Committee for Examinations
Objective Structured Clinical Examination
Station 3
Adelaide September 2017

The Royal Australian & New Zealand College of Psychiatrists

1.0 Descriptive summary of station:

In this station the candidate will review a man with schizoaffective disorder who is on multiple medications, and is referred by his GP for assessment of symptoms and a medication review. The candidate needs to demonstrate the ability to identify cardiovascular risk of polypharmacy, appropriately interpret investigation results and undertake a focussed physical examination to exclude any cardiac abnormalities, and identify metabolic syndrome.

1.1 The main assessment aims are:

- To undertake a focussed physical examination to exclude cardiac abnormalities and identify metabolic syndrome.
- To accurately interpret investigation results (ECG and blood investigations).
- To identify cardiovascular risks related to psychotropic polypharmacy.
- To present the diagnosis and management plan to the examiner.

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

- Use accurate technique to assess blood pressure and BMI.
- Accurately explain at least two of hypercholesterolemia, hypertriglyceridemia, hyperlipidaemia, raised LDL or fasting glucose as part of a raised metabolic profile.
- Link presentation to polypharmacy.
- Explain QTc prolongation on the Electrocardiogram (ECG).
- Address the patient's concern of tiredness.
- Manage the metabolic syndrome through psychoeducation, dietary management and exercise.

1.3 Station covers the:

- **RANZCP OSCE Curriculum Blueprint Primary Descriptor Category**: Medical Disorders in Psychiatry; Psychotic Disorders
- **Area of Practice**: Adult Psychiatry
- **CanMEDS Domains**: Medical Expert, Collaborator
- RANZCP 2012 Fellowship Program Learning Outcomes: Medical Expert (Assessment – Physical – Selection; Diagnosis – Investigation Analysis; Diagnosis; Management – Initial Plan)

References:

- The Maudsley Prescribing guidelines in Psychiatry, 12th Edition, D Taylor, C Paton, S Kapur
- Metabolic syndrome: Overview and current guidelines, Julian Halcox & Arshed A. Quyyumi, PP 1-12, Hospital physician 2006
- A comprehensive definition for Metabolic syndrome, Paul L Huang, Disease Model & Mechanics. 2009 May-Jun; 2(5-6): 231–237.
- Clinical examination – A systematic guide to physical diagnosis, 3rd Edition – Talley N.J., O'Connor S
- ECG Interpretation made incredibly easy, 5th edition, Lippincott Williams and Wilkins.
- Waist Circumference and Waist-Hip Ratio – Report of a WHO expert Consultation, Geneva, December 2008

1.4 Station requirements:

- Standard consulting room: physical examination requirements – cardiac, measuring tape, BMI calculating table
- Five chairs (examiners x 2, role player x 1, candidate x 1, observer x 1).
- Laminated copy of 'Instructions to Candidate'.
- Role player: 40-year-old male, approximately 170cm tall and weighing about 100kg, wearing a buttoned shirt and casual pants
- 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 a community mental health setting. Mr Ryan Butler has been referred by his General Practitioner Dr Thomas for an assessment and a review of his medication.

Ryan is a 45-year-old single unemployed man, diagnosed with schizoaffective disorder 8 years ago. He has had 3 hospital admissions and was case managed in the past. One year ago, he was discharged to his GP on olanzapine 25mg nocte and lithium 500mg BD as his condition was stable.

Ryan suffered a minor soft tissue injury a few months ago leading to ongoing pain. At that time, he noted worsening in his mood and sleep. His GP increased the olanzapine to 30mg nocte and lithium to 500mg mane and 750mg nocte. In the past few weeks the GP also prescribed quetiapine 100mg nocte and 50mg PRN, mirtazapine 30mg nocte, diazepam 10mg daily, and amitriptyline 25mg nocte.

Ryan smokes up to 10 cigarettes per day but denies current alcohol or illicit substance use. Ryan has no significant past medical history. He lives a sedentary lifestyle. His father died of heart failure 7 years ago.

Today Ryan shows no sign of relapse. He does complain of 'an occasional funny feeling' in his chest, which developed after his GP increased his medications. Ryan reports feeling tired a lot of the time. He is also worried about 17kg weight gain over the last year, and currently weighs 108kg. His height is 170cm.

There are three (3) tasks.

Your first two tasks are to:

- Conduct a focussed physical examination while providing an explanatory commentary **to the examiner**.
- In the context of your findings, interpret the blood results and ECG **to the examiner**.

  (You are not required to take a history, you may make enquiries to assist with your assessment)

At **eleven (11) minutes** the examiner will present you with the third task.

Blood Results

07.09.2017 - Full Blood Examination:

Haemoglobin	120 g/L	(135-180)
Red Cell count	3.9 x 10^{12}/L	(4.2 – 6.0)
Haematocrit	0.32	(0.38 -0.52)
Mean Cell Volume	98 fL	(80 – 98)
Mean Cell Haemoglobin	33 pg	(27 -35)
Platelet Count	319 x 10^{9} /L	(150 – 450)
White Cell Count	6.9 x 10^{9} /L	(4.0 – 11.0)

07.09.2017 – Biochemistry Serum

Na	139 mmol/L	(135-145)
K	4.0 mmol/L	(3.5 -5.5)
Cl	105 mmol/L	(95-110)
Bicarbonate	27 mmol/L	(19-32)
Urea	3.9 mmol/L	(2.8 – 8.0)
Creatinine	75 umol/L	(60-110)
eGFR	>75 mL/min/1.73m2	
Cholesterol	6.8 mmol/L	(<5.5)
Triglycerides	3.9 mmol/L	(<2.2)
LDL	5.72 mmol/L	(0.0 – 4.0)
HDL	0.68 mmol/L	(0.90 – 1.50)
T. Bilirubun	10 umol/L	(<21)
Alk Phos	98 U/L	(30-110)
GGT	65 U/L	(0 – 50)
ALT	43 U/L	(0 – 40)
AST	20 U/L	(0 – 45)
LDH	223 U/L	(120 -250)
Fasting Glucose	8.0mmol/L	(3.6-6.0)
CRP	23mg/L	(<10)
Serum Troponin I	0.02 µg/L	(<0.03)
Lithium Level	0.6mmol/L	(0.5 – 1.0)

A copy of ECG is provided.

ID:

7-Sep-2017 11:43:27

Ryan Butler

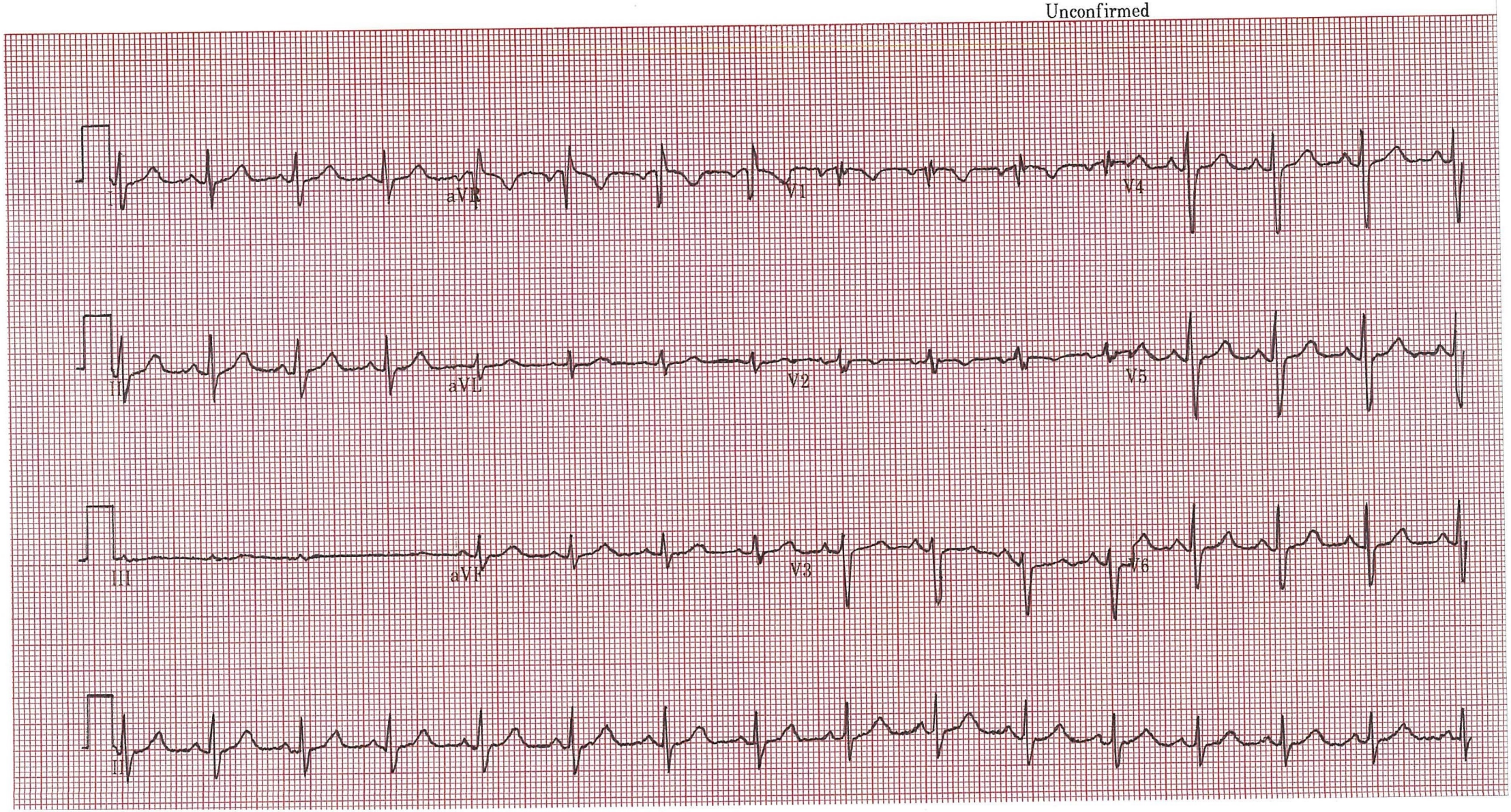
45 years old
Male

Vent. rate	91 bpm
PR interval	152 ms
QRS duration	92 ms
QT/QTc	394/496 ms
P-R-T axes	40 42 36

Borderline ECG

Technician: brooke

Unconfirmed



Station 3 - 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 the medical examination kit as required in the station.
  - Pens.
  - Water and tissues are available for candidate use.
- Do a final rehearsal with your simulated patient and co-examiner

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 of the cue / time for the scripted prompt you are to give.
- At **eleven (11) minutes,** provide the candidate with the third task and say:

  'Present your diagnosis and initial management plan to the examiner.'
- 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.'

  Discuss your diagnosis and appropriate management plan.
- 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 the first two tasks early (i.e. before 11 minutes):

- You are to state the following:

  'Do you want to proceed to the final task?'
- If yes, handover the third task to the candidate and say the following:

  'Please proceed to the final task and you can return to the other tasks later.'

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.

The role player opens with the following statement:

"***I am worried about how tired I feel, how much weight I am putting on and about this funny feeling in my chest".***

At **eleven (11) minutes** please hand the candidate the last task and say:

The ***THIRD TASK*** is:

'Please present your diagnosis and management plan to the examiner.'

If the candidate attempts to exam the lower abdomen or groin area please say:

'Examination of that area is not required.'

3.2 Background information for examiners

In this station candidates are expected to identify cardiovascular risks related to psychotropic polypharmacy and demonstrate this by undertaking a focussed physical examination to exclude cardiac abnormalities and features of metabolic syndrome.

The candidate should cover most of the essential aspects of the examination with correct technique. Ideally this should include blood pressure (including postural), pedel oedema, inspection (for cyanosis, clubbing, dyspnoea), palpation (pulse, apex beat, JVP, percussion) and auscultation (heart sounds, breath sounds, may examine for forced expiratory time), waist measurements to assess the waist:hip ratio (WHR), calculate BMI (height and weight measurements will be given).

They must then accurately interpret investigation results in keeping with metabolic syndrome, including diagnosis of QTc prolongation on the ECG and then present the key findings, diagnosis and appropriate initial management with the examiner.

Candidates are expected to develop a biopsychosocial plan and implement evidence based interventions where available. It is important to review medication potentially causing to QTc prolongation and metabolic signs and identify the need to address polypharmacy; balancing risks and benefits in reducing and changing psychotropic medications. There is a need to consider gradual reduction of medication with close monitoring for any relapse, and may even suggest the benefit of case management. They should recommend adequate psychoeducation and an ongoing insight oriented approach.

Incorporating a multi-disciplinary approach with referral to allied health, referral for an echocardiogram, regular GP follow-up arrangements, assessment and treatment for Type 2 diabetes and hyperlipidemia, and referral to a cardiologist for review of cardiac status.

Better candidates may be able to identify potential barriers in management (for example – limited social support, medication side effects).

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

- Use accurate technique to assess blood pressure and BMI
- Accurately explain at least two of hypercholesterolemia, hypertriglyceridemia, hyperlipidaemia, raised LDL or fasting glucose as part of a raised metabolic profile.
- Explain QTc prolongation on the Electrocardiogram (ECG)
- Address the patient's concern of tiredness.
- Link presentation to polypharmacy.
- Manage the metabolic syndrome through psychoeducation, dietary management and exercise.

Background Information:

The risk of cardiovascular-related morbidity and mortality is known to increase in patients with schizophrenia and related psychoses. Patients with schizophrenia have an increased risk of sudden death and are 2-4 times more likely to die prematurely compared to the general population. The second-generation antipsychotics (SGAs) are associated with cardiovascular side effects that can have serious consequences to patients.

The following list provides a description of the features of a cardiovascular examination. Candidates would be expected to demonstrate their competence in undertaking this examination.

Cardiovascular examination:

General appearance:	Evidence of malnourishment, evidence of laboured respiration
General:	Cyanosis, pallor, jaundice
Nails:	Clubbing, stage 1-5 seen in cyanotic heart disease, chronic lung disease, advanced liver disease and infective endocarditis, splinter haemorrhages – infective endocarditis
Hands:	Peripheral cyanosis, pallor of palmar creases (extreme pale colour of the palmer creases may indicate anaemia secondary to blood loss, malabsorption), tremor (thyrotoxicosis or hyperactive thyroid gland)
Pulse:	Rate, rhythm, character, radio femoral delay
Blood Pressure:	Lying, standing / sitting looking for postural hypotension within 2 minutes of change of posture
Face /Eyes:	Pallor, jaundice
Mouth:	Central cyanosis, anaemia
Neck:	Carotid pulsations, amplitude and upstroke may provide information on cardiac output or heart failure, aortic stenosis or regurgitation, auscultate for bruits - may be clue to carotid artery stenosis. Jugular venous pressure (JVP) may be elevated when there is right heart failure or fluid overload (with patient at 45 degree).
Chest inspection:	Scars, visible pulsations, apex beat
Palpation:	Apex beat, thrills, heaves
Percussion:	For heart size
Auscultation:	Heart sounds, murmurs and listen at lung bases
Abdomen:	Liver (which may be enlarged in right heart failure) and renal bruits suggesting blockage of the renal arteries
Legs:	Inspection of the legs may reveal swelling or oedema usually associated with congestive heart failure; brawny discolouration as seen with peripheral vascular disease or diabetic vascular disease.

ECG:

The electrocardiogram (ECG) measures the electrical activity of the heart and can serve as a diagnostic aid to determine possible heart complications.

The phases of ECG:

- P wave: Atrial depolarisation
- PR Interval: Time between the onset of depolarisation in the atria and the onset of depolarisation in the ventricles
- QRS complex: Ventricular depolarisation
- ST segment: Plateau phase of ventricular depolarisation
- T wave: Ventricular repolarisation
- QT interval: Ventricular depolarisation and repolarisation.

ECG monitoring is essential for all patients prescribed antipsychotics. Most psychotropic drugs are associated with ECG changes and some are causally linked to serious ventricular arrhythmia and sudden cardiac death. Some antipsychotics block cardiac potassium channels and are linked to prolongation of the cardiac QT interval, a risk factor for the ventricular arrhythmia torsade de pointes. The other cardiovascular side-effects of antipsychotics and antidepressants are: myocarditis, cardiomyopathy (clozapine, risperidone, chlorpromazine, haloperidol), pulmonary embolism and hypertension.

ECG abnormalities associated with antipsychotics, antidepressants and mood stabilisers:

Tachycardia – clozapine, TCA's, MAOI's

Bradycardia – SSRI's, lithium

Heart blocks – TCA's

Risk factors for cardiovascular adverse effects associated with the use of second-generation antipsychotic drugs include advanced age, autonomic dysfunction, pre-existing cardiovascular disease, female gender (for risk of QTc interval prolongation and torsade de pointes), electrolyte imbalances (particularly hypokalemia and hypomagnesemia), elevated serum antipsychotic drug concentrations, genetic characteristics and the psychiatric illness itself.

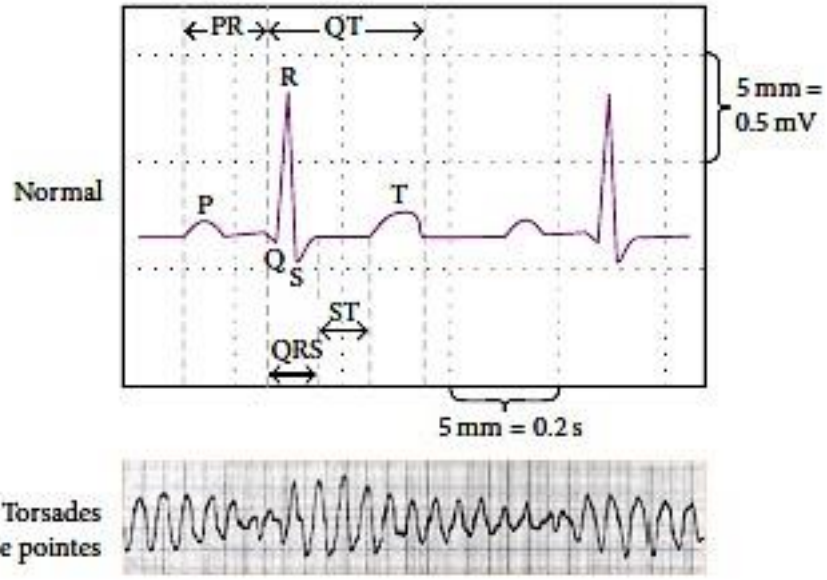
QTc Interval prolongation and Torsades de pointes (TdP):

The normal QTc intervals are less than 440msec for men and 470msec for women. The greater the duration is, the more likely that ventricular arrhythmias may occur, especially if the interval is greater than 500msec. QTc intervals of >650msec may be more likely than not to induce torsades. QTc determination remains an important measure in estimating risks of arrhythmia and sudden death.

TdP is a polymorphic ventricular tachycardia associated with a prolonged QTc interval. The ECG pattern is distinctive and is called twisting because the peaks are at their smallest in one lead, and largest in another lead. TdP is often self-limiting, but when sustained can cause ventricular fibrillation and sudden death. Risk factors for TdP are female sex, history of heart disease, presence of QT interval prolonging agent, hypokalemia, history of QT prolongation, family history of QT prolongation, QTc > 450ms at baseline and bradycardia. Potassium channels play an important role in ventricular arrhythmias (i.e., torsades de pointes).

Other reported antipsychotic-induced changes include atrial fibrillation, giant P waves, T-wave changes and heart block.

Normal versus Torsades de Pointes ECGs



Effects of antipsychotics on QTc

No Effect	– Aripiprazole, Lurasidone
Low Effect - severe QTc prolongation has been reported only following overdose or where only small average increase (<10msec) have been observed at clinical doses)	– Asenapine, Clozapine, Flupenthixol, Fluphenazine, Perphenazine, Prochlorperazine, Olanzapine, Paliperidone, Risperidone, Sulpiride
Moderate Effect - drugs which are observed to prolong QTc by >10msec on average when given at normal clinical doses	- Amisulpiride, Chlorpromazine, Haloperidol, Quetiapine, Ziprasidone
High effect - drugs for which extensive average QTc prolongation, usually >20msec at normal clinical doses)	– Any intravenous antipsychotic, Any drug or combination of drugs used in doses exceeding recommended maximum.
Unknown Effect	**–** Trifluperazine, Zuclopenthixol

Patients with mental disorders have a higher prevalence of modifiable risk factors for cardiovascular disease that may include obesity, hypertension, diabetes mellitus and dyslipidemia. Obesity can be 1.5 – 2 times more prevalent in people with schizophrenia and affective disorder than in the general population. Most of the antipsychotics also contribute to weight gain. Added to other cardiovascular risks such as sedentary lifestyle, obesity, substance abuse and smoking that psychiatric patients are more prone to, there is clearly a higher rate of cardiovascular mortality.

Metabolic syndrome:

The cluster of risk factors for atherosclerosis that constitute the metabolic syndrome was first recognised in 1983. In 1988, Reaven introduced the term Syndrome X to highlight insulin resistance as a common denominator for the dyslipedimia, elevated blood pressure, and impaired glucose tolerance in the context of abdominal obesity that characterize this syndrome. Other notable features of the syndrome include a pro-inflammatory state (low-grade systemic inflammation, characterised clinically by elevated levels of c-reactive protein), microalbuminuria, and hypercoagulability. Metabolic syndrome is now the accepted term.

Cardiovascular disease is considered the principal clinical end point of the metabolic syndrome, while type 2 diabetes mellitus is considered another sequelae. The principal determinant of the syndrome is obesity, particularly visceral/abdominal obesity.

<u>WHO criteria – Metabolic Syndrome (1988)</u>

Insulin resistance is defined as:

- Type 2 DM (fasting plasma greater than or equal to 7mmol/L or 2-hour post glucose load (oral GTT) greater than or equal to 11.1 mmol/L (or)
- Impaired fasting glucose greater than or equal to 5.6 mmol/L (or)
- Impaired GTT (<11.1 mmol/L and > 7.8 mmol/L) after oral GTT (or)

Plus 2 of the following:

- Abdominal Obesity (waist-to-hip ratio - WHR >0.9 in men or >0.85 in women, or BMI >30kgs/m^2)
- Triglycerides 1.7 mmol/L or greater, and /or HDL- Cholesterol < 1.04 mmol/L in men and <1.29 mmol/L in women
- BP 140/90mmHg or greater
- Increased urinary albumin excretion (urinary albumin secretion rate 20 micrograms/minute or greater, or albumin-to-creatinine ratio 20mg/g or greater

<u>Body mass Index (BMI)</u> and waist circumference are commonly used to estimate central obesity and assessing risk of cardiovascular disease and diabetes.

$$BMI = \text{Weight (kg)} / \text{Height (m)}^2$$

<18.5 Underweight
18.5 – 24.9 Healthy weight range
25 – 29.9 Overweight
>30 Obesity

BMI is less accurate for assessing healthy weight in some groups of people, as it does not distinguish between the proportion of weight due to fat or muscle.

Waist circumference is a better estimate of visceral fat. It is therefore a more accurate predictor of cardiovascular risk, type 2 diabetes in women and metabolic syndrome.

<u>Waist measurement:</u>

Waist circumference is a simple check to tell if you are carrying excess body fat around your middle. Carrying excess body fat around your middle is more of a health risk than if weight is on your hips or thighs. This can be used along with measure your body mass index (BMI). Together, these tools given an indication of your risk linked with excess body fat.

Regardless of your height or build, for most adults a waist measurement of:

- >94 cm for men (about 37 inches)
- >80 cm for women (about 31.5 inches)

is an indicator of level of internal fat deposits which coat the heart, kidneys, liver, digestive organs and pancreas. This can increase the risk of heart disease and stroke.

Waist-Hip Ratio = W (cm) / H (cm) – Ratio of circumference of the waist to that of the hips.

Due to the relative ease of obtaining waist circumference, its use is favoured over waist-hip ratio.

How to measure:

- Measure the waist circumference at the end of several consecutive natural breaths, at a level parallel to the floor, midpoint between the top of the iliac crest and the lower margin of the first palpable rib in the mid axillary line.
- Measure the hip circumference at a level parallel to the floor, at the largest circumference of the buttocks.
- Make both measurements with a stretch-resistant tape that is wrapped snugly around the subject, but not the point that the tape is constricting, Keep the tape level parallel to the floor at the point of measurement.

Combined recommendations of body mass index and waist circumference cut-off points made for overweight or obesity, and association with disease risk.

	Body mass index	**Obesity class**	**Disease risk (relative to normal weight and waist circumference)**	
			Men < 102 cm Women < 88 cm	**Men >102 cm Women >88 cm**
Underweight	<18.5			
Normal	18.5–24.9			
Overweight	25.0–29.9		Increased	High
Obesity	30.0–34.9 35.0–39.9	I II	High Very high	Very high Very high
Extreme obesity	>40.0	III	Extremely high	Extremely high

Source: NHLBI Obesity Education Initiative (2000)

International Diabetes Federation criteria for ethnic or country-specific values for waist circumference

Country or ethnic group	**Sex**	**Waist circumference (cm)**
Europid	Men Women	>94 >80
South Asian	Men Women	>90 >80
Chinese	Men Women	>90 >80
Japanese	Men Women	>90 >80

Source: Adapted from Zimmet & Alberti (2006)

There is an association between SGA's and hypertriglyceridemia. The age, sex, low levels of high-density lipoprotein (HDL) and high plasma triglycerides (TG) are independent risk factor for development of coronary atherosclerosis and coronary heart disease (CHD). The mechanism of hyperlipidemia due to SGA's is still unclear but the condition is more prevalent among those who are overweight or obese. Both hyperlipidemia and hypertriglyceridemia are thought to be associated with insulin resistance.

Orthostatic hypotension is defined as a decrease of 20mm Hg or more of systolic pressure or the decrease of 10mm Hg or more of diastolic pressure within 3 minutes of standing. Orthostatic hypotension is a common side effect of SGA's. It is caused by anticholinergic or alpha-1 adrenoreceptor blockage. Prolonged effect of orthostatic hypotension has been associated with adverse outcomes such as stroke or myocardial infarction in severe cases. The agents that most commonly cause hypotension include Clozapine, Quetiapine, and risperidone.

Hypertension: The SGA's that are associated with hypertension include Clozapine, Olanzapine and Ziprasidone. Quetiapine and Risperidone appear to have the lowest risk of hypertension.

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.

Does Not Achieve the Standard – the candidate demonstrates significant defects in most 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 Ryan Butler, a 45-year-old single man currently living alone. You have been unemployed for nearly 8 years. You have a diagnosis of schizoaffective disorder and receive a disability support pension.

You are at the clinic today because you have experienced tiredness and '*funny feelings in the chest'* for 4-5 weeks. You went to see your GP, Dr Thomas, 2 weeks ago. He wanted you to increase one of your medications (diazepam), but you insisted on seeing the mental health team. He had organised for blood investigations and an ECG, which you had done 2 days ago, and arranged the referral.

History of your current concerns:
You feel strange in your chest and have had this for few weeks. It started after your GP started increasing your medicines when you started sleeping poorly. The GP told you that he thought the change in sleep may be due to anxiety, and that the drop in your mood was likely to be due to your mental illness relapsing.

The feeling in your chest is not pain. It is not worsened by activity and rest does not relieve it. It comes and goes and lasts for a few seconds, and this happens a few times every day. It feels as if your heart is beating a little faster for a few seconds.

The candidate may ask you some of the following symptoms to try to understand if you have angina or other symptoms of insufficient blood supply to your heart that could lead to a heart attack. You must be sure that you say NO to all of these symptoms. There is no pain in your left arm or shoulder or in your jaw. You do not have any symptoms that feel like indigestion. It is not associated with a difficulty in breathing.

You smoke around 10 cigarettes per day. You don't use any illicit substances, but do drink alcohol occasionally.

You do not like cooking and usually get frozen food from the supermarket or go for the lunch buffet at the local club, where there is a large spread. You love eating at McDonalds as well.

You have always been a big lad, but are now embarrassed by how overweight you have become. You feel hungry all the time and then eat whatever you can get, so it is often biscuits or cake that you have at home. You do not like exercising.

How did this start:
If you are asked, about 6 weeks ago you accidentally bumped your left forearm into a wall. There was bruising for a few days, but the pain did not subside for nearly 3 weeks. An X-ray was done and it was normal. The pain interfered with your sleep and even after it subsided 3 weeks ago, you have not returned to your previous restful sleep.

In the past you slept 7-8 hours every night without a problem, but now you take a long time to fall asleep and wake up 1 or 2 times every night for no real reason. You then take 10-20 minutes to fall asleep. You do not get out of bed at the time, unless you need to go to the toilet. You wake up in the morning feeling tired, a bit like a hangover and so sometimes have a nap in the afternoon. You now feel tired a lot of the time during the day as well.

Dr Thomas has been your GP for one year and you have been reviewed every 2 weeks for the past year. The accident affected your levels of energy and also your sleep. Due to pain, poor sleep and low mood, your GP increased the dose of the medications and also started you on new medications to manage your change in mood. You really like Dr Thomas, but you think he is not sure of what he is doing at present, as each time you see him you come back with more medication, and you think that is making matters worse.

If asked about your Mental Health History:
You were fine until the age of 28 years. You suffered psychotic illness (psychosis is a mental disorder where a person loses the capacity to tell what's real from what isn't. They may believe or sense things that aren't real). Later were diagnosed with a schizoaffective disorder which is a chronic mental illness that can present with psychosis and changes in mood.

Over the last 8 years you have had 3 long hospital admissions. You were followed up with the community mental health service and you had a case manager. Your last admission was 4 years ago, and your general practitioner now looks after your mental health and writes your prescriptions since the past 12 months.

When you were unwell, you believed that aliens were following you, and that you were their leader and were soon going to be vapourised into their spaceship. You communicated with them through the TV and spoke to them in a special language. You would get angry when people laughed at you, but you can now see that these were silly ideas and would rather not talk about them.

You feel that your mental illness is fine and you don't have any other symptoms, but are worried about medication side effects. You are not feeling suicidal and have never self-harmed in the past. Your mood is fine now; you do not feel sad or hopeless – you just feel tired.

Medications (see summary below):

When you were referred to the GP one year ago by the mental health service you were relatively well. For most of this time you were taking olanzapine 25 milligrams at night, and lithium 2 tablets in the morning and 2 at night.

Since these problems started your GP has been increasing your medication doses and added additional medications. Over the last six weeks you have also been taking mirtazapine, diazepam, amitriptyline and quetiapine.

Dr Thomas would provide you with an explanation each time he added a medicine or changed a dose, but there have been so many changes that you are unsure which medicine was started first and for what reason.

You do not remember if you have been on any other medicines previously.

If asked about your Personal and Family History:

Your family lives in North Queensland. Your father suffered from schizophrenia and he died of heart attack 7 years ago.

You don't do much each day and with the side effects, you have very little motivation. You do not have many friends and prefer being alone. You enjoy watching TV.

4.2 How to play the role:

You will be wearing casual clothes (buttoned up shirt and shorts / trousers). The candidate might ask you to remove your shirt.

You will be cooperative with requests by the candidate.

4.3 Opening statement:

'***I am worried about how tired I feel, how much weight I am putting on and about this funny feeling in my chest.'***

4.4 What to expect from the candidate:

In this station, candidates are not expected to take a long history from you, even though information is provided for you. The main aim of this station is for the candidate to undertake a physical examination then talk to the examiner.

Candidates are expected to seek your permission for physical examination and to explain each step of the physical examination. They should briefly examine your eyes, mouth, neck, hands, legs, upper abdomen and chest. If you do not understand what is required of you with any particular examination, ask the candidate to explain again.

The candidate should explain what they are doing to the examiner as they proceed. You are not expected to respond.

If asked about your weight and / or height, you are to advise the candidate that you are 108 kg and 170 cm tall.

4.5 Responses you MUST make:

None

4.6 Responses you MIGHT make:

If asked about any current psychotic symptoms / mood symptoms / anxiety features:
Scripted Response: ***'No doctor.'***

If asked if you have any other concerns:
Scripted Response: ***'I feel drowsy.'***

If asked about your family history of medical conditions, especially heart conditions:
Scripted Response: ***'Yes, my father died of heart attack and my uncle had similar problems.'***

if asked about any past blood results:
Scripted Response: ***'My GP had concerns about my cholesterol level and he also thought I might be developing diabetes.'***

4.7 Medication and dosage that you need to remember:

In the last few months you have been taking:

(OL-ANZA-PEEN) Olanzapine 30 milligrams at night

Lithium 2 tablets in the morning and 3 tablets at night

(KWET-IA-PEEN) Quetiapine 100 milligrams at night

Diazepam 10mg at night

(MURT-AZA-PEEN) Mirtazapine 30 milligrams at night

(AMI-TRIPT-ALEEN) Amitriptyline 25 milligrams at night

STATION 3 – MARKING DOMAINS

The main assessment aims are:

- To undertake a focussed physical examination to exclude cardiac abnormalities and identify metabolic syndrome.
- To accurately interpret investigation results (ECG and blood investigations).
- To identify cardiovascular risks related to psychotropic polypharmacy.
- To present the diagnosis and initial management plan to the examiner.

Level of Observed Competence:

1.0 MEDICAL EXPERT

1.4 Did the candidate carry out an appropriately focussed and relevant physical examination? (Proportionate value - 35%)

Surpasses the standard if (scores 5) if:
examination is relevant to the patient's cardiac and metabolic problems; conducts a sophisticated physical examination involving general examination and systems examination.

Achieves the standard by:
covering most essential aspects with correct technique including: examining for pedal oedema, inspection (for cyanosis, clubbing, dyspnoea), palpation (pulse, apex beat, JVP), percussion) and auscultation (heart sounds, breath sounds); measure abdominal obesity (measuring waist and hip circumference, calculating waist: hip ratio or calculate BMI); attending to privacy for the physical exam; providing adequate commentary as instructed.

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

a. Use accurate technique to assess blood pressure and BMI.

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 or 1):
scores 2 if the candidate does not meet (a) above, or has omissions that would detract from the overall quality response; significant omissions affecting quality scores 1.

Does Not Achieve the Standard (scores 0) if:
significant deficiencies in organisation of examination; inaccurate technique, omissions or errors adversely impact on examination outcome.

1.4. Category: ASSESSMENT - Physical - Selection	**Surpasses Standard**	**Achieves Standard**		**Below the Standard**		**Standard Not Achieved**
ENTER GRADE (X) IN ONE BOX ONLY	**5** ☐	**4** ☐	**3** ☐	**2** ☐	**1** ☐	**0** ☐

1.10 Did the candidate interpret investigations correctly and communicate findings to the examiner? (Proportionate value - 30%)

Surpasses the Standard (scores 5) if:
achieves the standard and demonstrates a superior performance in interpreting abnormal blood investigations and ECG and linking relevant investigations with diagnostic formulation; recognises linkage between raised CRP as a pro-inflammatory state and metabolic syndrome.

Achieves the Standard by:
accurately interpreting the normal and abnormal blood results including slightly raised liver functions and incorporating them into the relevant diagnostic profile; interpreting ECG and its relative significance; commenting on lithium level and related endocrine tests.

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

a. Accurately explain at least two of hypercholesterolemia, hypertriglyceridemia, hyperlipidaemia, raised LDL or fasting glucose as part of a raised metabolic profile.
b. Explain QTc prolongation on the Electrocardiogram (ECG).

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 or 1):
scores 2 if the candidate does not meet (a) or (b) above, or has omissions that would detract from the overall quality response; significant omissions affecting quality scores 1.

Does Not Achieve the Standard (scores 0) if:
inaccurate or inadequate interpretation of investigations; errors or omissions are significant and significantly adversely affect conclusions.

1.10. Category: DIAGNOSIS - Investigation Analysis	**Surpasses Standard**	**Achieves Standard**		**Below the Standard**		**Standard Not Achieved**
ENTER GRADE (X) IN ONE BOX ONLY	**5** ☐	**4** ☐	**3** ☐	**2** ☐	**1** ☐	**0** ☐

1.9 Did candidate formulate and describe relevant diagnosis? (Proportionate value – 15%)

Surpasses the Standard (scores 5) if:
demonstrates a superior performance; appropriately identifies the limitations of available information to guide diagnosis.

Achieves the Standard by:
identifying predisposing and precipitating factors; demonstrating capacity to integrate available information in order to formulate a diagnosis of metabolic syndrome, antipsychotic induced QTc prolongation; recognising the risk of untreated or undetected QTc prolongation; specifying key features of central obesity, impaired GTT and raised fasting glucose, hyperlipidaemia and hypercholesterolemia; describing long term risks of metabolic syndrome.

To achieve the standard ***(scores 3)*** the candidate **MUST:**
a. Link presentation to polypharmacy.

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 or 1):
scores 2 if the candidate does partly meet (a) above, fails to consider psychotropic polypharmacy, fails to consider all the features for metabolic syndrome; significant omissions affecting quality scores 1.

Does Not Achieve the Standard (scores 0) if:
inaccurate or inadequate diagnostic formulation; errors or omissions are significant and do materially adversely affect conclusions.

1.9. Category: DIAGNOSIS	**Surpasses Standard**	**Achieves Standard**		**Below the Standard**		**Standard Not Achieved**
ENTER GRADE (X) IN ONE BOX ONLY	**5** ☐	**4** ☐	**3** ☐	**2** ☐	**1** ☐	**0** ☐

1.13 Did the candidate formulate and describe a relevant initial management plan? (Proportionate value – 20%)

Surpasses the Standard (scores 5) if:
provides a sophisticated link between the plan and key issues identified; clearly addresses difficulties in the application of the plan (for example – limited social support, medication side effects).

Achieves the Standard by:
prioritising and implementing evidence based interventions; developing a biopsychosocial plan; reviewing medication potentially causing to QTc prolongation and metabolic signs; identifying the need to address polypharmacy; balancing risks and benefits in reducing and changing psychotropic medications; considering gradual reduction of medication with close monitoring for any relapse; suggesting potential benefit of case management; recommending an ongoing insight oriented approach; incorporating a multi-disciplinary approach; referral for an echocardiogram, regular GP follow-up arrangements; treating Type 2 diabetes and hyperlipidemia; referral to a cardiologist for review of cardiac status.
To achieve the standard ***(scores 3)*** the candidate **MUST:**
a. Address the patient's concern of tiredness.
b. Manage the metabolic syndrome through psychoeducation, dietary management and exercise.

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 or 1):
scores 2 if the candidate does not meet (a) or (b) above, or inadequate management of polypharmacy, does not consider psychoeducation, does not provide rationale for medication changes (Quetiapine due to QTc prolongation, Olanzapine due to significant weight gain) and provides inadequate follow-up; significant omissions affecting quality scores 1.

Does Not Achieve the Standard (scores 0) if:
errors or omissions will impact adversely on patient care; fails to manage polypharmacy or antipsychotic dosage; plan lacks structure or is inaccurate; plan not tailored to patient's immediate needs or circumstances.

1.13. Category: MANAGEMENT - Initial Plan	**Surpasses Standard**	**Achieves Standard**		**Below the Standard**		**Standard Not Achieved**
ENTER GRADE (X) IN ONE BOX ONLY	**5** ☐	**4** ☐	**3** ☐	**2** ☐	**1** ☐	**0** ☐

GLOBAL PROFICIENCY RATING

Did the candidate demonstrate adequate overall knowledge and performance at the defined tasks?

Circle One Grade to Score	**Definite Pass**	**Marginal Performance**	**Definite Fail**