

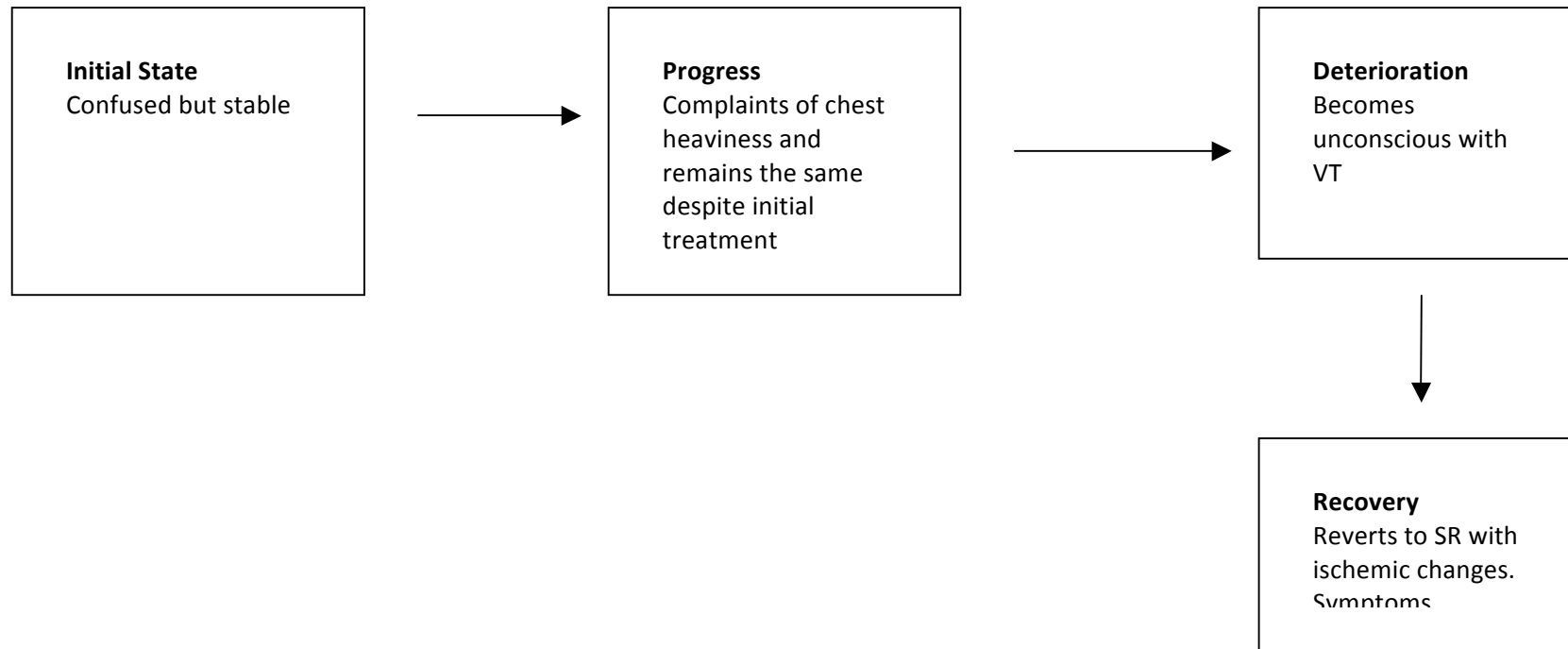
Scenario: C7- 1	Patient: Michael Jackson	Simulator SIMMAN 3G preferred
Case Summary: 50 year old man from home with decreased GCS in his house with a bag of blue pills (Digoxin). His father found him in his bed unresponsive. He is in SR with multiple PVCs at 80bpm. He reports that he took an overdose of his father’s heart medications as he just went through a horrible divorce settlement and wanted to end his life. Whilst in ED he then complaints of some chest pain and then arrest. After 4 cycles of CPR he develops a perfusing rhythm. Repeat ECG shows some ST depression.		Participant Briefing: 50 year old man BIBA with a decreased GCS from home. His father found him unresponsive in bed with a bag of blue pills. He has no significant past medical history. He has been put into Resus and you have been asked to review this patient.
Clinical Issues		Human factors / Non technical issues
Digoxin overdose VT Prompt assessment and treatment of a patient with a deteriorating arrhythmia		Communication with patient - history and reassurance Communication with team – role allocation and plan Aware of the need to treat Digoxin overdose and it’s complications
<p>Learning Objectives: Assessment and initial treatment of a patient with an unstable arrhythmia secondary to Digoxin poisoning</p> <p>Communicate: Communicate well with patient – history taking and management plan. Communication with team</p> <p>Conduct: Rapid assessment and initiate treatment of a patient with an unstable arrhythmia secondary to Digoxin poisoning</p> <p>Demonstrate: Knowledge of the different types of arrhythmias. Knowledge of initial management and assessment of a patient with arrhythmia. Knowledge of managing a patient with unstable arrhythmia.</p> <p>Interpret: clinical findings to identify deterioration</p>		
<p>Faculty Actors: Staff nurse in ED resus. Helpful when asked to do something. May need to prompt if team misses some clues If there are enough faculty members one could be a radiographer for when the CXR is ordered.</p>		
<p>Patient Moulage: No specific moulage needed. Mannequin should lie on a trolley. Cannula will already be in situ. The team can still go through the motions to get IV access and bloods but just use the access that is already there rather than stabbing the mannequin again.</p>		

<p>Equipment & Props: Projector screen & computer Video conference unit SIMMAN 3G mannequin Oxygen – piped or cylinder Oxygen masks – Nasal prongs, Hudson mask and Non re-breath masks should be available Stethoscope x 2 ECG machine and leads – if one is available Stickers for 12 lead ECG 3xLaminated ECGs showing SR - PVCs, VT and ST depressions Defibrillator and pads specific for Mannequin NIBP cuff Saturation probe Gloves and appropriate PPE Monitor to display observations (TV with the VC screen)</p>	<p>White board if needed IV cannulae – 16+18G Blood test tubes and ABG syringe Pretend or actual X-Ray plate Syringes with drugs pre-drawn (the faculty nurse can give these to the participants once they have been asked for and “drawn up”. Morphine 1mg in 10ml. 10ml saline flush. Insulin Dextrose Sodium bicarbonate Salbutamol Crystalloid (0.9% NaCl or Hartmanns 1000ml) Giving set for the above fluid Syringe pump Digibind ampoules – can be made up Adrenaline Minijets Amiodarone Minijet</p>	
<p>Monitor: ED setting – 3 wave forms 3-lead ECG Saturations NIBP</p>	<p>Investigations: 3xLaminated ECGs showing multiple PVCs, VT and ST depression CXR plate but X-ray not available during scenario ABG – hyperkalemia- K 6.5 Other lab tests will not be back in time</p>	

This project was possible due to funding made available by Health Workforce Australia

Patient presentation	Expected response by participants	Faculty /Actors Notes
<p>Initial Presentation Mildly confused, GCS 13. Talking in sentences. RR – 20/min Sats – 95% on air NIBP – 130/80 HR – 80, irregular No added sounds in chest</p>	<p>Rapid assessment of patient Assign roles to team Place monitoring and (oxygen) IV access Take concise history – events at home, symptoms, risk factors from PMHx, FHx. A-E assessment</p>	<p>Faculty nurse – supportive to the participants Patient has multiple PVCs– on monitor and ECG. You can prompt the participants if they are struggling at times. When ECG ordered ask the participants to put the ECG stickers on the appropriate places and once this has been done give them the laminated ECG print out. If the participants take off the ECG stickers after the first ECG and ask for another – make them place the stickers again – learning point of keeping ECG stickers in place during an emergent situation.</p>
<p>Progression Patient complains of chest heaviness RR – 30/min Sats – 93% on air Breath sounds bibasal creps BP – 105/70 HR – 110 irregular</p>	<p>Participants should reassess and institute appropriate therapy –analgesia, Oxygen Patient does not get better Perform other investigations: ECG CXR Blood tests (including troponin) Ask for old notes Communication with patient and team about thoughts and plans. Reassessment of patient after any and every intervention</p>	<p>Patient does not get better with any treatment. Faculty nurse to prompt the deterioration and to prompt any missing therapy/assessment/investigation points that have been missed.</p>

<p>Deterioration Patient becomes unconscious and develops VT</p>	<p>Participants should realise that patient has become unconscious and will need to go down the shockable ALS pathway. Participants can elect to intubate this patient. Participants should treat for Digoxin overdose and it's complications - hyperkalemia</p>	<p>Nurse faculty should prompt the deterioration if participants missed this. Patient develops ROSC after 4 cycles of CPR.</p>
<p>Recovery Michael stabilises but remains unwell, with appropriate therapy. RR – 24/min Sats – 98% on oxygen Breath sounds clear NIBP – 120/75 HR – 100 regular</p>	<p>Call for help, if not already, or refer to cardiology and toxicology for further management of his condition – Digoxin overdose. Repeat ECG if asked for will show SR with some ST depressions. This will depend upon the level of experience of the participants</p>	<p>The Nurse faculty can suggest a review or referral to a senior or to cardiology or toxicology if this has not been asked for already. Nurse can prompt for a repeat ECG.</p>
<p>Debrief Guide</p>		
<p>Key clinical issues Rapid assessment and management of a patient with drug poisoning Recognition of an unstable arrhythmia Reassessment Management of Digoxin overdose, differences between acute vs chronic overdose Management of the complications of Digoxin overdose – hyperkalemia, acute renal failure</p>	<p>Key non technical issues Communication with patient and staff/team Situational awareness – deteriorating patient – need for cardiology/toxicology/senior review Management of their team, role allocation</p>	



ABG results and ECGS

ABG:

pH 7.32

pO₂ 90

pCO₂ 35

HCO₃ 20

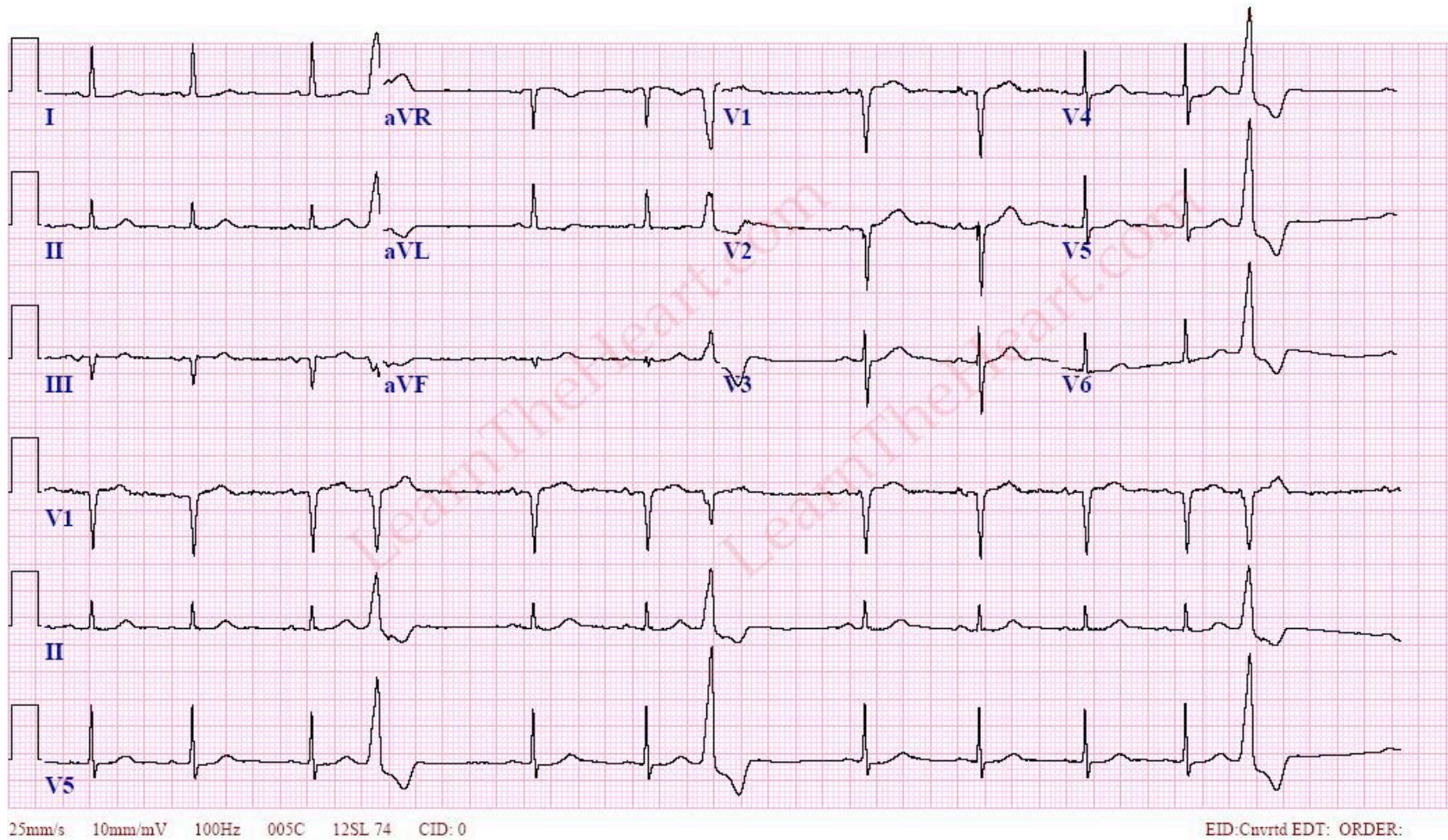
BE-2

K 6.0

Na 135

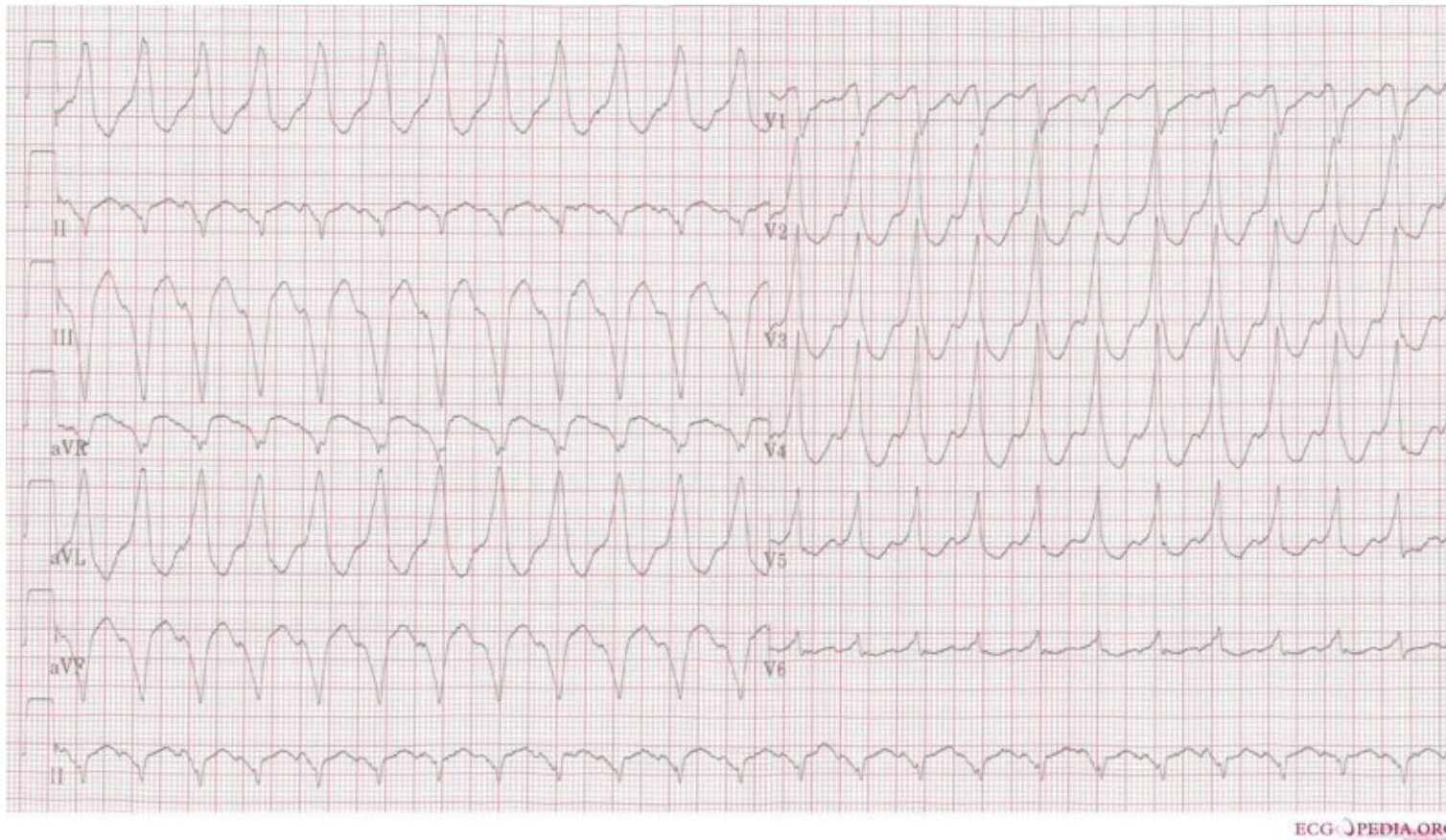
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AF with ventricular ectopics



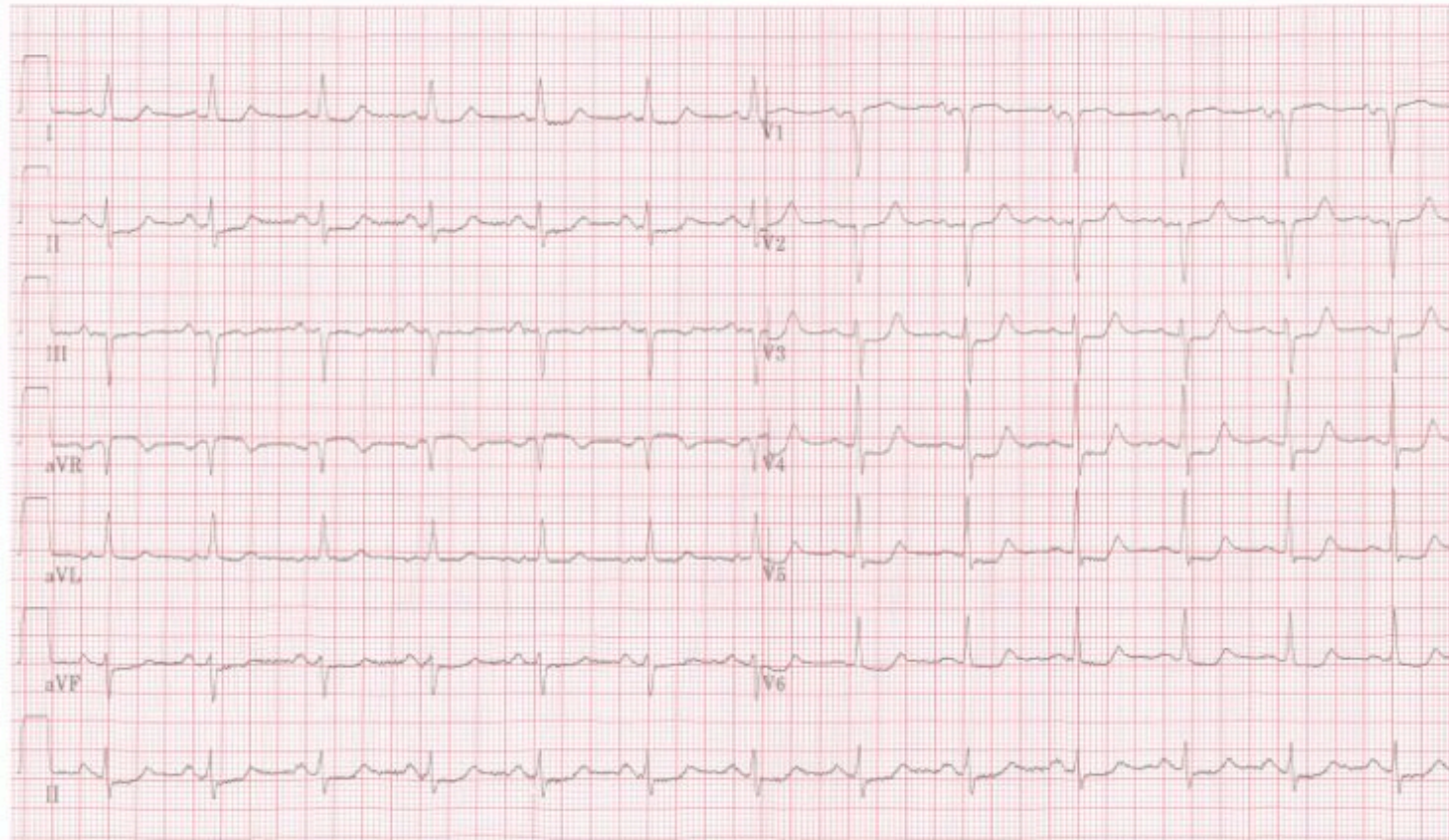
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ECG with VT



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ECG with ST depression



ECG PEDIA.ORG

Resources:

[ecgpedia](http://ecgpedia.com)

learntheheart.co

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