE

Patient Photo

Patient Information Label

FORM clarifies:
- Patient ID
- Specifies of treatment
- Validity of consent

*SENIOR NURSE ON WARD TO SIGN IN EACH CONSENT COLUMN

Date	ECT No. (Not more than 6)	*Consent Signed & Witnessed	* Not more than 6 treatments on current consent	* Not more than 7 days since last treatment	Treatment Type (L/BI/ BL)	Treatment type changed? YES/NO	LD Band Check (Ward Signature)	Patient Confirms Name (Ward Signature)	ECT Nurse signature	ECT Psychiatrist signature

MR 399 **ECT IDENTIFICATION PROCEDURE**

Date to confirm within allowable 6 treatment per consent

Confirmation of valid consent in ward

Type of ECT prescribed

Alert regarding any change of ECT

Confirmation of ECT by prescribing psychiatrist

Confirmation of Patient ID by:

ECT Nurse

ECT Treating Psychiatrist

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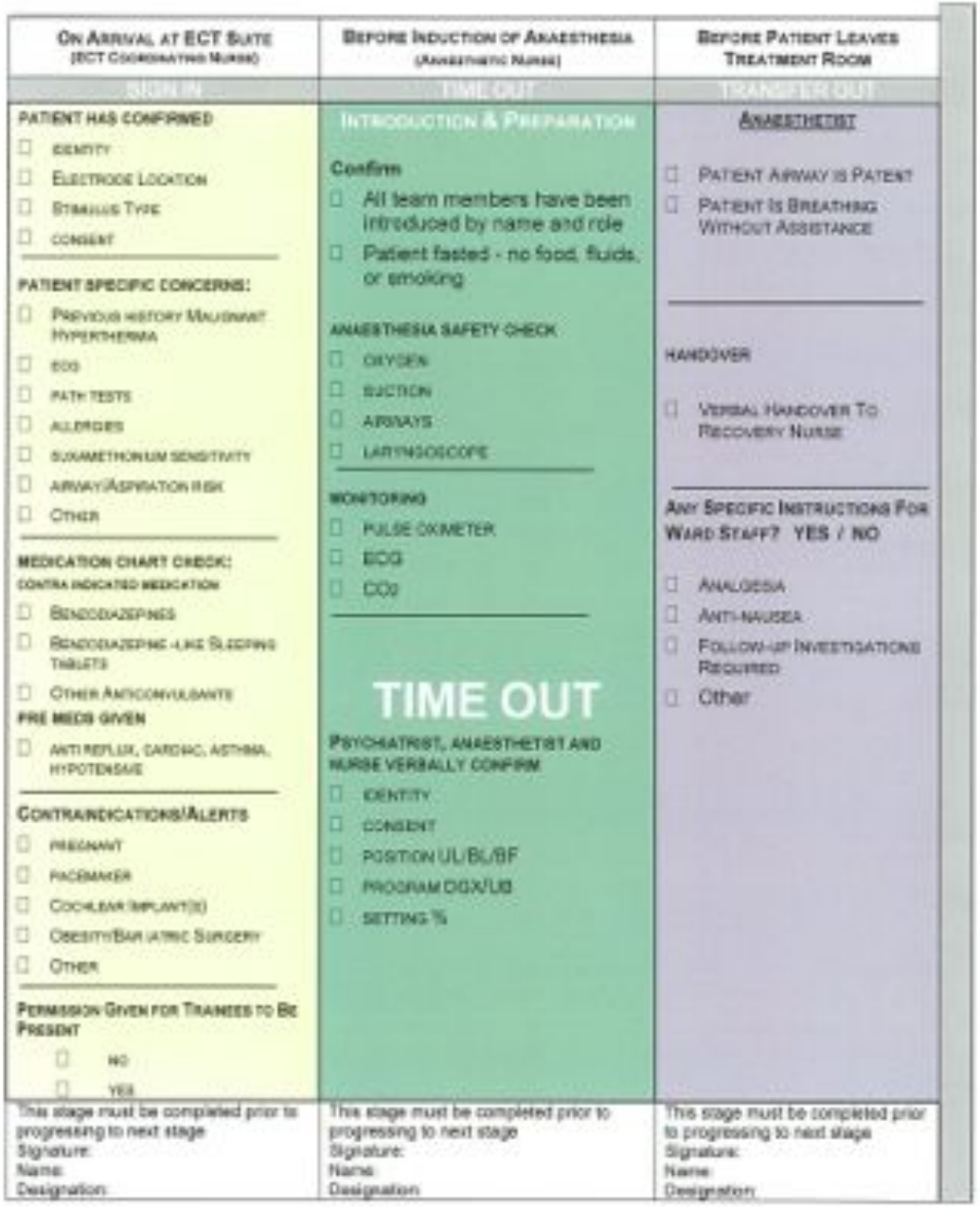

On Arrival at ECT Suite (ECT Coordinating Nurse)	Before Induction of Anaesthesia (Anaesthetic Nurse)	Before Patient Leaves Treatment Room
SIGN IN	TIME OUT	TRANSFER OUT
PATIENT HAS CONFIRMED ☐ Identity ☐ Electrode Location ☐ Stimulus Type ☐ Consent	**Introduction & Preparation** **Confirm** ☐ All team members have been introduced by name and role ☐ Patient fasted - no food, fluids, or smoking	**Anaesthetist** ☐ Patient Airway is Patent ☐ Patient is Breathing Without Assistance
PATIENT SPECIFIC CONCERNS: ☐ Previous History Malignant Hyperthermia ☐ ECG ☐ PATH TESTS ☐ Allergies ☐ Suxamethonium Sensitivity ☐ Airway/Aspiration Risk ☐ Other	**ANAESTHESIA SAFETY CHECK** ☐ Oxygen ☐ Suction ☐ Airways ☐ Laryngoscope	**Handover** ☐ Verbal Handover To Recovery Nurse
MEDICATION CHART CHECK: **CONTRA INDICATED MEDICATION** ☐ Benzodiazepines ☐ Benzodiazepine -Like Sleeping Tablets ☐ Other Anticonvulsants **PRE MEDS GIVEN** ☐ Anti Reflux, Cardiac, Asthma, Hypotensive	**Monitoring** ☐ Pulse Oximeter ☐ ECG ☐ CO2 **TIME OUT** **Psychiatrist, Anaesthetist and Nurse Verbally Confirm** ☐ Identity ☐ Consent ☐ Position UL/BL/BF ☐ Program DGX/UB ☐ Setting %	**Any Specific Instructions For Ward Staff? YES / NO** ☐ Analgesia ☐ Anti-Nausea ☐ Follow-up Investigations Required ☐ Other
Contraindications/Alerts ☐ Pregnant ☐ Pacemaker ☐ Cochlear Implant(s) ☐ Obesity/Bariatric Surgery ☐ Other		
Permission Given for Trainees to Be Present ☐ No ☐ Yes		
This stage must be completed prior to progressing to next stage Signature: Name: Designation:	This stage must be completed prior to progressing to next stage Signature: Name: Designation:	This stage must be completed prior to progressing to next stage Signature: Name: Designation:

Winters BD, Gurses AP, Lehmann H et al., (2009) Clinical review: Checklists – translating evidence into practice. *Critical Care* 2009, **13:**210-219

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Surname ____________________ UR ______
(Insert details or affix label)
Given Names: ____________________________

ECT PATIENT DATA

Date	Treatment Number *	UR/UL (RorL) BL/BF	CGI +	Setting (Stimulus Dose)	Seizure Intensity **	Impedance	Duration (Muscular)	Duration (EEG)	Seizure Energy Index ***	Suppression Index	Qualitative Suppression ****	Bilateral Fit Y/N	Sign (Dr)	Sign (Nur)

* *For maintenance add prefix "M" before treatment number*

\+
1 = Not ill
2 = Borderline ill
3 = Mildly ill
4 = Moderately ill
5 = Markedly ill
6 = Severely ill
7 = Extremely ill

**
0 = No Fit Visible
1 = Partial paralysis
2 = Focal/Distal movement
3 = Whole limb movement
4 = Proximal movement
5 = Gross movement

***
Divide the seizure energy index by the computer EEG duration to give a mean integrated amplitude. An amplitude below 13 suggests re-stimulate at higher dose.

****
1 = Poor
2 = Average
3 = Good
4 = Excellent

Date, treatment number in course.
Nature of treatment

Clinical Evaluation with ECT of patient before ECT

Details of treatment given
(This section is also used for critical communication to treating psychiatrist eg: request for change in type of ECT)

Double checking by treating psychiatrist and ECT nurse

Who Checks What?

- Lead professional does their job
- Everyone checks every operation: e.g.
- Psychiatrist
  - Sees O_2 is on, watches patient and monitor
- Anaesthetist
  - Watches end of motor fit
- Nurse
  - Confirms electrode placement and dose

When it all Goes Wrong

- Systems failure
- Immediate review by
  - Director of ECT
  - Senior ECT nurse
  - Hospital CEO
    - To address any immediate actions for ongoing patient welfare, care, and safety
- Root cause analysis process
  - External participant
- Communications and implementation process regarding outcomes

Outcomes

- Better processes
- Very few incidents, no critical incidents
- Better patient acceptance
- Better family acceptance
- Better clinical outcomes
- Fewer adverse events
- Job satisfaction and good humour

Process

- Psychiatrists, anaesthetists, nurses and other staff
  - Working together
  - Engaged in quality ECT
  - And innovation
- Move from isolated service to hospital-wide process
  - Successful
  - Good clinical outcomes
  - Good patient acceptance
- Emerging clinical issue
  - Who determines the nature of ECT to be used and duration?
- Model for other hospital processes and their transformation

Don’t Forget

- Who is carrying the baby?
- Who gets sued?
  - The psychiatrist
  - The hospital
  - The health authority
    - If they can be blamed
- Regulatory penalties
  - Australian Health Practitioners Registration Board
  - Health Department
- Must be a leader of the team, ensure progress

Who Should Push the Button?

- Extensive medical process
- Not a psychiatrist determination and process in isolation
- Not devolved and neglected
- Whole of service activity
  - Multiple professionals
    - Individual accountability at each step
  - Highly trained specialists
    - Interacting and cross checking
- Leading to a final common path
  - Patient recovery, in safety

- We all push the button!

But what if I get anxious, stressed, sad and exhausted?

- There is hope!

- Go sailing


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