



Modified Essay Questions

MARKING GUIDE

AUGUST 2022

INSTRUCTIONS:

- Please use pencil ONLY.
- Do not fold or bend.
- Erase mistakes fully.
- Completely fill in the oval.



Please MARK LIKE THIS ONLY:

Modified Essay 4

Each question within this modified essay will be marked by a different examiner. The examiner marking this question will not have access to your answers to the other questions. Therefore, please ensure that you address each question separately and specifically. Answer this question fully, even if you believe that you have partly covered its content in your answers to other questions.

You are a junior consultant psychiatrist in an acute psychiatric inpatient unit attached to a teaching hospital. You are considering prescribing an antipsychotic medication for a young female science student, Nicolette, who has presented with a first episode psychosis. You requested a baseline ECG and it has come back “unremarkable”.

Nicolette asks you about the ECG trace.

Question 4.1

List the elements involved in interpreting an ECG trace recording. (5 marks)

A.	<p>Systematic interpretation of an ECG tracing:</p> <ul style="list-style-type: none"> • Rate: heart rate. • Rhythm: Sinus, AF. • Intervals/ segments: PR interval, QRS duration, QT interval (start of q-wave to the end of the t-wave), ST Segment. <ul style="list-style-type: none"> • QT interval is the length of time required for the heart to repolarise following the onset of depolarisation. • QTc is QT corrected for heart rate. • Axis. • Conduction analysis: normal, BBB etc. • Waveform description (i.e. T wave morphology, etc.) • Compare with previous ECGs if available. • Correlate the ECG findings with clinical presentation / context in interpreting the ECG. 	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
B.	SPARE	<input type="radio"/>
C.	CANDIDATE DID NOT ATTEMPT	<input type="radio"/>
D.	DID HANDWRITING AFFECT MARKING?	<input type="radio"/>

NOTES TO EXAMINER

- **SPARE:** Only to be used after approval from Co-Chairs, Writtens Subcommittee.
- **DID NOT ATTEMPT:** If the candidate did not attempt this question, fill in ONLY the **CANDIDATE DID NOT ATTEMPT** bubble.
No other bubbles should be filled in.
- **MARKS:** This question is worth 5 marks, however, a total of greater than 5 is acceptable.
- **CHECK:** You have marked one bubble for each sub question and initial the box once you have completed marking.



Marker initials

References:

- Yanowitz FG. 2018. Introduction to ECG interpretation. Vol 10 (2017-2018). Intermountain Healthcare.



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Please MARK 0
LIKE THIS ONLY: 1
 2

Modified Essay 4

The information that is presented in *italics* in this question is a repetition of the earlier sections of the case vignette.

You are a junior consultant psychiatrist in an acute psychiatric inpatient unit attached to a teaching hospital. You are considering prescribing an antipsychotic medication for a young female science student, Nicolette, who has presented with a first episode psychosis. You requested a baseline ECG and it has come back "unremarkable".

Nicolette asks you about the ECG trace.

Question 4.2

Outline (list and justify) the importance of monitoring the QTc interval in psychiatric patients.

Please note: a list with no justification will not receive any marks. (12 marks)

A.	<p>Risks of prolonged QTc interval:</p> <ul style="list-style-type: none"> • State of increased vulnerability to malignant ventricular arrhythmias, syncope, and sudden death. • Duration of QTc greater than 440ms (0.44s) for males or 470ms (0.47s) for females increases risk (suggested by limited evidence). • Duration of QTc greater than 500ms (0.50s) is linked to an increased risk of arrhythmias (stronger evidence), Torsade de pointes (QTc intervals >650ms may be more likely than not to induce torsades). • Overall risk is related to dose, plasma concentration and polypharmacy. • When the dose is increased or adjunctive medications are being considered, QTc interval is likely to increase. 	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
B.	<p>Risk may be compounded by lifestyle factors and in patients with other comorbidities often associated with chronic psychiatric conditions such as metabolic syndrome, obesity, smoking-related health effects, impaired GTT.</p>	<input type="radio"/> 0 <input type="radio"/> 1
C.	<p>QTc prolongation can be caused by a range of medical conditions and commonly used non-psychotropic medications.</p> <ul style="list-style-type: none"> • Medications: <i>Antibiotics – azithromycin, clarithromycin, erythromycin, roxithromycin, metronidazole (with alcohol), moxifloxan</i> <i>Antifungal – fluconazole, (in cirrhosis) ketoconazole</i> <i>Antivirals – nelfinavir</i> <i>Antimalarials – chloroquine, mefloquine</i> <i>Methadone</i> <i>Anti-arrhythmic medications - amiodarone</i> <i>Immunosuppressants – cyclosporin</i> • Increased risk with female gender, stress/shock, anorexia nervosa, extremes of age. • Congenital conditions - Wolf-Parkinson-White syndrome, etc. • Cardiac conditions – left ventricular hypertrophy, heart failure, myocardial infarction. • Metabolic syndrome – hypertension, diabetes mellitus, hyperthyroidism, elevated cholesterol levels, high BMI, Slow HR. • Electrolyte imbalance – hypokalemia, hypomagnesaemia, hypocalcaemia. 	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
D.	<p>Psychotropic medications known to cause prolonged QTc in high doses:</p> <ul style="list-style-type: none"> • Antipsychotic agents: <ul style="list-style-type: none"> • High effect: <i>pimozide</i>; drug combinations; excessive dosing; any intravenous antipsychotic. • Moderate effect: <i>amisulpiride, chlorpromazine, haloperidol, quetiapine, ziprasidone</i>. • Low effect: <i>aripiprazole, asenapine, clozapine, olanzapine, paliperidone, risperidone, sulpiride</i>. • No effect: <i>lurasidone, brexpiprazole, cariprazine</i>. • Antidepressants: <ul style="list-style-type: none"> • SSRIs – <i>citalopram, escitalopram, fluoxetine, sertraline, fluvoxamine, paroxetine</i>. • <i>Venlafaxine</i>. • <i>Tricyclic antidepressants</i>. • Mood stabilisers: <i>Lithium</i>. • Other commonly used non-psychotropic medications. 	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
E.	SPARE	<input type="radio"/> 1
F.	CANDIDATE DID NOT ATTEMPT	<input type="radio"/>
G.	DID HANDWRITING AFFECT MARKING?	<input type="radio"/>

P.T.O. →

NOTES TO EXAMINER

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- **DID NOT ATTEMPT:** If the candidate did not attempt this question, fill in **ONLY** the **CANDIDATE DID NOT ATTEMPT** bubble.
No other bubbles should be filled in.
- **MARKS:** This question is worth 12 marks, however, a total of greater than 12 is acceptable.
- **CHECK:** You have marked one bubble for each sub question and initial the box once you have completed marking.



Marker initials

References:

Isbister GK. 2015. Risk assessment of drug-induced QT prolongation. *Australian Prescriber*. 38:20-24. DOI: 10.18773/austprescr.2015.003.

- Taylor D., Barnes T., & Young A. 2021. *The Maudsley Prescribing Guidelines in Psychiatry*. 14th Edition. Wiley Blackwell.
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You are a junior consultant psychiatrist in an acute psychiatric inpatient unit attached to a teaching hospital. You are considering prescribing an antipsychotic medication for a young female science student, Nicolette, who has presented with a first episode psychosis. You requested a baseline ECG and it has come back "unremarkable".

Nicolette asks you about the ECG trace.

Nicolette is prescribed an antipsychotic. A week later, her repeat ECG reveals a QTc interval of 480ms

Question 4.3

Outline (list and justify) your approach to this finding.

Please note: a list with no justification will not receive any marks. (8 marks)

A.	Repeat the ECG as the tracing could have been affected by time of day, food and alcohol intake (e.g. whilst on leave from the ward).	<input type="radio"/> <input type="radio"/>
B.	Review past medical history including prior cardiac history. Review past ECGs (including baseline) and compare, as it may not be a medication effect.	<input type="radio"/> <input type="radio"/>
C.	Review current prescription - including the use of other medications, such as an antidepressant (like some SSRIs) which may inhibit the metabolism of the antipsychotic.	<input type="radio"/> <input type="radio"/>
D.	Review benefit vs risk, especially if there is no comorbidity or other risk factors.	<input type="radio"/> <input type="radio"/>
E.	Consider reduction in dose or change of medication to an antipsychotic less likely to cause QTc changes (female, QTc >470ms).	<input type="radio"/> <input type="radio"/>
F.	Consider a cardiology opinion if the repeat ECG reveals prolongation of QTc. (QTc > 470 ms but <500 ms) (may not be necessary as QTc <500ms).	<input type="radio"/> <input type="radio"/>
G.	Consider use of other medication (within scope) e.g. beta blocker, magnesium supplementation. NOTE TO EXAMINER: most psychiatrists would not have this within their scope of practice.	<input type="radio"/> <input type="radio"/>
H.	Routine ECG monitoring for QTc prolongation and abnormal T wave morphology. Frequency of ECG monitoring - at least annually, or when medication dose is increased, or when add-on medications are being considered.	<input type="radio"/> <input type="radio"/> <input type="radio"/>
I.	Psychoeducation, advise patient (and/or family) of ECG changes, minimising risk etc. Include Nicolette in the discussion.	<input type="radio"/> <input type="radio"/>
J.	Review and investigate possible electrolyte abnormalities e.g. magnesium, potassium.	<input type="radio"/> <input type="radio"/>
K.	SPARE	<input type="radio"/>
L.	CANDIDATE DID NOT ATTEMPT	<input type="radio"/>
M.	DID HANDWRITING AFFECT MARKING?	<input type="radio"/>

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- **MARKS:** This question is worth 8 marks, however, a total of greater than 8 is acceptable.
- **CHECK:** You have marked one bubble for each sub question and initial the box once you have completed marking.



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References:

- Taylor D., Barnes T., & Young A. 2021. The Maudsley Prescribing Guidelines in Psychiatry. 14th Edition. Wiley Blackwell.