Aneurin Bevan University Health Board

Division of Mental Health & Learning Disabilities

Administration of Electroconvulsive Therapy (ECT)

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Contents:

Executive Summary

The ECT service within Aneurin Bevan University Health Board aims to provide a quality service for individuals who require ECT treatment. This will be achieved through offering the individual support and education about the nature of their illness and all aspects of ECT. The team aims to provide an educational resource to Healthcare Professionals allied to medicine and their students about ECT, its practice, effects and underlying theory. The service will comply with good practice guidance of the Royal College of Psychiatrists and the ECT Accreditation Service (ECTAS) guidance and will accommodate NICE guidance and subsequent authoritative guidance on the use of ECT.

1.1 Scope of policy

This policy covers any premises within Aneurin Bevan University Health Board where ECT may be administered.

1.2 Essential Implementation Criteria

1.2.1 Preparation for ECT

Clinical Assessment

- The decision to offer ECT should be taken by a Senior Doctor in the team
- Due consideration should be given to the NICE recommendations for the clinical situations relevant to ECT. If NICE guidelines are not followed in this respect then clear reasons must be stated in the clinical notes.
- Clear documentation of a full discussion with the patient, and relevant others, e.g. advocates, of the need for ECT, the likely outcomes, the possible clinical course if ECT is not chosen and the possible risks and side effects, especially cognitive disorder
- Valid informed consent is sought and capacity to give this consent is part of this interview.
- Patients should be reminded of their right to revoke their consent at any point during their course of treatment.
- Special caution should be exercised in the young or elderly and in pregnancy.

1.2.2 Consent to Treatment

The Informal Patient

Consent to treatment is the responsibility of the Medical Officer looking after the patient. It is his/her duty to explain to the patient the nature and effect of the treatment, ask the patient to sign the consent form and then countersign the form him/herself

Whilst it is the responsibility of the Medical Officer to ensure that the patient's consent to treatment is given, and the consent form suitably completed, it is the Ward Manager's responsibility to check that the form has been so signed prior to the actual commencement of the treatment

The medical officer responsible for consent should document in the medical notes that the consenting patient has the relevant capacity. Informal Patients who have the capacity to consent may not be given treatment unless they do in fact consent.

If the consent form has not been signed, then under NO circumstances should treatment be carried out until written consent by the patient has been obtained. In the eyes of the law, the informal patient is in the same position as the ordinary hospital patient, and he/she alone can give a valid consent to treatment whether for his/her mental disorder or any other condition. If he/she is incapable of consenting or refuses to do so, any treatment administered may constitute what the law regards as trespass to the person, and be actionable for damages.

The Detained Patient

For the patient who is compulsorily detained under the Mental Health Act, 1983, treatment may only be given when:-

a) The patient has given consent and the consultant has confirmed in writing that the patient understands the nature of the treatment on Form **CO4.**

(NOTE: Should the patient withdraw consent at any stage, treatment must cease and the RC must carry out a Capacity Assessment to ascertain the patient's capacity to consent. If the patient is deemed to have capacity to consent then no further treatment can be given. If the patient is deemed not to have capacity to consent, a Second Opinion Approved Doctor (SOAD) request must be made to Health Inspectorate Wales, so that the requirements of the Mental Health Act can be complied with. Please also note that should the patient

regain capacity at any point whilst undergoing treatment under a Second Opinion, the Second Opinion then becomes void and the patient must consent to further treatment.

OR

b) A doctor from Health Inspectorate Wales has confirmed in writing that the patient lacks the capacity to consent to treatment, and the doctor certifies that the treatment should be given on Form **CO6**

The doctor from the Health Inspectorate Wales has to consult with the Responsible Clinician, a nurse and a non-medical/non-nursing member of the treatment team before giving the consent.
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NB The number of treatment sessions consented agreed by a Doctor from the Health Inspectorate Wales must be entered on Form **CO6** and accompany the patient during all treatment sessions. Details must be recorded in the ECT register by the responsible nurse.

A SOAD cannot certify that treatment can be given to an incapable patient if to do so would conflict with a valid and applicable advance decision, a decision made by the donee of a LPA or a deputy, or an order of the Court of Protection. The exception to this is where Section 62 Emergency Treatment would apply. To meet the criteria for Section 62 the RC must be able to say that the treatment is being given:-

a) To save life

OR

b) To prevent serious deterioration

<u>Day Patients/Out Patients</u>

Out patients should attend the ward or day hospital at least one hour prior to departing for the ECT department. A pre-anaesthetic check will take place and Emla cream can be applied to the potential cannulation sites. However, if any risks are identified during the pre-anaesthetic evaluation, such as complex medical problems, the patient should be admitted the night before treatment.

1. Pre-anaesthetic check completed by qualified nurse, which should include encouragement to pass urine.
2. Valuables should be handed in to the nurse in charge of the ward for safe keeping. Witnesses to this are necessary.

These patients may require a longer period of rest in the recovery area prior to dressing/drinking/eating.
Any patients identified as 'at risk' will need to be admitted overnight post treatment.

If they are going home with family following return to the ward, this should not happen within 4 hours of the treatment. Patients should be advised that driving during the duration of the course should be avoided.

Day-Patients may then later continue their programme of care. An appointment will need to be made for their next visit. There should also be a responsible adult at home with the patient for the 24 hours following treatment in case of any ill effects.

All Older Adult patients should be admitted the night before treatment. This is to ensure compliance with fasting and medication requirements prior to treatment.

In addition, Older Adult patients should remain in hospital for the night following treatment to ensure observation post-treatment should a delayed reaction to anaesthesia occur.

Transport Arrangements

All transport arrangements should be in keeping with the Protocol for Nurse Escorts Accompanying Patients to ECT.

Protocol for Nurse Escorts Accompanying patients to ECT

Royal College of Psychiatry guidelines recommend that each patient should have a nurse escort known to the patient. Ideally, the patients named nurse should accompany the patient through each stage of the treatment. Nursing assistants and students must have a basic understanding of what treatment entails before being allowed to fulfil this role.
Any staffing problems should be discussed in advance of the treatment day with the ECT department nurse or manager

Escort Nurse

- This should always be a Registered nurse.
- Where more than one patient is attending from the same unit, it is acceptable for the additional escorts to be unregistered providing they have up to date training in Basic Life Support and Manual Handling and are competent in its practice.
- All escorts should have knowledge of the ECT process, possible side effects (both common and rare) and the actions required by them in this event.
- Escorts should know the patient they are accompanying and be aware of their legal status, consent, and any possible medical complications.
- All escort nurses, whether Registered or Unregistered, should have attended an ECT escort nurse training session.

Transport arrangements

- Patients should be risk assessed, by their treating team, regarding the most appropriate form of transport.
- All vehicles used for the safe transportation of patients for ECT will provide a separate driver and will have the following minimum equipment available in the case of emergency.

1. Mobile phone, to be able to summon assistance if required.
2. Pocket Mask.

Pre ECT ward evaluation (clinical team and RC'S)

- Clear documentation of a discussion with the patient about ECT
- Clear evidence of a Capacity Assessment and valid, informed consent
- Recent full physical examination documented in he case notes
- Relevant blood investigations to include full blood count, renal and liver profiles, TFT and glucose and INR if clinically relevant
- Lithium level if relevant
- Sickle Cell test if patient of Afro Caribbean, Middle Eastern, Mediterranean or Asian ethnic extraction
- ECG if over 50 or known cardiac disease also ECG if over 40 and diabetic
- CXR if clinically relevant
- Specific appraisal by the ECT anaesthetist ahead of the treatment day.
- A serum cholinesterase.
- Treating Consultant to recommend method of ECT (uni or bilateral)
- The pre ECT documentation sheet (Part A) should be filled in by the medical and nursing staff prior to the treatment day.

- A note regarding the patient's cognitive state should be entered in the clinical notes.
- All patients, and their relatives, should be given time to discuss issues or worries with relevant medical and nursing staff and given patient information leaflets on ECT and Anaesthesia
- EMLA cream to be applied one hour prior to treatment to both hands
- Patient identification armband for each patient
- All patients should be accompanied by a Registered nurse who has knowledge the patient's case.
- All patients are fasted from midnight the previous day
- Important medication should be taken with minimal amount of water at least 2 hours prior to treatment under nurse supervision e.g. Antihypertensives, antacids, thyroxine, digoxin, inhalers. Certain medications e.g. Insulin should be given in accordance with the latest guidance.

Treatment Day (ECT Team)

- Review of the ECT documentation booklet by relevant staff including rechecking on-going consent
- Placement of EEG electrodes, test run for baseline. Placement of ECG electrodes
  SATS monitoring and BP cuff.
- Anaesthesia, muscle relaxant and hyper-oxygenation are given as part of the anaesthetic procedure
- Placement of ECT electrodes and test for impedance(100 - 3000 Ohms)
- Refer to the stimulus dosing protocol see next section below, and re-stimulate up to a maximum of 3 times in any one treatment session as necessary. Keep referring to the flow chart in the protocol for guidance.
- The tonic/clonic seizure is timed and the seizure length noted from the EEG reading
  Remove EEG leads, nurses to follow recovery procedure as per training and patient must be monitored at all times until fully recovered. Initial recovery monitored by ECT nurse until patient is rousable
- Details of treatment session to be entered in the clinical notes and the ECT booklet by relevant medical staff
- No patients should be mobilised or transferred until fully recovered
- Protocol for Stimulus Dosing
- Escort nurses to complete post-treatment observations chart both in the ECT department and back on the ward.

The starting mC dose should be decided upon in accordance with the Stimulus Dosing Protocol

FEMALE UNI	~	LEVEL 1	~	25mC	5%
FEMALE BIL /MALE UNI	~	LEVEL 2	~	50mC	10%
MALE BIL	~	LEVEL 3	~	75mC	(See table) 15%

Increase starting level by only one grade if one or more of the following factors present – NOT additive

a Elderly > 65 years
b Benzodiazepine or anti-epileptics
c ECT in last month

Threshold Session

Goal – To graduate mC dose in order to achieve bilateral tonic clonic fit on EEG = SEIZURE THRESHOLD.

"The seizure threshold is defined as the minimum charge required to induce unequivocal ictal EEG activity (i.e. polyspike followed by 3Hz spike-and-wave activity." (The ECT Handbook 3rd Edition, P32).

- State the precise level of starting in the clinical notes
- Refer to level table for all changes
- No more than three stimulations in any given session
- Re-stimulate if:-
  - ~ No fit
  - ~ Partial fit
- Re-stimulation involves
  - ~ Going up one level on first re-stimulation (i.e., 2nd application)
  - ~ Going up two levels on second re-stimulation (i.e. 3rd application).

*** If adequate seizure now attained at 3rd stimulation, drop a level at the next session to clarify the threshold. (i.e. is the threshold at the first or second of the two steps progressed?)**

- Leave at least 30 - 60 seconds between each re-stimulation re-hyper-oxygenate
- If entering a second session of ECT in order to find seizure threshold (i.e. 3 applications done on first session) go up one level (rare)

Treatment Dosing Sessions

Treatment Dose = Threshold + 1 Level BILATERAL
= Threshold + 4 Levels UNILATERAL (moderate)
= Threshold + 6 levels UNILATERAL (high)

Ward Round Observations

- Clinical Response – good progress – continue at that level
- Cognitive Side effects
- Other physical side effects e.g. Nausea, headache, muscle pain.

Consider above in any plans to alter level. For example, tendency for fit threshold to rise in any course of treatment - may require increase in stimulation level. Significant cognitive side effects - may require lower level or change to unilateral mode or try reducing the frequency of ECT sessions. Consideration should be given to whether a dose increase is clinically indicated; if, despite adequate seizure length, there is no sign of clinical benefit after the third treatment, consider increasing one level. High risk patients may need level increase early in the course of ECT. There should be regular transfer of such information between the ECT team and the clinical team.

Documentation

At each session the ECT treatment record in the ECT file should be filled out. In addition a clinical entry should be made in the notes such as:-

Date
ECT session number
Bilateral / Unilateral
Number in the series
Present level of the dosing schedule
Seizure type
Seizure length
Important comments

Special circumstances

a. Prolonged seizure - be prepared to terminate seizure at 60 seconds and act at 90 seconds. Consider reducing stimulation level by 1 at next treatment session

b. Inadequate seizure - check enough electrode jelly, adequate contact and after this treatment session review medication. Follow stimulus dosing protocol flow chart. Never re-stimulate until the anaesthetist grants permission to do so. Also consider if ECT is being administered at threshold level rather than supra-threshold.

Inter- treatment days

- Patient should be formally reviewed after each treatment session.
- Side effects, especially adverse cognitive effects, must be considered since this may indicate a need to change the treatment method or frequency
- A formal review of cognitive status should be done between each treatment session during the course of treatment, at the end of the treatment course and at six weeks post treatment.

2 Aims

To provide specific guidance to staff on the safe and effective administration of ECT, the expected standards of care and the provision of information to patients

This Guidance represents the view of the National Institute for Clinical Excellence which was arrived at after careful consideration of the available evidence. Health professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility for health professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

2.1 Aim of the Therapy

To improve the clinical status of those with:

1 a severe depressive episode when an adequate trial of other medication has failed, or in life threatening clinical situations
2 catatonia or
3 prolonged or severe manic illness

3 Policy Statement

Standardisation of practice of the administration of ECT will ensure good evidence based practice, raising the standard of patient care and allowing comprehensive audit.

4 Responsibilities

There will be a Consultant. Psychiatrist in attendance.

All nurses in attendance at the ECT suite have basic life support training and this training is updated on an annual basis.

The Service Manager will be at Band 6 level.

They will be supported by a Registered Band 5 Nurse. Responsibility lies with these nurses for the setting up and maintenance of the treatment areas, including the regular checking/servicing schedule for the equipment.

The junior doctor training is the responsibility of the Senior Psychiatrists and each doctor is trained even if alternative training has been acquired in another hospital outside Aneurin Bevan University Health Board. A Senior Psychiatrist is present at each ECT session. Training involves a period of observation of ECT administered by the Senior Psychiatrist followed by a period of supervision by the Senior Psychiatrist whilst the trainee delivers the treatment.

Recruitment of patients for ECT is managed by Service Manager..

5 Training

As above. In addition, Consultant Psychiatrists administering ECT will have attended the Royal College of Psychiatrists' training session. ECT nurses will have attended the Royal College of Psychiatrists' ECT Nurse Training.

6 Monitoring and Effectiveness

Aneurin Bevan University Health Board is committed to scrutiny by the Royal College of Psychiatrists under the ECT Accreditation Scheme

7 References

The ECT Handbook. The third report of the Royal College of Psychiatrists Special Committee on ECT.
NICE guidelines on Electroconvulsive therapy
Rose D.P et al. Patients perspectives on electroconvulsive therapy: systematic review. British Medical Journal 2003; 326;1363-5
Wijeratne C, Halliday G S, Lyndon R W. The present status of electroconvulsive therapy: a systematic review. MJA 1999; 171: 250-254.
Scott A. Contemporary practice of electroconvulsive therapy British Journal of Hospital Medicine, 1994; 51 (7) 334-338.

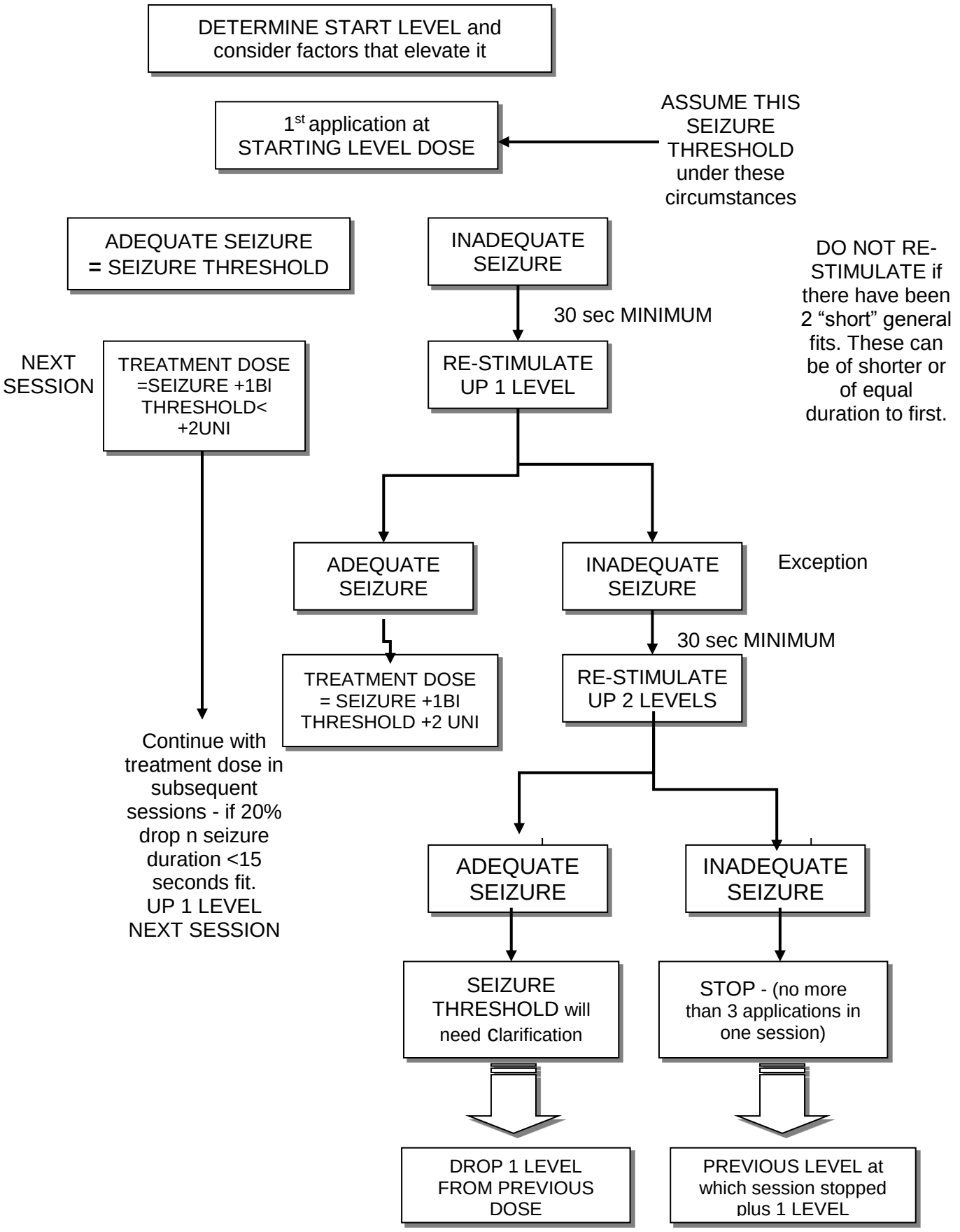
8 Appendices

BI-LATERAL STIMULUS DOSING TABLE

LEVEL Unilateral only	**1**	**5%**	25mC
LEVEL Female Bilateral	**2**	**10%**	50mC
LEVEL Male Bilateral	**3**	**15%**	75mC
LEVEL	**4**	**25%**	125mC
LEVEL	**5**	**40%**	200mC
LEVEL	**6**	**55%**	275mC
LEVEL	**7**	**80%**	400mC
LEVEL	**8**	**100%**	500mC
LEVEL	**9**	**150%**	750mC
LEVEL	**10**	**200%**	1000mC

UNI-LATERAL STIMULUS DOSING TABLE

LEVEL	THRESHOLD DOSE (SEIZURE THRESHOLD)		UNILATERAL (4 TIMES SEIZURE THRESHOLD)		UNILATERAL (6 TIMES SEIZURE THRESHOLD)	
	%	(mC)	%	(mC)	%	(mC)
1 Female	5	(25)	20	(100)	30	(150)
2 Male	10	(50)	40	(200)	60	(300)
3	15	(75)	60	(300)	90	(450)
4	20	(100)	80	(400)	120	(600)
5	30	(150)	120	(600)	180	(900)
6	50	(250)	200	(1000)	225	(max)
7	70	(350)	225	(max)	225	(max)
8	100	(500)	225	(max)	225	(max)
9	150	(750)	225	(max)	225	(max)


DETERMINE START LEVEL and consider factors that elevate it
1st application at STARTING LEVEL DOSE
ASSUME THIS SEIZURE THRESHOLD under these circumstances
ADEQUATE SEIZURE = SEIZURE THRESHOLD
INADEQUATE SEIZURE
30 sec MINIMUM
DO NOT RE-STIMULATE if there have been 2 "short" general fits. These can be of shorter or of equal duration to first.
NEXT SESSION
TREATMENT DOSE =SEIZURE +1BI THRESHOLD< +2UNI
RE-STIMULATE UP 1 LEVEL
ADEQUATE SEIZURE
INADEQUATE SEIZURE
Exception
30 sec MINIMUM
TREATMENT DOSE = SEIZURE +1BI THRESHOLD +2 UNI
RE-STIMULATE UP 2 LEVELS
Continue with treatment dose in subsequent sessions - if 20% drop n seizure duration <15 seconds fit. UP 1 LEVEL NEXT SESSION
ADEQUATE SEIZURE
INADEQUATE SEIZURE
SEIZURE THRESHOLD will need Clarification
STOP - (no more than 3 applications in one session)
DROP 1 LEVEL FROM PREVIOUS DOSE
PREVIOUS LEVEL at which session stopped plus 1 LEVEL

Unilateral ECT Protocol

The Requirements & Guiding Principles

(i) "For patients who have severe cognitive difficulties or memory disturbance during their bitemporal ECT, unilateral ECT should be offered as an alternative" (ECT Handbook third edition p40)

(ii) "An increase in the use of unilateral ECT may be an important strategy to address the concerns of NICE guidelines"; "promotes use in non-urgent treatments" (ECT Handbook)

(iii) "Most Unilateral ECT is given to the right hand side" (NICE 2013)

(iv) Bilateral ECT is more effective than unilateral ECT (NICE 2003)

(v) High dose unilateral ECT is as efficacious as bilateral ECT but results in fewer cognitive side effects (Sackheim 2000)

(vi) At treatment 4 – consider switching. (uni-bi; bi-uni)

Terms
Unilateral ECT

Moderate – 4 x seizure threshold

Higher - 6 x seizure threshold

Principle

"Reasonable approach to start the course of unilateral ECT at a dose of 4 x ST and be prepared to increase the dose to 6 x ST in the absence of clinical improvement after six treatments"
(ECT Handbook 2013)

Unilateral ECT Procedure

1 Measure seizure threshold (ST)
- Female - start 25mC (5%) - Level 1
- Male – start 50mC (10%) – Level 1
- increase by one level until seizure produced
- no more than three applications in one session

2 Note seizure threshold in mC

3 Write usual range in clinical notes
e.g. if ST = 50mC (10%)
usual range = 4-6 x ST
= 200 – 300mC (40% - 60%)

4 Ongoing treatment at 4 x ST

5 Monitor clinical improvement and consider a level increase at the fourth treatment if clinical response is slight/temporary/inadequate.

6 Consider switching to bilateral if poor response.

7 Consider reducing by half a level if cognitive side effects are troublesome.

8 If switching to bilateral, re-assess ST in usual manner and include the number of ECT in bilateral course.

9 If switching from bilateral to unilateral, re-assess by titrating from 25mC as earlier noted.