Recognising and Responding to Clinical Deterioration using Simulated Learning

The Loddon Mallee Simulated Learning Environment (LMSLE) consortium consists of Monash University (Bendigo and Mildura Regional Clinical Schools), La Trobe University (Rural Health School), Bendigo Health and Bendigo Regional Institute of TAFE. The LMSLE is funded by Health Workforce Australia through the Clinical Placement Network.

Outreach learning and teaching modules aim to develop and implement a co-ordinated, interdisciplinary approach to learning and teaching for clinicians and clinical educators in the Loddon Mallee region.

Table of Contents

Recognising and Responding to Clinical Deterioration using Simulated Learning

Module Summary

This module provides theoretical and simulated clinical experience for all health care professionals involved in the care of the deteriorating patient. It aims to provide practical, hands-on experience in a simulated clinical environment to enhance recognition and management skills in the team-based care of patients.

This module does not provide formal competency or accreditation training but continuing professional development points are provided to participants on successful completion.

1. Introduction

The purpose of this module is to enhance the capacity of health service staff working in traditional and expanded clinical/ non clinical placement settings to recognise and respond to the deterioration of patients using a team based approach. This will be achieved by providing theoretical and practical learning opportunities in a simulated learning environment.

The following curriculum document outlines the structure, learning objectives and evaluation strategies for this module. The plan is aligned with:

- Simulated Learning Needs Analysis for the Loddon-Mallee Region. (2011)
- Australian Resuscitation Guidelines (2010)
- Australian Health Practitioner Agency Guidelines (2012)
- Australian Commission on Safety and Quality in Health Care (2008)
- National Safety and Quality Health Service Standards (2011)
- Loddon-Mallee Simulation Consortium Education Working Group objectives (2012)

2. Staff contributors

Administrative

Chris Stevenson | SLE Coordinator | Collaborative Health Education & Research Centre (CHERC)
Organisational Development and Improvement
Bendigo Health
PO Box 126 Bendigo Victoria 3552
03 5454 6386| f. 03 5454 6420 cstevenson@bendigohealth.org.au

Curriculum Authors and Simulation Educationalists:

Lead Agency:

Adele Callaghan
Senior Lecturer-Clinical & Simulation
Bendigo Regional Clinical School
Monash University
PO Box 666, Bendigo Central Post Office, Vic 3552
26 Mercy Street, Bendigo Vic 3550
Mob: 0408536370 Tel: +61 3 5440 9055 Fax: +61 3 5440 9001
adele.callaghan@monash.edu

Cathy Driver
Level B lecturer Clinical Simulation
Bendigo Regional Clinical School
School of Rural Health
PO Box 666 Bendigo Victoria 3552
ph: 54409067
cathy.driver@monash.edu

Howard Cook - Lecturer
Clinical Teacher
Monash University
Mildura Rural Clinical School
PO Box 6252, Mildura, Vic, 3500
Office Phone: (03) 50225502
Skills Lab Phone: (03) 50225522
Main Reception: (03) 50225500
Email: howard.cook@monash.edu

Kristy Allen RN
Laboratory Technician
Mildura Regional Clinical School
Monash University
Office Telephone: +61 3 50225532
Skills Lab Telephone: +61 3 50225525
Mobile: 0407542469
Email: kristy.allen@monash.edu

Agency Partners:

Tracy Kidd
CNE co-ordinator Loddon Mallee Region | Co-ordinator Certificate in Gerontological Nursing
ALS educator | ARC ALS provider
Work days: Monday/Tuesday/Wednesday/Thursday
Collaborative Health Education & Research Centre (CHERC)
Organisational Development and Improvement
Bendigo Health
PO Box 126 Bendigo Victoria 3552
03 5454 6428 | f. 03 5454 6420 | m. 0439 003 914

Therese Worme
Lecturer in Nursing
Nursing Clinical Learning Unit Manager
Simulation Educator for La Trobe Lodden Mallee region
La Trobe Rural Health School
Faculty of Health Sciences | La Trobe University | PO Box 199 Bendigo 3552
T: 03 5444 7715 | **F**: 03 5444 7977 | **E**: t.worme@latrobe.edu.au

Angela Cahill
Head Of School
Health & Human services
Bendigo TAFE
PO Box 170, Bendigo Victoria 3552
www.bendigotafe.edu.au
T +613 5434 1897
M 0458 705 191

Sue Kirby
Teacher, Nursing
Health and Wellbeing
Bendigo TAFE
PO Box 170, Bendigo Victoria 3552
www.bendigotafe.edu.au
T +613 5434 1787
E skirby@bendigotafe.edu.au

3. The Deteriorating patient

> "How do we correctly monitor? How do we actually look at the patient and work out whether they are on the right pathway?" Dr Heather Wellington, DLA Piper (1).

The National Safety and Quality Health Service Standards (NSQHS) were developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). The aim of the Standards is to protect the public from harm and improve the quality of health service provision. The standards are integral to the accreditation process for Australian health care providers and are used as a benchmark for organizational performance. This curriculum document is aligned with these standards (1, 2).

Standard 9 of the NSQHS '*Recognising and Responding to Clinical Deteriorating in Acute Health Care'* describes the system and process requirements to be implemented by health service organisations in Australia, These standards are evidenced-based and enable health care organisations and health professionals to respond effectively to patients when their clinical condition deteriorates. Standard 9 provides a framework for organisations and health care professions to establish and maintain systems for recognizing and responding to clinical deterioration and ensure that health care professionals use these systems.(1, 2).

Patients whose condition is deteriorating need immediate recognition. Appropriate timely action should also be taken to escalate care. The patient and their families and carers should be informed of recognition and response systems and then play an active and appropriate role in escalation of care (3, 4, 5, 6). However, there is evidence that the warning signs of clinical deterioration are not always identified or acted on appropriately by healthcare professionals due to factors such as:
:

- not monitoring physiological observations consistently
- not understanding observed changes in physiological observations
- decreased knowledge of signs and symptoms that could signal deterioration
- lack of formal systems for responding to deterioration
- lack of skills to manage patients who are deteriorating
- failure to communicate clinical concerns including in handover situations (3, 4, 5, 6.).

Studies indicate that between 50 to 84 percent of in-hospital cardiac arrests are preceded by physiological instability from one to six hours before a cardiac arrest and that:

- 76 percent of patients show evidence of respiratory deterioration for at least one hour prior to the arrest
- 66 percent of patients show abnormal signs and symptoms within six hours of arrest and prior to notification to a clinician
- only 25 percent of patient cases displaying symptoms are referred to a clinician (1,2).

Delayed detection of patient deterioration and its mismanagement are significant problems which can be improved with targeted education (4,5). This Simulated Learning' Module aims to address the criterion and actions required in NSQHS Standard 9 *'Recognising and Responding to Clinical Deterioration in Acute Health Care*' using simulated learning case scenarios.

4. Simulation as a teaching and learning strategy and methodology

Simulation is defined as "An education technique in which elements of the real work is appropriately integrated to achieve specific goals related to learning or evaluation" (9).

Clinical simulation can be delivered in a variety of modalities including: actors, part task trainers, written scenarios and high fidelity manikins. Simulation enables participants to consolidate theory into practical skills, practise their skills in a safe environment and provide immediate feedback. The use of simulation has also been associated with increases in self-reported knowledge, confidence and inter-professional teamwork amongst multiple health care professionals (5,7,8,9,10,11).

Simulation education is a recognised teaching and learning strategy which can improve patient safety and outcomes. The utilisation of simulation based education for recognising and responding to the deteriorating patient can be applied at all levels of clinical education and ongoing professional education programs for all health care professionals (5,6,7,8,9,10.11).

5. Module objectives

The overarching objectives of the deteriorating patient training course are to enable participants to:

- define patient ‘deterioration’
- describe the physiological observations of a patient whose condition is deteriorating
- describe the use of recognition and response systems in aiding recognition of patients whose condition is deteriorating
- recognise a patient whose condition is deteriorating and take appropriate action to escalate care, either individually or as a team member in a given simulation scenario.
- apply current Australian Resuscitation Council Guidelines to the patient whose condition is deteriorating in a given simulation scenario.
- demonstrate an understanding of organisational policies and procedures for care of the patient whose condition is deteriorating.
- demonstrate effective communication processes (written and verbal) in a given simulation scenario
- demonstrate effective team work

6. Participant requirements

Prior to attending the simulated learning module

Participants are expected to be familiar with local hospital Basic Life Support (BLS), Advanced Life Support (ALS) and MET (Medical Emergency Team) or Early Warning Scoring (EWS) call criteria and ARC guidelines (1,2,3,4,5).

The preferred pre-reading for this Module (as outlined below) is ***highly*** recommended and can be accessed online at: http://nswhealth.moodle.com.au/DOH/DETECT/content/index.htm

DETECT- Between the Flags - Overview

DETECT stands for **Detecting Deterioration, Evaluation, Treatment, Escalation** and **Communicating in Teams**. Developed in New South Wales, these e-learning materials are part of the DETECT Education Package, which is part of the **Between the Flags Program**. They are designed to enable Nurses, Midwives, Doctors and Allied Health Staff to confidently identify and manage patients who are showing signs of deterioration. The program also includes online self-asessment multiple choice questions to assist you to identify your knowledge gaps. (1,2,3).

The DETECT program consists of five different case scenarios each highlighting various body systems and problems. A basic understanding of anatomy and physiology is required to get the most out of this program. Each case scenario includes an introduction, a patient case study, and a test.

The scenarios have been designed using the ABCDEFG algorhythmn and provides the framework for patient assessment. Communication and escalation of care are also key components. While this system was developed in NSW, the principles of early recognition and documentation of abnormal vital signs are highly relevant and applicable to any health setting. The e-learning materials, videos and interactive activities provide a comprehensive and interactive approach to learning and prompts the participant to consider how they would recognize and treat a deteriorating patient in their respective health care environments (2).

Participants are recommended to click on the 'When to worry' and patient case studies icons and review;

- When to worry: Overview, Look, Listen and Feel, who is at risk?, Warning Signs , Respond, ISBAR
- I can't breathe: Introduction, patient case study and skills and knowledge folders
- Warm hands, warm feet: Introduction, patient case study and skills and knowledge folders

Alternatively, participants can down load the pdf versions of these modules in the DETECT Manual on the right of the home page.

7. Curriculum design model

This Module is designed to:

- build on the clinical experiences and prior learning of participants
- be interactive and flexible in meeting participant learning needs
- be applicable to course participants from different health professions, including practitioners working in diverse practice settings
- provide extended learning opportunities for those who have clinically managed the deteriorating patient previously
- be transportable between health services and clinical settings throughout the region

Aim:	To develop skills of health care professionals in the recognition, assessment and management of the deteriorating patient
Delivery:	Pre reading, Simulation, pre and post Multiple Choice Questionnaire (MCQ)
Duration simulation workshop:	Pre-reading learning module review: (Approximately 1 hour) Simulation Workshop: 2 hours
Description:	• The course utilizes the latest clinical knowledge and protocols for training in the deteriorating patient potentially requiring Basic and Advanced Life Support. • Participants are assessed through pre and post multiple-choice examinations in order to evaluate the modules application, as well as observation and interaction with and by educators • Critical reflection is a key strategy utilized to identify theoretical and practical knowledge level, learning and future learning requirements
Intended Learning Outcomes:	• Improve the knowledge of health professionals knowledge to detect, treat and manage the deteriorating patient • Gain practical skills applicable to the deteriorating patient • Rehearse the critical thinking required for the structured approach to the critically ill • Bring about a change in participants' attitude and approach to potential emergency presentations in their practice • Enable the participants to greater understand their own and team members roles and responsibilities in caring for the deteriorating patient • Increase participants awareness of the early warning signs of the deteriorating patient and those who are at higher risk • Identify ways to continue to practice and prepare for future emergency

	presentations • Increase the confidence of rural Health Care Professionals in applying physical assessment responsive medical care to the deteriorating patient.
Topics:	DETECT - *DETECT* stands for **Detecting Deterioration, Evaluation, Treatment, Escalation** and **Communicating in Teams**.
Resources	• DETECT – The Deteriorating Patient Online Program: Available at: http://nswhealth.moodle.com.au/DOH/DETECT/content/index.htm • IPads (provided by Monash team) • SimMan 3g or SimMan ACLS Mannequins and simulation equipment (Monash) • Hand-outs
Eligibility:	The course is most relevant to Medical, Nursing and Allied Health Professionals

8. Summary of teaching methods

A variety of interactive learning and teaching methods will be built into the Deteriorating Patient Module to model adult learning and teaching strategies and encourage active participation in the program, including a team-based simulated workshop

- Pre-simulation workshop activities: pre-reading and Pre Multiple Choice Questions (MCQ) to assess knowledge prior to simulation ***(attachment 8,10)***
- Pre-brief using large and small group discussions; simulation induction, overview of simulation scenario, identification, assessment and management of the deteriorating patient, ***(attachment 3)***
- problem-based learning case studies and scenarios ***(attachment 6,7,8)***
- role plays ***(attachment 6,7)***
- demonstration of clinical skills (procedural, communication, physical assessment)
- interactive, reflective learning activities; use of debriefing strategy post simulation, participant evaluation tool and post MCQ paper. ***(attachment 3,11)***

The Simulation Workshop

- Participants will actively engage in simulated scenarios working together in a group. On completion of each scenario, group discussion and critical reflection will be encouraged focusing on key areas of practice requiring further development. These learning and teaching methods are based on current simulation research literature practiced in Australia (3,4,5,6,).

9. Module Enrolment

Participants are required to:

- contact the LMSLE Co-ordinator to enrol in the Module
- complete the 'sign in' sheet at the commencement of the Module (**See attachment 1)**
- *sign a consent form to participate and maintain the confidentiality of the simulation experience* ***(See attachment 4)***

10. Lesson Plan (Adapt as need)

Time	Focus	Resources
Start am	**Welcome and introductory activities** **Handouts** **Introductions** (who's here today; the learners you teach) Explain how we are using terminology o learners o teachers o learning environment o curriculum	Pre reading for Consent and pre brief information Hand in Pre MCQ
15 min	**Tuning in and Revision:** • Assessment: Primary and Secondary • Airway and CPR management • Overview of defibrillator use (AED or manual)	Using part task trainers Emergency equipment
Break	**Break**	
10 min	**Simulation Workshop:** Orientate students to manikin	Manikin
10 min	Discuss aspects of team work and roles to be used in scenario	Participants and manikin
5 min	Patient scenario - presentation	Use
10 min	Run Simulation – using time out	
15min	Debrief	Use debrief guide
10 min	Change team roles	Time permitting
15 min	Debrief	
20 min	Complete post MCQ	
10 min	Complete evaluation forms	

11. Module assessment

This module has a health service capacity-building focus. Participants will not be formally assessed at the end of the module. Completion of the module will be awarded continuing professional development (CPD) points in recognition of the active learning that participants will undertake. A record of CPD is a requirement of healthcare professionals to maintain currency of registration. Two simulation educational hours are recognized for this module.

A range of formative assessment processes (including the minute paper, questioning and small group discussions - debriefing) will be embedded in the program to encourage participant reflection on their clinical supervision roles and strategies.

*Please review **attachment 3** for debrief guide*

A pre-quiz test and post- knowledge assessment will be provided to enable participants to identify their learning needs and evaluate the program with respect to learning outcome achievement.

*Please review **attachment 10 & 11** for the pre and post quiz evaluation*

Certificates of participation will be distributed to program participants on completion of the module and session evaluation tool ***please review attachments 9**.*

12. Participant learning resources

All participants will receive information on how to access the on-line learning materials to be completed prior to attendance. Access to a CD, hard-copy handouts, and a pre-quiz for the interactive program will be provided that includes:

- an outline of each module (including learning objectives and workshop activities)
- key learning and teaching resources (i.e. workshop handouts and worksheets)
- discussion scenarios
- practical prompt cards
- Clinical supervisor reading list
- Participant evaluation forms

13. Evaluation strategy

The module will be evaluated using a separate session evaluation instrument. The analysis of these instruments will contribute to the continuing quality improvement of the program and will also be used for reporting purposes.

Facilitators will also meet monthly to discuss these results and the program's curriculum to ensure that delivery is consistent and meeting participants' needs.

*See **Attachment 2** for copies of the Participant Evaluation Forms for content learning evaluation*

ATTACHMENT 1: SIGN IN SHEET

Topic/Simulation: _____**Date:** _____

Educator/Facilitator: _____ **Location:** _____

Time in	Time Out	Institution or Health Care Facility	Discipline	Name (print)	Name (sign)

ATTACHMENT 2: Evaluation Template

Loddon Mallee Region Simulated Learning Environment Program
Simulation Session Evaluation

Thank you for completing this evaluation survey; it will only take a few minutes of your time.

By completing this survey you are contributing to a large volume of data. Aggregated data may be used for any or all of the following purposes:

- Evaluation of education programs;
- Improving education programs;
- Education and training funding submissions;
- Government department and health service reporting;
- Future education planning;
- Any other use for the purpose of improving the quality of, and access to, education.

Only aggregated survey data will be reported. You cannot be identified individually.

This evaluation tool is for evaluation purposes only.

The simulation session does not deem the participant competent as no assessment has been included in the simulation.

Please indicate the date of which simulation session you attended:

_____

Which setting do you normally work in?	Please Tick ✓
Community Mental Health Services	❍
Private Hospitals/Practice	❍
Aged Care	❍
General Practice/Primary Care	❍
Aboriginal Community Controlled Health Organizations	❍
Community Health Services	❍
Small Rural Health Services	❍
Regional or Larger Rural Health Services	❍
What is your health professional discipline?	
Medical Practitioner	❍
Nursing	❍
Allied Health	❍
Other	❍
Do you identify as Aboriginal or Torres Strait Islander	**Yes** ❍ **No** ❍

Booking, timing and pre reading	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Booking for the simulation session was straightforward	❍	❍	❍	❍	❍
Any queries I had about the simulation session (prior to attending) were answered to my satisfaction	❍	❍	❍	❍	❍
The pre reading/activity was easy to access	❍	❍	❍	❍	❍
The pre reading/activity assisted me to prepare me for the simulation session	❍	❍	❍	❍	❍

The educator	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The educator pre-briefed the session well	❍	❍	❍	❍	❍
The educator responded to my learning needs	❍	❍	❍	❍	❍
The educator aligned pre reading material to the simulation activities	❍	❍	❍	❍	❍
The educator appeared to know the subject matter well	❍	❍	❍	❍	❍
The simulation presentation was well conducted	❍	❍	❍	❍	❍
The educator facilitated the post debriefing session well	❍	❍	❍	❍	❍
There was opportunity to ask questions of the educator	❍	❍	❍	❍	❍

About the simulation content	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The simulation content was relevant to my clinical practice	❍	❍	❍	❍	❍
The simulation content reflected current National Standards and other peak body guidelines (e.g. Australian Resuscitation Council)	❍	❍	❍	❍	❍
The simulation content was relevant to my workplace context (e.g. rural/regional hospital)	❍	❍	❍	❍	❍
The simulation session encouraged reflection on practice	❍	❍	❍	❍	❍
The simulation equipment and resources were sufficient to enhance learning through simulation	❍	❍	❍	❍	❍

Post simulation	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I have an increased understanding of simulation as a learning method	❍	❍	❍	❍	❍
The simulation enhanced my confidence in dealing with a patient whose condition is deteriorating	❍	❍	❍	❍	❍
I am more likely to engage in simulated ‘practice’ situations to enhance my clinical skills in future	❍	❍	❍	❍	❍

I am more likely to consult the current evidence base as a result of attending the simulation	❍	❍	❍	❍	❍

What aspects of the simulation session did you find the ***most useful*** to your learning - ***indicate top three from this list with a tick (✓)***

Pre-Briefing	❍	Post Briefing	❍	Team Work	❍
Role Play	❍	Simulation Content	❍	Simulation Topic	❍
Interdisciplinary Learning	❍	Multiple Choice Quiz	❍	Other (please list)	❍
Working on a mannequin (no danger to real patient)	❍	Opportunity to practice skills used infrequently	❍		

What aspects of the simulation session did you find the ***least helpful*** to your learning - ***indicate top three from this list with a tick (✓)***

Pre-Briefing	❍	Post Briefing	❍	Team Work	❍
Role Play	❍	Simulation Content	❍	Simulation Topic	❍
Interdisciplinary Learning	❍	Multiple Choice Quiz	❍	Lack of reality	❍
Other (please list)	❍				

List three points you learned from this simulation:

What could be improved in the simulation session?

If you would like to make any further comments, please do so here.

_____

_____

_____

_____

Thank you very much for your feedback

ATTACHMENT 3: Debrief Guide (advocacy inquiry model)

Adapted from; Paltridge, D.,Novella, A., Van Dyjk, J.,Vawser,T. & Cunningham, N. (2007). Clinical Skills Facilitators. Advanced Course Manual. Department of Human Services; Victoria

Scenario	Primary debriefer / Overhead voice	Co debriefer / Patient voice	Sim man Console operator	Role play 1	Role play 2
Scenario 1	Facilitator A	Facilitator B			
Scenario 2	Facilitator B	Facilitator A			

Introduction is to be done at the 1st debrief of the session by the Primary debriefer

- Explain the role of the debriefer and to introduce the co-debriefer
- Set the ground Rules. e.g. Confidentiality, respect for each other, one participant to talk at one time, no interrupting etc.
- Explain the expected length and format of the debriefing.

1. Primary de-briefer

"How did that feel?" Ask each participant that participated in the scenario. This will guide you on what issues may need to be covered further in the debrief, listen but not too many comments at this stage.

Now invite co – de-briefer to cover the technical (clinical) aspects of the scenario

2. Co debriefer

“Let’s look at the technical aspects of the scenario” The facts, what the scenario was, what the expectations were e.g. preparing the environment, systematic approach to stabilisation of trauma patient, management of a difficult airway.
Use advocacy, concern and enquiry type questioning if genuinely concerned re a clinical aspect, otherwise this section can be to clarify teaching points.
Hand back to primary debriefer cover team issues

3. Primary debriefer

Aim to look at non technical skills – Principles of Crisis Resource Management
Opportunity to use Pendleton’s feedback model or an advocacy, concern, enquiry type questioning. Depending what you are comfortable with.
“**Ask what went well?”** invite observers to contribute

This is an opportunity to show 1 - 2 examples from the recorded scenario. Before viewing state specifically examples you are showing.

1. **“What could have been done differently next time?”**

Use language you are comfortable with. If you are genuinely concerned re a team work/ CRM issue that arose use advocacy, concern and enquiry type questioning to gain participant insight. Please do not use examples in recording to “shame and blame”

2. **Ask are there anything else participants would like covered**

3. **Conclusion of debrief - summarising learning objectives**

4. **Ask each participant for their take home message from this scenario**

ATTACHMENT 4: Consent Form

MONASH University

other logos will need to be inserted

Participant Information and Consent Form

Recognising and responding to clinical deterioration using simulated learning

Facilitators: Adele Callaghan, Cathy Driver, Therese Worme, Tracy Kidd, Sue Kirby, Angela Cahill, Howard Cook, Kristy Allen.

Introduction

You are invited to take part in this simulation program and module evaluation as part of your education and learning requirements for your practice and professional registration. Simulation is proving to be a highly effective method of learning and this module aims to improve participants' engagement and understanding of key concepts and skills. If you decide to take part, you will have the opportunity to take part in a progressive continuing education model. You will be requested to complete an evaluation survey at the completion of this session. Only aggregated survey data will be reported. You cannot be identified individually and individual survey results will not be reported .

There are no anticipated risks to participants of this program.

By participating in this simulation program and evaluation survey, you will be contributing to:

- Evaluation of our education programs;
- Improving our education programs;
- Education and training funding submissions for our programs;
- Government department and health service reporting for our programs;
- Future education planning for our programs;

During your participation in courses with the Loddon Mallee Simulation Consortium, you will likely be an observer of the performance of other individuals in managing medical events. As a participant in these activities in whatever role, you are asked to maintain and hold confidential all information regarding the performance of specific individuals and the details of specific scenarios.

By signing below, you acknowledge that you have read and understood this statement and agree to maintain the strictest confidentiality about any observations you may make about the performance of individuals.

In addition, we ask that you refrain from discussing details of the scenarios you have participated in and/or witnessed. These scenarios take considerable time and expertise to develop and will be used in future training sessions. As such, it is important that future participants remain unaware of specific details relating to the scenarios, so that their training/learning is not compromised. We appreciate your support regarding this issue.

Participant Information and Consent Form

[Insert site name]

I have read, or have had this document read to me in a language that I understand, and I understand the purposes, procedures and risks of this research project as described within it.

- I have had an opportunity to ask questions and I am satisfied with the answers I have received.
- I freely agree to participate in the evaluation of this project, as described.
- I agree to maintain confidentiality at all times to preserve the integrity of the program, and will not disclose simulation details to those who have not yet participated.
- I understand that completion of this simulation does not guarantee that I will be equipped to deal effectively with authentic real patient cases due to factors outside of the control of educators, and that this simulation scenario does not provide competency testing or guarantee that participants will make correct clinical decisions.

Participant name:_____

Signature:_____

Adapted from: Paltridge, D.,Novella, A., Van Dyjk, J.,Vawser,T. & Cunningham, N. (2007). Clinical Skills Facilitators. Advanced Course Manual. Department of Human Services; Victoria and Bendigo Health Ethics consent proforma (2012).

ATTACHMENT 5: Case scenarios and simulations

The two main scenarios in the *initial* phase (1) of the program will be:

Managing the patient who is **Short of Breath (SOB)**; this simulation will reflect the pre reading module in DETECT; “I can’t breathe”. The health care facility can nominate the simulation to incorporate basic life support skills and/ or advanced cardiac life support skills. The simulation provides the participant with respiratory assessment skills, the causes of respiratory failure, simple respiratory and hemodynamic monitoring and simple treatment interventions.

Managing the **patient who is bleeding (SHOCK)**: this simulation will reflect the pre reading module in DETECT: “Warm Hand Warm Feet”. The health care facility can nominate the simulation to incorporate basic life support skills and/ or advanced cardiac life support skills. The simulation provides the participant with cardiovascular assessment skills, the causes of shock, simple hemodynamic monitoring and simple treatment interventions.

The topics which will be offered in the *second* phase(2) of the program will be:

Interdisciplinary:	**Nursing Simulations:**

• Chronic obstructive pulmonary disease exacerbation
• Airway obstruction secondary to seizures
• Angioedema due to food allergy
• Acute asthma
• Anaphylactic reaction to bee sting
• Asystole
• Asphyxia due to CO poisoning
• Pharyngeal obstruction
• Pulmonary edema secondary to heart failure
• Asystole due to hypothermia
• PEA secondary to tension pneumothorax
• Pulseless ventricular tachycardia
• Foreign Body Airway Obstruction
• Impaired airway protection due to severe ischemic stroke
• Morphine overdose
• Ventricular fibrillation
• Spontaneous pneumothorax
• ST-elevation infarction followed by VF
• Thoracic spinal cord injury
• Severe concussion
• Cervical spine injury
• Blunt head and thoracic injury
• Subdural hematoma
• Leg amputation traumatic
• Traumatic femoral fracture
• Abdomen stab wound
• Multi trauma MCV
• Gunshot left upper arm
	• Lower leg fracture: assessment
	• Lower leg compartment syndrome
	• Pre-op bowel obstruction
	• Postoperative nausea and opioid intoxication
	• Post op Hemicolectomy:
	  ○ Preventing resp complication
	  ○ Pulmonary embolism
	• Post op hip arthroplasty
	  ○ Blood transfusion reaction
	• Acute strep throat: antibiotic reaction
	• Pneumonia: severe antiobotic reaction
	• Mild asthma
	• Severe asthma

Simulation scenarios will be used from the Laerdal Sim Store data base:

ACLS SimMan Scenarios:

Learning Objectives

The ACLS SimMan Scenarios set contains thirty-one (31) scenarios that address major learning objectives geared toward cardiopulmonary emergencies.

Description

The ACLS SimMan® Scenarios set address major learning objectives geared toward cardiopulmonary emergencies. The scenarios offer educators the ability to provide realistic and challenging scenario-based simulation to improve and test learners' critical thinking and decision-making skills in accordance with the Australian Resuscitation Council (2010) ACLS Guidelines.

All core scenarios relate to 2010 Australian Resuscitation Council algorithms and contain timed events that require critical thinking, recognition of the deteriorating patient and specific actions that must take place for the learner to successfully complete each scenario.

These scenarios can be used in a variety of settings where assessment and management of critical cardiopulmonary emergencies are a priority.

The scenarios: 5 teaching scenarios that allow the instructor to work more closely with participants so that critical skills can be reinforced without the time pressure in the core scenarios

The core scenarios in the set include: Respiratory arrest (1 case) - Cardiac arrest (2 cases) - VF (5 cases) - Asystole (3 cases)

4 testing scenarios that focus on ARC Guideline testing

Contents in this set:

- VF, Victor Vernan
- VF, Susan Smith
- VF, Michael Swan
- VF, Kenneth Wham
- VF, Henry Wall
- PEA, Ken Fisher
- PEA, Christoffer Black
- PEA, Carin Walter
- PEA, Amy Latton
- Asystole, Tommy Khull
- Asystole, René Troy
- Asystole, Harald Leed
- Respiratory arrest, Michael Wam
- Cardiac arrest, Ninna Ferry
- Cardiac arrest, Henry Barker

Emergency - Respiratory and Cardiac Patient Cases for SimMan 3G:

Learning Objectives

Each patient case has a specific set of learning objectives. Overall the set of scenarios covers learning objectives related to:

- Assessing patients following the ABC principles
- Recognizing signs and symptoms of cardiac and respiratory emergencies
- Initiating appropriate cardiac and respiratory monitoring
- Initiating appropriate management of respiratory and cardiac emergencies
- Providing appropriate post-resuscitation care

Description

The Emergency: Respiratory & Cardiac scenario set are developed to train healthcare professionals and students at different levels, first responders, and others participating in the management of cardiac arrests and respiratory emergencies to recognize, diagnose, and treat patients suffering from these complications.

The scenarios in the set are divided into three modules containing the following diagnoses:

Airway:

Airway obstruction secondary to seizures, Angioedema due to food allergy, Chronic obstructive pulmonary disease exacerbation, Foreign body airway obstruction, Impaired airway protection due to severe ischemic stroke, Pharyngeal obstruction

Breathing:

Acute asthma, Anaphylactic reaction to bee sting, Asphyxia due to CO poisoning, Morphine overdose, Pulmonary edema secondary to heart failure, Spontaneous pneumothorax

Cardiac:

Asystole, Asystole due to hypothermia, PEA secondary to tension pneumothorax, Pulseless ventricular tachycardia, ST-elevation infarction followed by VF, Ventricular fibrillation

Interdisciplinary:	Nursing Simulations:

• Chronic obstructive pulmonary disease exacerbation
• Airway obstruction secondary to seizures
• Angioedema due to food allergy
• Acute asthma
• Anaphylactic reaction to bee sting
• Asystole
• Asphyxia due to CO poisoning
• Pharyngeal obstruction
• Pulmonary edema secondary to heart failure
• Asystole due to hypothermia
• PEA secondary to tension pneumothorax
• Pulseless ventricular tachycardia
• Foreign Body Airway Obstruction
• Impaired airway protection due to severe ischemic stroke
• Morphine overdose
• Ventricular fibrillation
• Spontaneous pneumothorax
• ST-elevation infarction followed by VF
• Thoracic spinal cord injury
• Severe concussion
• Cervical spine injury
• Blunt head and thoracic injury
• Subdural hematoma
• Leg amputation traumatic
• Traumatic femoral fracture
• Abdomen stab wound
• Multi trauma MCV
• Gunshot left upper arm
	• Lower leg fracture: assessment
	• Lower leg compartment syndrome
	• Pre-op bowel obstruction
	• Postoperative nausea and opioid intoxication
	• Post op Hemicolectomy:
	  ○ Preventing resp complication
	  ○ Pulmonary embolism
	• Post op hip arthroplasty
	  ○ Blood transfusion reaction
	• Acute strep throat: antibiotic reaction
	• Pneumonia: severe antiobotic reaction
	• Mild asthma
	• Severe asthma

Equipment requirements for Scenario SLE

Essential Equipment

- Protective equipment relevant to workplace
- Adult, resuscitation manikins
- ACLS SimMan or 3G SimMan
- Resuscitator bag/mask relevant to workplace
- Oropharyngeal airways
- Suction equipment if relevant to workplace
- Oxygen equipment if relevant to workplace
- AED and manual Defibrillator
- Emergency airway, IV, drugs

Venue Requirements

The venue shall provide adequate teaching facilities as needed for this program for adults. For education sessions, sufficient space within a comfortable teaching/learning environment must be available. The deteriorating patient scenarios will be conducted in an area separate from patients and visitors.

ATTACHMENT 6: Simulation "I can't breathe"

Adapted from: New South Wales Department of Education and Training. (2009) DETECT: Between the Flags. Keeping patients safe. Available from: (2009) http://nswhealth.moodle.com.au/DOH/DETECT/content/index.htm "I can't breathe" case study.

Simulation objectives

By the end of the simulation participants will have:

1. *Practise primary and secondary survey*
2. *Practice a completed respiratory assessment*
3. *Identiy the deteriorating patient who is SOB*
4. *Practiced implementing appropriate treatment and escalation of care*
5. *Practised BLS or Advanced Life Support guidelines for management of a patient in a medical emergency using a simulator manikin.*
6. *Practise team behaviours in a simulated crisis situation.*
7. *Discuss factors that influence the successful functioning of a team in a crisis situation.*

Scenario Design

Case History

Patient Details

Patient Details -Kath	
Sex	Female (Greek background)
Age	56
Past History	Morbid obesity (weight = 124kg), Type 2 diabetes, hypertension (normal blood pressure 150/85mmHg), and asthma.
Current medications	Her medications include anti-hypertensive, a cholesterol lowering agent and oral hypoglycaemic drugs. Kath also uses a bronchodilator puffer as required. She has been using her puffer more often.
Social History	Widow lives alone. 4 children who are very close to her. All married. 8 grandchildren. Kath has a complex social history, and presents to the Emergency Department several times per year.
History of Present illness	She has been using her puffer more often. Kath has a complex social history, and presents to the Emergency Department several times per year.
Presenting symptoms	On admission her observations were: respiratory rate 18; Oxygen saturation by pulse oximetry (SpO_2) 96%; blood pressure 146/80; heart rate 96

Resources

General

Setting/Environment	Medical Ward
Patient Attire	Mourning clothes
Monitoring	ECG, Pulse oxymetry, BP,
Supporting Documentation required	patient notes, drug chart, observation chart

Role Plays

Faculty Role Play –SeniorNurse
You are a competent senior nurse with current resuscitation skills and experience. You follow instructions from the doctors when given. You are able to perform the duties of an airway nurse with efficiency and predict what may occur. You prompt the intern when you see that he/she is not really coping. You and the graduate nurse have taken handover and being your initial assessment and documentation of the patient. You make the decision when to call the intern.

Role Play – Intern
You are the intern who has just started in the medical ward. You are unfamiliar with the environment and nervous to begin with. You have also recently presented AMI diagnosis and treatment occurred at this ED. You can decide at any time to call the assistance of the ED Registrar.

Role Play –Graduate Nurse or RN Div 2
You are a keen bright nurse in your sixth month of your graduate year. This is only your second shift in ED. You are keen, but your level of knowledge is in its developing stage. You and the senior nurse have taken handover and being your initial assessment and documentation of the patient

Role Play –Registrar
You are a capable registrar having worked in ED and CCU in your last two rotations. You take control of the situation. You are well organised in your approach and demonstrate. You do not enter until the intern decides that he / she needs you expert assistance.

Role Play –Kath's sister (facilitator)
You arrive when the registrar arrives and you become angry and start demanding what is going on.

Simulator Programming considerations

State 1.		
Kath	**Baseline State**	**Interventions**
Kath states that she feels unwell and tired. She says her chest is tighter and you can hear her wheezing. She has no chest pain	HR – 96 BP – 146/80 SR – PVC Sats 96% RR 20 Agitated, anxious	ABCDEFG 6-8l oxygen via simple mask Apply monitoring Pa O2, BP,
State 2.		
Kath can only speak between breaths	HR –120 BP – 130/80 St – PVC Sats 94% RR 29 Escalation of Agitated, anxious	Reassure Kath, increase oxygen flow via a simple mask to 10-15L, Sit Kath Upright, and administer nebuliser. Conduct a further set of observations Call for a clinical review - intern
State 3.		
Kath is leaning forward, clutching at her chest is unable to speak in sentences, she is using her accessory muscles to breath	HR –135 BP – 120/70 St – PVC Sats 92% RR 34 Escalation of Agitated, anxious	Call a rapid response call/MET call (Registrar) Continue oxygen and administer nebs if not already, establish an IV for hydrocortisone, arrange for a chest x-ray Commence 10 min observations ECG monitoring
State 4.		
Kath's sister enters the room and becomes angry at the amount of people attending her sister. She is extremely aggressive	No change in Kath's condition HR –135 BP – 120/70 St – PVC Sats 92% RR 34 Escalation of Agitated, anxious	One member needs to attend the sister to explore her concerns and answer any questions, provide reassurance and support with regular updates
State 5.		
	No change in Kath's condition	The registrar determines from her history that Kath is suffering an acute exacerbation of her

	HR –135 BP – 120/70 St – PVC Sats 92% RR 34 Escalation of Agitated, anxious	asthma and is failing to respond to the bronchodilators and steroid. Registrar considers that Kath may need admission to a high dependence Unit and communicates this with the team
State 6.		
No capacity in HDU or ICC	HR –145 BP – 95/70 St – PVC Sats 82%	Registrar decides to intubate patient. Senior nurse organises equipment and monitoring. Intubation and sedation are performed. Oxylog ventilator is sourced.

Final

Debrief and Review learning outcomes

ATTACHMENT 7: Simulation "Warm Hands Warm Feet"

Adapted from: New South Wales Department of Education and Training. (2009) DETECT: Between the Flags. Keeping patients safe. Available from: (2009) http://nswhealth.moodle.com.au/DOH/DETECT/content/index.htm "Warm Hands Warm Feet" case study.

Simulation objectives

1. *Practice a primary and secondary survey*
2. *Practice a complete cardiovascular assessment*
3. *Identify the deteriorating patient who has cardiovascular compromise*
4. *Practice and Identify simple measures of hemodynamic monitoring*
5. *Practice identifying early and late warning signs of cardiovascular problems*
6. *Outline the causes of and clinical assessments' used to identify shock*
7. *Practice using the A,B,C,D,E,F,G algorithm*
8. *Practice implementing appropriate treatment and escalation of care*
9. *Practice BLS or ALS utilizing local policies and procedures*
10. *Discuss factors that influence the successful functioning of a team in a crisis situation*

Scenario Design

Case History

Patient Details

Patient Details -Name	
Sex	Male
Age	70 years old
Past History	-Good general health -Has been a smoker for the last 50 years -Hypertension controlled by medication(normal blood pressure is 135/90 mmHg)
Social History	He leads an active life and is president of his local Returned Services League (RSL) club
History of Present illness	Alan underwent a Transurethral Resection of his Prostate (TURP) yesterday. His operation took a little longer than normal but was otherwise uneventful.
Presenting symptoms	Continuous bladder irrigation is in progress. Alan's urine is heavily blood stained, although no clots are evident, as shown on his fluid balance chart, his urine output is normal.

Resources

General

Setting/Environment	Surgical ward
Patient Attire	Patient gown
Monitoring	QID observations, hourly fluid balance chart including input and output
Supporting Documentation required	Observation chart, fluid balance chart, drug chart

Role Plays
For your completion if you are having role plays.

Faculty Role Play – Nurse or Div 2 Nurse
You are a fourth year surgical nurse with recent re-certification of your annual Basic Life Support and Advanced Life support. You are able to utilize appropriate assessments and interventions when you are concerned that your patient may be deteriorating. You could identify if Alan were to show clinical signs and symptoms of bleeding, and recognize what hemodynamic monitoring strategies would be appropriate. It is also your responsibility to decide what needs to be documented and reported. It is up to you to decide when assistance and medical review are required.

Role Play – Nurse In Charge
You have been working as a Surgical nurse for 10 years, and now as Nurse in Charge for the past two years. Your position has a strong clinical focus, and you are responsible for all the clinical operational issues including patient care, rostering with a focus on safe staffing levels and skill mix, and the overall running of the surgical ward.

Role Play – Junior medical Officer
You just started as a junior medical officer as part of the surgical team last week, but you have a keen interest in surgery and are planning on becoming a urologist. You have completed Basic Life Support a few months ago.

Role Play – Registrar
You are an experience surgical registrar and a key member of the Rapid Response Team. It is your responsibility to correctly assess, diagnose, and escalate care as appropriate. It is your call to decide whether medical or surgical intervention is appropriate.

Role Play – Physiotherapist
You are on a locum on the surgical ward and this is your first week on the job. You haven't met everyone yet, and not sure where everything is and who does what. You have completed your Basic Life Support, and have a can do attitude.

Simulator Programming considerations

State 1.		
Alan	**Baseline State**	**Interventions**
Alan has pressed the buzzer. He states that he tried to get out of bed and this made him feel dizzy Physiotherapist is treating patient in next bed	Hr- 98/min BP- 110/70 mmHg Respirations- 20/min Sats – 96% Capillary Glucose- 5.5 mmol Anxious and dizzy	-A,B,C,D,E,F,G -6-8 LITRES Oxygen Hudson mask -PaO2 -Record on the observations chart
State 2.		
Alan's hands and feet are cold and clammy	Hr- 95/min BP 106/50 mmHg Respirations 18/min Heavy blood staining of his urine	-Promptly consult with the Nurse in Charge and asses if a Clinical Review is needed. These vital signs may indicate Alan is deteriorating
State 3.		
Awaiting clinical review Junior medical officer arrives	IV not flushing very well	-Stay with Alan and provide reassurance -Establish another IV access -Lay him flat -Repeat observations in 10 minutes - Check drainage and surgical site
State 4.		
Alan reports feeling nauseated Alan's wife arrives	Blood Pressure 86/45 mmHg Heart rate 139/min	-Escalate care -Initiate a MET call (or Rapid Response team call) -Stay with Alan, delegate someone to attend to his wife to provide update -Continue Oxygen via Hudson mask and increase to 8-10 lpm -Give a fluid bolus and prepare to support the MET team with treating Alan -physiotherapist to offer assistance
State 5.		
The MET team has arrived	Alan reports slight central chest heaviness	-Identify yourself -Provide the MET team with relevant assessment findings including rapid deterioration in vital signs and that he felt dizzy, has heavy haematuria, and cold hands and feet. Report that he is 24 hours post surgery and that he is otherwise well. Indicate you think he is bleeding post operatively, needs intravenous fluids and further assessment
State 6.		
Alan reports chest pain and loses consciousness	Telemetry shows VT	-DRSABCD -Defibrillate as per ALS algorithm -The registrar decides Alan is acutely bleeding and needs urgent surgery -Plan to return to theatre

FINAL

Debrief and review learning outcomes

ATTACHMENT 8 - MCQ Pre and Post example

Adapted from: New South Wales Department of Education and Training. (2009) DETECT: Between the Flags. Keeping patients safe. Available from: (2009) ***http://nswhealth.moodle.com.au/DOH/DETECT/content/index.htm*** "Warm Hands Warm Feet" & "I can't breathe" case study.

1.1.1 EXAMPLE 1: Warm hands warm feet: Alan

Alan is 70 years old. He underwent a Transurethral Resection of his Prostate (TURP) yesterday. His operation took a little longer than normal but was otherwise uneventful. His pre-operative assessment notes show that he has been a smoker for the last 50 years. He is on antihypertensive medication and his normal blood pressure is 135/90 mmHg.

Continuous bladder irrigation is in progress. Alan's urine is heavily blood stained, although no clots are evident, as shown on his fluid balance chart, his urine output is normal. Alan's health is otherwise good. He leads an active life and is president of his local Returned Services League (RSL) club.

Instructions

Each case study describes a realistic situation of clinical deterioration. Work through the following questions. Choose the **best** answer for the situation using DETECT knowledge and skills from chapters 1 and 3 and the NSW Health Standard Adult General Observation Chart. Feedback for each answer is provided.

Question 1

Alan has pressed the buzzer. He states that he tried to get out of bed and this made him feel dizzy.

Which of the following is your highest priority action?

1. Reassure Alan that he is ok, and ask him not to get out of bed.
2. Look at Alan's observation charts to help decide whether you should call for either a Clinical Review or Rapid Response.
3. Take Alan's pulse, blood pressure and feel for warm hands and warm feet (peripheral circulation).
4. Assess Alan using the ABCDEFG algorithm and conduct a set of observations, recording these on the Standard Adult General Observation Chart.

Question 2

You have now conducted a full set of observations. The blood pressure is 106/50 mmHg, heart rate is 95 beats per minute and respiratory rate is 18 breathes per minute. Alan's hands and feet are cold and clammy.

What would be your evaluation of these finding and the next required action?

1. Alan is cold. Provide him with a blanket.
2. These findings are normal. No further action is needed.
3. Alan may be deteriorating. Consult promptly with the Nurse in Charge and assess if a Clinical Review is needed.
4. Alan had a TURP in the previous 24 hours, and heavily blood stained urine (haematuria) is expected. Therefore, no further action is required.

Question 3

As required, you consult with the Nurse in Charge in relation to your assessment findings and concerns. You feel a Clinical Review is required because you are concerned about Alan's condition and the fact that his blood pressure has dropped and his heart rate has increased, and you are conscious of the heavy blood staining of his urine. The Nurse in Charge agrees with you and you call for a Clinical Review.

What treatments should be implemented to support Alan while you wait for the Clinical Review? If you are a nurse, consider what treatments should be given and if you are a junior medical officer consider what treatments you should give.

1. Stay in close proximity to ensure Alan is safe, give oxygen, establish intravenous access, lay him flat and repeat observations in ten minutes.
2. Reassure the patient and wait for the Clinical Review to occur before initiating treatment.
3. Record the findings in the clinical record and recheck the observations in 1 hour
4. Give oxygen and repeat observations in 30 minutes.

Question 4

When you re-check Alan's observations after 10 minutes, his blood pressure is 86/45 mmHg and he is pulse is 139 beats per minute.

What further action(s) should you undertake at this point?

1. Call the family to notify them of Alan's deterioration.
2. Escalate care, initiate a Rapid Response call, stay with Alan, continue oxygen via a simple mask at 8-10 lpm, give a fluid bolus and prepare to support the Rapid Response Team with treating Alan.
3. Inform the Nurse in Charge.
4. Remain with Alan, continue oxygen via a simple mask at 8-10lpm, keep him lying flat, reassure him and recheck his observations in 10 minutes and wait for the Clinical Review.

Question 5

The Rapid Response Team (RRT) has arrived. **What information should you provide to the RRT?**

1. Advise the RRT that Alan may be bleeding post-operatively and request that they take over management of the patient.
2. State that Alan feels dizzy, his systolic blood pressure is now 90 mmHg, down from 100 mmHg, has increasing blood loss and poor peripheral circulation.
3. Thank the RRT for their attendance and make a recommendation that the patient should have intravenous fluids commenced, and leave them to undertake further assessment and management
4. Identify yourself and role. State that earlier Alan felt dizzy, has heavy haematuria, emphasise the changes to his observations, giving his usual observation and summarise his treatment. Supply relevant information, including that Alan is 24 hours post surgery and that he is otherwise well. Indicate you think he is bleeding post-operatively, needs intravenous fluids and further assessment.

Question 6

The Rapid Response Team (RRT) is attending to Alan. You are the RMO or other clinician who arrived in response to the call for Clinical Review. The Nurse in Charge and a physiotherapist are in the room attending a patient in an adjoining bed. **Respond to the following four questions about the responsibility of each staff member in this situation.**

(i) As the RMO, you are no longer needed because the RRT has taken over care of Alan.

1. True
2. False

Question 7

(ii) The physiotherapist should continue attending the patient in the next bed to avoid getting in the way.

1. True
2. False

Question 8

(iii) The nurse who initiated the RR call should complete the clinical handover, remain in the patient's area and assist the RRT to manage Alan.

1. True
2. False

Question 9

(iv) The Nurse in Charge resumes normal duties, allocates existing staff to other duties and leaves the RRT to take over responsibility for managing Alan.

1. True
2. False

1.1.2 EXAMPLE 2: I can't breathe: Kath

Patient background

Kath is a 56 year old lady who was admitted yesterday to a general ward of a small rural hospital with Career Medical Officer (CMO) coverage and general practitioners as admitting medical officers. She was admitted for investigation of increasing shortness of breath after a recent URTI. Her past medical history includes morbid obesity (weight = 124kg), Type 2 diabetes, hypertension (normal blood pressure 150/85mmHg), and asthma. Her medications include anti-hypertensives, a cholesterol lowering agent and oral hypoglycaemics. Kath also uses a bronchodilator puffer as required. She has been using her puffer more often. Kath has a complex social history, and presents to the Emergency Department several times per year. On admission her observations were: respiratory rate 18; Oxygen saturation by pulse oximetry (SpO2) 96%; blood pressure 146/80; heart rate 96.

Instruction

Each case study describes a realistic situation of clinical deterioration. Work through the following questions. Choose the **best** answer for the situation using DETECT knowledge and skills from chapters 1 and 2 and the NSW Health Standard Adult General Observation Chart. Feedback for each answer is provided.

Question 1

You are the nurse assigned to care for Kath. When you arrive at her bedside for handover, Kath states that she feels unwell and tired. She says her chest is tighter and you can hear her wheezing. She has no chest pain. **What should be done initially to detect possible deterioration in Kath's condition?**

1. CXR,Arterial blood gases, Electrolytes Urea and Creatine, Full Blood Count and Troponin levels.
2. 12 lead Electrocardiograph (ECG), Jugular Venous Pressure.
3. Auscultate chest sounds.
4. Ensure Kath is sitting up, reassure her, apply oxygen via a simple mask at 6-8 lpm and conduct a standard set of general observations using the ABCDEFG algorithm.

Question 2

Kath's observations are respiratory rate 29 breaths per minute, SpO2 94%, BP 130/ 80mmHg, heart rate 120 beats per minute, BGL 5.2mmol/L. She has generalised wheezing on auscultation of her chest. **In discussion with the Nurse in Charge, what is your evaluation of what your next required action should be?**

1. Kath's observations are normal, and do not reflect deterioration. No action is required.
2. There is no change in Kath's observations that reflects deterioration in her condition.
3. Kath's observations have moved into the Yellow Zone of the Health standard observation chart (HR,RR,SpO2) Therefore, while continuing close observation a Clinical Review is required.
4. Increase the frequency of observations and place an oxygen saturation probe continuously on Kath's finger.

Question 3

What basic treatments are most appropriate to be implemented on the ward to help support Kath while waiting for the Clinical Review?

1. Commence oxygen, and provide reassurance.
2. Lay Kath flat to help with her breathing and commence oxygen.
3. Reassure Kath, increase oxygen flow via a simple mask to 10-15 lpm, salbutamol 5mg via a nebuliser, and sit Kath upright.
4. Wait until Kath is reviewed before commencing any treatment.

Question 4

You are the CMO who attends for the Clinical Review. When you arrive at Kath's bedside you are concerned when you find her leaning forward, she is clutching her chest, is unable to talk in sentences and her neck muscles are 'bulging' when she breathes. **How would you manage this situation?**

1. Continue administering oxygen and salbutamol 5mg via nebuliser establish an intravenous line and give hydrocortisone 100mg intravenously and wait to see if these are effective.
2. Make a Rapid Response call, continue to administer appropriate treatments (oxygen via mask and salbutamol 5mg via nebuliser, establish an intravenous line and give hydrocortisone), conduct a further set of observations and arrange for a CXR.
3. Notify the Nurse in Charge that Kath's breathing is getting worse.
4. Call the patient's admitting medical officer to advise him or her of Kath's condition and request that she be attended urgently.

Question 5

Kath's sister arrives on the ward. She becomes angry and threatens to go to the papers when she sees the Rapid Response Team attending to Kath. **You are the Nurse in Charge or CMO. How could you best handle this situation?**

1. Reassure Kath's sister that you will take care of Kath.
2. Explain who the team is, what they are doing, explore her concerns, answer any questions, provide reassurance and support her with regular updates.
3. Demand that Kath's sister leaves the ward or you will call security under the Zero Tolerance Policy.
4. Advise Kath's sister that she can discuss her concerns with the Patient Representative if she wishes to make a complaint.

Question 6

The Rapid Response Team (RRT) determines from the history that Kath is suffering an acute exacerbation of her asthma that is failing to settle with nebulised bronchodilators and intravenous steroid. They are concerned she may require intubation if she deteriorates further. The RRT decides that Kath needs to be transferred to another facility that has a high dependency area and ICU. **What would be the most appropriate first action to facilitate a safe transfer?**

1. Call the AMRS (Ambulance and Medical Retrieval Service) and tell them you need to transfer Kath urgently.
2. Call the receiving ICU to advise them of Kath's transfer.
3. Consider what your role should be in relation to the transfer of a deteriorating patient (based on your knowledge of your local policy) and be clear about the respective roles of other members of the Team.
4. Call the admitting general practitioner to brief him or her of the change in Kath's condition.
5. Connect Kath to the transport monitor, and arrange for portable oxygen to be brought to the ward.

Question 7

You are the Nurse in Charge responsible for allocating tasks in priority order. **Which of the following tasks is your first priority to facilitate Kath's safe transfer?**

1. Call the Aeromedical and Medical Retrieval Service (AMRS) and tell them you need to transfer Kath urgently.
2. Call the receiving ICU to advise them of Kath's transfer.
3. Plan the transfer with reference to your local policy and identify the correct procedure for transfer and referral of deteriorating patients.
4. Call the attending Medical Officer to brief him or her of the change in Kath's condition.
5. Connect Kath to the transport monitor, and arrange for portable oxygen to be brought to the ward.

Question 8

You are the CMO and team leader of the RRT at this hospital and must work with the ward team to undertake the following tasks to facilitate Kath's transfer because you can't do everything yourself. **Select the tasks you would allocate to the Ward Nurse or other staff.**

1. Calling the AMRS (Ambulance and Medical Retrieval Service) to tell them you need to transfer Kath urgently.
2. Calling the receiving ICU to advise them of Kath's transfer.
3. Planning the transfer with reference to your local policy and identifying the correct procedure for transfer and referral of deteriorating patients.
4. Calling the attending Medical Officer to brief him or her of the change in Kath's condition.
5. Connecting Kath to the transport monitor, and arranging for portable oxygen to be brought to the ward.
6. Retrieving and reviewing the tests including CXR so results are acted upon locally and communicated to the retrieval team as indicated.

Question 9

What basic treatments are most appropriate to be implemented on the ward to help support Kath while waiting for the Clinical Review?

1. Commence oxygen, and provide reassurance.
2. Lay Kath flat to help with her breathing and commence oxygen.
3. Reassure Kath, increase oxygen flow via a simple mask to 10-15 lpm, salbutamol 5mg via a nebuliser, and sit Kath upright.
4. Wait until Kath is reviewed before commencing any treatment.

Question 10

You are the CMO who attends for the Clinical Review. When you arrive at Kath's bedside you are concerned when you find her leaning forward, she is clutching her chest, is unable to talk in sentences and her neck muscles are 'bulging' when she breathes. **How would you manage this situation?**

1. Continue administering oxygen and salbutamol 5mg via nebuliser establish an intravenous line and give hydrocortisone 100mg intravenously and wait to see if these are effective.
2. Make a Rapid Response call, continue to administer appropriate treatments (oxygen via mask and salbutamol 5mg via nebuliser, establish an intravenous line and give hydrocortisone), conduct a further set of observations and arrange for a CXR.
3. Notify the Nurse in Charge that Kath's breathing is getting worse.
4. Call the patient's admitting medical officer to advise him or her of Kath's condition and request that she be attended urgently.

1.1.3 Example 3 MCQ Advanced Life Support (pre and post)

The first seven MCQ's are recommended pre-simulation to assess pre-existing level of knowledge and the last seven MCQ are based on post simulation scenario level of knowledge.

Please select the **MOST** correct answer for each question.

1. When managing a collapsed victim in a cold environment, after ensuring the safety of the victim, bystanders and responders; management includes all the following **EXCEPT:**

    a) Checking a response to verbal and tactile stimuli
    b) Calling for help
    c) Ensuring patent airway
    d) Providing warm fluids to drink

2. Unconciousness is a state in which:

    a) the patient is unrouseable
    b) The patient gives only confused verbal responses
    c) The patient is only minimally aware of their surroundings
    d) The patient has permanent brain damage

3. A patient suffering bradycardia:

    a) Should be defibrillated immediately if the heart rate drops below 50 beats per minute
    b) IV adrenaline is the first-line pharmacotherapy
    c) Is unlikely to suffer associated cardiac failure
    d) Should be treated with an initial dose of 500-600 mcg of atropine IVI

4. Which of the following actions should be undertaken when checking the function of a Laerdal bag and mask unit?

    a. Fill reservoir bag until full
    b. Check free movement of duckbill valve
    c. Check room air intake valve
    d. Check free movement of exhalation valve
    e. All of the above

5. Amiodarine:

    a) Is most effective in the treatment of atrial arrythmias
    b) Is first-line pharmacotherapy for the treatment of torsades de points
    c) Should be given as a dose of 300 mg over 1-2 minutes IVI in a pulseless patient
    d) Is more dangerous to use than calcium channel blockers in the setting of wide-complex tachycardia

6. In the post-resuscitation phase:

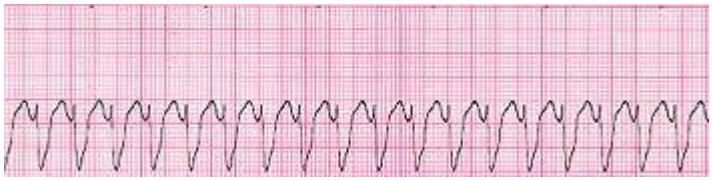
    a) Blood oxygen levels should be kept as low as possible
    b) Blood sugar levels should be closely monitored and normalised
    c) An accurate prognosis can be determined by detailed neurological examination approximately one hour afer the successful resuscitation
    d) PaCO2 levels should be maintained below 30 mmHg by hyperventilation

7. How often is adrenaline given during resuscitation?

    a) Every 2 minutes (every cycle)
    b) Every second cycle (which equals about every 4 min)
    c) It is up to the team leader
    d) Every 3 minutes

Post Scenario MCQ

1. What is the most likely diagnosis for the following ECG?



a) SVT
b) VT
c) AF
d) Ventricular bigeminy

2. What is the recommended energy level (in joules) for initial defibrillation(biphasic)?

a) 400
b) 200
c) 360
d) 120

3. What is (are) appropriate post-resuscitation management?

a) Continue respiratory support
b) Maintain cerebral perfusion
c) Monitor vital signs
d) All of the above

4. Once CPR is established and defibrillation pads are attached, you observe that the patient is in Asystole what treatment would be due next?

a) Defibrillation
b) Adrenaline
c) Atropine
d) Amiodarone

5. What is the recommended initial dose for adrenaline IV in an adult?

a) 1 mg
b) 1.5 mg
c) 2 mg
d) 5 mg

6. The patient is unresponsive, taking only occasional gasps and has no palpable pulse? What is the name of the rhythm pictured below?

a) Pulseless Electrical Activity
b) Ventricular Fibrillation
c) Ventricular Tachycardia
d) Sinus Bradycardia
e) Asystole

7. What is the rhythm pictured below?

a) Ventricular Fibrillation
b) Ventricular Tachycardia
c) Bradycardia (likely to be compromised)
d) Pulseless Electrical Activity (PEA)
e) Asystole

8. Regarding the rhythm for question 5, once CPR is established and defibrillation pads have been attached, what treatment would be due next?

a) Defibrillation
b) Adrenaline
c) Atropine
d) Amiodarone

9. All of the following arrythmias should be defibrillated EXCEPT:

a) VF
b) Puseless VT
c) Asystole
d) Torsades de pointes (unconcious)

ATTACHEMENT 9: Example of certificate of attendance

Institution logos here

This certificate is presented to

Participant Name

For attending a two hour simulated education session in

(the hours of pre reading and recording is advised for participants as per AHPRA Guidelines)

Recognising and Responding to Clinical Deterioration using Simulated Learning

Incorporating the following learning objectives:

- define patient 'deterioration'
- describe the physiological observations of a patient whose condition is deteriorating
- describe the use of recognition and response systems in aiding recognition of patients whose condition is deteriorating
- recognise a patient whose condition is deteriorating and take appropriate action to escalate care, either individually or as a team member in a given simulation scenario.
- apply current Australian Resuscitation Council Guidelines to the patient whose condition is deteriorating in a given simulation scenario.
- demonstrate an understanding of organisational policies and procedures for care of the patient whose condition is deteriorating.
- demonstrate effective communication processes (written and verbal) in a given simulation scenario
- demonstrate effective team work

Need to include date & venue

Educators Name and qualifications

Name of clinical School and University

14. References

1. Safer Systems Saving Lives: Implementing a Rapid Response System Toolkit. Rural and Regional Health and Aged Care Services Division, Victorian Government Department of Human Services, Melbourne Victoria. January 2006

2. Australian Commission on Safety and Quality in Health Care (2012). "Standard Nine: Recognising and responding to clinical Deterioration in Acute health Care". In national Safety and Quality Health Service Standards: Safety and Quality Improvement Guide. Consultation Draft. Commonwealth of Australia; Sydney Australia.

3. New South Wales Department of Education and Training. (2009) DETECT: Between the Flags. Keeping patients safe. Available from: (2009) http://nswhealth.moodle.com.au/DOH/DETECT/content/index.htm

4. Jolley, J., Bendyk, H., Holaday, B., Lombardozzi, K. A. K., & Harmon, C. (2007). Rapid response teams: do they make a difference? *DCCN - Dimensions of Critical Care Nursing, 26*(6), 253-260; quiz 261-252.

5. Endacott, R., & Westley, M. (2006). Managing patients at risk of deterioration in rural hospitals: a qualitative study. *Australian Journal of Rural Health, 14*(6), 275-279.

6. Hogan, J. (2006). Why don't nurses monitor the respiratory rates of patients? *British Journal of Nursing, 15*(9), 489-492.

7. Cooper, S., Kinsman, L., Buykx, P., McConnell-Henry, T., Endacott, R., Scholes, J., (2010). Managing the deteriorating patient in a simulated environment: nursing students' knowledge, skill and situation awareness. Journal of Clinical Nursing 19, 2309–2318

8. Smithburger, P., Kane-Gill, S., Ruby,C. & Seybert, A.(2012). Comparing Effectiveness of 3 learning Strategies; Simulation – Based Learning, Problem Based Learning and standardized Patients. Society for Simulation in healthcare 7: (3).

9. Decker, S., Sportsman, S., Puetz, L., Billings, L., 2008. The evolution of simulation and its contribution to competency. Journal of Continuing Education in Nursing 39 (2), 74–80.

10. Paltridge, D.,Novella, A., Van Dyjk, J.,Vawser,T. & Cunningham, N. (2007). Clinical Skills Facilitators. Advanced Course Manual. Department of Human Services; Victoria

11. Buykx, P., Kinsman, L., Cooper, S., McConnell-Henry, T., Cant, R., Endacott, R. & Scholes, J. (2011). FIRST2 ACT: Educating nurses to identify patient deterioration – A theory-based model for best practice simulation education. Nurse Education Today. 31: 687-693.