

You are a JMO in ED. Mr X, a 72 year old male is BIBA post collapse with a 2/7 hx of worsening confusion, on a background of end stage kidney failure on peritoneal dialysis, chronic heart failure and hypertension managed with ramipril, bisoprolol and spironolactone. On further questioning, Mr X has not been adhering to his renal diet and fluid restriction.

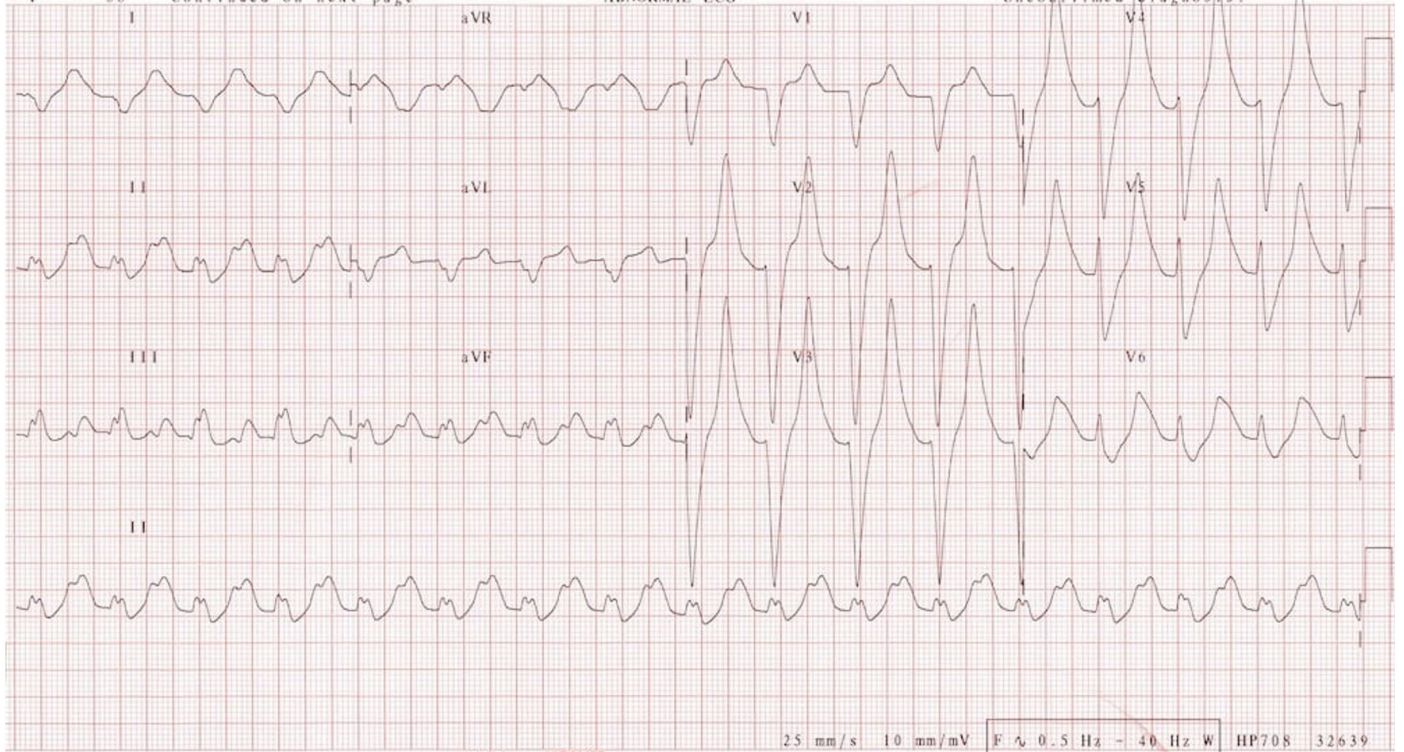
Tasks:

1. Using a systematic approach, describe and interpret ECG #1.
2. Outline your approach to initial management of this condition.
3. ECG #2 shows a life-threatening consequence of this condition. Describe and interpret ECG #2.

QRS 128 . Junctional ST depression
T 38 Continued on next page

- ABNORMAL ECG -

Unconfirmed diagnosis.



mjedtel ULTIMATE

25 mm/s 10 mm/mV F ~ 0.5 Hz - 40 Hz W HP708 32639

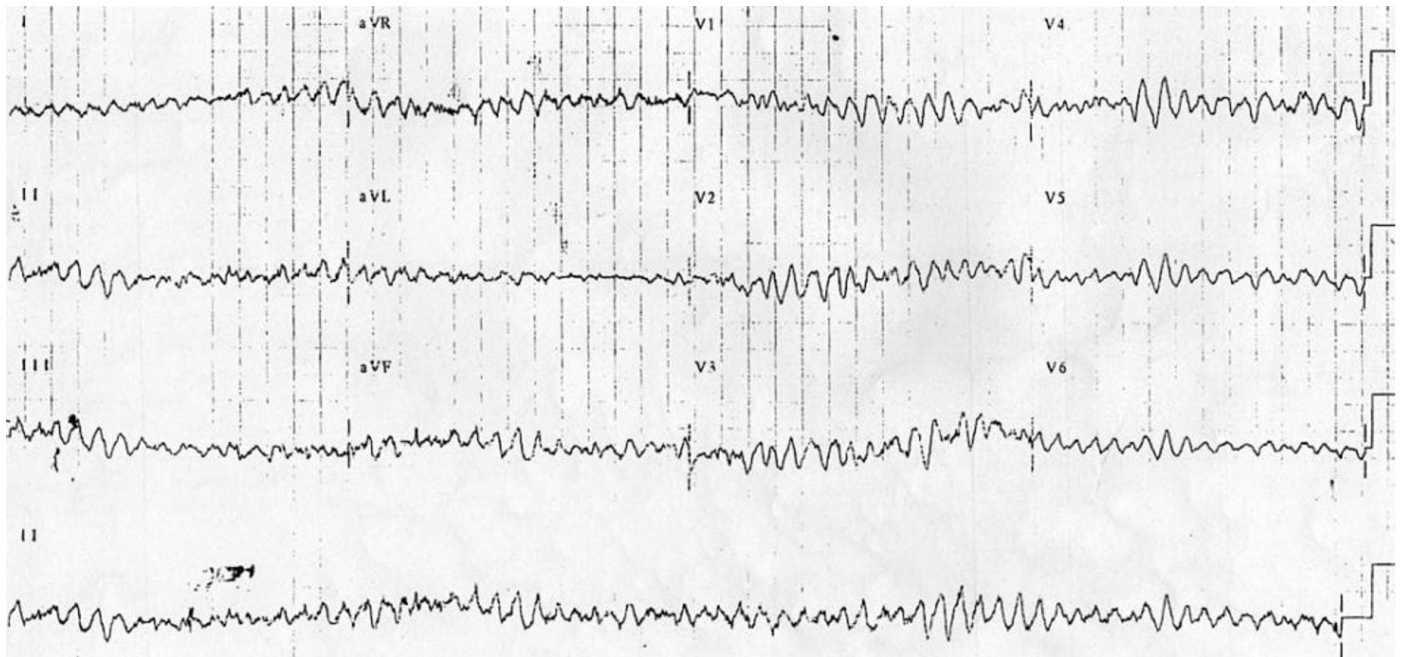
Rate	96 bpm	
Rhythm	Regular sinus rhythm	
Axis	Within normal limits (WNL)	
Intervals (ref. ranges)	PR (ref. 120-200ms)	>200ms (prolonged)
	QRS (ref. <120ms)	>120ms (prolonged) – ‘broad, <u>bizzare</u> ’
	QT (ref. <480ms)	WNL
Segments	Unremarkable	
Other morphology	QRS merging with preceding P wave and subsequent T wave	
	Peaked T waves throughout lateral leads	
Interpretation	This is an abnormal ECG performed today on Mr X. The major findings are the broad and <u>bizzare</u> appearing QRS, and peaked T waves throughout the lateral leads. I am concerned this patient has severe hyperkalaemia and is at significant risk of developing a fatal arrhythmia and cardiac arrest.	

Management

1. Recognise that this is an **EMERGENCY!**
2. Call for help from an ED consultant or senior registrar
3. Initiate management as per local protocol.

Likely management includes:

1. Stabilise myocardium – Calcium gluconate
2. Drive K⁺ into cell rapidly– Salbutamol, insulin/dextrose
3. Promote K⁺ elimination – Resonium, dialysis



Rate	<p>Doesn't matter! Spot diagnosis that should be made on a rhythm strip without 12 lead ECG.</p> <ul style="list-style-type: none"> • Chaotic irregular deflections of varying amplitude • No identifiable P waves, QRS complexes or T waves
Rhythm	
Axis	
Intervals (ref. ranges)	
Segments	
Other morphology	
Interpretation	<p>This is a 12 lead ECG of ventricular fibrillation. Begin ALS shockable rhythm pathway.</p>