Te Whatu Ora
Health New Zealand
Te Pae Hauora o Ruahine o Tararua
MidCentral

PAE MĀTAI POROIWI ME NGĀ HONONGA

ORTHOPAEDIC WARD

URU AROTAU

STUDENT NURSE ORIENTATION

Developed by: Nga Manu Teka: Practice Development
November 2019

Contents

DOCUMENT CONTROL

Version	Issue & Circulation Date	Brief Summary of Change
1.	January 2017	
2.	May 2017	Change to student parking information
3.	November 2019	
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Location	MDHB: student	
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Approved	November 2019	

WELCOME

Welcome to Palmerston North Hospital and the Orthopaedic Ward. We hope that you enjoy your time with us and that you find it a worthwhile and interesting learning experience. This package will give you some brief information about what you can expect from your time with us.

The Orthopaedic Ward is located on the fourth floor of the tower block of Palmerston North Hospital. It primarily cares for patients with musculoskeletal illnesses and injuries. These patients are a mixture of acute and arranged admissions. The ward cares for people requiring:

- Total Hip and Knee Joint Replacements
- Other joint surgeries such as Shoulder Arthroplasty
- Patients with fractures – the largest subgroup of which is elderly patients with Hip Fractures.
- Trauma patients with multiple
- A variety of orthopaedic conditions such as arthritis and osteoporosis
- A variety of other surgical and medical conditions and procedures

The orthopaedic ward is staffed by Registered Nurses who are supported by Health Care Assistants. Nurses work with the multi-disciplinary team including Senior Doctors (Consultants), Registrars and House Surgeons (Junior Doctors), Clinical Nurse Specialists, Physiotherapists, Occupational Therapists, Social Workers, and Dietitians.

KEY CONTACTS

Ward 24	Ward Clerk	06 350 9159 ext. 7240
Charge Nurse	Erica Calvert	027 2111104
Associate Charge Nurses	Andrea Reid Feby Philip	027 2111104 – **this is the ward phone and is available 24/7 for staff, use this number to call in sick**
Nurse Educator	Ann Dowdle	06 350 9159 ext. 7249 0272231571 Ann.dowdle@midcentraldhb.govt.nz

Please contact the Charge Nurse, Nurse Educator, or your Clinical Lecturer to confirm your start dates and times. If you are unable to attend your placement, please ring the ward and advise the Charge Nurse and your Clinical Lecturer.

PRECEPTOR

You will be allocated a primary preceptor and follow their rostered duties which will include morning, afternoon, nights and weekends. There may be times your primary preceptor is not on duty and you will be allocated a secondary preceptor.

EXPECTATIONS OF THE STUDENT NURSE

- On the first day please complete the Student contact details form (page 21) and give it to the Nurse Educator, Charge Nurse or nurse in charge of the shift.
- It is expected that you arrive on time and if you are going to be late or unwell and cannot come in, please ring using the cell phone and ask to speak to the Charge Nurse/nurse in charge of the shift. Hours of work are:
    - Morning duty 0700-1530 hours
    - Afternoon duty 1445-2315 hours
    - Night duty 2245-0715 hours
- We endeavour to give you continuity of preceptor(s) wherever able. If you are unable to work the days that you have been rostered, you need to discuss this with the Charge Nurse, educator, or your Clinical Lecturer.
- You must complete the full shift that you are allocated to work.
- The preceptor you are working with needs to be aware of your learning objectives.
- Your preceptor will work with you to help you learn about assessment and management of a variety of conditions relevant to the setting.
- It is an expectation that all students attend the Joint Care (JC) Clinic once during their clinical placement, preferably in the first week. The JC Clinic (a quality improvement initiative) is an education session to prepare people for joint replacement surgery and is facilitated by a range of health professionals. The JC Clinic occurs every Friday afternoon 1300-1430 hours in the orthopaedic clinic, near the main entrance to Palmerston North hospital.
- A working knowledge of drug calculations is essential. Please review your knowledge of normal temperature, pulse, respiration rate, blood pressure, pain assessment and capillary blood glucose levels.
- Third year nursing students commencing their final placement need to identify which preceptor will be completing their documentation requirements and **ensure their preceptor has an adequate timeframe to complete this at work.**
- Please ensure that your uniform meets your institution standards.

HEALTH AND SAFETY

Every staff member is responsible for their own safety and the safety of others. The Occupational Health and Safety Manual outlines the hazards within the department. Please familiarise yourself with these hazards and their management. All accidents are to be reported to the Charge Nurse and a Riskman completed.

EMERGENCIES

All staff should make themselves familiar with the response requirements for all emergencies during their orientation. Please ensure that fire exits are always kept clear, and corridors uncluttered. Exits must be clear at all times.

OBJECTIVES

Before you start on the ward please consider what you want to achieve on this placement. Bring to the ward a list of objectives, remembering that these need to be realistic. Please share with your preceptor/s at the beginning of your placement the documentation that must be completed while on that placement. Use your initiative to make the most of your placement, for example:

- Ask lots of questions
- Ask to go places, e.g. radiology
- Ask to do and see things, e.g. Dressings, bladder scanning, procedures.

Objectives may include but are not limited to:

- Documentation
- Gain an understanding of the multidisciplinary team
- Infection prevention and control
- Patient assessment-including risk assessments and creation of action plans
- Time management and prioritising care
- Vital signs – accurate recording and interpretation
- Wound management
- Care of patients experiencing delirium

PARKING

Students can purchase concession parking cards from the Wilson Parking Office on site to get a discounted parking fee: a $20 bond is required to purchase these cards.

MAHI TAHI

The Mahi Tahi Better Together programme is guided by the concept of Motu Rākau Mānuka, which translates to a grove of tea tree. The Pae Ora team has provided this guiding concept based on the mānuka tree, which is known to many as a healing tree. This unassuming shrub might well be considered the backbone of Te Wao Nui a Tāne. Mānuka is the hardworking healer, tenacious yet humble, quietly supporting the land and the people in the background. Māori traditionally used mānuka for a variety of reasons. What is a Partner in Care?

Mahi Tahi Better Together is an initiative that recognises the important role people and whānau have in the ongoing care of patients. This involves staff asking people if they wish to have a “Partner in Care” during their hospital journey. A Partner in Care is someone who helps the patient, usually a relative or friend, in their day-to-day life. They are not the same as a visitor or someone who provides care professionally or through a voluntary agency. The Partner in Care role enables significant people to be more active in the persons care while in hospital. Each Partner in Care will be given a complete overview of the Mahi Tahi Better Together programme and an orientation on the ward by a charge nurse, or relevant staff member. The orientation will include discussions on amenities, security, emergency and evacuation procedures, privacy, appropriate behaviour, parking and refreshments.
Partners in Care will:

- Have open access to hot drink facilities, fridge and a microwave.

- Have free parking.
- Be able to request a meal to eat alongside the patient.
- To request a recliner chair to sleep on overnight (subject to availability).
- Have access to public toilets, as well as shower facilities at Te Whare Rapuora

TE MĀWHENGA TŪRORO: PATIENT DETERIORATION

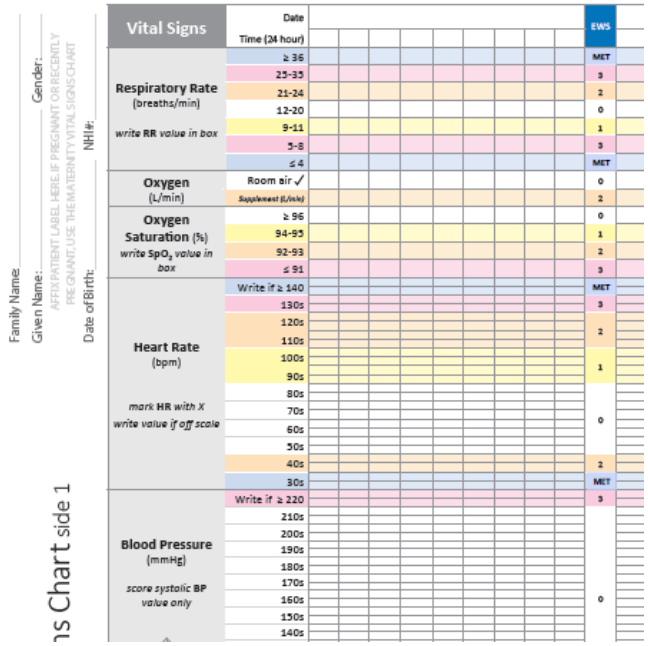
Acute deterioration can happen at any point during a patient's admission to hospital. If acute deterioration is recognised early (Early Warning Score) and responded to appropriately, patient outcomes can be improved. The Deteriorating Patient programme resulted in the implementation of the national Early Warning Score (EWS) observation chart, which has been adapted for Primary Care into some Integrated Family Healthcare Centres (IFHCs), ace in District Nursing, Child and Neonates and Maternity.

KORERO MAI AND SHARED GOALS OF CARE

Following on from the successful introduction of the national early warning score process, MidCentral DHB embarked on the next stage of the Deteriorating Patient Programme, Korero Mai. Patients, families and whānau often recognise subtle signs of patient deterioration even when vital signs are normal. Korero Mai refers to a patient, family and whanau escalation of care process as part of the recognition and response system.

Unwanted or unwarranted treatments at the end of life can contribute to suffering for patients, families and whānau, moral distress for clinicians, and unnecessary expenditure for the health system. Documented shared goals of care represent the outcome of a shared decision-making process between the patient, whānau and the clinical team. At a minimum, the overall direction for an episode of care (e.g. curative, restorative, palliative or terminal) and any agreed limitations on medical treatment need to be identified.

Effective communication is necessary to get patients' values and preferences for care and ensure informed choices can be made about complex medical treatment options. Ideally these conversations occur prior to episodes of acute deterioration without the pressures of an evolving and emergent clinical crisis. The benefit of working within the 'Goals of Care' framework is that it encourages clinicians to think carefully about a patient's prognosis and likely response to treatment and to determine what treatment options are most important within the context of that person's overall life trajectory. This process respects patients' autonomy; it helps identify those who may wish to decline treatments that might otherwise be given by default, and raises awareness of the importance of discussing with patients and/or their whānau what their real wishes are with regard to medical treatment. It helps to ensure that patients are offered care appropriate to their condition and not subjected to burdensome or futile treatments. In all of these aspects, the GOC framework adopts an approach supported by the nursing profession. It also provides an incentive for treatment decisions to be made in a considered fashion by the team primarily responsible for the patient's care rather than in response to a crisis—e.g. a MET call/Rapid Response Team/Cardiac Arrest callout—which often occurs after hours and is attended by medical staff who do not know the patient and are unable to speak to their relatives or other substitute decision makers.



Vital Signs	Date / Time (24 hour)	EWS
Respiratory Rate (breaths/min) — write RR value in box	≥ 36	MET
	25-35	3
	21-24	2
	12-20	0
	9-11	1
	5-8	3
	≤ 4	MET
Oxygen (L/min)	Room air ✓	0
	Supplement (L/min)	2
Oxygen Saturation (%) — write SpO_2 value in box	≥ 96	0
	94-95	1
	92-93	2
	≤ 91	3
Heart Rate (bpm) — mark HR with X, write value if off scale	Write if ≥ 140	MET
	130s	3
	120s	2
	110s	
	100s	1
	90s	
	80s	
	70s	
	60s	0
	50s	
	40s	2
	30s	MET
Blood Pressure (mmHg) — score systolic BP value only	Write if ≥ 220	3
	210s	
	200s	
	190s	
	180s	
	170s	
	160s	0
	150s	
	140s	

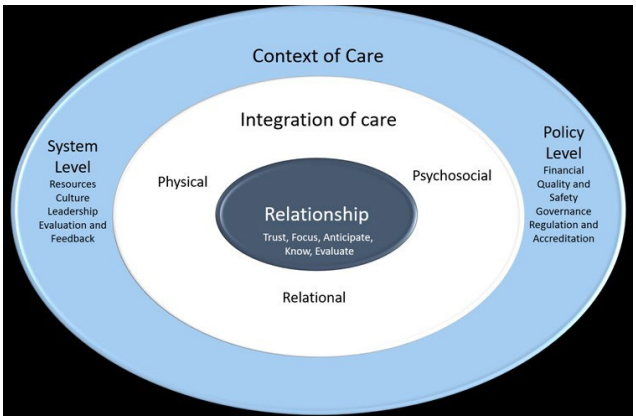
Family Name: Given Name: Gender: Date of Birth: NHI#:
AFFIX PATIENT LABEL HERE IF PREGNANT OR RECENTLY PREGNANT USE THE MATERNITY VITAL SIGNS CHART
ns Chart side 1

Mandatory escalation pathway		
Total Early Warning Score (EWS)	Action	
EWS 1-5	Consider increasing vital sign frequency. Discuss with senior nurse. Manage pain, fever and distress.	
EWS 6-7 Acute illness or unstable chronic disease	House officer review within 30 minutes. Inform nurse in charge.	Monitor vital signs every 30 minutes until EWS <6 and/or ongoing monitoring plan documented. Consider involving SMO.
EWS 8-9 or any vital sign in red zone Likely to deteriorate rapidly	House officer review within 15 mins, discuss with SMO. Inform nurse in charge.	Monitor vital signs every 15 minutes until EWS <8 and/or ongoing monitoring plan documented. Consider involving ICU.
EWS 10+ or any vital sign in blue zone Immediately life threatening critical illness	Put out a rapid response call by dialing 777 and stating 'rapid response call', the patient's name and location. Stay with the patient and manage immediately life-threatening issues. Inform the SMO and the patient's family.	

Locate and familiarise yourself with the EWS documents and escalation process.

THE FUNDAMENTALS OF CARE

Fundamental care involves actions on the part of the nurse that respect and focus on a person's essential needs to ensure their physical and psychosocial wellbeing. These needs are met by developing a positive and trusting relationship with the person being cared for as well as their whānau[1].



This is being implemented currently by the Nursing and Midwifery Directorate.

[1] Feo, R., Conroy, T., Jangland. E., Muntlin Athlin, Å., Brovall, M., Parr, J., Blomberg, K., & Kitson, A. (2017). Towards a standardised definition for fundamental care: A modified Delphi study. Journal of Clinical Nursing, 27, 2285-2299. doi: 10.1111/jocn.14247

MIYA BOARDS

MidCentral DHB is the first to roll-out of the next-generation Miya Precision platform. Miya Precision is being used across 17 wards and the Emergency Department (ED) at Palmerston North Hospital, and two wards at Horowhenua Health Centre. It delivers real-time patient flow information and bed management updates to MDHB staff and can be accessed by clinicians using an iPad at the bedside, workstation, and patient journey boards installed in each ward.

The software has successfully integrated with five clinical information systems at MDHB, including WebPas, CareStream Radiology, Clinical Portal and Pathology to provide clinical staff with detailed patient information displayed on the ward's journey board. Clinicians at the bedside can use Miya Precision to view the patient's admission history, demographics and test results, making it simple and fast for them to make the right care decisions based on real-time information.

Miya Precision's Hospital Operations Centre is also providing a high-level overview of hospital bed occupancy in real-time, with the ability to drill down into individual departments and wards for more detailed insight. This allows staff to quickly allocate the best beds for each individual patient, minimising wait times and keeping the patient journey as smooth as possible.

ORIENTATION TO THE CLINICAL AREA

It is important that you have an awareness of the environment in which you will be working to ensure the safety of yourself, the patient and other staff members. You are required to complete a clinical area orientation checklist. This is provided by your academic institution: once completed give this to your Clinical Lecturer.

EXPECTATIONS REGARDING CLINICAL LOAD

- Year Two/ 600 Level: a clinical placement in a medical/surgical area. Students take 2-3 patients, with preceptor support, as they progress through the 3/6-week placement.
- Year Three/ 700 Level: In the final 9-week transition placement the expectation is that by week 5 the student manages the preceptor's entire patient case load largely independently.

ORIENTATION TO KEY PEOPLE AND ROLES

WHO/WHAT	(√) when completed (x) if not applicable
Associate Charge Nurses	
Charge Nurse	
Clerical Support	
Clinical Nurse Specialists	
Health Care Assistants	
Multi - Disciplinary Team Members	
Nurse Educator	
Preceptors	
Registered Nurses	

EMERGENCY RESPONSE

The emergency number for Fire, Cardiac Arrest and Security is **777**. In an emergency, please follow the direction of the nursing and medical staff.
Locate the following:

WHAT	(√) when completed (x) if not applicable
Duress Button Procedure	
Emergency Bells	
Emergency Equipment	
Emergency Phone Number	
Emergency Response Flip Chart	
EWS Forms and Process	
Fire Extinguishers	
Fire Hoses	
Portable Oxygen	
Red Phone (fire emergencies)	
Suction	

WARD ROUTINE

TIME	ACTION

0700	**For AM Shift**
	▪ Handover from night staff to AM staff in the MDT room, followed by bedside handover.
	▪ Bedside handover includes
	  ○ Introduce self to patients
	  ○ Check oxygen, suction, and equipment in working order
	  ○ Checking medication chart, ensuring no omissions
	  ○ Check drug infusions and fluid balance charts
	▪ Ensure patient beside board is up to date.

0715	▪ Ensure all risk assessment are completed and prevention measures are in place. ▪ Make your plan of care for the shift. ▪ Prepare medications to administer at appropriate times. ▪ Take blood sugar levels on patients with diabetes prior to breakfast.
0800-0900	▪ Attend doctors ward rounds, these generally start at 0800. Ensure medical staff discuss the plan of care for the patient with you ▪ Ensure you are with your patient(s) when the team arrives. Do a complete assessment for skin integrity, dressing changes needed and hygiene needs e.g. shower, bed bath and hair wash. ▪ Document ▪ Ensure patients required to be nil by mouth for diagnostic tests are aware ▪ Take vital signs as noted in Care Plan.
0900-1030	▪ Morning tea –at the beginning of the shift liaise with your buddy nurse to organise tea and meal breaks. ▪ Attend to patient's hygiene needs. Delegate to HCA's as appropriate. ▪ 0915 Rapid Rounds- Liaise with Allied Health professionals at the MDT meeting and complete necessary referrals. ▪ Update documentation. ▪ Complete TrendCare categorisations & predictions before1000hrs
1100-1330	▪ Dressings – CVL, wound dressings. ▪ Check IV lines. ▪ Pressure area care – turn/reposition patient and document. ▪ Half-hour lunch break should occur at this time. Handover your patient to your preceptor before leaving the unit.
1400-1530	▪ Check results of any routine blood tests. ▪ Complete TrendCare actualisations after 1400hrs ▪ Bedside handover to afternoon staff following handover in handover room. ▪ Negotiate with your preceptor to attend clinical teaching sessions/tutorials. ▪ Total fluid balance charts for the shift. ▪ Empty drainage bags. ▪ Check linen and rubbish bags.

	▪ General clean and restock of own work area – report low stocks.
TIME	**ACTION**
1445-1700	For PM shift ▪ Bedside handover to afternoon staff following handover in the MDT room. ▪ Bedside handover includes o Introduce self to patients o Check oxygen, suction and equipment in working order o Checking medication chart, ensuring no omissions o Check your drug infusions and fluid balance charts o Ensure patient beside board is up to date. ▪ Ensure all risk assessment are completed and prevention measures are in place. ▪ Initial patient head to toe assessment and documented in notes. ▪ Make your plan of care for the shift.
1700-1900	▪ Complete TrendCare categorisations & predictions before 1700hrs ▪ Half-hour dinner break –at the beginning of the shift liaise with your buddy nurse to organise tea and meal breaks. ▪ Vital signs/fluids/ monitoring as per care plan. ▪ Document any changes in the plan in the notes. ▪ Ensure Trend Care is up to date.
1930-2100	▪ Complete TrendCare actualisation after 1900hrs ▪ Settle patients for the night. Do a complete assessment for skin integrity, dressing changes as needed. ▪ Vital signs/fluids/monitoring as per care plan.
2100-2300	▪ Dim lights on ward ▪ Check results of any routine blood tests. ▪ Vital signs/fluids check as required. ▪ Update clinical record.
2245-2315	Empty ▪ Rubbish bags ▪ Catheter bags ▪ Linen Skip ▪ General clean and restock of own work area – report any low stocks. ▪ Handover to night staff followed by beside handover.
Time	**Action**
2245-2400	For Night Shift ▪ Bedside handover to afternoon staff following handover in handover room. ▪ Bedside handover includes o Introduce self to patients if they are awake o Check oxygen, suction and equipment in working order o Checking medication chart, ensuring no omissions o Check your drug infusions and fluid balance charts o Ensure patient beside board is up to date. ▪ Ensure all risk assessments are completed and prevention measures are in place. ▪ Make your plan of care for the shift. ▪ *Total previous 24 hour fluid balance.*

2400-0300	▪ Complete TrendCare categorisations & predictions before 0100hrs ▪ 4 hourly vital signs/fluid checks. ▪ Ensure Trend Care is up to date *We encourage periods of rest and sleep for patients during the night where this is possible. If your patient is stable, please allow them to rest. Turn the lights as low as possible and minimise external sources of noise.*
0400-0600	▪ Complete TrendCare actualisations after 0400hrs ▪ Review medications for all patients – fax morning requirements to pharmacy. ▪ Full range of routine blood tests sent to lab now – if requested. ▪ Toilet all high risk of falls patients. ▪ Empty catheter bags. ▪ Check linen skip and rubbish has been emptied. ▪ Discard any reconstituted drugs at the end of your shift. ▪ General clean and restock of own work area – report low stocks.
0700	▪ Welcome morning staff ▪ Handover

COMMON MEDICATIONS

This placement is a good opportunity for you to familiarise yourself the safe administration of a number of medications.

Oral medications
You may check and give oral medications under the direct supervision of a registered nurse (RN) if they are confident for you to do so, remembering the 10 rights of safe medication administration:

1. Right patient
2. Right medication
3. Right dose
4. Right time
5. Right route
6. Right reason (e.g. if BP is 90/50 should you administer an antihypertensive medication?);
7. Right response to the medication e.g. analgesia
8. Right documentation
9. Right formulation e.g. immediate release or slow release
10. Right to refuse after being offered and informed choice.

Subcutaneous (SC) and Intramuscular (IM) medications

A student nurse may administer SC and IM injections under the direct supervision of a RN.

Intravenous medications

2nd year students - IV infusions may be prepared under the supervision of a RN. The 2nd year student nurse may not administer IV infusions.

3rd year students – simple IV infusions may be prepared and administered under the direct supervision of a RN after completion of the student workbook (please see the Clinical Lecturer for the same).

Controlled Drugs

Controlled drugs are kept in the locked controlled drugs cupboard, inside the general drugs cupboard at all times. Student nurses are not permitted to double check or sign for controlled drugs.

Medications

It is helpful for you to familiarise yourself with the mode of action, administration, adverse effects, and nursing considerations related to the medications given on the orthopaedic ward. This is a list of medications used frequently on our ward. Some medications have been filled in already to get you started.

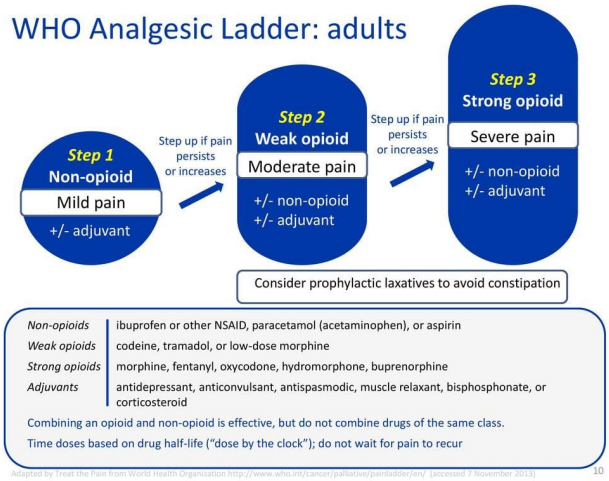
Medication Group	Drug names	Mode of action	Formulations Trade Names	Adverse Effects/ Precautions	Nursing Considerations
Analgesia	Morphine	Binds to opiate receptors in the brain & spinal cord inhibits transmission & alters perception of pain.	*Sevredol* – oral immediate release tab or elixir *M-Eslon* – oral slow release Morphine –IV 10mg/1ml	Nausea, vomiting, respiratory depression, hypotension, constipation, urinary retention, itch, miosis Use cautiously in renal impairment and elderly	If giving IV must be given according to protocol. Watch for respiratory depression. Always give with laxative
	Fentanyl				
	Oxycodone				
	Codeine				
	Tramadol				
	Ibuprofen				
	Paracetamol				
Laxative	Lactulose				
	Laxsol				
Antiemetic	Cyclizine	Prevents & treats nausea and vomiting, via histamine pathway	Tablet – 50mg tab IV – 50mg/1ml *Nausicalm*	Drowsiness, headache, dry mouth, blurred vision, tachycardia, hypertension Give with caution If sedated or tachycardic	Adverse effects exacerbated by speed of injection.
	Ondansetron				
Antibiotic	Augmentin				
	Cefazolin	A cephalosporin antibiotic to treat & prevent infection	1gm vial, usually 1gm daily	Nausea, vomiting, abdominal discomfort, headache, allergic reactions	Check for allergies Give as slow injection 2-4 minutes or short infusion
	Cefuroxime				
	Gentamycin				

Cardiac	Amlodipine				
	Atorvastatin				
	Digoxin				
	Diltiazem				
	Frusemide				
	Metoprolol				
	Quinapril				
Anticoag-ulants	Aspirin				
	Clexane				
	Fragmin				
	Dabigatran				
	Warfarin				
Respiratory	Ipratropium				
	Salbutamol				
	Seratide				
Diabetes	Novorapid				
	Glicazide				
	Metformin				
	Novorapid				
Sedatives	Diazepam				
	Haloperidol				
	Risperidone				
	Zopiclone				

THE ANALGESIC LADDER

The treatment of pain is a vital nursing role in ward 24. A mainstay of treatment is the use of analgesic medications. When choosing analgesics remember to begin with simple medications which generally have less side effects and progress as needed to stronger medications. Regular analgesia is more effective than prn (as needed) administration in the treatment of pain.

The World Health Organisation analgesic ladder helps guide clinicians in the treatment of pain.



CONTROLLED DOCUMENTS

Once on placement you will need to access relevant policies, procedures and guidelines. Ask your preceptor to help you find the Controlled Documents on the intranet. *(Note: you cannot access this outside of the organisation.)*

ENHANCED RECOVERY AFTER SURGERY

The Enhanced Recovery After Surgery or ERAS programme is an initiative to provide patients with standardised best care pathways and improve outcomes. The patient-centred ERAS pathway aims to ensure people:

- are in the best possible condition for surgery
- have the best possible management during and after their operation
- Participate in the best possible rehabilitation after surgery.
- Recover faster and return home earlier to their normal life, work and play.
-

They are encouraged to be a partner in their own care. The approach starts when it is first decided a person needs surgery and continues through to their rehabilitation at home or in the community.

On ward 24 this programme is used in the care of patients undergoing total knee and hip replacement surgery.

ORTHOPAEDIC COMPLICATIONS

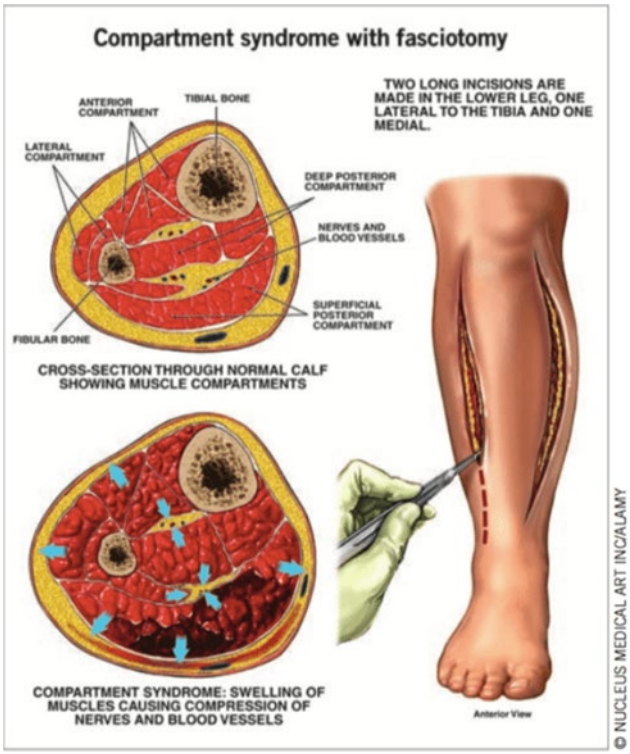
Compartment Syndrome can occur when excessive pressure builds up inside an enclosed muscle space in the body. Compartment syndrome usually results from bleeding or swelling after an injury. The dangerously high pressure in compartment syndrome impedes the flow of blood to and from the affected tissues. It can be an emergency, requiring surgery to prevent permanent injury. The legs, arms, and abdomen are most prone to developing compartment syndrome. Acute compartment syndrome can also occur after injuries without bone fractures, including:

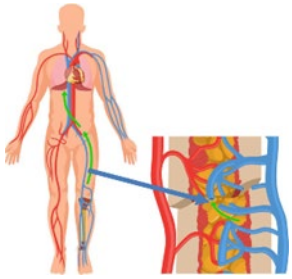
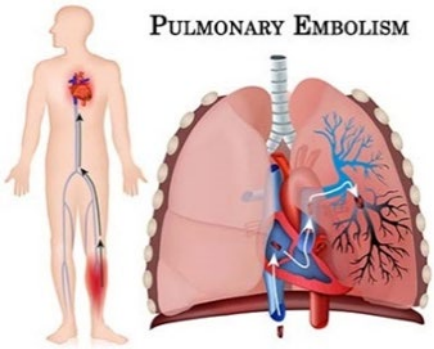
- Crush injuries
- Burns
- Overly tight bandaging
- Prolonged compression of a limb during a period of unconsciousness
- Surgery to blood vessels of an arm or leg
- A blood clot in a blood vessel in an arm or leg
- Extremely vigorous exercise, especially eccentric movements (extension under pressure)

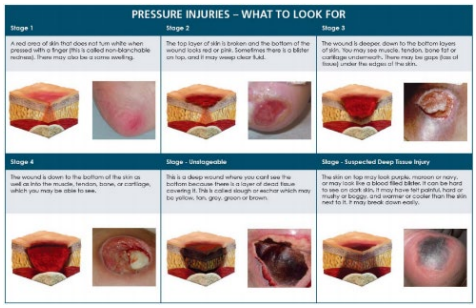
The six P's of Compartment Syndrome

1. Pain: progressive pain on passive stretch. Unrelenting pain that is disproportionate/ nonresponsive to medication (pain most sensitive and early indicator)
2. Paraesthesia: numbness or tingling
3. Pressure: tense or tight compartment/oedema/shiny skin
4. Pallor: sluggish or absent capillary refill/ pale skin tone
5. Paralysis: inability to dorsiflex/plantaflex
6. Pulselessness: weak or absent peripheral pulses

Note: Sometimes the neurovascular status is not altered



COMPLICATION	SIGNS AND SYMPTOMS/ DIAGNOSTIC TEST FINDINGS	PREVENTION AND INTERVENTIONS
Fat Embolism syndrome (FE) Fat and marrow contents or metabolic lipids are released, as – embolisation. Can travel to heart and lung causing decreased perfusion/ hypoxia. 	Occurs 12-24 hours post trauma (fracture) or surgery on long bones and pelvis due to disruption of bone marrow. Anxiety, tachypnea, tachycardia, chest discomfort, ↓SpO2, ↓BP, ↑temp, petechiae-axilla, chest conjunctiva CXR snowstorm, + serum lipase, + fat in urine	Immobilise fracture site/maintain alignment, early fixation, notify medical team. Vital signs monitoring Hemodynamic and 02 support
Pulmonary Embolism (PE) Often occurs due to situations which result in **Virchow's triad** = venous stasis, a hypercoaguable state and endothelial injury. This leads to a thromboembolic condition where a clot travels and lodges in pulmonary vessels, obstructing pulmonary circulation leading to ↓oxygenation/hypoxia	Can occur post trauma or immobility, resulting in deep vein thrombosis, venous thromboembolism (VTE) Anxiety, fear, dyspnea, tachypnea, tachycardia, pleuritic chest pain, pallor, diaphoresis, SOB, cyanosis, ↓SpO2, ↓BP, ↑temp 	Prevent immobility/ early mobilization/ambulation Sequential leg devices or compression stocking, foot impulse device Exercises of the lower extremities, foot/ankle pumps Prophylactic anticoagulation
Infection Requires a pathogen, a susceptible host, a mode of transmission and a portal of entry. The concern is osteomyelitis or infection of total joint arthroplasty	Evaluate risk factors: How is the patient's mobility, pulmonary clearance, immune system, skin integrity, neurovascular function, GI tract, GU tract, any chronic diseases such as; diabetes or peripheral vascular disease	Prevent wound contamination, five moments of hand hygiene, sterile/clean technique Prophylactic or therapeutic antibiotics, high protein diet. Culture of wound, Appropriative wound care

Haemorrhage/ anaemia Excessive blood loss from traumatic injury, or from surgical wound, the concern is shock or weakness and ability to perform PT/OT or ADLS	Excessive bleeding from wound or under tissues, > 500 mL in wound drain Ecchymosis, decreased Hb/haematocrit Dizziness, weakness, pallor, s/s shock, ↓BP, ↑pulse	Anticipate blood loss with elective cases Prevent bleeding by appropriate pressure dressing Monitor wound and blood levels
Infection Requires a pathogen, susceptible host, mode of transmission, portal of entry (eg wound, IVC, IDC). Infection is especially harmful in orthopaedics as it could progress to osteomyelitis bone destruction. Evaluate risk factors to identify those at increased risk, such as those with decreased mobility, immune system dysfunction, skin integrity issues		Prevention strategies Always remember the 5 moments of hand hygiene, this is the most effective prevention strategy. Early mobilisation of patients, good nutrition, early removal of IDCs. IVCs.
Pain- acute and chronic Emotional, sensory, motor autonomic experience associated with potential or actual tissue damage- can cause physical disability and psychosocial impairment if not relieved or controlled Pain is what the patient says it is	Pain is number one complication from patients' perspective Pain assessment including scale 0-10, monitor anxiety, diaphoresis, grimacing, ↑Pulse, ↑BP, ↑RR	Frequent pain assessment, using OLDCART: onset location, duration, characteristics, aggravating/relieving factors and treatment Pharmacological and non-pharmacological treatment
Pressure Area Injuries An injury to the skin and/or underlying tissue (usually over a bony prominence), due to decreased mobility, exposure to moisture, shearing and/or friction. 	Risk assessment – age, frailty, immobility, continence issues, nutritional status, co-morbidities, traction and splints. Look for pain and skin changes Become familiar with the pressure injury staging chart available on the ward and intranet.	**Pressure relieving mattress –** make sure the patient is on the appropriate mattress Bony prominences – all areas checked each shift and **documented** Educate patient to report, pain discomfort dampness and concerns **Regular repositioning is key to prevention of pressure injuries - Minimum 2 hourly** Attend to skin care and hygiene, ensure sufficient nutrition and fluid intake. Fortisip for at risk patients, Cubitan for patients with PI

Harvey, C (2006) Complications, *Orthopaedic Nursing,* 25, 6, p410

OTHER ORTHOPAEDIC COMPLICATIONS/CONDITIONS TO FAMILIARISE YOURSELF WITH:

- Cauda Equina
- Fracture blisters
- Dislocated hip
- Ogilvie syndrome
- Osteoarthritis
- Rheumatoid arthritis
- Septic arthritis
- Ankylosing spondylitis
- Metabolic bone disorders
- Osteoporosis
- Osteomalacia

ORTHOPEADIC EQUIPMENT

- Zimmer splints
- CPM machine
- ROM brace
- SOMI brace
- Pulpit frame
- Rollator Frame
- Philadelphia collar

TRACTION

- Skin traction- MDHB:6533 Guideline
- Skeletal traction

TYPES OF TRACTION

- Pugh's
- Hamilton Russell
- Swinging Thomas splint- MDHB:6533 Guideline

GENERAL ORTHOPAEDIC TERMS

- Abduction- the withdrawal of a part away from the midline
- Adduction- the act of drawing a part toward the midline
- Ankylosis- the abnormal immobility and consolidation of a joint
- Aplasia- incomplete development of tissue or a structure
- Arthritis- inflammation of a joint
- Arthrodesis- the surgical fixation of a joint by fusion of the joint surfaces
- Arthroplasty- reconstructive surgery of a joint; formation of a movable joint
- Arthrotomy- surgical incision of a joint
- Articulation- a joint; the place of union or junction between two or more bones
- Atrophy- wasting away or diminution in the size of a part

- Baker's cyst (Popiteal cyst)- A swelling behind the knee, caused by the escape of synovial fluid, which has become enclosed in a sac
- Chrondroma- a hyperplastic growth of cartilage tissue
- Closed fracture- loss of continuity of a bone; not in contact with the outside environment
- Congenital- existing at or before birth
- Coxa- hip or hip joint
- Crepitus- bony crepitus- the crackling sound produced by the rubbing together of bone fragment of fractured bone. False crepitus or joint crepitus the grating sensation caused by rubbing together of dry surfaces of joints
- Dislocation- the displacement of part of a joint
- Dorsi-flexion- flexion or bending of the of the foot toward the leg
- Dysplasia- abnormality of development
- Enchondroma- a hyperplastic growth of cartilage tissue remaining in the interior or substance of a cartilage or bone
- Ephysis– a piece of bone separated from a long bone in early life by cartilage, but later becoming a part of the bone. It is this cartilaginous centre that growth in length of the bone occurs.
- Eversion – a turning outward
- Exostosis – a bony growth projecting outward from the surface
- Fibroma – a tumour composed of fibrous or fully developed connective tissue.
- Flexion – the act of bending or condition of being bent
- Fracture – a break in the bone – loss of continuity of a bone
- Fusion – the operative formation of ankylosis
- Genu – the knee
- Hallux – great toe
- Implant – to insert or graft
- Inversion – a turning inward
- Malunion – union of the fragment of a fractured bone in faulty position
- Non-union– failure of the ends of a fractured bone to unite; false union; pseudo-arthrosis
- Open Fracture– loss of continuity of bone with exposure to the outside environment
- Ostectomy– the excision of a bone or a portion of a bone
- Osteochondritis dissecans– Osteochondritis resulting in the splitting of pieces of cartilage into the joint, particularly the knee joint or shoulder joint
- Osteogenic Sarcoma- a primary malignant tumour of the bone, which grows rapidly, metastasises early and carries a grave prognosis
- Osteoma– a tumour composed of bone tissue and usually developing on a bone
- Osteomyelitis– inflammation of a bone caused by a pyogenic organism; may remain localised or it may spread through the bone
- Osteotomy – the surgical cutting of a bone
- Periosteum – the tough fibrous membrane surface of a bone
- Plantar Flexion – the sole of the foot in a condition of being bent; extension of the foot
- Pronation– the act of turning the palm of the hand downward or toward posterior surface of the body

- Pseudoarthrosis – a false joint as that sometimes seen following a fracture or in a failure of an arthrodesis or fusion
- Scoliosis – abnormal curvature of the vertebral column
- Sequestrum– a piece of dead bone that has become separated during the process of necrosis from the sound bone
- Slipped Upper Femoral Epiphysis (SUFE) – separation of the epiphysis from the femoral head
- Syndactylism – webbing between adjacent digits
- Talipes – congenital deformity of the foot
- Tenodisis– tendon fixation; suturing of the proximal end of a tendon to the bone
- Volkmann Contracture– degenerative, contracture and atrophy of a muscle resulting from long continued interference with normal circulation

SOME COMMON ABBREVIATIONS USED

#	Fracture	NOF	Neck Of Femur
ACL	Anterior Cruciate Ligament	NBM	Nil By Mouth
ADL	Activity of daily living	NSAID's	Non-steroidal anti Inflammatory drugs
AFO	Ankle Foot Arthrodesis	NWB	Non weight bearing
AKA	Above Knee Amputation	OA	Osteoarthritis
BKA	Below Knee Amputation	ORIF	Open reduction internal fixation
C1-7	Cervical 1-7	ORTHO	Orthopaedics
CHS	Cannulated Hip Screw	OT	Occupational Therapy/Operating Theatre
C-spine	Cervical Spine	PCA	Patient controlled analgesia
CT	Computed Tomography (Scan)	PE	Pulmonary Embolism
CVP	Central venous pressure	PHYSIO	Physiotherapy
CXR	Chest X-Ray	POP	Plaster of Paris
DHS	Dynamic Hip Screw	PRN	As required
DVT	Deep Vein Thrombus	PWB	Partial weight bearing
ECG	Electrocardiogram	ROM	Range of motion/movement
FBC	Full Blood Count	ROS	Removal of suture
FWB	Full Weight Bear	S1-5	Sacral 1-5
GA	General Anaesthesia	THJR	Total Hip Joint Replacement
GCS	Glasgow Coma Scale	TKJR	Total Knee Joint Replacement
L1-5	Lumbar 1-5	U/S	Ultrasound

EVALUATION OF YOUR PRECEPTOR

Please return your evaluation to your Charge Nurse

Name of Preceptor_____ Date_____

E = Excellent **VG =** Very Good **S =** Satisfactory **NI =** Needs Improvement

Please read the following statements then tick the box that best indicates your experience

My Preceptor:	E	VG	S	NI
Was welcoming and expecting me on the first day				
Was a good role model and demonstrated safe and competent clinical practice				
Was approachable and supportive				
Acknowledged my previous life skills and knowledge				
Provided me with feedback in relation to my clinical development				
Provided me with formal and informal learning opportunities				
Applied adult teaching principals when teaching in the clinical environment				

Describe what your preceptor did well

Describe anything you would like done differently

Signed: _____ Name: _____

YOUR CONTACT DETAILS

We care about your well-being as well as your education. If you don't arrive for a planned shift, if there is illness on the ward or in the case of an emergency we need to be able to contact you. Please could you provide the ward with your contact details and an emergency contact using the form below.

Your Name	
Your Home Phone number	
Your mobile phone number	
Name of emergency contact	
Phone number of emergency contact	

From time to time the staff on the ward may need to contact your lecturer regarding your progress, for support or in the case of problems. Please could you supply the contact details of the Lecturer/CTA that will be supporting you during this placement, in the form below?

Name of Lecturer/CTA	
Phone number of Lecturer/CTA	

This information will be kept for the length of this placement and then disposed of. It will not be shared with anyone else without your permission unless there is an emergency.