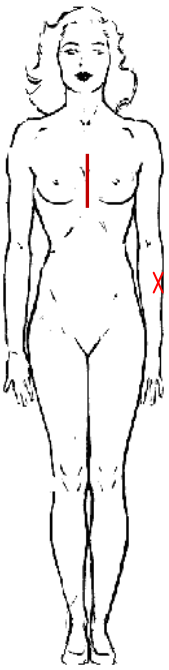
Deteriorating Patient Simulation Education – 2013 Graduate Nurse Program

Brief	To develop a program of Simulation based education (SBE) for staff undertaking the Eastern Health (EH) Graduate Nurse Year, that dovetailed with previously delivered didactic teaching. The EH Graduate Nurse Program (GNP) contains a schedule of core study days whose focus is the identification, through nursing assessment, and management of the deteriorating patient. A series of SBE sessions was designed to offer Graduate Nurses the opportunity to consolidate theory into practice in a safe, supported (simulated) environment. Particular reference to NSQHS Standards 6 (Clinical Handover) and 9 (Deteriorating Patient) was made, to underpin the development of these sessions.
Learning Objectives	Generalized learning objectives for the SBE program were identified by a consultative process involving the key stake holders in the GNP. The objectives were for the Graduate Nurses, by the end of a Simulation session, to show development and application of critical thinking, problem solving and current evidence-based practice by being able to • Demonstrate a timely primary survey of the patient • Identify risk factors for deterioration in the particular patient scenario, and recall signs and symptoms of the patient's condition and their relationship to anatomy and pathophysiology. • Demonstrate correct technique in undertaking a focussed secondary survey of the patient, in a timely fashion, using a systematic head to toe patient assessment format. • Identify and implement nursing interventions in response to detected deterioration, within the graduate's scope of practice. • Recognise and act upon the urgency of when to call for help. • Demonstrate knowledge of systems local to their (particular) sites for accessing advanced assistance i.e. MET call/ Code Blue (in sub-acute sites) • Demonstrate effective communication of the situation to the emergency response team, using the EH ISOBAR format for handover.
Design	A needs analysis was undertaken, in consultation with the Graduate Liaison Educators, and with ward and program based Clinical Nurse Educators (CNE), to determine the clinical types and degree of complexity of scenarios required. CNE, in the clinical areas where Graduates are employed, contributed to the contextualisation of scenarios by providing background on either a "typical" patient, or in identifying clinical scenarios that Graduates had historically found challenging. CNE from different EH sites and clinical program streams were also able to provide site-specific information regarding management of the deteriorating patient that then informed the scenario design, to better tailor it to the Graduates' working context. Different scenarios were written (under Acute Medical, Acute Surgical, Sub-acute, Rehabilitation and Palliative Care headings) using existing templates offered by the EH Simulation Centre, and tested with CNE playing the roles of both scenario confederates and Graduates.
Implementation	As this was our first foray into SBE in the GNP, the decision was made to offer 2 hour sessions to small groups (maximum 4 participants) to optimise each individual's participation in a scenario. Graduates were asked to attend the SBE session dressed appropriately for start of shift, including the usual tools they routinely carried e.g. stethoscope, pen torch etc. The session commenced with an introduction and explanatory phase, which lasted about 10 minutes, then segued into the pre-brief and room familiarisation (10-15 min), the scenario itself (15-20 min), then the debrief (45-50 min). The participants were then asked to evaluate the SBE session via a Survey Monkey tool on pre-prepared iPads, before they left.
Evaluation	A short (8 question) survey was created on Survey Monkey, using mostly Likert scale questions and open ended questions to evaluate participants' perceptions of the quality of the experience and the possible benefits they felt would carry over to their practice.
Resources	Monash Simulation Instructor Training Course EH CNEs undertaking on-line NHET-Sim program (HWA funded) Appendix 1: Example Acute Medical Scenario - Story Book Work Flow Appendix 2: Example Sub-Acute - Facilitator Notes Appendix 3: Prompt Cards

Appendix 1: Acute Medical Scenario - Storybook Work flow

Scenario Name: "I can't breathe properly" – APO
Educator/s Name: Marg Curtis

<table>
<tr><th colspan="3">Scenario Progression Information</th></tr>
<tr><td></td><td>Desired Learner Actions</td><td>Prompts</td></tr>
<tr><td>Initial frame
HR: 120 | R: 24
BP: 180/100 | Temp: 36.9
SPO2: 87% on room air
Auscultation Sounds
Lungs: Wheeze to mid zones & crackles to both bases
Heart: Irreg (Sinus tachy + PVCs)
Bowel: Silent
Mannikin Vocals
Mental Status: Awake, anxious
Vocal Examples: Short of breath, soft voice: short sentences only. REMEMBER PT HARD OF HEARING
Other: Pulse weak
PAUSE AND DISCUSS IF NO CALL FOR EXTRA HELP INITIATED</td><td>• 2 RNs enter bedside area together (team leader & team member returning after morning tea, going to check on patients)
• RNs in appropriate PPE, use bedside hand rub prior to touching pt
• RN/s engage/s pt in conversation, offering reassurance and explanation of what she is about to do
• RN performs pt physical assessment including vital signs (noting ↑RR, ↓ SpO_2 sweating, pallor and cool extremities, use of accessory muscles) and lung auscultation.
• RN documents findings
This frame continues for 4-5 minutes to allow time for assessment</td><td> 
• Manual counting of HR – don't put waveform or number on screen at all initially
• Manual BP – put numeric on screen only when RN has inflated cuff and used stethoscope to 'hear' BP
• Put SpO2 & HR numeric on screen once RN applies probe.

These are the only numerics that stay on screen continually, as long as probe is insitu</td></tr>
<tr><td>Frame 2
HR: 128 | R: 30
BP 160/95 | T°: 36.9
SpO_2: 91% on 15L/min O_2
Auscultation Sounds
Lungs: Wheeze & Crackles (as above)
Heart: Irreg
Mannikin Vocals
Mental Status: "I don't want to put the mask on; I can't breathe properly"
Vocal Examples: Pulse weak
Other: Pt becoming very irritated, "Get this off me. It's blowing too hard"
RNs– may decide to cease IV until medical assistance arrives</td><td>• RN 1& 2 assists patient to optimal sitting position (sit up more)
• RN initiates 15 L/min O_2 via Hudson mask
• Emergency trolley brought in
• 2 RNs who have just entered receive handover from bedside RN using ISOBAR format.
• ? Initiate cessation of IVT
• MET call rung. Designates an RN to bring patient history, inc latest pathology

This frame continues for 4-5 minutes</td><td>Gender: Female

Lungs: Wheezes to mid zones and crackles in both bases

Cardiac rhythm: Sinus tachy + PVCs

IV Set-up: N/saline @ 42 mls/hr (running as scenario begins)

Airway: Adjunct: Nasal prongs, Hudson mask

Moulage: Old healed mid-line sternotomy scar. IVT to left arm as above</td></tr>
<tr><td>Frame 3
HR: 108 | R: 23
BP 140/90 | T°: 36.9
SpO_2: 93% on 10L/min O_2
Auscultation Sounds
Wheezes and crackles (Med Reg listens)
Mannikin Vocals
Mental Status:
Vocal Examples:</td><td>• MET team arrives
• Bedside RN (1^0 nurse) hands over to MET team using ISOBAR format
• Med Reg orders IVT ceased and chest x-ray
• Med Reg orders IV Frusemide, GTN patch (5 mg/ 24 hrs)and subcut Morphine
• RNs check and administer medications as ordered
End scenario after medication administration</td><td>☑ X-ray to be used
☑ Pathology Reports needed
☐ Trends to be used
☐ Handler to be used
☐ Other
Patient in Infectious Precautions (yellow gown, gloves, isolation etc)</td></tr>
</table>

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<tr><td>
<table>
<tr><th colspan="2">Frame 4</th></tr>
<tr><td>HR:</td><td>R:</td></tr>
<tr><td>BP</td><td>T°:</td></tr>
<tr><td colspan="2">SpO_2:</td></tr>
<tr><th colspan="2">Auscultation Sounds</th></tr>
<tr><td colspan="2">Lungs:</td></tr>
<tr><td colspan="2">Heart:</td></tr>
<tr><td colspan="2">Bowel:</td></tr>
<tr><th colspan="2">Mannikin Vocals</th></tr>
<tr><td colspan="2">Mental Status:</td></tr>
<tr><td colspan="2">Vocal Examples:</td></tr>
<tr><td colspan="2">Other:</td></tr>
</table>
</td><td>LEARNING OBJECTIVES

• Demonstrates an efficient but thorough assessment of patient, focusing on critical body systems
• Recognizes signs and symptoms of pulmonary oedema
• Demonstrate an awareness of pulmonary oedema as life threatening and the need to activate MET and initiate treatment swiftly
• Demonstrate DRSABC
• Demonstrate effective communication using a ISOBAR format for handover</td><td><u>Cast</u>

Simulated Patient rather than Sim Man??

RN1 - carer for pt (learner)

RN2 – carer for pt (learner)

RN3 - colleague in nursing team responding to emergency bell (learner)

RN4 - colleague in nursing team responding to emergency bell (learner)

Med Reg – CNE confederate

ICU Liaison Nurse – CNE confederate

Control Room + Mary Anne voice – CNE (debrief)

Voice of the ‘Wizard’ - Sim technician

In Room Observer(IRO) if required- (will be in debrief)</td></tr>
<tr><td>
<table>
<tr><th colspan="2">Frame 5</th></tr>
<tr><td>HR:</td><td>R:</td></tr>
<tr><td>BP</td><td>T°:</td></tr>
<tr><td colspan="2">SpO_2:</td></tr>
<tr><th colspan="2">Auscultation Sounds</th></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2"></td></tr>
<tr><th colspan="2">Mannikin Vocals</th></tr>
<tr><td colspan="2">Mental Status:</td></tr>
<tr><td colspan="2">Vocal Examples:</td></tr>
<tr><td colspan="2">Other:</td></tr>
</table>
</td><td></td><td></td></tr>
<tr><td>
<table>
<tr><th colspan="2">Resolution</th></tr>
<tr><td>HR:</td><td>R:</td></tr>
<tr><td>BP</td><td>T°:</td></tr>
<tr><td colspan="2">SpO_2:</td></tr>
<tr><th colspan="2">Auscultation Sounds</th></tr>
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<tr><td colspan="2">Mental Status:</td></tr>
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Appendix 2: Facilitator Notes - Sub-acute developing stroke post TKR

Facilitator Notes	Approx time
Hand all participants the pt details on the "handover" card Familiarisation: • Establish fiction contract • Explain room set-up and how to operate equipment. Emphasise that numbers will not be available on screen until certain actions eg inflating BP cuff and listening with stethoscope, are performed. • Encourage "real" behaviour • Encourage "thinking out loud" • Encourage questions to both pt and facilitator	**Pre brief and room familiarisation** 10-15 min
Prompt RN1 (and RN2 if 4 participants) to enter "ward" to commence scenario	Start **scenario**

One RN should stay with pt, other go for help (get shift coordinator), or if on her own, should press emergency buzzer for help.
<u>General Performance Indicators</u>
• One nurse to stay with pt at all times
• Assessment technique to inc
  ○ Neuro: oriented to TPP, limb movement and strength
  ○ Vitals inc SpO_2
  ○ question re time of onset
• RN speaks in clear, calm voice and reassures pt
	After 4-5 min (enough time for assessment to occur)

RN2 returns with Shift coordinator and RN3 pushing resus trolley <u>General Performance Indicators</u> • BSL performed • ISoBAR handover to coordinator • Connect to AED to assess cardiac rhythm • Coordinator takes lead - sends one RN to call Code Blue - one RN documenting - one RN monitoring vitals esp ABC and initiates actions to maintain patent airway	5 min
Code Blue team (Med Reg and Hospital Coordinator) enter -Shift coordinator hands over to Code Blue team -Med Reg orders ambulance rung -Med Reg orders oropharyngeal airway inserted if not already done so -Decides to insert IV <u>General Performance Indicators</u> • RN finds equipment for IV insertion (on Resus trolley) and assists with insertion	5 min

Appendix 2: Facilitator Notes - Sub-acute developing stroke post TKR

DEBRIEF RUNNING SHEET	
Info for facilitator/s The debrief will explore the following aspects • Learners' experience of the simulation • Learners' perspectives on crisis resource management (leadership, communication, identification of roles, appropriate escalation of intervention etc) • Influence of the following on the Learners' ability to perform on the scenario • Nb: IMPORTANT TO LET LEARNERS 'DE-ROLE"	
Questions about the Learners' experiences of the Simulation 1. How do you feel now? 2. Did the situation feel real? 3. How do you feel you managed the situation overall? 4. For those involved in observing the situation: your observations on how it played out overall?	5 mins
Questions about the learning outcome 1. During the situation, what did you think was wrong with Doug? How did you come to that conclusion? 2. What were the pt safety issues encountered? How were they resolved? 3. What measures were taken to diagnose the underlying cause? 4. What difficulties were present in managing the situation? How were they resolved? How might you manage these if faced with this situation in the future? 5. What communication methods were used? 6. What role did your colleagues play? How did you work together? What worked well? What could have been done differently?	15-20 min
Questions about the process 1. Did you find the pre-brief adequately prepared you for this scenario? What would you like to see included in the pre-brief to better prepare a participant for this scenario? 2. What aspect/s of this simulation did you find useful in learning about how to manage a MET call/Code Blue? 3. What aspect/s of this scenario did you find useful in learning about effective team work? 4. Do you feel more confident about dealing with this type of clinical problem in the future? Why or why not? 5. Is there anything that should have been done differently?	15-20 min
Take Home message Spend a few minutes providing a summary of the experience, identifying 3 things the group did well and 3 things they can think about for the future. Thank them for their time and efforts. Reiterate "what happens in Sim, stays in Sim"	5 min

Appendix 3: Prompt Cards

1. Pre-brief

General Intro/ Welcome/ Overview

- Introduce CNEs involved
- Icebreaker if needed - Grads to introduce selves with name, clinical area, "what would they do if they won the lotto
- Objectives of Sim session: EMPHASISE <u>not an assessment but a learning opportunity</u>
    - Clinical – demonstration of assessment skills, interpreting findings, intervention/s to prevent further deterioration
    - Crisis Resource Management - team work, communication, prioritising
- Acknowledge stress involved in Sim, (reassure that it is not an assessment)
- Have brief discussion on previous experiences in Sim
- Confidentiality agreement/ attendance sheet (have ready for signing)
- Hand all participants the pt details on the "handover" card. Give handover of patient.
- Encourage participants to behave as they would in clinical setting inc how they approach and communicate with their pt.
- Encourage participants to "Think out loud so the team know what you are thinking. It is also really good practice for us in the clinical world"
- Encourage participants to ask questions to facilitator and patient

2. Room Familiarisation

How to "use" the Sim room

- Establish fiction contract- introduce 'pt' then say "We'll be over to chat with you in a minute....." (Ensure "outside" scenario eg beyond black line in BHH; on periphery of room at WH)
- Explain room set-up and how to operate equipment. Emphasise that numbers will not be available on screen until certain actions eg inflating BP cuff and listening with stethoscope, are performed.
- Discuss info that can be elicited from "the Wizard" eg. BSL, skin colour, warmth, muscle function papillary reaction, cap refill etc.
- Reinforce need to demonstrate "real" behaviour
- Documentation if needed -use pencils
- Need for gloves. Don then "enter room" (cross black line) and interact with pt. Show pulse palpation (let learners feel). Remind re hand hygiene
- Crash cart (corridor)
- O2 and Suction devices
- Emergency buzzer & Phone use
- Vital signs equipment: Sphygmanometer, pulse oximeter, thermometer, pen torch , stethoscope etc.
- How to operate bed/trolley
- Imed pump/ IV fluids

Appendix 3: Prompt Cards

3. In Room Observer (IRO)

Role =Observer (to contribute to Debrief) and Pause + Discuss facilitator

Role of IRO/Pause and discuss facilitator is purely fly on the wall ***unless****:*

- Scenario to be paused to discuss emergent issues if participants are "going off track"
  - Clinical issues
  - Technical issues (equipment related)
  - Teamwork issues
  - Use an active enquiry method: ask learners to identify problem/s, priorities, and "next steps", rather than adopting a directive approach.
  - Restart scenario when there is group consensus present about next priority.
- P+ D should not be more than 2-3 minutes.

4. De-brief = IRO & Control Room/ Facilitator

- "How do you feel?" Allow several minutes for participants to 'vent' emotions
- De-role: e.g."That was a specific situation we constructed and ypu were playing different roles in it. It is finished now and I want to you to step out of those roles and become 'you' again"
- Thank you all for participating in this...firstly, let's talk about your experience of the simulation
  - Did the situation feel real to you?
  - How do you feel you managed the situation overall? Something you did well? Something you'd do differently?
  - (If learner observers) "For those involved in observing the situation: your observations on how it played out overall?"
- "Now let's discuss the learning outcomes"
  - During the situation, what did you think was wrong with *name*? How did you come to that conclusion?
  - What measures were taken to **identify** the underlying cause? (assessment techniques)
  - What difficulties were present in **managing** the situation? How might you manage these if faced with this situation in the future?
  - What role did your colleagues play? How did you work together? What worked well/ could have been done differently? (??initiate action sooner??/ escalate sooner???)
- "I've just got a couple of questions about the process..."
  - Did you find the pre-brief adequately prepared you for this scenario?
  - What aspect/s of this simulation did you find useful? (Clinical?/Effective Teamwork?)
  - Is there any aspect of the process you think should have been done differently?
- TAKE HOME Message from each participant
- Reiterate confidentiality and thanks