

MED5102 – Contemporary Issues in Clinical Practice: Patient Safety

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OVERVIEW

Monash University have introduced a 6-unit subject (144 hours) on Patient Safety for final year medical students. This is a relatively large component of the new 5th year curriculum that commenced in 2006. Contact days are weaved through students' clinical placements and are designed to complement clinical activities.

RATIONALE FOR SUBJECT

- Statistics from around the world reveal medical error as a significant problem.
- The community is concerned about medical error and patient safety.
- Health care delivery has become much more complex with more technology, more information, more drugs, more patients, sicker patients, more management options, more handovers of care and more gaps in the continuity of care. Undergraduate curricula need to prepare students for this complexity.
- Junior doctors face issues of complexity and potential for error from the first day on the job. They are often unaware of the inherent hazards in the system and lack the necessary skills to negotiate these hazards.
- Medical students are worried about making a mistake.
- Patient Safety is a relatively new topic – many experienced clinicians have as much to learn about the issues as do our students, so at this point in time we cannot expect that students will learn enough about Patient Safety on their clinical placements.

AIMS OF THE SUBJECT

- To produce safer doctors
- To improve patient care
- To empower students by providing them with knowledge, skills, behaviours and attitudes that promote patient safety

CONTENT

The content has been informed by a number of sources:

- The National Patient Safety Education Framework developed by the Australian Council for Safety and Quality in Health Care
- Julia Harrison and Brendan Flanagan's Blueprint of relevant Patient Safety topics
- Patient Safety Curriculum developed by the Society of Academic Emergency Medicine
- VA Patient Safety Education Program
- An in-depth understanding of the nature of junior doctors' role and work environment.
- An understanding of workplace challenges for front line clinicians and the common deficits in knowledge, skill, attitude and behaviour of junior doctor's.

The Course is divided into five contact days. Each day has a theme:

- 1. Introduction to Patient Safety and Human Factors**
- 2. Equipment, Procedures and Patient Safety**
- 3. Teamwork, Communication and Patient Safety**
- 4. Medication Safety**
- 5. Diagnostic error & Putting it all together (includes an OSCE)**

On each of these days a student will have 3.5 hours of interactive lectures on topics including:

- Introduction to Patient Safety
- Introduction to Human Factors (why errors occur)
- How to make a referral over the telephone (ISBAR)
- Safe Transfusion Practice
- Correct Patient Identification
- A systematic approach to learning a new procedure
- Communicating risk to patients/ informed consent
- Equipment and procedures - tricks and traps
- Engaging patients and relatives in patient safety
- Teamwork activities
- Communication activities
- Task focused communication
- Graded Assertiveness
- Handover
- Introduction to medication safety
- The role of cognitive aids
- Prescribing tricks and traps for junior doctors
- The new National In-Patient Medication Chart
- When things go wrong: looking after self, patient and colleagues.
Open disclosure
- Learning from error
- Diagnostic error
- Clinical reasoning tricks and traps
- Crisis Resource Management
- Subject summary

Workshops (90 minutes) including:

- Airway management
- Hypotension management
- Priming intravenous lines
- Lumbar puncture
- Urinary catheter insertion
- Nasogastric tube insertion
- Basic Life Support
- Advanced Life Support

- Drug calculations
- Drug administration
- Filling in the new National Inpatient Medication Chart
- Infusion devices

Scenarios (pause and discuss mode) (90 minutes) including the following topics:

- Trauma (x 4)
- Complex patient with fever
- Complex patient needing fluid status assessed
- Cardiac arrest (x 3)
- Anaphylaxis
- Septicaemia
- Decreased conscious state due to hypoglycaemia

Topics for discussion during the scenarios:

- Teamwork
 - leadership, communication, delegation, determining priorities
- Communication
 - making a referral, writing in the notes, task allocation
- An approach to the complex patient
- An approach to the unstable patient
- What to do when a mistake occurs on the ward
- Optimising performance in stressful time critical situations
- Putting theory into practice

The scenarios provide context for the subject material and provide an opportunity to practice knowledge and skills learned during the lecture-based activities and workshops.

EDUCATIONAL APPROACH

- A subject on Patient Safety could potentially be demoralising and even frightening for soon-to-be doctors. Hence a fundamental principle in terms of delivery is to provide a balanced program (issues AND solutions), using statistics, stories and anecdotes (often their own) to introduce topics and then focus on equipping students with knowledge, understanding and skills that will help them practice safely in the complexity of the workplace environment. The aim is to have students leaving feeling MORE confident than when they arrived.
- As above, delivery is as scenario-based, practical and as experiential as possible.
- The Patient Safety topics are 'hung' on clinical topics relevant to junior doctors. This has a dual purpose:
 1. it provides context (so important when the context is complex) for learning about potentially abstract ideas and

2. the students are more inclined to engage because the relevance is made clearly apparent.
- Blended learning – several educational modalities are utilised. The non-contact time is filled with readings, on-line discussions and activities to be undertaken by students in their own clinical environment.
 - The material is tailored to be highly relevant for junior doctors.
 - We link the learning to their clinical environments – current and future

LOGISTICS

There are approximately 180 final year medical students at Monash University. 40 students attend the Simulation centre on any given day, across a total of 25 days occupancy of the Simulation Centre across the course of year. Each student attends five full days at the centre. The following sessions are held concurrently and students rotate through the sessions over the course of the day:

- 20 students in the interactive lectures
- 5 students in each of two concurrent workshops
- 5 students participating in scenarios
- 5 students observing scenarios

5 - 7 staff are required to run a day (*hard work but possible with 5, comfortable with 7*). Our instructors are doctors (Anaesthetists and Emergency Physicians) and nurse educators. At least one staff member is required to run the simulator behind the scenes. An additional non-clinical staff member is essential for set-ups and tidying up.

MED5102: OBJECTIVES / AIMS

DAY 1: Introduction to Patient Safety and Human Factors

1. Understand what is meant by Patient Safety
2. Understand that you have a role in patient safety
3. Understand why errors occur
4. Understand the factors that predispose to incorrect patient identification and how to prevent this
5. Learn the importance of and practice a structured approach to making a referral
6. Understand and practice some of the principles of safe transfusion practice
7. Practice the initial resuscitation of a critically ill patient
8. Further develop your resuscitation skills

DAY 2: Equipment, Procedures and Patient safety

1. Learn a systematic approach to performing procedures so as to minimise harm
2. Understand the need to take responsibility for managing the tension between learning a procedure on a patient and minimising that patient's discomfort and risk
3. Improve knowledge and skills in a number of procedural skills considered appropriate for junior doctors

4. Improve understanding of equipment likely to be encountered by junior doctors
5. Understand the importance of effective communication when communicating risk (e.g. obtaining informed consent)
6. Understand the patient's role in patient safety
7. Learn and practice a systematic approach to assessing a complex inpatient
8. Learn and practice a systematic approach to writing a patient summary in the notes

DAY 3: Teamwork, communication and Patient Safety

1. Understand the importance of effective teamwork and communication for safe patient care
2. Understand that effective teamwork and communication skills can be learned and developed
3. Understand and demonstrate the key elements of effective inter-professional communication, including:
 - Task focused communication
 - Closing the communication loop
 - Sharing the goal
 - Overcoming assumptions
 - Graded assertiveness
4. Understand the key elements of a "high performance team" and demonstrate effective teamwork skills in a simulated medical emergency, including:
 - Role clarity (e.g. have a clearly defined leader)
 - Effective communication
 - Optimisation of support for other team members
 - Effective resource utilisation
 - Frequent reassessment of the situation
5. Learn and practice a systematic approach for handover
6. Demonstrate airway management, breathing and circulation skills necessary for Basic and Advanced Life Support (BLS and ALS)
7. As part of a team, demonstrate effective integration of clinical, communication and teamwork skills to manage a simulated cardiac arrest

DAY 4: Medication Safety

1. Understand the scope of medication error
2. Understand the multifactorial nature of medication error
3. Understand the junior doctors' roles and responsibilities in prescribing and administering medications in the hospital setting
4. Start to develop a compendium of cognitive aids to assist with safe prescribing practice
5. Develop a framework for learning about new medications
6. Understand that prescribing and administration of medications is a team activity
7. Demonstrate appropriate knowledge, skills and behaviours to safely prescribe and administer medications as a junior doctor
8. Draw on teamwork, communication and resuscitation skills to successfully manage a simulated emergency situation

9. Explore some of the issues that arise after an error has occurred; open disclosure, learning (individual – organisational), care of patient, self and colleagues.

DAY 5: Diagnostic error & “Putting it all together”

1. Understand that diagnostic error can result from systems issues and/or problems with clinical reasoning.
2. Explore Clinical Reasoning strategies
3. Consider the principles of Clinical/Crisis Resource Management with respect to daily clinical practice
4. Demonstrate the necessary knowledge and skills to manage critically ill patients as part of a team
5. Consider issues such as accountability and continuity of care
6. Summarise the aspects of Patient Safety covered in this subject

MED5102 discussion group activities:

Online discussion groups based on readings and workplace observations have been included for a number of reasons:

- To introduce students to some Patient Safety literature
- To promote critical appraisal skills, especially in relation to how the literature may relate to what students observe in the workplace
- To encourage students to problem solve in a proactive way by forcing students to think through problems as an individual and then commit to their ideas by writing them down
- To learn from their peers ideas
- As a way of linking the contact days with students clinical placements
- To prime students thinking in a particular area prior to a contact day
- To consolidate students learning after a contact day
- To help further convey the breadth of the field of Patient Safety

Discussion Number 1 – Correct Patient Identification

Reading: Chassin et al. **The Wrong Patient**. Annals of Internal Medicine 2002; 136 826 – 833. You will be given a copy of this article when you attend your first MED5102 day.

People are amazed that the story in this article actually happened! The fact that this mix-up occurred is a compelling example of the “Swiss cheese” model used by James Reason (Reason J, Human Errors; Models and Management BMJ 2000; 320: 768 – 770 <http://bmj.bmjournals.com/cgi/content/full/320/7237/768>) to describe the multi-factorial nature of error.

Activity 1

In relation to the story in the article, think through all the missed opportunities that should have protected the patient from having the wrong procedure.

Activity 2

In your current (or recent) clinical environment:

- How likely is patient misidentification of the scale described in the reading?
- What defences help protect the patient from this? To use the “swiss cheese” analogy – what are the slices of cheese?
- What are the potential holes in these defences?

Activity 3

What is your role now and as a junior doctor in strengthening these defences? How can you help make sure things happen to the right patient and not to the wrong patient?

Post a summary of your thoughts and ideas from Activity 2 and 3 on the discussion group. Aim to keep your posts brief (i.e. no more than two paragraphs)

Comment on another student's post. (no more than 1 paragraph)
Discussion Number 2. – Learning Curves

Reading: Complications – A surgeon's notes on an imperfect science by Atul Gawande. Chapter 1. You will be given a copy of this reading when you attend your first MED5102 day.

Atul Gawande is a Rhode's scholar in Philosophy and also a surgeon. He wrote *Complications* while working as a surgical registrar. In the first chapter of this book he describes his own struggle with learning a difficult procedure. The chapter is all about learning curves for doctors and how learning curves may impact on patients. He discusses the difficulty of finding the right balance between effectively educating doctors by providing experience and at the same time maintaining ethical standards of patient care.

Activity 1

As a final year medical student you are on the steep part of many learning curves. Can you relate to any of the issues in this reading?

Activity 2

Reflect on a practical skill you have developed that is non-medical in nature (eg a sport, or playing a musical instrument). How long did it take you to master the skill? What did you have to do to master the skill?

Activity 3

When you observe a senior doctor performing a procedural skill, ask them how long it took them to master the skill? Ask them what was required for them to become capable of performing the procedure well?

Activity 4

What are the advantages and disadvantages of the way you currently learn procedures? Is there an ideal way to learn procedural skills?

Post a summary of your responses to the above questions on the discussion group. Keep your post brief (no more than two paragraphs).
Comment on another student's post (one paragraph).

Discussion Number 3 - Equipment and Human Factors

Reading: RL Wears, SJ Perry. Human Factors and Ergonomics in the Emergency Department. *Annals of Emergency Medicine* 2002; 40:2 206 - 212

Activity 1

Do the issues raised in this article remind you of any situations you may have noticed in your clinical environment?

Activity 2

Choose a piece of equipment from your current clinical environment.

Can you work out how it works?

What is it used for?

Ask a staff member who is experienced with this piece of equipment to explain how it works, how it is used and if there are any tricks or traps to be aware of?

Do you think your piece of equipment was designed with human factors in mind?

Activity 3

Share what you have learnt with your colleagues by posting your thoughts and findings on the discussion group. Consider attaching a picture/photo of your piece of equipment if this is easy for you and you think it will add to the discussion.

Discussion Number 4 - Handover

Readings:

1. Mukherjee S. A precarious exchange. N Engl J Med 2004;351:1822-24
2. Philibert I, Leach DC. Re-framing continuity of care for this century. Qual Saf Health Care 2005;14:394-396
3. Arora V, Johnson J, Lovinger D, Humphrey HJ, Meltzer DO. Communication failures in patient sign-out and suggestions for improvement: a critical incident analysis. Qual Saf Health Care 2005;14:401-407

Activity 1

What do you believe to be the important features of a clinical handover in terms of content and format?

Activity 2

Observe the ways handovers are conducted in your work environment. How do they compare with the criteria you have developed?

Activity 3

Post a brief summary of your thoughts in relation to activities 1 and 2 on the discussion group.

Discussion Number 5 – Learning from Mistakes

Reading: Kim Vicente. The Human Factor (page 195 – 229). You will be given a copy of this reading when you attend Day 3.

What are the key messages Kim Vicente is trying to convey?

Post a comment on the discussion group in response to one of the following topics:

(a) Summarise your thoughts/response/reaction to reading this chapter

OR

(b) If you could change one thing about the health care system to improve patient safety – what would it be and why?

Discussion Number 6 – Problem Solving

Read the provided article by Tucker and Edmondson: *Why Hospitals Don't Learn from Failures: Organizational and Psychological Dynamics That Inhibit System Change*. California Management Review vol 45, No.2 Winter 2003

They describe first order and second order problem solving for “front line” hospital workers.

Think of a problem you have encountered in the workplace (or observed someone else encounter). What was the first order solution (i.e. “work around”)? Was there an attempt at second order problem solving? If so, describe it. If not, can you think of a second order solution for the problem?

Post a brief summary of your answer on the discussion group

MED5102 Assessment

MED5102 is a hurdle requirement for year 5. There are three components to assessment.

1. Attendance – must attend minimum of four of the contact days
2. Participation in on-line discussions – must participate in 80% of the discussions
3. OSCE

MED5102 Evaluation

1. Pre and Post Safety Attitude Surveys
2. Questionnaires at the conclusion of each day and the conclusion of the year.
Combination of open and closed questions