Plymouth Community Healthcare CIC

Electroconvulsive Therapy (ECT) Policy

Version No 4.1

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Electroconvulsive Therapy (ECT) Policy

1. Introduction

1.1 The Electroconvulsive Therapy (ECT) Department at Glenbourne provides the ECT service for outpatients for the Acute, Recovery, Older Persons Mental Health Services and Devon Partnership Trust.

1.2 This policy and procedures contained within it ensure the safe administration of ECT. This is according to NICE guidelines and ECTAS requirements.

2. Purpose

2.1 These guidelines will ensure that patients receive the most appropriate forms of care and attention while respecting the patient's rights as an individual.

2.2 Compliance with legal requirements: Mental Health Act 1983 and Mental Capacity Act 2005.

3. Definitions

3.1

ECT	Electroconvulsive Therapy
AAGBI	Association of Anaesthetists – Great Britain and Ireland
BP	Blood Pressure
CTO	Community Treatment Order
ECTAS	Electroconvulsive Therapy Accreditation Service
MCA	Mental Capacity Act
MHA	Mental Health Act
NICE	National Institute for Clinical Excellence
RC	Responsible Clinician
SOAD	Second Opinion Approved Doctor

4. Duties and Responsibilities

4.1 This Policy was devised by the ECT Consultant, ECT Co-ordinator, ECT Anaesthetist and ECT Staff.

4.2 The **Locality Manager** will support and enable operational Clinical Leads and Managers to fulfil their responsibilities and ensure the effective implementation of this Policy within their speciality.

4.3 The **Modern Matron** is responsible for ensuring that the development of local procedures.

4.4 **Clinical Staff** have a responsibility for ensuring they have read, understood and adhere to local Protocols and Policies. All staff working with persons detained under S136 have a duty to be aware of and follow the guidance contained in the Mental Health Act 1983 Code of Practice (MHA CoP).

Chapter 10 Police Powers and Places of safety is of particular importance to this policy.

5. General Considerations

5.1 It is recommended (NICE TA 59) that electroconvulsive therapy (ECT) is used only to achieve rapid and short-term improvement of severe symptoms after an adequate trial of other treatment options has proven ineffective and/ or when the condition is considered to be potentially life-threatening, in individuals with:

- Severe depressive illness
- Catatonia
- A prolonged or severe manic episode.

5.2 The decision as to whether ECT is clinically indicated should be based on a documented assessment of the risks and potential benefits to the individual, including: the risks associated with the anaesthetic; current co morbidities; anticipated adverse events, particularly cognitive impairment; and the risks of not having treatment.

5.3 The risks associated with ECT may be enhanced during pregnancy, in older people, and in children and young people, and therefore clinicians should exercise particular caution when considering ECT treatment in these groups.

5.4 When the recommendations detailed above have been considered and applied, ECT is a safe and effective treatment. The patient must be well prepared and ECT given to a high standard. This policy is designed to inform the referring, and ECT teams of their responsibilities in ensuring safe and effective ECT.

5.5 The amended Mental Health Act (2007) introduces a new Section 58A which applies to ECT and to the medication administered as part of ECT. It applies to detained patients, (including patients subject to a community treatment order) and to all patients under 18 (whether or not they are detained). Relevant details are included in the policy.

5.6 This policy details minimum standards that are necessary for the application of ECT. If these minimum standards are not met, then ECT cannot be given.

6. Referring Community Team / Ward Responsibilities

6.1 The referring Consultant / Approved Clinician and Ward /Community Team are responsible for the correct preparation of the patient so that ECT is given as safely as possible. This must include checking if the patient has made a valid advanced decision in relation to ECT. An advanced decision needs to be recorded on the warning screen of SystmOne.

The ECT team is responsible for providing safe and effective ECT for referred patients. Good liaison between referrer and treatment team is essential.

6.2 The explanation of the nature, benefits and risks of ECT are the referring Consultant / Approved Clinician's responsibility. When consent is discussed, the Royal College of Psychiatrists ECT and PCH information leaflets should be given to the patient; these will help the patient to understand and recall the information.

6.3 The patient should be asked to sign the consent form prior to **each** ECT course. Further written consent is obtained by nursing staff prior to each treatment. Adherence to these procedures helps ensure that valid consent is gained; fears about the process of preparation, treatment and recovery can be addressed and hopefully allayed; and adherence to treatment improved. Relatives and carers may also benefit from this information. The patient may find a visit to the ECT suite beneficial prior to the course of treatment.

6.4 It is the referring consultant's / Approved Clinician's responsibility to assess capacity to consent to ECT.

7. Mental Health Act 1983 (MHA '83)

7.1 Section 58A Electro-convulsive therapy, etc. is the section of the MHA'83 which applies when ECT is used as a form of medical treatment for mental disorder. A detained patient who has capacity to consent may not be given treatment under section 58A unless the Approved Clinician or a Second Opinion Appointed Doctor (SOAD) has certified that the patient has the capacity to consent, and has done so. A detained patient who has capacity and does not want to have ECT cannot be forced to have it unless in an urgent case. Urgent treatment under Section 62 can continue only for as long as it remains immediately necessary.

7.2 No patient aged under 18 years of age can be given treatment under section 58A unless a SOAD has certified that the treatment is appropriate. If a competent child refuses ECT, they cannot be made to have it, even though they are detained under a Section.

7.3 There is no initial three-month period during which a certificate is not needed (even for the medication administered as part of the ECT).

7.4 As mentioned above, the patient should be asked to sign the consent form prior to each ECT course, and provide further written consent prior to each treatment. A patient can withdraw their consent at any time. A detained patient with capacity cannot be given ECT without their consent.

7.5 A detained patient who lacks the capacity to consent may not be given treatment under Section 58A unless the SOAD certifies that the patient lacks capacity to consent and that:

- The treatment is appropriate

- No valid and applicable advance decision has been made by the patient under the Mental Capacity Act 2005 (MCA) refusing treatment;
- No suitably authorised attorney or deputy objects to the treatment on the patients behalf; and
- The treatment would not conflict with a decision by the Court of Protection which prevents the treatment being given.

7.6 Prior to a detained patient (not Supervised Community Treatment) being given ECT statutory paperwork needs to be completed. A form T4 *Certificate of Consent to Treatment (patients at least 18 years old)* or T5 *Certificate of Consent to treatment and Second Opinion (patients under 18)* or T6 *Certificate of Second Opinion (patients who are not capable of understanding the nature, purpose and likely effects of the treatment* must be completed by the Approved Clinician or the SOAD. A record of the conversation with the patient, and their capacity must be recorded in the patient's records by the Approved Clinician or the SOAD. The original Form T4, T5, or Form T6 will be filed in the Mental Health Act Office with the patient's detention papers. A copy of the form will be placed in the patient's notes and attached to their prescription chart.

Form T4
Section 58A(3) Certificate of consent to treatment (Patients at least 18 years old) – Completed by the Approved Clinician in charge of the treatment (or a SOAD) certifying that the patient has attained the age of 18 and is capable of understanding the nature, purpose and likely effects of the treatment and has consented to the treatment.

Form T5
Section 58A(4) Certificate of consent to treatment and second opinion (Patients under 18) - Completed by a SOAD certifying that the patient has not yet attained the age of 18 and is capable of understanding the nature, purpose and likely effects of the treatment and has consented to that treatment and it is appropriate for the treatment to be given.

Form T6
Section 58A(5) Certificate of second opinion (patients who are not capable of understanding the nature, purpose and likely effects of the treatment) – Completed by a SOAD who has consulted with a nurse and another person professionally concerned with the patient certifying that the patient is not capable of understanding the nature, purpose and likely effects of the treatment and that the treatment is appropriate and that the treatment does not conflict with any decision of an attorney, deputy, any decision of the Court of Protection or any advance decision to refuse treatment that is valid and applicable.

Form CTO11

Section 64C(4) Certificate of appropriateness of treatment to be given to community patient (Part 4A certificate) – Completed by a SOAD who has consulted with two persons professionally concerned with the medical treatment of the patient certifying that the treatment is appropriate whilst the patient is not recalled to hospital subject to specified conditions. The form may also certify that treatment may be given following recall to hospital.

7.7 Section 62 Urgent Treatment

Urgent Treatment under Section 62 can be given only if the treatment in question is immediately necessary to:-

- save the patient's life;
- Prevent a serious deterioration of the patient's condition, and the treatment does not have unfavourable physical or psychological consequences which cannot be reversed.

These are strict tests. It is not enough for there to be an urgent need for treatment or for clinicians involved to believe the treatment is necessary or beneficial.

Urgent treatment under Section 58A can continue only for as long as it remains immediately necessary.

The Mental Health Act Code of Practice Chapter 24 *Treatments subject to special rules and procedure provides additional information.*

7.8 Section 17A Supervised Community Treatment (SCT)

Part 4A of the Act sets out different rules for treatment of SCT patients who have not been recalled to hospital by the responsible clinician. This includes SCT patients who are in hospital without having been recalled (e.g. if they have been admitted to hospital voluntarily).

Whether or not Part 4A patients consent to treatment or ECT it can only be given if approved by a SOAD on a Part 4A certificate. The MHA refers to this as the "certificate requirement". Broadly speaking, the certificate requirement applies to any treatment for which a certificate would be necessary under Section 58 or 58A of the Act were the patient detained instead.

In general SCT patients recalled to hospital are subject to sections 58 and 58A in the same way as other detained patients. An exception to this is where the Part 4A certificate already explicitly authorises for the administration of ECT on recall to hospital.

ECT Treatment that is already being given on the basis of a Part 4A certificate may be continued, even though it is not authorised for administration on recall, if, the approved clinician in charge of the treatment considers that discontinuing it would cause serious suffering. But it may only

be continued pending compliance with section 58A, in other words while steps are taken to obtain a new certificate.

Responsible clinicians should ensure that arrangements are made to obtain a new SOAD certificate under section 58A if one is needed, as soon as they revoke a CTO.

7.9 **Emergency treatment under section 64G**

In an emergency, treatment can be given to Part 4A patients who lack capacity (and who have not been recalled to hospital) by anyone, whether or not they are acting under the direction of an Approved Clinician. ECT (or medication administered as part of ECT) can only be given if it is immediately necessary to:

- save the patient's life;
- prevent a serious deterioration of the patient's condition, and the treatment does not have unfavourable physical or psychological consequences which cannot be reversed.

8. The Mental Capacity Act 2005

8.1 The Mental Capacity Act 2005 (MCA) Code of Practice, Chapter 13, provides additional guidance relating to the relationship between the Mental Capacity Act and the Mental Health Act 1983. Passively compliant informal patients may be given ECT under the MCA, however prior to giving ECT the MCA advises that professionals may need to think about using the MHA to detain and treat somebody who lacks capacity to consent to treatment (rather than use the MCA), if:

- it is not possible to give the person the care or treatment they need without doing something that might deprive them of their liberty.
- the person needs treatment that cannot be given under the MCA (for example, because the person has made a valid and applicable advance decision to refuse an essential part of treatment). **Advance Decisions made under the Mental Capacity Act 2005 to refuse ECT cannot be overridden even if the patient is detained under the MHA'83**.
- the person may need to be restrained in a way that is not allowed under the MCA.

8.2 Section 5 of the MCA provides legal protection for people who care for or treat someone who lacks capacity. But they must follow the act's principles and may only take action that is in the person's best interests. This applies to care or treatment for physical and mental conditions. But section 5 does have its limits. For example, somebody using restraint only has protection if the restraint is:

- necessary to protect the person who lacks capacity from harm, and
- in proportion to the likelihood and seriousness of that harm.

There is no protection under section 5 if ECT is given that goes against a valid and applicable decision to refuse treatment.

9. Physical Examination

9.1 Patients should be fit to receive an anaesthetic and ECT. Any conditions likely to increase the risks of the procedure should be fully assessed and treated beforehand and discussed with the anaesthetist.

9.2 Patients should have a documented recent medical history, physical examination and investigations, including ECG, prior to starting a course of ECT. A chest x-ray should be performed if there are respiratory signs or symptoms. Patients of Afro-Caribbean, African, or Middle Eastern origin should have a sickle cell test. The required investigations are indicated in the ECT documentation to be completed by the referring psychiatrist.

9.3 New patients should be seen by or discussed with the anaesthetist as soon as possible before ECT is due to commence. If the patient has significant cardiovascular or respiratory disease, or other physical conditions that raise concerns, the anaesthetist may require additional investigations and therefore needs to be contacted at the earliest opportunity after the decision to give ECT has been made.

9.4 If ECT is indicated for a physically ill patient and the anaesthetic may be contraindicated, the prescribing doctor may need to discuss this with the anaesthetist concerned. In certain cases, ECT may be given on the main hospital site where more resuscitation facilities are available.

9.5 **Absolute contraindications to general anaesthesia for ECT:**

- Increased intracranial pressure
- Untreated heart failure
- Untreated respiratory failure
- Untreated metabolic disorders

Relative contraindications for general anaesthesia for ECT:

- Myocardial infarction within three months
- Significant cardiovascular or respiratory disease
- Pregnancy
- Morbid obesity
- Symptomatic hiatus hernia
- Recent fractures or severe osteoporosis
- Previous anaesthetic problems
- BP over 170/100

9.6 On the day of treatment the ward/referring team should record blood pressure, pulse and temperature and the other specified observations from nursing ECT checklists 1 and 2 ,and any changes in drug treatment. The ECT team require this information as changes in drug treatment may affect both physical response to ECT and interfere with seizure threshold.

10. Prescription of ECT

10.1 ECT documentation should be completed accurately and in full. Any omissions may mean that ECT cannot be given unless rectified by the referring team.

10.2 ECT should be prescribed by the RC or nominated medical deputy. It is recommended that only two treatments are prescribed at any one time. It is good practise to discuss the likely length of treatment with the patient in advance. If more then twelve treatments are indicated, it is good practise to obtain a local second opinion. Bilateral or unilateral ECT should be specified on the prescription. Most ECT is prescribed bilaterally, which is thought to be more effective than unilateral treatment. However unilateral ECT is prescribed, particularly when there is cognitive impairment related to ECT. If unilateral ECT is prescribed, then the cerebral dominance of the patient must be tested and recorded. 95% of people are right handed with left cerebral dominance 60% of left handed people have left cerebral dominance, 20% right and 20% mixed dominance. Patients should be asked to demonstrate common tasks to determine handedness and cerebral dominance, e.g. writing, using scissors and brushing teeth. If laterality is uncertain, then unilateral ECT can be given to the right cerebral hemisphere and changed to the left if marked post-ECT confusion occurs.

11. Prescription of medication for patients who will be receiving ECT

11.1 Many drugs used in psychiatric practice affect the seizure threshold and this should be taken into consideration when patients are due to start a course of ECT; of particular note are anticonvulsants, barbiturates and benzodiazepines, which raise the seizure threshold, requiring more energy to be delivered during ECT and increasing the potential for side effects and treatment failure. If possible, alternative drugs should be sought.

11.2 Caution should be taken when withdrawing long-standing benzodiazepines, anticonvulsants and barbiturates as this lowers the seizure threshold.

11.3 Long acting benzodiazepines such as diazepam should ideally be discontinued several days before ECT. However if the prescription is long-term and essential, then the dose should be reduced as far as possible prior to ECT and the use of a higher stimulus considered. Lorazepam should be omitted on the day before ECT if possible.

11.4 Zopiclone, and short acting benzodiazepine hypnotics, should also be withdrawn if possible.

11.5 When anticonvulsants are being used as a treatment for epilepsy their effect is to normalise the seizure threshold so this treatment should continue unchanged during the course of ECT. If essential for mood stabilisation, maintain the patient on minimum effective dose.

11.6 Concomitant lithium preparations and ECT can increase the likelihood of delirium or confusion, though the combination is generally well tolerated. It is recommended to start with a low stimulus and to monitor very closely.

11.7 Clozapine should be withheld for 24 hours before ECT.

11.8 Moclobemide should be suspended for 24 hours pre-ECT.

11.9 Oral ant diabetic medication and insulin should be given after ECT when the patient is ready to eat.

11.10 It is the referring psychiatrist's responsibility to assess and adjust the patient's medication prior to ECT.

12. Preparation of the patient on the day of ECT

12.1 Minimum standards required from referring team:

- Patients should be restricted to nil-by-mouth (and not chew gum) from midnight of the day preceding ECT. The usual standard in relation to general anaesthetic is nil by mouth 4-6 hours prior to administration. The ECT Team have requested the nil by mouth from midnight of preceding day (apart from sips of water, if necessary), because they have found that this makes things clearer and more manageable for patients, particularly outpatients.

- Clearly individual circumstances need to be considered and clear and understandable guidance given to each patient.

- Patients should be given a wristband clearly marked with name, date of birth and NHS number, which they should wear when they are in the ECT department. (See Patient Identification Policy).

- Special arrangements are made when patients are given ECT in a clinic on a different site from their base hospital. Patients should have an individual trained nurse escort and commuting patients are treated at the beginning of the session to allow maximum time for recovery. This is in accordance with 8.6 – ECTAS standards.

- Patients who are under the care of OPMHS - Home Treatment Team will either be accompanied by a nurse if receiving ECT as an outpatient, or will be admitted to the ward and be cared for under the arrangements as detailed above.

- Glenbourne inpatients will usually be accompanied to the department and nursed throughout the ECT process by ECT Department nursing staff. (Note; This is dependent on the ECT staff/patient ratio, and there may be times when Ward staff will have to accompany their patients).

- A member of the Team caring for them should accompany Home Treatment Team patients and other outpatients from the Adult Mental Health Service, for their first treatment. Once the patient has been introduced and appropriately handed over to the ECT department staff, community Team staff do not usually need to accompany them for subsequent treatments.

- The ECT documentation is complete.

- Consent for ECT has been given by the patient, or if detained under the Mental Health Act, copies of the relevant documents accompany the patient.

- All medical notes; routine investigations and additional investigations results are available to the ECT team.

- Where ECT is given to an outpatient, the referring team should ensure (as far as is possible) that the patient does not drive; drink alcohol; use public transport unaccompanied and has a responsible adult to stay with, to monitor their wellbeing for 24 hours after treatment. Patients can not drive for the duration of the treatment course and until given permission by their Responsible Clinician.

- Jewellery, make up, nail varnish, hair lacquer/gel should be removed from the patient. Hair should be washed the night before treatment, if possible.

- Contact lenses (patient to wear glasses to the ECT Suite instead, if possible) and artificial eyes need to be removed by the patient.

13. Responsibilities of the ECT Team

13.1 The ECT team will scrutinise the checklist from the referring team. If minimum standards are not met, then unless the referring team can rectify any omissions, ECT cannot be given.

13.2 The ECT team will ensure that the adequate resources and equipment specified by the Royal College of Psychiatrists minimum standards are available for the safe application of ECT. If there are omissions ECT may not be given.

13.3 Minimum standards for ECT team:

- Scrutinise ECT checklist and ensure all parts completed.

- Ensure ECT machine and all other electrical equipment has been serviced and passed a safety inspection annually by MEMS (Medical Equipment Maintenance Service at Derriford Hospital). The ECT machine automatically self-tests when switched on and will indicate if

there is a fault. There is a contract with Dantec to calibrate ECT machines.

- Ensure electrodes are checked by the nurse in charge on the day of the ECT session. The machine should be observed for corrosion of wires and loose contacts. If any faults are evident the electrode set should be replaced and the faulty set sent for repair.

- Ensure that the patient's false teeth and contact lenses; jewellery, metal objects; hair grips, facial and tongue piercing etc, are removed.

- Check that the patient has emptied/been asked to empty their bladder prior to treatment.

14. Procedure for referring patients to the ECT department for a new course of treatment.

14.1 Routine ECT:

The referring team has responsibility to inform the ECT Nurse Specialist of patients who require ECT, by 08.00hrs on the day of treatment, or as early as practically possible.

14.2 Emergency ECT:

Bilateral ECT should be considered over unilateral ECT in emergencies.

Where patients require emergency ECT, it is the responsibility of the referring psychiatrist to arrange this with the Anaesthetic Department and the ECT nurse (contactable via the ECT suite or Bridford Ward). The on-call anaesthetist should be informed of the intention to give emergency ECT and the medical condition of the patient. It is essential that any necessary investigations are carried out with due expediency and the results are easily available so that the anaesthetist can safely anaesthetise the patient. The ECT suite is the preferred site for treatment, but general theatres may have to be used if the patient's physical condition necessitates this.

Emergency ECT should be given by a psychiatrist who has completed in-house training with the ECT Lead Consultant.

Patient preparation is as for routine ECT.

If ECT is taking place in the general hospital theatre an ECT nurse should accompany the patient.

The ECT mouth guard, ECT documentation, patient's notes and ECT machine should be taken to the general theatre in the main hospital.

The recovery of the patient will be in the theatre.

15. Anaesthesia for ECT

15.1 A Consultant Anaesthetist or suitably experienced anaesthetist from the Department of Anaesthetics, Plymouth Hospital Trust, provides general anaesthesia. A nominated Consultant Anaesthetist will act in an advisory capacity on matters of policy, training and resuscitation.

15.2 Anaesthesia for the procedure will be accompanied by muscle relaxation to modify convulsions. The anaesthetist should be satisfied that the patient has been adequately prepared to minimise any risks, or ECT may not be given.

15.3 The patient should be anaesthetised on a tipping trolley.

15.4 **Anaesthetic agents:**

There are three induction agents for ECT; Propofol, Etomidate and Sodium Thiopentone. Propofol is currently the induction agent of choice for the clinic. It is a short acting, well-tolerated agent which attenuates the hypertensive response to ECT. It can reduce seizure length and the Committee on the Safety of Medicines have advised special caution in day case surgery because of concerns over anaphylaxis and delayed recovery. It can also be associated with bradycardia and hypotension in some cases. The Royal College of Psychiatrists have noted however that many clinics have switched patients to Propofol with no significant difficulties.

For patients who have very brief or abortive seizures with Propofol despite manoeuvres to reduce seizure thresholds such as hyperventilation. Etomidate may be an alternative. Local experience suggests that while Propofol is a good agent for most patients, for a minority it significantly raises seizure thresholds making it difficult to induce seizures without using high doses of ECT. Switching these patients to Thiopentone has helped produce more satisfactory seizures and has not noticeably delayed recovery time. Thiopentone is used as the second line anaesthetic agent, when patients have short seizures with Propofol, possibly the result of the anticonvulsant effects of the anaesthetic.

If brief or abortive seizures occur with Propofol, despite increased dose of ECT and other attempts to lower the seizure threshold, then either reduced doses of Propofol should be considered or a change of anaesthetic agent to Thiopentone.

Suxamethonium is used to induce paralysis. It is important in patients with slow circulation times to wait for thorough depolarisation and termination of fasciculation before ECT is given. Fasciculation may be confused with seizure activity.

The patient should be well ventilated with oxygen. Hypoxia increases the seizure threshold in addition to being a significant risk itself.

A mouth gag should be used for all patients.

After ECT has been given and the patient is physically stable, they should be appropriately positioned and ventilated until normal respiration resumes, then transferred to the recovery area.

16. Recovery from anaesthesia

16.1 Following direction from the Anaesthetist, a trained recovery nurse will escort the patient to the recovery room and will monitor recovery. This nurse will not leave the patient until full protective reflexes and consciousness have returned. Oxygen saturation, respiration, pulse rate, blood pressure and cognitive state should be monitored and recorded. Any deviation from expected recovery should be communicated to the anaesthetist. Observations should be recorded as set out in the nursing checklist (number 2.), which is in the ECT record pack.

16.2 When patients have been accompanied to ECT by a qualified nurse from the ward/community known to them, this nurse will take part in the recovery process, with supervision from the recovery nurse. In certain circumstances it may be more appropriate for another member of staff to be present e.g. an experienced healthcare assistant who has a good relationship with an anxious patient. Unconscious patients should be attended by a trained recovery nurse at all times.

16.3 Inpatients receiving ECT should not be accompanied leave for 24 hours following each treatment.

17. Outpatient ECT

17.1 Outpatients receive a general anaesthetic and should be treated as day cases. The following are the standard instructions for adult day case surgery patients, following a general anaesthetic:

- The anaesthetic drugs that have been administered may remain in the body for at least 24 hours, which may temporarily impair co-ordination and cognition.

17.2 Patients should be advised that they should:

- Ensure that a responsible adult can collect them from the clinic.
- Have a responsible adult stay with them for at least 24 hours.
- Drink plenty of fluids and eat a light diet if they can.
- When rising to a sitting or standing position, they should do so slowly to avoid dizziness.
- Lie quietly if they feel sick and take clear liquids only.
- Take things easy the day after their ECT treatment.

17.3 Patients should be advised that they should **not**:

- Drive a car or any other vehicle during or following their course of ECT until the prescribing doctor says they are fit to do so (they should note that their insurance may be invalid if they do so). This does not apply to patients receiving maintenance ECT who should not drive on or the day following ECT. There are special regulations for drivers of public service and heavy goods vehicles.
- Operate machinery or appliances such as cookers and kettles for 24 hours.
- Make important decisions or sign important documents for 24 hours.
- Drink alcohol.
- Lock themselves in any room inside their house in case the person looking after them is needed to help.

17.4 Patients should be escorted to and from their treatment by a member of staff from the inpatient unit; a community team member or other responsible adult. The patient should be fully recovered before returning home. Patients should be supervised by a responsible adult for the night following ECT.

17.5 It is the responsibility of the prescribing consultant to ensure that the above information is given to the patient and that the care co-ordinator /lead professional produces an appropriate care plan for ECT. The care co-coordinator/lead professional is also responsible for ensuring that completed documentation and notes accompany the patient on the day of ECT.

18. Transportation of patients to ECT

18.1 Inpatients are escorted by members of staff; one of whom (if there are 2 or 3 patients) should be a registered nurse or doctor.

19. Monitoring physical state during ECT

19.1 Patients should be monitored in accordance with AAGBI guidelines.

20. Resuscitation

20.1 If an emergency arises during ECT, resuscitation is carried out using standard emergency drugs and equipment available in the ECT Suite. Standard resuscitation should be undertaken according to PCH Policy. All staff assisting with ECT should have basic life support training; be familiar with the use of defibrillator and should be aware of the local resuscitation policy.

Protocol for Cardiac Arrest during ECT

1. ECT Clinic staff to be aware of Do Not Resuscitate status (DNR) of patients.

2. Anesthetist to be in charge of the situation.

3. Anesthetist and ODP are responsible for CPR and securing airway.

4. Anesthetist and ODP are responsible for canulation.

5. ECT Nurse to telephone 9999 and carry out any other instructions from Anesthetist.

6. ECT Nurse to inform other staff of what is happening.

7. ECT Nurse to cancel all other cases for that day.

8. ECT Nurse to send a staff member to front door to meet ambulance personnel.

9. ECT nurse to ensure Anesthetic Department is contacted to arrange anesthetic cover for any recovering patients.

10. Glenbourne protocol for cardiac arrest to be followed if cardiac arrest occurs when Anaesthetist and ODP have left the Unit.

21. Application of ECT

21.1 **ECT machine:** The machine currently used is a Thymatron System IV machine. Two of these machines are available.

A psychiatric trainee or staff grade psychiatrist who has received appropriate training can administer ECT. (See 8.2.3)

Stimulus dosing: The primary consideration with stimulus dosing is to produce an adequate ictal response whilst minimising cognitive side effects and maximising the rate of clinical response. The rate of clinical improvement during the course of ECT can be enhanced if the stimulus is moderately above the seizure threshold (moderately supra-threshold). Seizure threshold is the minimum “dose” of electricity required to induce generalised cerebral seizure activity. Seizure threshold varies markedly between patients dependent on many factors, some of which are listed below.

21.2 **Factors affecting seizure threshold**

	Effect
Age	Raise
Anticonvulsants concurrently or recently discontinued	Raise
Baldness	Raise
Barbiturates concurrently or recently discontinued	Raise
Benzodiazepines concurrently or recently discontinued	Raise
Bilateral electrode placement	Raise
Bones (thick), e.g. Paget’s disease	Raise
Dehydration	Raise
ECT increasing number of treatments	Raise
ECT previous course within last month	Raise
Poor electrical contact with scalp	Raise

	Effect
Oxygen saturation of blood (low)	Raise
Propofol (and other anaesthetic agents)	Raise
Male Sex	Raise
Antidepressant and antipsychotic drugs	Lower
Caffeine	Lower
Carbon dioxide saturation of blood (low)	Lower
Hyperventilation	Lower

21.3 The optimal dose for ECT should be moderately supra-threshold. This should be one and half to two times the seizure threshold for bilateral and at least four times for unilateral ECT for the treatment to be effective. Generally, this is confirmed by a generalised seizure of adequate length and a good clinical response. Grossly supra-threshold dosing exposes the patient to the risk of cognitive side effects. Therefore, there is a therapeutic window with a lower limit to the dose of stimuli below which ECT is less effective *and* an upper limit over which, whilst clinically effective, the patient may have unacceptable side –effects. The therapeutic window can be established empirically by dose-titration.

21.4 **Placement of Electrodes:** Placement of electrodes should be based on an appraisal of the advantages and disadvantages for each patient.

Bilateral ECT: Electrode placement is at a point about 5cm perpendicular to mid-way between the external angle of the eye and external auditory meatus bilaterally.

Unilateral ECT: On the non-dominant side one electrode is placed at the point of 5cm perpendicular to mid-way between the external angle of the eye and external auditory meatus and the other electrode on the mid-line on the occipito-parietal junction.

Refer to the protocol for giving ECT available in ECT department.

22. Record of Treatment

22.1 The psychiatrist administering the ECT should record each separate application of ECT on the patient's treatment chart. The dose given, whether the seizure was detected, partial or bilateral and the timing of the seizure should be recorded, signed and dated.

22.2 The anaesthetist will complete the record of anaesthesia, including doses of drugs given and any complications observed or treated during the treatment and in recovery, signed and dated.

23. Roles and Responsibilities of ECT Team Members

23.1 **Consultant Psychiatrist:** A consultant psychiatrist will be designated as the medical lead for ECT. The role of the medical lead for ECT is:

- Training and supervision for psychiatric trainees administering ECT.
- Participation in training for other disciplines.
- Advising the Directorate on the use and administration of ECT in conjunction with guidelines issued by the Royal College of Psychiatrists.
- Clinical Audit.
- Helping to ensure that minimum standards are met for the safe application of ECT.
- Developing the ECT Policy & Procedures.

23.2 **Psychiatrist giving ECT:** The psychiatrist should ensure they are present to give ECT at the correct time as per ECT rota. If they are unavailable to give ECT due to annual or study leave they should organise appropriate cover. The covering psychiatrist must have had training in the administration of ECT. If the psychiatrist due to give ECT is unable to do so, then the ECT department needs to be informed by the psychiatrist about alternative arrangements.

23.3 The ECT nurse co-ordinator is responsible for:

- Co-ordinating the ECT clinic. Patient arrivals.
- Checking the Minimum Standards set in order to ensure the safe application of ECT.
- Monitoring and maintenance of equipment and specialist supplies.
- Ordering drugs, plus disposable equipment.
- Training and supervision of escorting and recovery nursing staff.
- Assisting the anaesthetist if required.
- Development of the ECT Policy & Procedures.

23.4 The recovery nurse is responsible for:

- Monitoring the patient closely in the immediate period after transfer to the recovery area.
- Supervising the nurse escort in recovery after patient is awake and sitting up.
- Fully supervising the monitoring of those escorted by other staff.
- Reporting any adverse signs to the anaesthetist.

23.5 The nurse escort is responsible for:

- Ensuring that the psychological needs of the patient are met.
- Ensuring the referring team have completed patient preparation and that all necessary information accompanies the patient. This must include current ECT care plan.

- Assisting and supporting the ECT medical, and nursing staff with direction from ECT staff.
- Assisting the recovery nurse in safely recovering the accompanied patient after ECT. This requires knowledge of basic life support and an understanding of ECT. Recovery should be monitored and recorded.
- Accompanying the patient until they are satisfied that the effects of the anaesthetic and ECT are minimal. Ideally, the nurse should stay with the patient until returning to the ward.

24. Staff training and supervision

24.1 The psychiatric consultant responsible for the ECT clinic should supervise psychiatric trainees in the application of ECT until they are competent in the procedure.

24.2 Nurses escorting a patient to ECT from wards should have annual resuscitation training and training on recovery of patients. There should be continuing liaison between theatre recovery and the ECT Suite to ensure that any training programme is up to date and adequate for the purpose of recovering patients from ECT.

24.3 If possible the ECT nurse should be anaesthetic and recovery trained.

24.4 **Anaesthetic staff:** Training in the indications for the application of ECT will be given as requested.

25. Continuation / maintenance ECT

25.1 In carefully selected patients this can be an effective treatment for the prevention of severe depression, and reduce the number of ECT treatments the patient requires. It is considered good practice to obtain a local second opinion to support the use of this treatment, and patients receiving the treatment need to be informed that the treatment is outside the NICE guidelines, along with an explanation of why it is recommended in their case. It should be prescribed initially every two weeks in order to achieve a good clinical response, decreasing in frequency to the minimum required, eg. monthly, in order to maintain a satisfactory clinical response. The prescribing psychiatrist would need to review the patient at every treatment for the first three months and thereafter at least every three months. Evidence of these reviews need to be documented in the notes. There should also be regular reviews of the patient's physical state and cognitive functioning.

The patient's consent should be regularly documented, either after an agreed interval of time or number of treatments.

26. Audit

26.1 Audit will be undertaken in line with the ECTAS (ECT Accreditation Service) guidelines.

27. Training Implications

27.1 Requirement for ECT staff to be trained in Immediate Life Support. To attend ECT Nurse training days run by the Royal College of Psychiatrists. PCH mandatory training.

28. Monitoring Compliance and Effectiveness

- Annual ECTAS audit
- Regular Infection Control audits
- Patient surveys

All policies are required to be electronically signed by the Lead Director. Proof of the electronic signature is stored in the policies database.

The Lead Director approves this document and any attached appendices. For operational policies this will be the Locality Manager.

The Executive signature is subject to the understanding that the policy owner has followed the organisation process for policy Ratification.

Signed: Director of Operations

Date: 30th September 2015

Appendix A

Practice Guidelines

1. Introduction

1.1 When the decision to administer ECT is based on a comprehensive assessment of the risks and potential benefits to the individual; and it is administered using evidence based best practice standards ,ECT is a safe and effective treatment for depression, and occasionally for other psychiatric disorders including schizophrenia, catatonia and mania. The basic principle of the treatment is considered to be the passage of an electrical current through the brain above the seizure threshold in order to produce a generalised tonic-clonic seizure.

1.2 ECT is administered in the ECT clinic in a suite of rooms consisting of:

(i) A waiting room

(ii) A treatment room

(iii) A recovery room

1.3 Anaesthetic Cover

The anaesthetist will be suitably qualified to administer general anaesthetics and be supported by a Department of Anaesthesia for supervision. The anaesthetist is responsible for all aspects of anaesthesia and for supervising life support. After a treatment session, the anaesthetist should not leave the ECT suite until they are satisfied that the patients have fully recovered from the anaesthetic.

1.4 Psychiatric Cover

A consultant psychiatrist is responsible for ECT who takes an active part in the day to day running of the clinic and will supervise trainee medical staff in the administration of ECT. The Consultant Psychiatrist with responsibility for ECT will supervise the following areas:

- Developing and reviewing an ECT treatment policy.
- Overseeing the training and supervision of junior psychiatric (medical) staff and medical students.
- Liaising with hospital managers to ensure the effective and efficient running of the service.
- Advising clinical teams on appropriate treatment facilitates and, if necessary, of new research and/or clinical guidelines.

In addition, the consultant will be responsible for clinical audit of the service and the promotion of research. During periods of leave another consultant psychiatrist will be appointed.

1.5 Medical staff administer ECT according to a rota system. One trained nurse will take overall responsibility for nursing supervision. Nurse staffing will be based on the assumption that one patient will be undergoing treatment and two patients may be in varying stages of recovery at any one time.

1.6 There will be a team of nursing staff who work in the ECT clinic for the purposes of continuity, each of whom will have been trained and updated in basic life support and one nurse (at least) will be trained in Immediate Life Support. If possible, temporary nursing staff should not work in the ECT Department.

1.7 Anaesthetics are administered on a tipping trolley. Patients recover on the same trolley. The equipment in, or near, the treatment room consists of:

a) ECT machine and identical spare machine
b) Anaesthetic machine
b) An oxygen cylinder, mask and bag and a full spare oxygen cylinder
c) A fully equipped emergency drugs tray
d) A fully equipped emergency trolley
e) An ECG machine
f) A defibrillator
g) A suction machine in the treatment and recovery rooms
h) A sphygmomanometer, cuff and stethoscope in treatment and recovery rooms
i) A monitor for pulse, blood pressure, ECG and arterial oxygen saturation in treatment and recovery rooms

2. Stimulus dosing policy for first and subsequent treatment sessions

2.1 Administered according to stimulus dosing table (appendices A and B)

2.2 First treatment session:

Aims:

a) To determine seizure threshold (ST): ST = lowest dose which induces an “adequate” seizure, defined by generalised peripheral tonic-clonic activity and/or EEG polyspike, followed by 3Hz spike-and-wave activity lasting for at least 25 seconds.
b) To determine the “treatment dose” to be used at the next session. Treatment dose = ST + 1 level for bilateral, or four to six times ST for unilateral electrode placement.
c) To ensure that the patient has an adequate seizure.

2.2.2 Rules:

a) Test for good contact between the electrodes and the scalp before stimulating the patient and re-test if the electrodes are moved.
b) Re-stimulate after a period of about 30 seconds if a given stimulation results in:

(i) A “missed” seizure (no change in EEG pattern)
(ii) A partial seizure = focal peripheral activity and/or absence of generalised EEG polyspike-and-wave activity
(iii) Absence of generalised peripheral tonic-clonic activity and/or EEG polyspike/3Hz spike-and-wave activity lasting < 25 seconds

Note Exception: some patients have short but nevertheless adequate seizures.

c) Wait for about 30 seconds between stimulations.
d) Terminate seizures lasting about 90 seconds or more by giving more general anaesthetic or intravenous diazepam. Intravenous diazepam should be given as Diazemuls, slowly (5mg per minute). Alert the anaesthetist to prepare to do so after 90 seconds of seizure activity.

2.2.3 First Stimulation:

a) Start at the dose level for age, sex and electrode placement on the dose titration table. Start 1 level higher if:
(i) Currently on benzodiazepines or anticonvulsant drugs
(ii) ECT has been administered within the previous month
(ii) The patient is aged of 65 or over.
b) Accept as ST dose if seizure meets criteria for an “adequate” seizure.
c) For the treatment dose, go up 1 level from ST level at second treatment session for bilateral, or four times ST for unilateral ECT.

2.2.4. Subsequent sessions:

Repeated ECT will lead progressively to an increase in the seizure threshold, and a dose of ECT that initially induced a satisfactory seizure-response at the beginning of the course of treatment may fail to do so at a later stage. For bilateral ECT moving up to the next treatment dose will be required until a satisfactory seizure-response is obtained. However, the over-riding factor is the clinical response and in some cases it may be appropriate to leave the dose of ECT unchanged if clinical response is satisfactory. If, however, clinical response is absent or slight, it may be necessary to increase the treatment dose to the next point on the stimulus-dosing table in spite of adequate seizure-response. For unilateral ECT, if the initial treatment dose fails to produce a satisfactory clinical response after four treatments, a treatment dose of six times initial ST should be used or the maximum dose that can be delivered by the machine.

3. Maintenance and servicing of equipment

3.1 The output and electrical safety of the ECG machine should be checked three monthly by the manufacturers and annually by the EME Department.

3.2 ECT electrodes are checked visually every week for integrity of their insulation and wiring by the nurse-in-charge.

3.3 Resuscitation equipment should be checked weekly by the ECT Senior Nurse and serviced by the manufacturers. This is the responsibility of the Hospital Resuscitation Officer.

ECT Stimulus Dosing Table For Unilateral ECT

STARTING POINTS	DOSE (mC)	%
	50	10
	76	15
	126	25
	202	40
	252	50

Allow an interval of about 30 seconds before re-stimulation.

Do not re-stimulate more than once in any one session of ECT.

Terminate seizures lasting over 90 seconds, usually with intravenous diazepam. This will usually be administered by the anaesthetist.

The starting dosage can be one level higher for patients already on anticonvulsant medication or a benzodiazepine, for those aged 65 years or over or if ECT has been given within the last month.

Initial treatment dose should be four times seizure threshold.

If clinical improvement is absent, slight or temporary after four treatments, six times seizure threshold should be used.

ECT Stimulus Dosing Table For Bilateral ECT

STARTING POINTS	DOSE (mC)	%
Female bilateral	50	10
Male bilateral	76	15
	126	25
	202	40
	277	55
	403	80
	504	100
	756	150
	1008	200

Allow an interval of about 30 seconds before re-stimulation.

Do not re-stimulate more than once in any one session of ECT.

Terminate seizures lasting over 90 seconds, usually with intravenous diazepam. This will usually be administered by the anaesthetist.

The starting dosage can be one level higher for patients already on anticonvulsant medication or a benzodiazepine, for those aged of 65 years or over or if ECT has been given within the last month.

Appendix D

ECT Consent & Monitoring Document

The full ECT Consent & Monitoring document is held on the intranet and can be downloaded via this link:

ECT (Electro-Convulsive Therapy) Patient Pack