SIMulatED RDH Emergency Department - Author: RD/MDS

# Scenario Run Sheet: Sick sinus and cardiac pacing

## Learning Objectives

**Target Group:** ED Registrars, ED Nurses, ED PCA’s

**General:** Interdisciplinary communication/allocation of roles/teamwork/leadership

**Scenario Specific:**

Recognition of rhythms that cause syncope

Become familiar with the indications and technique of transcutaneous cardiac pacing

Medical ethical issues in patients under Adult Guardianship

## Scenario Overview

**Brief Summary:**

83yo nursing home resident presents with syncope from sick sinus syndrome. Subsequent fall results in closed head injury and humeral neck fracture. Patient has background dementia under Adult Guardianship with implications for management and consent. Patient has recurrence of sinus arrest during assessment requiring sedation and temporary transcutaneous pacing pending referral for temporary pacing wire/definite PPM

|  |  |  |  |
| --- | --- | --- | --- |
| Intro Time | Scenario Time | Debrief Time | Soundbite  |
| 1 min | 20-25min | 20 mins | 10 mins |

## Observers’ Engagement Task

Briefing points: LIVE DEFIB. Sim MAN 3G. Sim Switch. Participants: TL Jo, AW Amanda, Circ Richard

Learning objectives: Recognition of dysrhythmias associated with syncope; become familiar with indications and principles of transcutaneous cardiac pacing; consent to emergency treatment in patient with confusion

## Equipment Checklist

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| --- | --- |
| **Patient** | SimMan 3G, bandage on head, blood on face |
| **Monitoring:** | SimMan 3G laptop |
| **Docs and Forms**  | ED green sheet, EDNA (partially filled out by RN),  |
| **Other Equipment** | Resus trolley, ETCO2 inline module Defib pads and 3lead monitoring |
| **Consumables** | Normal Saline |
| **Medications** | Midazolam, fentanylAtropine, adrenaline, metaraminol, aspirin |

|  |  |
| --- | --- |
| **Sim Prompts** | CXR showing NOH fracture, 12 Lead ECG’s (sick sinus; paced at 70bpm), VBG (NAD)Nursing home referral letter |

## Participants

**Staff:** ED RN’s x3 ED Registrars x3

**Instructor Roles:** Facilitator in room (FACEM)

**Confederates:**

Sim switch (FACEM): Cardiologist/ FACEM / Adult Guardian on call

## Additional Information/Medical History

**Demographics:** 83 year old Tony, lives in Pearl NH, dementia ; son David has power of attourney

**PMH: (amend according to NH chart obtained)**

Semi independent in ADLs; walks with 4 wheel walker PHx CABG

**HPC (Son David):**

NH already phoned him: unwitnessed fall, found beside bed with obvious headstrike, unresponsive for several seconds then woke more confused than usual. Complaining of dizzinesss and Right shoulder pain.

Well recently, blood thinner ceased 4 weeks ago due to frequent falls

No advanced directive in place. Son has current POA.

PH Dementia, depression, frequent falls

DM, HT, AF

Chronic pain (OA), osteoporosis

Previous bowel ca – cured with surgery; Ca Prostate

## Proposed Scenario Progression

**STEM: You are the Majors night registrar. It is 1am. You have gone to assess 83 year old “Mick” in Resus 1 who presented 10 minutes ago as an ATS 3 after a fall and brief LOC.**

* ED reg walks in to room to find patient connected to monitoring. RN has just cannulated and states he was brought in by SJA after falling out of bed. Fall was unwitnessed. He was unresponsive for several seconds and was then more confused than usual. Has sustained a laceration to the Right side of the head. Cervical collar applied by SJA but pt non-compliant. Is moving head normally
* Current GCS 14, PERL 5mm, moving all limbs.
* Patient confused but cooperative, complaining of Right shoulder pain.
* Patient has sinus pauses with runs of junctional tachycardia; prolonged sinus pauses should prompt trial of atropine followed by transcutaneous pacing supported by judicious PSA
* Team seeks cause of sick sinus (senile/fibrosis/drugs (verapamil)/ACS/myocarditis) and concomitant pathology in elderly NH patient presenting post a fall.
* Explanation to patient and attempts to contact NOK and Adult Guardian; initiates emergency treatment given principle of necessity
* Considers CTB/Cx spine and sling for humerus # / scalp wound assessment/ADT
* Phones Son with explanation and consent (POA): enquires about advanced directives
* Refers to on call cardiologist / FACEM / med reg (CCU bed) with plan for ortho RV in am

## Scenario Preparation/Baseline Parameters

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| --- | --- | --- | --- | --- | --- |
|  | **Stage 1 (arrival)** | Progression Trigger | **Stage 2 (deterioration)** | Progression Trigger | **Stage 3 (paced)** |
| **RR** | 20 | 14 | 18 |
| **SpO2** | 95% RA | 92% RA | 99% O2 |
| **HR/Rhythm** | 40 sinus brady, pauses, NSus-VT | 30, pauses,  | Paced 70 |
| **BP** | 90/60 | 70/40 | 110/60 |
| **T** | 36.5 | - | - |
| **Other** | GCS 13 (E3V4M6) | ETCO2 (if used) | ECG post: paced |
|  |  | GCS 11 (E2V4M5) | GCS 14 |

## Debriefing/Guided Reflection Overview

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| --- | --- |
| **Opening Gambit** | **Anticipated themes:**Sick sinus manxEfficacy of atropineTV vs TC pacing in the EDElectrical and mechanical capture: troubleshootingSedation and analgesia in this age groupPOA/advanced directives: emergency RxOther injuries: CHI ? ICH, laceration scalp, Humeral fractureOther fall workup/comorbidities |
| **Exploration with key players** |  |
| **Engaging the general group** |  |
| **Sharing facilitator’s thoughts** |  |
| **Any other questions or issues to discuss?** |  |
| **Summary** |  |

## The Soundbite

**1. Cardiac Pacing**

Indications

Techniques (TC vs VC in the ED)

Adjuncts (PSA)

Troubleshooting

**2. Consent issues:**

References: UTD, BMJ, LITFL – see powerpoint

General Feedback Prompts/Examples:

Opening Gambit:

* What did you feel were your specific challenges there?
* Let’s talk.
* Can you describe to me what was happening to the patient during that scenario?
* Can you describe to me what was going on?
* What was important to you in choosing to manage that situation?
* Can you tell me what your plan was and to what extent that went according to plan?
* That seemed to me to go smoothly, what was your impression?
* That looked pretty tough. Shall we see if we can work out together what was going on there so that you can find a way to avoid that situation in the future?

Exploration with key players

* Questions to deepen thinking
* Questions to widen conversation
* Introduce new concepts; challenge perceptions; listen and build
* So what you’re saying is…
* Can you expand on…
* Can you explain what you meant by…
* When you said…
* I noticed that you…

Engaging the general group

* Let’s check with the rest of the group how they reacted to you saying that.
* Did you [scenario participants/observers] feel the same?
* What did you [scenario participants/observers] want from [scenario participant] at that point?
* What ideas or suggestions has anyone else got for how to deal with that situation?

Sharing facilitator’s thoughts

* Use advocacy with inquiry to share your observations and explore their perception
* What does the protocol say on…..
* What do you think was happening ….?
* How do you think … would respond to…. ?
* What about next time…..?
* Do you think there’s anything to be gained from…?

Any other questions or issues to discuss?