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### 1.0 Descriptive summary of station:

The candidate is required to engage and educate a medical student who is a novice in electroconvulsive therapy (ECT), and demonstrate knowledge of technical administration and clinical aspects of ECT. This is done using a clinical vignette involving a patient with severe psychotic depression. He has previously responded well to ECT but tends to relapse when managed only with pharmacotherapy.

### 1.1 The main assessment aims are to:

- Address stigma related to ECT.
- Demonstrate knowledge of the technical administration of ECT.
- Outline the benefits and side effects of ECT along with measures to reduce cognitive deficits associated with ECT.
- Apply evidence-based knowledge of ECT to the individual patient.

### 1.2 The candidate MUST demonstrate the following to achieve the required standard:

- Explain at least two (2) measures taken to reduce stigma and negative impact of ECT.
- Consider continuation or maintenance ECT for this patient.
- Justify recommendation of high dose right unilateral ECT as the appropriate treatment for this patient.
- Recommend a stimulus dose 5-6 times the threshold dose which has been determined by further RUL RCT sessions.
- Accurately demonstrate bitemporal, right unilateral and bifrontal electrode placements.

### 1.3 Station covers the:

- **RANZCP OSCE Curriculum Blueprint Primary Descriptor Category:** Mood Disorders
- **Area of Practice:** Adult Psychiatry
- **CanMEDS Domains:** Medical Expert, Communicator, Health Advocate, and Scholar
- **RANZCP 2012 Fellowship Program Learning Outcomes:** Medical Expert (Management – Therapy; Assessment - Physical - Technique), Communicator (Synthesis), Health Advocate (Addressing Stigma), Scholar (Application of Knowledge)

#### **References:**

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#### 1.4 Station requirements:

- Model styrofoam head.
- Standard consulting room; no physical examination facilities required.
- Five chairs (examiners x 2, role player x 1, candidate x 1, observer x 1).
- Laminated copy of 'Instructions to Candidate'.
- Role player: Young male / female neatly dressed, articulate.
- Pen for candidate.
- Timer and batteries for examiners.

## 2.0 Instructions to Candidate

You have **fifteen (15) minutes** to complete this station after **five (5) minutes** of reading time.

You are working as a junior consultant psychiatrist in an adult inpatient unit. You are supervising Nic Jones, a fifth-year medical student attached to your team. This is Nic's first week in psychiatry, and Nic has requested a tutorial on the use of ECT for your patient, Mr Michael Middleton.

Michael Middleton is a 34-year-old man with bipolar disorder. He has been admitted with severe depression with psychotic features. Since admission his disorder has not responded well to an adequate trial of mood stabilisers, antidepressants and antipsychotic medications but continues to deteriorate.

His clinical history documents that he has had six episodes in the past, of both mania and depression. Most of the episodes have got better with 6 – 8 treatments of bitemporal ECT to achieve episode remission. He experienced cognitive difficulties especially retrograde amnesia for a few days post ECT, but when well he acknowledged that ECT was effective for him.

Mr Middleton's symptoms recurred despite maintenance mood stabilisers and antipsychotic medications even though he was unfailingly compliant with medications. Mr Middleton and his family are keen for you to make suggestions on ways to ensure that his illness does not keep relapsing. You have decided to again commence ECT for Mr. Middleton.

Nic Jones has gathered knowledge about ECT mainly from the movies and media. Nic is concerned about your decision to use ECT, and has asked if you can discuss ECT.

Your tasks are to:

- Address the medical student's concerns about the use of ECT.
- Outline your clinical decision to use ECT for Mr. Middleton to the medical student, including how side effects can be reduced.
- Explain how you would determine the dose of ECT for Mr. Middleton to the medical student.
- Using the model head, demonstrate where electrode are placed in ECT to the medical student.

**You will not be given any time prompts.**

## Station 2 - Operation Summary

### Prior to examination:

- Check the arrangement of the room, including seating and other specifics to your scenario.
- On the desk, in clear view of the candidate, place:
  - A copy of 'Instructions to Candidate' and any other candidate material specific to the station.
  - Pens.
  - Water and tissues are available for candidate use.
- Do a final rehearsal with your simulated patient.

### During examination:

- Please ensure mark sheets and other station information, are out of candidate's view.
- At the **first bell**, take your places.
- At the **second bell**, start your timer, check candidate ID number on entry.
- TAKE NOTE that there is no scripted prompt for you to give.
- DO NOT redirect or prompt the candidate unless scripted – the simulated patient has prompts to use to keep to the aims.
- If the candidate asks you for information or clarification say:  
***'Your information is in front of you – you are to do the best you can.'***
- At **fifteen (15) minutes**, as indicated by the timer, the final bell will ring. Finish the examination immediately.

### At conclusion of examination:

- Retrieve all station material from the candidate.
- Complete marking and place your co-examiner's and your mark sheet in **one** envelope by / under the door for collection (**do not seal envelope**).
- Ensure room is set up again for next candidate. (See 'Prior to examination' above.)

### If a candidate elects to finish early:

- You are to state the following:  
***'Are you satisfied you have completed the task(s)?  
If so, you must remain in the room and NOT proceed to the next station until the bell rings.'***
- If the candidate asks if you think they should finish or have done enough etc., refer them back to their instructions and ask them to decide whether they believe they have completed the task(s).

### 3.0 Instructions to Examiner

#### 3.1 In this station, your role is to:

Observe the activity undertaken in the station and judge it according to the station assessment aims and defined tasks as outlined in 1.1 and 1.2.

When the candidate enters the room briefly check ID number.

You have no opening statement.

The role player opens with the following statement:

***'I have heard some bad stories about ECT. Are they true?'***

#### 3.2 Background information for examiners

In this station, the candidate is expected to engage and educate a medical student, Nic Jones, who is a novice in electroconvulsive therapy (ECT), and has negative opinions about its use. They are to justify their decision to prescribe ECT in a patient with severe and recurrent episodes of bipolar disorder, and to demonstrate knowledge of technical administration and clinical aspects of ECT. The candidate will be assessed on their ability to address stigma related to ECT, and outline the benefits and side effects of ECT, including measures to reduce associated cognitive deficits.

In this station, the medical student believes that ECT is an antiquated treatment. Nic's knowledge is based on media reports of ECT which are largely negative. Nic is concerned that ECT can produce severe memory deficits (which has an evidence base), and even wondering if ECT could damage the brain. The candidate must address the student's concerns in several of ways: which may include acknowledging the abuse of ECT in the past; providing an outline of the changes that have taken place in the delivery of ECT (e.g. introduction of anaesthesia); emphasising the safety record of ECT (*Torrington, et al 2017*); describing modern techniques that reduce cognitive impairment (*Sackeim, et al 2008; Torrington, et al 2016*); explaining the stringent legal regulations in place for the practice of ECT; and promoting ECT psychoeducation opportunities that focus on patients, families and community.

In order to 'Achieve' in this station the candidate **MUST**:

- Explain at least two (2) measures taken to be reduce stigma and negative impact of ECT.
- Consider continuation or maintenance ECT for this patient.
- Justify recommendation of high dose right unilateral ECT as the appropriate treatment for this patient.
- Recommend a stimulus dose 5-6 times the threshold dose which has been determined by further RUL RCT sessions.
- Accurately demonstrate bitemporal, right unilateral and bifrontal electrode placements.

A surpassing candidate will demonstrate skills in engaging and educating the medical student in a sensitive manner that effectively addresses the stigma attached to ECT.

#### Detailed assessment aims

Electroconvulsive Therapy (ECT) is the most effective treatment for mood disorders (*UK ECT review group 2003*). In spite of its remarkable efficacy and exemplary safety records there is strong opposition to ECT, much of which arises from misconceptions derived from movies and media (*Payne and Prudic 2009*). Fear about ECT is common among patients and professionals. Unfounded fear contributes to stigma attached to ECT, and this acts as a major obstacle to its successful implementation. Therefore, engaging patients, families, professionals and trainees in ECT education is critical. Psychiatrists also have a duty to educate junior doctors and students to close the gap between reality and myths.

The exact mechanism of ECT is not precisely known. Few theories have been proposed and among them anti-convulsive property of ECT has gained attention (*Sackeim, et al 2004*). It is argued that ECT is a brain stimulating treatment in the sense that it stimulates the seizure shutdown mechanism of the brain. This hypothesis is supported by the observation that remission of depression is correlated with raising seizure threshold over the course of treatment.

## Strategies reducing negative impact and stigma associated with ECT

Since its inception 80 years ago, ECT has undergone successive changes.

- ECT anaesthesia came to use in late 1960s.
- Abandonment of sine wave, and use of brief pulse and ultrabrief pulse: Sine waves were earlier used to produce seizure, but they were later replaced by pulse waves that are associated with fewer cognitive deficits. This progress culminated in the use of ultrabrief pulse which has favourable outcomes on cognitive functions post ECT.
- Other measures to reduce cognitive deficits (see below).
- Legislative regulation has been put in place, particularly when used in people with reduced capacity to consent, and tight regulation measures ensure appropriate use of ECT.
- Increased research into application, safety and outcomes of ECT to guide practice change.
- Training and education of staff and patients / family / carers, credentialing processes for psychiatrists regularly include ECT. ECT education activities focus on patients / family brochures and DVDs; being available to answer specific questions; visits to the ECT suite; family attendance at ECT.
- Media Education about ECT.

## Indications for ECT

ECT is typically indicated for major depressive disorder complicated by reduced fluid and nutritional intake, high risk of suicide or catatonia. Depressive symptoms that are refractory to pharmacotherapy, and major depressive disorder complicated by psychotic symptoms can be treated by ECT. Other indications of ECT include manic syndrome and psychosis that do not respond to pharmacotherapy.

ECT has some use in severe behavioural and psychological symptoms of dementia, self-injurious behaviour associated with autistic spectrum disorders, Parkinson's disease and intractable epilepsy, but these conditions are not common or well researched indications for ECT (*van den Berg, et al 2017; Watchtel, et al 2018*), and so are not required to meet the standard in this station.

Better candidates may articulate details of ECT research, and use of evidence-based treatment guidelines including RANZCP guidelines (*American psychiatric Association 2001; Mahli, et al 2015. See RANZCP guideline*), specialised ECT journals and recent practice of family attendance at ECT may qualify for surpassing the standard.

## Side effects of ECT

The common side effects of ECT are generalised body pain, headache and confusion usually on the day of the treatment. The most troublesome adverse effect of ECT is cognitive deficits particularly retrograde amnesia which can be permanent in approximately 12% of patients receiving bilateral ECT and sine wave stimulation, but has not been reported for persons receiving unilateral ECT (*Sackeim 2007*). The candidate should articulate contraindications for ECT, and precautions that must be undertaken in high risk conditions.

Cochlear implant is an important contraindication for ECT, and a number of conditions warrant precautions and careful considerations of risk-benefit ratio. Severe cardiac failure (ejection fraction below 30%), recent myocardial infarction, raised intracranial tension, current deep vein thrombosis, arterial aneurysm, arterio-venous malformation, bone fracture, uncontrolled hypertension and lower respiratory infections are some of the relative contra-indications for ECT. The treatment under these circumstances is given when it is determined that ECT is lifesaving, and no alternate treatment is effective or available.

## Electrode placement

The candidate must demonstrate commonly used electrode placements: bifrontotemporal (or widely known as 'bitemporal'), bifrontal and right unilateral (RUL) placements.

- For bitemporal ECT the anatomical location is 2.5-3 cm above the midpoint on a line drawn from the tragus of ear to the outer angle of eye on either side (*Prudic and Duan 2017*).
- The original placements for bifrontal ECT were two inches apart symmetrically on either side of the midline extending superiorly from the nasion (*Abrams and Taylor 1973*). This was later modified to 4–5 cm above the outer canthus of the eye along a vertical line perpendicular to a line connecting the pupils (either response from the candidate is acceptable).
- The anatomic locations for RUL ECT include right frontotemporal position as in bitemporal placement, and the other will be just to the right of the vertex (d'Elia position).

The placements in ECT vary across centres and the profile of individual patients.

## Prevention of cognitive deficits

Cognitive deficits particularly autobiographical memory loss is the most troublesome adverse effect of ECT. Furthermore, memory loss heavily contributes to stigma and historical opposition to ECT hindering its practice.

The candidate is expected to identify significant cognitive impairment associated with bitemporal ECT, specifically retrograde amnesia which can be permanent in some patients (*Sackeim 2007*). Although the exact figure is not required the candidate should demonstrate awareness of permanent nature of retrograde amnesia at least in some patients receiving bitemporal ECT.

The candidate is expected to elaborate on techniques to reduce cognitive side effects of ECT. These include:

- RUL electrode placement instead of bitemporal placement;
- reducing the frequency of ECT from three to two times a week;
- using ultrabrief pulse in place of brief pulse (*Sackeim, et al 2008; Tor, et al 2015*).

To the best evidence, RUL is as efficacious as BT ECT at higher dose (six times threshold) with better cognitive outcomes compared with BT ECT (*Kolshus, et al 2017*). For these reasons RUL is preferred over BT ECT for the patient in this station.

There is some evidence that the antidepressant effect of ECT may be related to suppression of prefrontal systems, and that amnesic effects may be related to medial temporal structures. The site of stimulation and direction of current flow may be more important than seizure propagation. Focal electrically administered seizure therapy (FEAST) is a relatively new approach to ECT designed to reduce adverse cognitive effects. It differs from ultrabrief pulse RUL ECT because it uses unidirectional rather than bidirectional current, and a novel nonsymmetric electrode placement (a large posterior electrode in front of the right motor cortex and a small anterior electrode above the centre of the right eyebrow, over the right orbitofrontal cortex) (*Sahlem GL et al 2016*).

As retrograde amnesia for autobiographical information is the most significant adverse effect of ECT, more recent research tends to suggest testing for long-term autobiographical amnesia. Tools like the Columbia University Autobiographical Memory Interview (CUAMI) or the short form of this scale (CUAMI-SF) have been studied.

## Calculating the dose

There are two methods to determine dose in ECT: dose titration and age-based dosing (*American Psychiatric Association 2002*).

Although these methods are still debatable, stimulus dose titration has gained considerable impetus across the globe and is widely practised in Australasia. Elaboration of stepwise dose increment alone is not sufficient to meet the requirement of this domain. The candidate must mention the principle of titration: individualise the threshold dose. There is huge variation, up to 200-times, in the threshold dose. Therefore, determining threshold dose is critical in ensuring efficacy and safety particularly for right unilateral ECT (elaboration of titration protocol or differences in the doses between women and men is NOT required for achieving standard). For bitemporal ECT 1.5 times threshold is recommended, and for RUL six times (500% times above threshold) threshold is necessary for optimal outcome (*Sackeim, et al 2000*). Some centres follow five times threshold which is slightly under dosed, but this is acceptable for this station. A response of three times threshold is grossly inadequate, and against the evidence-base. The adequate dose for bifrontal ECT is currently the same as bitemporal ECT, but this is under investigation.

## Role of continuation or maintenance treatment

Continuation ECT (C-ECT) and maintenance ECT (M-ECT) may be required for many patients with severe and recurrent forms of mood disorders. There is modest efficacy from these treatment modalities in preventing relapse and recurrence in patients who have responded to an index course of ECT. Multiple relapses soon after remission from acute ECT even with adequate pharmacotherapy is a clear indication for continuation or maintenance ECT.

Based on the evidence of efficacy and side effects, the candidate should arrive at a conclusion that C-ECT (up to six months after remission of index episode) or M-ECT (beyond six months with no predetermined end point) are options for this patient.



### 3.3 The Standard Required

**Surpasses the Standard** – the candidate demonstrates competence above the level of a junior consultant psychiatrist in several of the domains described below.

**Achieves the Standard** – the candidate demonstrates competence expected of a junior consultant psychiatrist. That is the candidate is able to demonstrate, *taking their performance in the examination overall*, that

- i. they have competence as a **medical expert** who can apply psychiatric knowledge including medicolegal expertise, clinical skills and professional attitudes in the care of patients (such attitudes may include an ability to tolerate uncertainty, balance, open-mindedness, curiosity, 'common sense' and a scientific approach).
- ii. they can act as a **communicator** who effectively facilitates the doctor patient relationship.
- iii. they can **collaborate** effectively within a healthcare team to optimise patient care.
- iv. they can act as **managers** in healthcare organisations who contribute to the effectiveness of the healthcare system, organise sustainable practices and make decisions about allocating resources.
- v. they can act as **health advocates** to advance the health and wellbeing of individual patients, communities and populations.
- vi. they can act as **scholars** who demonstrate a life-long commitment to learning as well as the creation, dissemination, application and translation of medical knowledge.
- vii. they can act as **professionals** who are committed to ethical practice and high personal standards of behaviour.

**Below the Standard** – the candidate demonstrates significant defects in several of the domains listed above.

**Domain Not Addressed** – the candidate demonstrates significant defects in all of the domains listed above or the candidate demonstrates significant defects in the first domain of being a medical expert.

## 4.0 Instructions to the Role Player

### 4.1 This is the information you need to memorise for your role:

You are Nic Jones, a fifth-year medical student at the University of Auckland. The training for your medical degree lasts a total of six years. This is the first week of a six-week placement in psychiatry. You have had no real exposure to people with mental illness prior to this, and you are really enjoying your time in the ward talking to patients, and also learning all kinds of interesting facts and skills.

Today you are meeting your psychiatrist supervisor (the candidate) to discuss electroconvulsive therapy (ECT) in a tutorial. You plan to become a GP after you graduate, and are aware that your work will require you to care for persons with mental illnesses. Consequently, you wish to make the most of your time here. However, you are embarrassed to acknowledge that prior to this you did have a somewhat biased image of psychiatry, and of people with mental illnesses. You always thought that were probably scary and dangerous. Your experiences over the past week are beginning to show you otherwise.

As a part of your training you are expected to observe a few ECT sessions. You want to understand why ECT is still continued as a treatment in psychiatry. The candidate is expected to listen to your concerns and teach you things about ECT.

You do not have medical knowledge of ECT but have read about it in the media, and watched some movies that depicted ECT in a rather frightening manner ('Snake Pit', 'One Flew Over Cuckoo's Nest'). In these, you have seen the treatment produce violent shakes of hands, legs and the entire body with clenching of teeth. Patients seemed to be dazed and 'confused' after ECT. At the beginning of your training you recall one of your friends had told you that his father had been treated with ECT, and that he had subsequently suffered problems with memory loss. You therefore think that ECT is an outdated procedure, and cannot understand why it continues to be given these days. You also believe ECT may cause brain damage.

If the candidate asks you why you think it is outdated or encourages you to talk more about ECT, then freely talk about your lack of knowledge and what you have seen in the movies (you may demonstrate the violent movements and clenching of teeth in a manner that you saw in the movie). You also express the concern of memory loss as reported to you by your friend. He had said that his father's brain 'was fried' with ECT, but you wonder whether that was just his way of describing things. However, based on the experience of your friend's father, you know that ECT is associated with memory loss. Therefore, you are keen to know if there are any ways to reduce this side effect of ECT if it has to be used.

Your request for the tutorial has arisen because the psychiatrist has decided to administer ECT for Mr Michael Middleton, and you have a series of questions for the psychiatrist.

#### **About the patient**

Michael Middleton is a 34-year-old man admitted to the ward with bipolar disorder, which is also known as manic depression where people's moods can become very elevated or depressed. He is currently severely depressed with psychotic symptoms whereby he believes that his gut is rotting. Consequently, he has been refusing food for the last 2 – 3 days, and drinks only small amounts of fluids. The treating team has obtained consent to give him electroconvulsive therapy which is due to begin on Monday.

#### ***Background information to assist you to understand the case – but it is not required for you to provide to the candidate unless specifically asked:***

In the past, Mr Middleton has had a total of six episodes of severe mania and depression which have required ECT to produce an improvement in his wellbeing. He gets well after a few treatments, but his illness tends to relapse quite rapidly after ECT is discontinued despite adequate medications which he takes regularly (he has been on a combination of medications called mood stabilisers, antipsychotics and when required, antidepressants). He does experience problems with his thinking especially for the times just before having ECT, and for a few days after ECT. When he is well he acknowledges that this is an effective treatment for him. Mr Middleton and his family are keen for the doctor to suggest alternative longer-term treatments to ensure that his illness does not keep relapsing.

In response to your interest in '**Why have you chosen to give Mr. Middleton ECT?**' the candidate may describe various psychiatric disorders for which ECT is indicated. '**What other side effects could he have?**' will allow the candidate to illustrate common side effects of ECT. You can then become curious to know whether there are conditions when it is risky to give ECT or when ECT is not safe to be used. Based on your concerns about memory loss you ask: '**How will you reduce memory loss for this man?**'

As the tutorial progresses, you become more and more interested in ECT. You started with a negative view of ECT, but with sufficient explanations from the candidate you are now keen to know **how ECT works**. This question leads to proposed mechanism of ECT. The candidate may offer you one or more theories of ECT.

## Technical administration of ECT

At some stage you want to know how ECT is administered. The candidate is provided a styrofoam head for demonstration of electrode placements. If the candidate does not show you clearly, you ask the candidate for demonstrate exactly **where ECT electrodes are placed**. After the candidate has explained placements, you are curious about how the candidate will calculate the dose required for the patient.

You are aware that Mr. Middleton had relapses soon after a successful course of ECT, and that he has been wondering whether something can be done to maintain his wellness, thus the question: ***'How long should ECT be continued for Mr. Middleton?'***

### 4.2 How to play the role:

Overall you appear ambivalent about ECT, but start off with quite a negative attitude, based on what you know about it. However, being a student who is keen to learn, you are not against it but reserved. You have some concerns about it, but are open to accept an expert opinion. You will settle down if you feel that you are heard and understood.

If the candidate adequately addresses the stigma, you can show positive interest in learning about ECT.

### 4.3 Opening statement:

***'I have heard some bad stories about ECT. Are they true?'***

### 4.4 What to expect from the candidate:

The candidate is expected to address your concerns in a respectful manner accommodating your inexperience as a medical student. Then the candidate must describe different types of electrode placements (these will be shown to you at the training): called bitemporal, bifrontal and right unilateral (RUL) placements. The candidates should specify the anatomical landmarks for each placement and name them.

The use of ECT is an area of mental health that is stigmatised, and sometimes strongly opposed as a treatment. The candidate is expected to identify that ECT is a heavily stigmatised treatment, and acknowledge that ECT was misused in the past. The candidate may address your concerns, and respond by sharing knowledge of the historical changes that occurred in the field of ECT, which include the introduction of anaesthesia during ECT that transformed the crude form of treatment to modified ECT with transient muscle paralysis, measures to reduce memory loss, stringent legislative regulations that have been put in place under the mental health act for the administering of ECT; and ECT research and quality improvement activities.

The candidate must also take the time to demonstrate how ECT is done using the styrofoam head provided to show you where clinicians place the electrodes with illustration of anatomical landmarks.

### 4.5 Questions you MUST ask:

***'Why have you chosen to give Mr. Middleton ECT?'***

***'How will you reduce memory loss for this man?'***

***'What other side effects could he have?'***

***'How long should ECT be continued for Mr. Middleton?'***

### 4.6 Responses you MIGHT make:

***'When shouldn't ECT be used?'***

***'How does ECT work?'***

***'What electrode placement is appropriate for Mr Middleton and why?'***

***'Do other things help reduce memory loss?'***

### 4.7 Medication and dosage that you need to remember:

Mr Middleton is on medications, but you do not know what they are.

## STATION 2 – MARKING DOMAINS

### The main assessment aims are to:

- Address stigma related to ECT.
- Demonstrate knowledge of the technical administration of ECT.
- Outline the benefits and side effects of ECT along with measures to reduce cognitive deficits associated with ECT.
- Apply evidence-based knowledge of ECT to the individual patient.

### Level of Observed Competence:

#### 5.0 HEALTH ADVOCATE

#### 5.2 Did the candidate appropriately seek to address stigma associated with ECT? (Proportionate value - 20%)

##### **Surpasses the Standard (scores 5) if:**

clearly achieves the overall standard with a superior performance in a range of areas; mentions anti-ECT movements and high-profile media portrayal of ECT; makes reference to positive accounts of ECT experience by celebrities, Journal of ECT; acknowledges that stigma persists and ECT education has a long way to go.

##### **Achieves the Standard by:**

demonstrating knowledge about historical changes to ECT; identifying impact of society beliefs and stigma; acknowledging past abuse of ECT and unmodified ECT with severe complications (e.g. joint dislocation); emphasising the safety record of ECT; offering opportunity for family attendance at ECT to promote better understanding.

To achieve the standard (**scores 3**) the candidate **MUST**:

- Explain at least two (2) measures taken to reduce stigma and negative impact of ECT.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

##### **Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above or has omissions that would detract from the overall quality response.

##### **Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; omissions adversely impact on engagement and education; limited capacity to identify impact of stigma on use of ECT; significant deficiencies in providing historical changes in ECT; being dismissive, argumentative or critical of the medical student.

##### **Does Not Address the Task of This Domain (scores 0).**

5.2 Category: Addressing stigma	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

#### 6.0 SCHOLAR

#### 6.4 Did the candidate prioritise and apply appropriate and accurate knowledge of indications and side effects of ECT based on available literature? (Proportionate value - 20 %)

##### **Surpasses the Standard (scores 5) if:**

acknowledges the limited scientific information about mechanism of ECT prevents clear explanations of best indications and expected side effects; aligns proposed, but debatable theories of mechanisms of ECT to possible indications and side effects; outlines actions to reduce risks like specific logistics of maintenance ECT (e.g. presence of a caretaker for 24 hours after ECT).

##### **Achieves the Standard by:**

demonstrating the understanding of common indications of ECT as well as other indications; enumerating contraindications for ECT and conditions that need precautions; accurately identifying substantial relapse rate following termination of acute ECT; explaining side effects of the treatment and those related to the use of anaesthesia.

To achieve the standard (**scores 3**) the candidate **MUST**:

- Consider continuation or maintenance ECT for this patient.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

##### **Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

##### **Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; does not cover these areas in their interaction with the student; errors or omissions impact adversely on patient care; inappropriate indications (e.g. anxiety disorders); does not identify high risk situations for ECT.

##### **Does Not Address the Task of This Domain (scores 0).**

6.4. Category: APPLICATION OF KNOWLEDGE	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**1.0. MEDICAL EXPERT**

**1.14 Did the candidate demonstrate an adequate knowledge of application of specific strategies to minimise ECT related cognitive impairment for this patient? (Proportionate value - 20%)**

**Surpasses the Standard (scores 5) if:**

includes a clear understanding of levels of evidence to support treatment options; mentions newer techniques (e.g. FEAST); refers to sophisticated instruments to screen cognitive deficits specific to ECT (Columbia Autobiographical Inventory to detect autobiographical memory); makes reference to meta-analysis of randomised trials comparing brief pulse against ultrabrief pulse ECT.

**Achieves the Standard by:**

demonstrating awareness of common techniques to reduce cognitive impairment in routine clinical practice like use of right unilateral ECT instead of bitemporal ECT, use of ultrabrief pulse in place of brief pulse, increased interval between treatments (three times a week ECT vs. twice a week ECT), use of cholinesterase inhibitor (donepezil) in improving cognitive function; acknowledging possible, but mild reduction in efficacy with ultrabrief ECT; suggesting future switch into bitemporal ECT if RUL ECT fails after 6-8 treatments; considering continuation or maintenance for this patient.

To achieve the standard (scores 3) the candidate **MUST:**

- a. Justify recommendation of high dose right unilateral ECT as the appropriate treatment for this patient.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; does not provide an accurate account of strategies to reduce cognitive impairment; missing major aspects of treatment recommendations; dismissive of cognitive side effects of ECT.

**Does Not Address the Task of This Domain (scores 0).**

1.14. Category: MANAGEMENT - Therapy	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**2.0 COMMUNICATOR**

**2.5 Did the candidate effectively communicate the titration procedures in an appropriate manner to the medical student? (Proportionate value - 20%)**

**Surpasses the Standard (scores 5) if:**

integrates information in a manner that can effectively be utilised by the medical student; provides succinct and professional information; mentions controversy about dose titration; discusses advantages and disadvantages of titration against age-based method.

**Achieves the Standard by:**

providing accurate and structured verbal report; prioritising and synthesising information; demonstrating discernment in selection of content; explicitly stating the principle of titration; identifying the dose above threshold as critical in determining efficacy and side effects; describing optimal dose for electrode placement.

To achieve the standard (scores 3) the candidate **MUST:**

- a. Recommend a stimulus dose 5-6 times the threshold dose which has been determined by further RUL RCT sessions.

**A score of 4** may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; any errors or omissions impact on the accuracy of information provided; inaccurate or inadequate information provided; recommends three-time threshold dose for right unilateral ECT or more than two times threshold for bitemporal ECT.

**Does Not Address the Task of This Domain (scores 0).**

2.5. Category: SYNTHESIS	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**1.0 MEDICAL EXPERT**

**1.5 Did the candidate demonstrate adequate technique application of ECT? (Proportionate value – 20%)**

**Surpasses the Standard (scores 5) if:**

overall application technique is accurate and well explained; performs a detailed and thorough teaching procedure; refers to studies that compare different electrode placements; demonstrates a sophisticated understanding of brain stimulation; describes how an ECT suite functions.

**Achieves the Standard by:**

competently describing the electrode placements on the styrofoam head while explaining the sites; accurately and adequately describing anatomical landmarks; describing the process of choosing and planning electrode placement.

To achieve the standard (scores 3) the candidate **MUST:**

- a. Accurately demonstrate bitemporal, right unilateral and bifrontal electrode placements.

A score of 4 may be awarded depending on the depth and breadth of additional factors covered; if the candidate includes most or all correct elements.

**Below the Standard (scores 2):**

scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response.

**Below the Standard (scores 1):**

scores 1 if there are significant omissions affecting quality; incorrect technique is utilised; incorrect explanation is given.

**Does Not Address the Task of This Domain (scores 0).**

1.5. Category: ASSESSMENT – Physical – Technique	Surpasses Standard	Achieves Standard		Below the Standard		Domain Not Addressed
ENTER GRADE (X) IN ONE BOX ONLY	5 <input type="checkbox"/>	4 <input type="checkbox"/>	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>

**GLOBAL PROFICIENCY RATING**

Did the candidate demonstrate adequate overall knowledge and performance at the level of a junior consultant psychiatrist?

<b>Circle One Grade to Score</b>	<b>Definite Pass</b>	<b>Marginal Performance</b>	<b>Definite Fail</b>
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