

OSCE

Station Overview

Station Title:	Standardised Case Based Discussion - resolved chest pain and palpitations
Station Summary:	This is a standardised case based discussion involving the management of a patient with resolved chest pain who has an ECG revealing a pseudo-infarction pattern in the setting of Wolff-Parkinson-White syndrome.
Domains to be Assessed:	Medical Expertise (70%) - Assessment & Diagnosis (40%) - Management (30%) Prioritisation & Decision Making (30%)
Presentation Key Words:	chest pain, STEMI, Wolfe-Parkinson-White, pre-excitation syndrome, medical expertise, prioritisation & decision making

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Domain Criteria

Domain/Subdomain 1: Medical Expertise / Assessment & Diagnosis

Curriculum Framework [Domain Criteria](#)

- Generates a relevant list of differential diagnoses after synthesising clinical information found on initial assessment
- Identifies the elements that must be sought on initial assessment to formulate an initial management plan
- Elicits a focused, relevant history
- Describes expected physical signs for different conditions
- Creates a focused investigation plan that confirms or excludes time critical diagnoses
- Analyses the results of an investigation to identify relevant findings or patterns

Domain/Subdomain 2: Medical Expertise . Management

Curriculum Framework [Domain Criteria](#)

- Correctly chooses time critical interventions based on assessment
- Recognises and expedites any specific intervention essential to resuscitation
- Initiates treatments specific to identified severe abnormalities in circulation
- Adapts and initiates standard therapies to that patient, including drugs, fluids, gases, and monitoring
- Creates an appropriate ongoing reassessment and management plan

Domain/Subdomain 3: Prioritisation & Decision Making

Curriculum Framework [Domain Criteria](#)

- Explains the rationale for prioritising a particular diagnosis over others
- Prioritises potential life threats and more common diagnoses
- Prioritises chosen treatment options to create an appropriate escalating treatment plan
- Provides a rationale to explain decisions about ongoing treatment
- Provides a rationale to explain disposition decisions

Station Criteria	Specific criteria a 'Minimally Competent' candidate is required to demonstrate:
- Generates a relevant list of differential diagnoses - Acute coronary syndrome - Arrhythmia - Pulmonary embolus - Aortic dissection - GORD/Oesophageal spasm - Biliary colic - Anxiety / panic disorder - Identifies elements that must be sought on initial assessment - Historical features linked to differentials - ACS: exertional symptoms, typical radiation patterns, risk factors - Arrhythmia: palpitation pattern, history of previous episodes - PE: syncope, haemoptysis, dyspnoea, previous VTE - Aortic dissection: pain type and location, neurological features - GORD/biliary: relationship to food, reflux, NSAID use - Anxiety: precipitants - Examination features linked to differentials - ACS: hypotension in cardiogenic shock, hypertension in APO, bradycardia in inf ischaemia, signs of fluid overload - Arrhythmia: pulse features - PE: hypoxia, tachypnoea - Aortic dis: pulse & BP differential, neuro signs - GORD/biliary: epigastric/RUQ tenderness - Anxiety: tremulousness, tachypnoea, ruminations - Investigations linked to differentials - ACS: ECG (STEMI, ST depression, Q waves), cardiac enzymes, CXR - Arrhythmia: ECG - PE: D-dimer, V/Q, CTPA, echo - Aortic dissection: CXR, CT angiogram, echo - GORD/biliary: LFTs, lipase, abdo US - Anxiety: VBG for respiratory alkalosis - Analyses both ECGs identifying relevant findings - ECG 1: Normal sinus rhythm, left axis deviation, short PR (120msec), delta wave, ST elevation / PR depression inferiorly without reciprocal changes, inferior Q waves, Wolfe-Parkinson-White syndrome type B - ECG 2: Atrial fibrillation, Rate 150-170/min, Wolfe-Parkinson-White syndrome type B	- Generates a list of the top two and at least two more of the following differential - Describes at least four historical features linked to possible differentials - Describes at least three examination features linked to possible differential - Describes at least three investigations linked to differentials - Identifies Wolfe-Parkinson-White on 1st ECG and mentions at least 3 of the listed features - Identifies rapid atrial fibrillation in setting of WPW on 2nd ECG For candidate feedback: - Generates a list of key differential diagnoses - Identifies an adequate number of important aspects on initial assessment (history, examination, and investigations) in a patient with resolved chest pain and palpitations - Identifies key diagnosis on both ECGs provided

Station Criteria	Specific criteria a 'Minimally Competent' candidate is required to demonstrate:
• Safely manages patient after initial ECG ○ Repeat ECG and cardiac enzymes ○ Provides PRN analgesia ○ Provided PRN anti-anginals ○ admit to monitored ward / SSU ○ Seek cardiology opinion • Recognises need to avoid AV nodal blocking medications after 2nd ECG • Elects to cardiovert patient ○ Electrical cardioversion ○ Procainamide • Describes an approach to electrical cardioversion of this patient ○ Pad placement ○ Sync mode ○ 50-150J ○ Modified COACHED algorithm • Describes an approach to procedural sedation in this patient ○ Assesses airway risk ○ Identifies non-fasting state ○ Choose safe induction agent with doses (ketamine 0.5-1mg/kg IV; propofol 1-2mg/kg IV; midazolam 2-5mg IV) ○ Appropriate monitoring - vitals, ETCO₂, cardiac ○ Airway adjuncts ○ Suction available • Creates an appropriate ongoing reassessment and management plan ○ Admission to SSU or inpatient ward for cardiac monitoring ○ Cardiology referral ○ Explains events to patient ○ Needs for EP studies	• After initial ECG candidate must mention: ○ Repeat ECG and cardiac enzymes ○ PRN analgesia ○ Seek cardiology opinion • Recognises need to avoid AV nodal blocking medications after 2nd ECG • Elects to electrically cardiovert patient • Must mention the following as part of electrical cardioversion: ○ Sync mode ○ 50-150J • Must mention all of the following in describing a safe approach to procedural sedation in this patient ○ Assesses airway risk ○ Choose at least one induction agent with dose ○ Appropriate monitoring - vitals, ETCO₂, cardiac • Creates an appropriate ongoing reassessment and management plan ○ Admission to SSU or inpatient ward for cardiac monitoring ○ Cardiology referral For candidate feedback: • Safely manages findings of ECG 1 & 2 • Avoids medications that may worsen patient's condition • Describes safe approach to electrical cardioversion • Creates an ongoing reassessment and management plan

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Domain/Subdomain 3: Prioritisation & Decision Making
Weighting: 30%
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Station Criteria	Specific criteria a 'Minimally Competent' candidate is required to demonstrate:
• Explains the rationale for prioritising a particular diagnosis over others ○ Wolfe-Parkinson-White syndrome ○ Inferior ischaemia • Prioritises potential life threats and more common diagnoses ○ Acute coronary syndrome ○ Arrhythmia ○ Pulmonary embolus ○ Aortic dissection ○ GORD/Oesophageal spasm ○ Biliary colic ○ Anxiety / panic disorder • Justifies electrical cardioversion ○ AF with WPW ○ Hypotension ○ Presence of significant symptoms • Provides a clear rationale as to avoidance of AV nodal blocking medications ○ Risk of VF/VT • Provides adequate reasoning for admission following cardioversion ○ Rare arrhythmia ○ Instability when in AF ○ Provision of patient education ○ Early cardiology opinion ○ Option for inpatient EP studies	• Explains the rationale for WPW as cause for symptoms based on ECG findings and resolved symptoms • Must mention at least two of the listed life threats and at least 1 of the more common diagnoses • Gives at least one of the listed justifications for electrical cardioversion • Describes the risk of VT/VF if AV nodal blocking agents are given • Provides at least two reasons for decision to admit patient For candidate feedback: • Linking ECGs findings to patient symptoms to make an appropriate diagnosis • Prioritises key life-threats and more common diagnoses • Justified management choice of arrhythmia • Justified with medications to avoid in managing arrhythmia • Provided justification for admission

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Candidate Instructions

This is a **7 minute** Standardised Case-Based Discussion (SCBD) Station.

You will be interacting directly with an Examiner. You will be asked to outline your assessment and management of the following clinical situation. Further information will be provided as the case evolves. The examiner will be assessing your medical knowledge as well as your reasoning and rationale to your approach and decisions.

Please be as specific as possible when answering. For example, when discussing treatment options, describe your regimen and the reasons why you chose that regimen, as opposed to other regimens.

Case Information

You are one of the consultants on-duty of a tertiary emergency department on a Sunday evening.

A 53 year-old female has just been brought in by ambulance to a cardiac monitored cubicle.

1 hour ago she had an onset of 7/10 severity central chest pressure whilst eating dinner with associated nausea, light headedness, and palpitations. Her symptoms resolved upon arrival of the ambulance officers. En route to the ED she was treated with 300mg aspirin by ambulance officers and remains asymptomatic.

Vital signs are as follows:

Temp 37, RR 21/min, SaO₂ 99% on room air, HR 70/min, BP 130/84mmHg,

Examination is unremarkable.

Props for reading time or for during station?

ECG

This OSCE will assess the following domains:

- Medical Expertise - 70%
 - Assessment and diagnosis (40%)
 - Management (30%)
- Prioritisation & Decision Making - 30 %

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Examiner Instructions

This is a **7 minute** Standardised Case-Based Discussion (SCBD) Station.

All questions and prompts must be consistent as per the script so that all candidates have as close to the same 'standardised' experience as possible.

The aim of the OSCE is to present a patient with resolved chest pain that requires institution of management based on an appropriate assessment and interpretation of an ECG showing Wolfe-Parkinson-White syndrome with a pseudo-infarction pattern.

You will be leading the discussion by asking scripted questions and you will provide further clinical information to the candidate as the case evolves, including any relevant test results.

A series of standardised scripted lead-in questions will be asked of all candidates and as per all stations in the Fellowship Clinical Examination, candidates will be assessed at the level expected of a junior FACEM consultant.

Where a candidate has already raised a topic or an issue, the examiner may provide an unscripted probe to the candidate for further clarification or elaboration on that issue.

Examples of probes that may be asked:

“You previously mentioned treating the hypotension. Can you elaborate on that?”

“You previously mentioned treating the bradycardia. Can you tell me how you are going to treat it?”

“You previously mentioned treating the hypotension. Can you explain why you chose that treatment?”

Where a candidate has NOT already raised a topic or an issue that should be obvious to a competent new FACEM, the examiner will NOT provide an unscripted prompt or asked unscripted further questions to discuss a topic that they have not mentioned or yet considered as part of their management and clinical reasoning. Prompts provide a clue to what is the answer.

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Prompts that suggest there has been a mistake or an omission will also NOT be provided.

Examples of prompts that will NOT be asked:

“Would you use labetalol as part of your treatment?”

“Are you sure about that?”

“Is there anything else?”

Candidates' responses will be marked against the key criteria for each domain and candidates will be required to satisfactorily cover these in order to meet the minimum level of competence required to pass the station. Better candidates will cover more areas in more depth, will require less probing, and will be able to justify all their actions and respond appropriately to new clinical information as they receive it. This station is a Standardised Case-Based Discussion. You will be interacting directly with the candidate and asking them a series of questions. Below is the information the candidate will receive outside the room:

Case Information

You are one of the consultants on-duty at a tertiary emergency department on a Sunday evening.

A 53 year-old female has just been brought in by ambulance to a cardiac monitored cubicle.

1 hour ago she had an onset of central chest pressure whilst eating dinner with associated nausea and light headedness, and palpitations. Her symptoms resolved upon arrival of the ambulance officers. En route to the ED she was treated with 300mg aspirin by ambulance officers and remains asymptomatic.

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Lead Examiner Script (If a SCBD Station)

0:00 - 1:00 minutes

What are your initial differential diagnoses in this patient?

The candidate, at minimum, should be able to provide a broad list of differentials diagnosis linked to the information provided in the candidate instructions, with a focus on relevant life-threats being mentioned early.

Differentials can include: Acute coronary syndrome, Arrhythmia, Pulmonary embolus, Aortic dissection, GORD/Oesophageal spasm, Biliary colic, Anxiety / panic disorder

1:00 - 2:30 minutes

What will be your approach to the assessment of this patient?

The candidate should, at minimum, be able to provide a routine chest pain work up (history, examination, ECG) linked to their key differentials, with a focus on addressing any potential life-threats early.

Features on history may include (for the various differentials):

- ACS: exertional symptoms, typical radiation patterns, risk factors
- Arrhythmia: palpitation pattern, history of previous episodes
- PE: syncope, haemoptysis, dyspnoea, previous VTE
- Aortic dissection: pain type and location, neurological features
- GORD/biliary: relationship to food, reflux, NSAID use
- Anxiety: precipitants

Features on examination may include (for the various differentials):

- ACS: hypotension in cardiogenic shock, hypertension in APO, bradycardia in inf ischaemia, signs of fluid overload
- Arrhythmia: pulse features
- PE: hypoxia, tachypnoea
- Aortic dis: pulse & BP differential, neuro signs
- GORD/biliary: epigastric/RUQ tenderness
- Anxiety: tremulousness, tachypnoea, ruminations

Investigations linked to the key differentials may include:

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- ACS: ECG (STEMI, ST depression, Q waves), cardiac enzymes, CXR
- Arrhythmia: ECG
- PE: D-dimer, V/Q, CTPA, echo
- Aortic dissection: CXR, CT angiogram, echo
- GORD/biliary: LFTs, lipase, abdo US
- Anxiety: VBG for respiratory alkalosis

Appropriate probes/prompt can include:

You mentioned what you would look for history/examination/investigations, could you tell me more about your history/examination/investigations

You previously mentioned some history/examination/investigations related to acute coronary syndromes, could you elaborate further?

2:30 - 4:00 minutes

Here is the patient's ECG. Could you outline how this affects your ongoing management of the patient?

The candidate, at minimum, should exhibit a structured approach to ECG interpretation, and be able to identify the presence of delta waves, inferior Q waves, and inferior ST elevation. The candidate should incorporate these findings into their management with the minimally competent candidate admitting the patient for further investigation and referring to the cardiology team.

Features that may be mentioned for the ECG includes:

- Normal sinus rhythm
- Left axis deviation
- Short PR (120msec)
- Delta wave
- ST elevation / PR depression inferiorly
- Inferior Q waves
- diagnosis of Wolfe-Parkinson-White syndrome type

Management of ECG findings:

- Cardiac monitored
- Serial ECGs/enzymes
- Cardiology opinion
- PRN analgesia
- PRN anti-anginals

Appropriate probes/prompt can include:

You mentioned inferior Q waves, can you tell me more about that?

You mentioned ST elevation, can you tell me more about that?

You mentioned Wolfe-Parkinson-White syndrome, can you tell me more about that?

You mentioned the need for admission, can you tell me more about that?

4:00 - 6:00 minutes

The patient develops a recurrence of chest pain, nausea, and palpitations whilst in the department. Another ECG is performed and vital signs are measured. What is your further management based on these findings?

The candidate, at minimum, should identify the presence of rapid atrial fibrillation in the setting of Wolfe-Parkinson-White and outline a safe approach to electrical cardioversion in the ED.

Features that may be mentioned for the ECG includes:

- Atrial fibrillation
- Rate 150-170/min
- Delta waves
- Wolfe-Parkinson-White syndrome type B

Management of arrhythmia may include the following:

- Electrical cardioversion (preferred)
- Chemical cardioversion with procainamide
- Avoidance of AV nodal blocking medications
- Description of safe electrical cardioversion including references to pad placement, sync mode, joule dosage, and the use of a modified COACHED algorithm
- Description of an approach to procedural sedation including references to assessment of airway risk, identification non-fasting state, choose safe induction agent with doses (ketamine 0.5-1mg/kg IV; propofol 1-2mg/kg IV; midazolam 2-5mg IV), appropriate monitoring - vitals, ETCO₂, cardiac, use of airway adjuncts, and the availability of suction

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Appropriate probes/prompt can include:

If the candidate mentions cardioversion, but doesn't specific electrical cardioversion or does not describe their approach then you may ask *"you mentioned cardioverting the patient, could you tell me more about that?"*

You mentioned atrial fibrillation, can you tell me more about that?

You mentioned procedural sedation, can you tell me more about that?

You mentioned avoiding certain medications / AV blockers, can you tell me more about that?

You mentioned drugs for sedation, can you tell me more about that?

You mentioned admitting the patient, can you tell me more about that?

6:00 to 7:00 minutes

You have successfully treated the arrhythmia. What would be your ongoing management and follow-up for this patient?

The candidate, at minimum, should advise on post-sedation management, cardiology referral, and EP studies.

More detailed answers may include:

- Admission to SSU or inpatient ward for cardiac monitoring
- Cardiology referral
- Explanation of events to patient
- Need for post medication monitoring
- Timing of EP studies

Appropriate probes/prompt can include:

You mentioned follow-up testing for the patient, can you tell me more about that

You mentioned admitting the patient, can you tell me more about that?

You mentioned the need for further tests, can you tell me more about that?

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Lead Examiner Script Summary
(If a SCBD Station)

0:00 - 1:00 minutes

What are your initial differential diagnoses in this patient?

1:00 - 2:30 minutes

What will be your approach to the assessment of this patient?

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You previously mentioned some history/examination/investigations related to acute coronary syndromes, could you elaborate further?

2:30 - 4:00 minutes

Here is the patient's ECG. Could you outline how this affects your ongoing management of the patient?

You mentioned inferior Q waves, can you tell me more about that?

You mentioned ST elevation, can you tell me more about that?

You mentioned Wolfe-Parkinson-White syndrome, can you tell me more about that?

You mentioned the need for admission, can you tell me more about that?

4:00 - 6:00 minutes

The patient develops a recurrence of chest pain, nausea, and palpitations whilst in the department. Another ECG is performed and vital signs are measured. What is your further management based on these findings?

You mentioned cardioverting the patient, could you tell me more about that?

You mentioned atrial fibrillation, can you tell me more about that?

You mentioned procedural sedation, can you tell me more about that?

You mentioned avoiding certain medications / AV blockers, can you tell me more about that?

You mentioned drugs for sedation, can you tell me more about that?

You mentioned admitting the patient, can you tell me more about that?

6:00 to 7:00 minutes

You have successfully treated the arrhythmia. What would be your ongoing management and follow-up for this patient?

You mentioned follow-up testing for the patient, can you tell me more about that?

You mentioned admitting the patient, can you tell me more about that?

You mentioned the need for further tests, can you tell me more about that?

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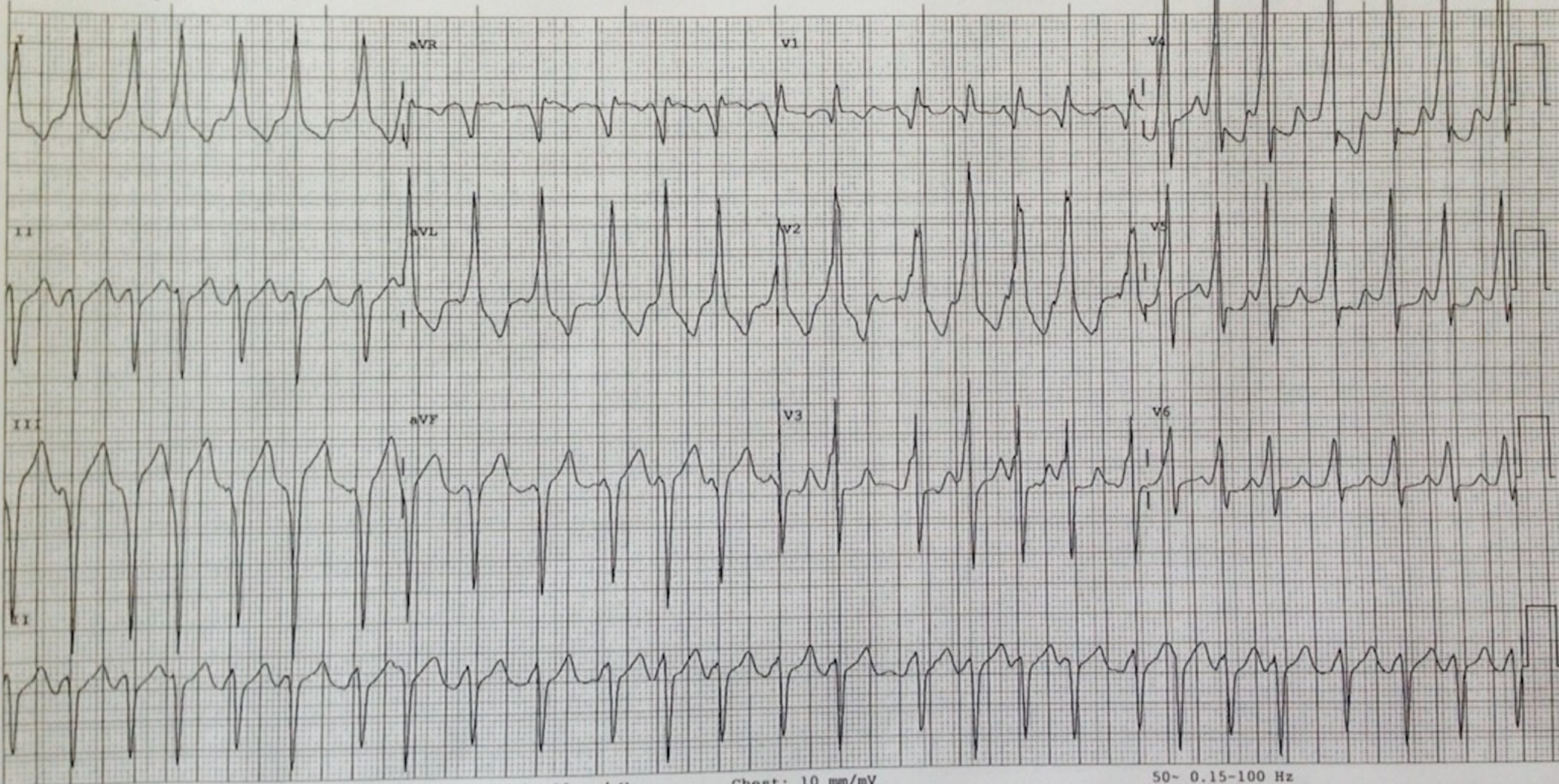
Props list

- ECG 1 - Type B WPW with pseudoinfarction pattern
- ECG 2 - Rapid AF in setting of WPW
- Vital signs

Vital Signs

Temperature	37°C
Respiratory Rate	23 breaths/min
SaO ₂	97% on room air
Heart Rate	150 beats/min
Blood Pressure	110/77mmHg
GCS	15

12 Lead ECG Report (Standard)



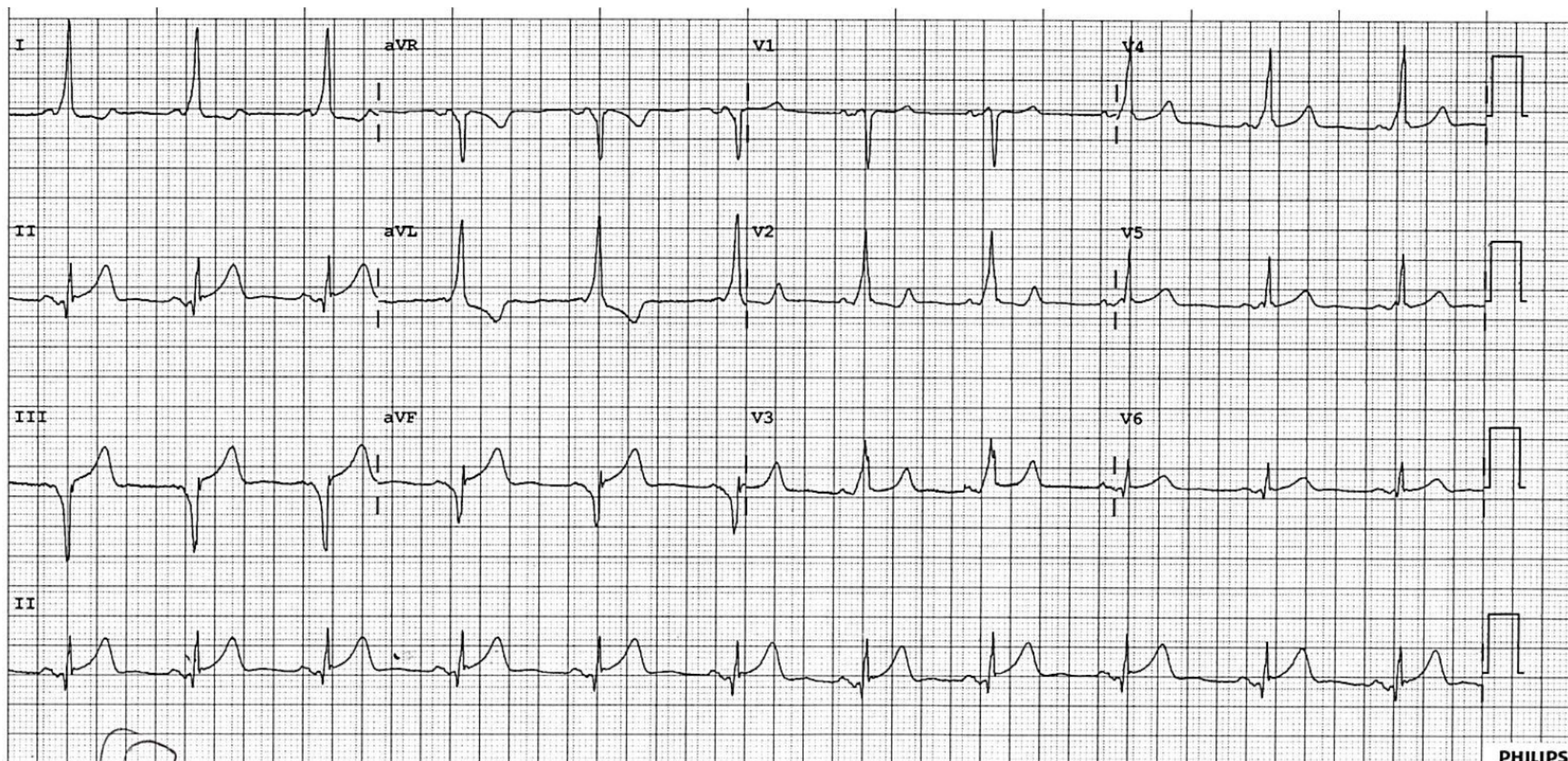
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Speed: 25 mm/sec

Limb: 10 mm/mV

Chest: 10 mm/mV

50~ 0.15-100 Hz



Device: Cub 5 Speed: 25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV 50~ 0.05-150 Hz

PHILIPS