



**UNIVERSITY COLLEGE DUBLIN**

*An Coláiste Ollscoile Baile Átha Cliath*

**UCD SCHOOL OF NURSING, MIDWIFERY & HEALTH SYSTEMS**

*Scoil na hAltrachta, an Cnáimhseachais agus na gCoras Slainte*

in partnership with

Children's Health Ireland at Crumlin

Mater Misericordiae University Hospital

St Vincent's Healthcare Group



## **Medication Workbook for Stage 2 & 3 BSc Children's and General Nursing Students**

Student Name:

Student Number:

## Introduction

This workbook has been developed as a tool to assist you in gaining knowledge of some of the commonly used medications during your practice placements in Stage 2 and Stage 3 of your Children's & General (C&G) programme. In Stage 1 and Stage 2 you received lectures and clinical skills in UCD relating to pharmacology and medication administration and professional practice to assist you to link theory to practice. Medication administration and professional practice is an important aspect of your National Competency Assessment Document (NCAD) Assessment and the Domains and Standards specific to this area are detailed in the table below:

**Table 1: Domains and Standards that pertain to Medication Management Stage 2**

### Children's & General (C&G) Nursing Practice Placement (4 weeks)

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6
1.1	2.1	3.1[c]*	4.1	5.1	6.1
1.2	2.2	3.2	4.2	5.2	6.2
1.3	2.3 [h]*				
	2.4				

### General Nursing Practice Placement (4 weeks)

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6
1.1	2.1	3.1[c]*	4.1	5.1	6.1
1.2	2.2	3.2	4.2	5.2	6.2
1.3	2.3 [h]*				
	2.4				

\*2.3[h]: Assists the Registered Nurse in the safe administration and management of medicines

3.1[c]: Safely and accurately carries out medication calculations and management with particular regard to the vulnerability of persons in receipt of healthcare

**Table 2: Domains and Standards that pertain to Medication Management Stage 3**

**Stage 2:** This level recognises the undergraduate nursing student as an advanced beginner and has participation (student participates rather than an observer) and identification (nursing student takes responsibility for their own learning) under **close supervision** from preceptor or staff nurse (close supervision = presence or close proximity to the undergraduate student)

**Children's & General (C&G) Nursing Practice Placement (4 weeks)**

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6
1.1	2.1 [d]*	3.1[c]*	4.1	5.1	6.1
1.3	2.2	3.2	4.2	5.2	6.2
	2.3				
	2.4				

**General Nursing Practice Placement (4 weeks)**

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6
1.1	2.1 [d]*	3.1[c]*	4.1	5.1	6.1
1.3	2.2	3.2	4.2	5.2	6.2
	2.3				
	2.4				

\*2.1[d]: Integrates knowledge of pathophysiology and pharmacotherapeutics into the assessment of a person

3.1[c]: Safety and accurately carries out calculations for medication management, including intravenous infusions where appropriate

**Stage 3:** This level recognises the undergraduate nursing student as an advanced beginner and has participation (student participates in patient care with support) and identification (nursing student takes responsibility for their own learning) under **indirect supervision** from preceptor or staff nurse (indirect supervision = preceptor is accessible to the undergraduate student nurse for guidance and support)

## Medication Workbook for Stage 2 & 3 BSc Children's & General (C&G) Nursing Students

Stage 2 Practice Placements		
	Name/Date	Case study Completed, Please Tick
Placement 1:		
Placement 2:		
Placement 3:		
Placement 4:		
Placement 5:		
Placement 6:		
Placement 7:		
Placement 8:		
Placement 9:		
Placement 10:		
Placement 11:		
Placement 12:		
Placement 13:		
Placement 14:		
Placement 15:		
Placement 16:		

Stage 3 Practice Placements		
	Name/Date	Case study Completed, Please Tick
Placement 1:		
Placement 2:		
Placement 3:		
Placement 4:		
Placement 5:		
Placement 6:		
Placement 7:		
Placement 8:		
Placement 9:		
Placement 10:		
Placement 11:		
Placement 12:		
Placement 13:		
Placement 14:		
Placement 15:		
Placement 16:		

## Learning Outcomes

In relation to medication management within your NCAD Document during your Stage 2 & Stage 3 clinical placements you will be expected to:

- Summarise Nursing and Midwifery Board of Ireland (NMBI) practice standards used for medication administration (NMBI 2020)
- Summarise NMBI Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives (NMBI 2014).
- Identify and explain the 10 'Rights' (R's) of Safe Medication Administration (NMBI 2020; CHI at Crumlin 2021; HIQA, 2015)
- Demonstrate an understanding of the local policies and procedures for medication management (including controlled drugs)
- Demonstrate competent hand hygiene techniques (e.g., hand washing, use of alcohol gel)
- Identify and demonstrate a knowledge of the emergency trolley medications.
- Discuss how medications are prescribed (e.g., On prescription sheet, discharge prescription pad, electronic records)
- Discuss the steps involved in the safe administration of medication.
- Participate in the correct practice of checking right patient, right reason, right drug, right route, right time, right dose (including calculations), right form, right action, right documentation, right response (NMBI, 2020; CHI at Crumlin, 2021; HIQA, 2015)
- Participate in the calculation, preparation and double checking of medications including the identification of patients/clients and the administration of medications and explain rationale for this.
- Differentiate the types of storage for medications in the clinical area.
- Identify the medications used in core and specialist areas.

### Additional Learning Outcomes specific to this placement:

#### Instructions for Use:

- Part 1: In addition to meeting these learning outcomes you will complete Part 1 of the workbook below in relation to medication management. You will be expected to identify the medications used in specialist areas (e.g: a minimum of 3 medications for each placement – on placements where medications are administered)
- Part 2: You will be expected to understand the management of anaphylaxis in relation to adverse drug reaction
- Part 3: You will be expected to demonstrate the ability to perform drug calculations and answer the questions in relation to each of the listed medications.
- Part 4: You will be expected to use a case study approach to demonstrate a knowledge of the different medications used in the specialist areas. (A total of 4 case studies in Stages 2&3 inclusive of care of the elderly and operating theatre). One of these case studies must be completed on your longer placements. Please discuss the choice of placement and the patient with your preceptor.

**The following explains the requirements for each section of the workbook that you are required to complete on each practice placement**

<b>Medication Name</b>	This refers to the approved (Generic) name of the medication, which is the name that must be used when the medication is prescribed
<b>Brand/Trade Name</b>	It is common to hear or see medications referred to by their brand name e.g., Panadol for paracetamol. It is important to be aware of the brand and generic name of medications
<b>Medication Group</b>	What group does the medication belong to? Is it an analgesic, anti-hypertensive, anti-pyretic, antibiotic?
<b>Indication</b>	Why is this medication used and for which condition and/or symptoms?
<b>Dose</b>	Doses may vary depending on weight, age, route used or the indications for use.
<b>Route</b>	How should the medication be administered e.g. orally, rectally, intravenously, inhalation, intramuscularly, subcutaneously
<b>Frequency</b>	How often should this medication be administered? What is meant by a 'regular prescription' and a prescription that is 'PRN'? Where possible include the maximum dose in a 24-hour period or highlight the differences in frequency depending on route used.
<b>Peak Action/Duration of Action</b>	For example, if analgesia has been administered, how long will it take to work and how long will it last in the patients/client's system?
<b>Contraindications/Cautions</b>	Important to identify contraindications
<b>Side-Effects</b>	When you know the side-effects, you can identify the reason quickly and prevent or manage the side-effect in an effective manner
<b>Observed administration of medication</b>	Indicate if you have been involved in observing the administration of the stated medication
<b>Participate under direct supervision in preparation, calculation, administration and documentation of medication</b>	Indicate if you have participated under direct supervision in the preparation, calculation, administration and documentation of medication

The nurse who is administering the medicines must adhere to the ten rights of medication administration when administering medications to the patients in their practice placements (NMBI, 2020, pp-16): These are:

1. Right Patient: Be certain of the identity of the patient to whom the medicine is being administered by verifying the identification wristband, photograph or name and date of birth on the medicine chart.
2. Right Reason: Understand the intended purpose of the medicines to be administered.
3. Right Drug: Confirm that the name of the dispensed medicine to be administered corresponds with the generic or brand name of the prescribed medicine, and they must only administer a viable medicinal product – that is, properly packaged and within its expiry date. The nurse must also check, both by asking the patient and inspecting the allergy status box on the medicines chart, whether the patient has a known and recorded allergy to the prescribed drug or no known allergies. The allergy box must be completed.
4. Right Route: Administer the medicine via the prescribed anatomical route and site.
5. Right Time: Administer the medicine at the prescribed time and prescribed intervals.
6. Right Dose: Confirm, through arithmetical calculation that the dose of the medicine being administered concurs exactly with the dose prescribed. Where the local [Policies, Procedures, Protocols and Guidelines](#) (PPPGs) identify this process for high risk medicines, the dose must be independently verified.
7. Right Form: Confirm that the form of medicine that has been dispensed matches with the specified route of administration.
8. Right Action: Ensure the medicine is prescribed for the appropriate reason and state to the patient the action of the medicine and why it is prescribed.
9. Right Documentation: Sign, date and retain all documentation recording the administration of each medicine in the medicine's administration chart (or other document directing the administration of a medicine). The chart must only be signed to record a medicine has been administered once the medicine administration has been witnessed.
10. Right Response: Observe the patient for adverse effects and assess the patient to determine that the desired effect of the medicines has been achieved.

\*The information you require can be obtained from a number of sources including: [www.medicines.ie](http://www.medicines.ie) which contains accurate, up to date, regulator approved information on medicines available in Ireland (Medicines.ie, 2019), The Irish Medicines Formulary, British National Formulary, Children's Health Ireland Hospital Formulary (Clinibee), the hospital/community pharmacist, doctors, nursing/midwifery colleagues, articles, local policies and guidelines and NMBI guidelines

Always refer to the local Medication Policy for Medication Administration and Management



# The Ten Rights of Medication Management



<https://www.nmbi.ie/NMBI/media/NMBI/NMBI-Medication-Administration-2020.pdf?ext=.pdf> (NMBI, 2020)



# 5 Moments for Medication Safety



## **STAGE 2 PRACTICE PLACEMENTS**

## STAGE 2 SIGNATURE BANK

Each registered midwife/nurse who acts as a preceptor/co-preceptor for this student must sign this signature bank.

Preceptors/Co-preceptor Name (Print)	Signature	Preceptors/Co-preceptor Initials	Ward/Area

## Stage 2 Practice Placement (1)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (2)

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/Route</b>	<b>Frequency</b>	<b>Peak Action/duration of action (If available)</b>	<b>Contraindications/Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (3)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							



<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (4)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (5)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (6)

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/Route</b>	<b>Frequency</b>	<b>Peak Action/duration of action (If available)</b>	<b>Contraindications/Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (7)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							



<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (8)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (9)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (10)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (11)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							



<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (12)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (13)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 2 Practice Placement (14)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## **STAGE 3 PRACTICE PLACEMENTS**



## STAGE 3 SIGNATURE BANK

Each registered midwife/nurse who acts as a preceptor/co-preceptor for this student must sign this signature bank.

Preceptors/Co-preceptor Name (Print)	Signature	Preceptors/Co-preceptor Initials	Ward/Area

## Stage 3 Practice Placement (1)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (2)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (3)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (4)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							



<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (5)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (6)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (7)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (8)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							



<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (9)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
3.							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (10)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (11)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (12)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							



<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (13)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
3.							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Stage 3 Practice Placement (14)

<b>Medication Generic/Brand/ Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
1.							
2.							

<b>Medication Generic/Brand/Trade Name</b> Choose medication related to specific clinical area	<b>Medication Group &amp; Indications</b>	<b>Dose/ Route</b>	<b>Frequency</b>	<b>Peak Action/ duration of action (If available)</b>	<b>Contraindications/ Cautions / Nursing Considerations</b>	<b>Side- effects</b>	<b>Observed administration of medication</b>
<b>3.</b>							

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Part 2: Anaphylaxis (To be completed before end of Stage 2)

Anaphylaxis is a severe, life-threatening, generalised or systemic hypersensitivity reaction.

### 1. How would you recognise a person has had a reaction to a drug?

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**Part 2: Anaphylaxis (To be completed before end of Stage 2)**

**2. What are the key principles of management of anaphylaxis?**

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**3. What drugs are commonly used in the treatment of anaphylaxis and what dosages are given?**

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## Part 3A: Calculations: (To be completed before end of Stage 2)

Converting a larger unit of weight, measure or volume to a smaller one	Converting a smaller unit of weight, measure or volume to a larger one
Kilogram (kg) to gram (g) $\times 1000$	Gram (g) to kilogram (kg) $\div 1000$
Gram (g) to milligram (mg) $\times 1000$	Milligram (mg) to gram (g) $\div 1000$
Milligram (mg) to micrograms $\times 1000$	Microgram to milligrams (mg) $\div 1000$
Microgram to nanogram $\times 1000$	Nanogram to microgram $\div 1000$
Litre (l) to millilitre (ml) $\times 1000$	Millilitre (ml) to litre (l) $\div 1000$

**Please calculate the following. Show how you achieved your answer.** (Once completed refer to Part 5 to self-assess your answers) Metric

Conversions:

A)

0.6grams= \_\_\_\_\_mg

B)

300microgram= \_\_\_\_\_mg

C)

0.85mg=\_\_\_\_\_micrograms (mcg)

D)

0.125mg=\_\_\_\_\_micrograms

E)

175 micrograms= \_\_\_\_\_mg

F)

356mg=\_\_\_\_\_grams



## Part 3B: General Placements Only

Answer the following questions in relation to the listed medications (Please refer to Part 6 to self-assess your answers)

1. Mary is prescribed Betamethasone 12mg IM. Betamethasone is available in 4mg/ml vials.

- a. How many vials will be required? \_\_\_\_\_
- b. What volume will be administered in mls? \_\_\_\_\_
- c. What syringe should you choose to administer this medication? 1ml, 2ml or 5ml syringe? \_\_\_\_\_

2. Mary is prescribed Eltroxin 0.25mg PO. 125mcg per tablet available.

- d. How many tablets will be required? \_\_\_\_\_

3. Mary is prescribed Pethidine 75mg IM 4-6hourly. Pethidine is available in 100mg/2ml vials.

- e. How many vials will be required? \_\_\_\_\_
- f. What volume will be administered in mls? \_\_\_\_\_
- g. What volume syringe should you choose to administer this volume? 1ml, 2ml, 5ml \_\_\_\_\_

4. MDA Schedule 2 Drugs (refer to local policy and NMBI guidance)

- h. Name two regularly used MDA Schedule 2 Drugs used in general nursing care  
\_\_\_\_\_

- i. Outline where MDA Schedule 2 Drugs should be stored?  
\_\_\_\_\_

- j. Outline the documentation that should be completed during the preparation and administration of MDA Schedule 2 Drugs  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **Part 4: Children's Placements only**

**You are in the process of checking the medication Kardex for one of your patients and you discover the following: (Please refer to Part 8 for the answers to these questions)**

**1) Gentamicin 45mg OD for a 5-week-old infant who weighs 5kg.**

- A. Is the dose correct for this patient?
- B. Are there any changes or adjustments required?
- C. How often should Therapeutic Drug Monitoring be carried out for patients on ODD (Once Daily Dosing) and Multiple Daily Dosing?

**2) Metronidazole 450mg IV prescribed for a child who weighs 50kg.**

- A. Is this dose correct?
- B. How often should this be given?
- C. Are there any precautions to consider when taking this medication?

**3) Calculate the following medication dosages, frequencies and volumes without the use of a calculator:  
Paracetamol for 1-year-old who weighs 11kg.**

- A. Calculate the dose required for this child:
- B. How often can this be administered?
- C. What route?
- D. How many mls shall be administered? Show how you calculated this answer.

**4) Co-Amoxiclav IV for a 6-day-old infant who weighs 3.5kg – refer to displacement value in your answer.**

- A. Calculate the dose required for this infant:
- B. How often can this be administered?
- C. What volume is required?
- D. What is displacement value?
- E. What is the displacement value in this case?

## **Part 4: Children's Placements only**

**5) Oromorph PO for 1-month-old infant in acute pain, who weighs 4.5kg**

- A. Calculate the dose this infant can receive:
- B. How often can this be administered?
- C. What volume is required?

**6) Calculate the volume of IV fluids required by a child over the next 24 hours, who weighs 15kg.**

- A. What is the hourly IV fluid rate?

**7) In an emergency situation, calculate the volume of fluids required for a child who weighs 22kg**

## Part 5 - Medication Case Study

You are expected to complete a total of 4 case studies in stages 2&3 inclusive of care of the elderly and operating theatre. One of these case studies must be completed on your longer placements. Please discuss the choice of placement and the patient with your preceptor and/or your CPC. This case study will assist you to link your knowledge of medications to the care that you deliver to individuals. Identify an individual who is receiving medication & provide the information below. Write a short case study identifying any pertinent information.

### Medication Case Study 1

Male/Female:		
Age:		Weight:
Past Medical/Surgical History:		
Present Diagnosis:		
Medication Generic/Trade Name	Action of Medication	Side Effects/Nursing Considerations eg: checking blood pressure when patient is on an anti-hypertensive.
Calculate the dose of medication (if applicable)		
Important Information:		

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### Medication Case Study 2

Male/Female:		
Age:		Weight:
Past Medical/Surgical History:		
Present Diagnosis:		
Medication Generic/Trade Name	Action of Medication	Side Effects/Nursing Considerations eg: checking blood pressure when patient is on an anti-hypertensive.
Calculate the dose of medication (if applicable)		
Important Information:		

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### Medication Case Study 3

Male/Female:		
Age:		Weight:
Past Medical/Surgical History:		
Present Diagnosis:		
Medication Generic/Trade Name	Action of Medication	Side Effects/Nursing Considerations eg: checking blood pressure when patient is on an anti-hypertensive.
Calculate the dose of medication (if applicable)		
Important Information:		

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### Medication Case Study 4

Male/Female:		
Age:		Weight:
Past Medical/Surgical History:		
Present Diagnosis:		
Medication Generic/Trade Name	Action of Medication	Side Effects/Nursing Considerations eg: checking blood pressure when patient is on an anti-hypertensive.
Calculate the dose of medication (if applicable)		
Important Information:		

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Preceptor Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## **Part 6: Answers to Part 3A (General Practice Placements)**

**A** = 600mgs  
**B** = 0.3mg  
**C** = 850 micrograms  
**D** = 125mcg  
**E** = 0.175mg  
**F** = 0.356grams

## **Part 7: Answers to Part 3B (General Placements Only)**

- 1.** A = 3  
B = 3mls  
C = 5ml syringe
- 2.** 2 tablets
- 3.** A = 1 vial  
B = 1.5mls  
C = 2ml syringe



## Part 8: Answers to Part 4 (Children's Practice Placements)

- 1) A. No  
B. It should be  $7\text{mg/kg} = 35\text{mg OD}$   
C. For ODD, the trough should be taken before 2<sup>nd</sup> dose and repeat every 3 days; for multiple daily dosing, peak and trough levels should be taken around the 3<sup>rd</sup> or 4<sup>th</sup> dose.
- 2) A. No, dose should be  $375\text{mg}$  ( $7.5\text{mg/kg}$ )  
B. 8 hourly.  
C. Use with caution in cases of hepatic encephalopathy.
- 3) A. Dosage:  $15\text{mg/kg} = 165\text{mgs}$   
B. Frequency: 4-6 hours  
C. PO or PR  
D.  $6.875\text{mls}$
- 4) A.  $30\text{mg/kg} = 105\text{mg}$   
B. Frequency: BD  
C.  $1.75\text{ mls}$   
D. Some medications are available only in powdered form and therefore require reconstitution with a diluent e.g., water for injection before they can be administered as a liquid. The actual amount of powder adds volume which is called the displacement value.  
E. Add  $9.6\text{mls}$  water for injection to powder- this will bring volume that antibiotics is in to  $10\text{mls}$ .
- 5) A.  $80\text{-}200\text{micrograms/kg} = 360\text{-}900\text{micrograms}$   
B. Frequency: up to 6 times in 24 hours  
C. Oramorph liquid  $10\text{mg}/5\text{ml} = 0.36\text{mg} = 0.18\text{mls}$ ;  $0.9\text{mg} = 0.45\text{mls}$ .
- 6) A.  $100\text{mls/kg}$  for first 10kgs and  $50\text{mls}$  per kilo after this=  $1250\text{mls}$  over 24 hours  
B.  $52\text{mls/hour}$
- 7)  $20\text{mls/kg}$  therefore should receive  $440\text{mls}$ .
- 8)

### Suggested reading:

- Berman, A. and Synder, S. (2012) *Kozier & Erb's fundamentals of Nursing: Concepts, Process and Practice*. 9<sup>th</sup> edn. New Jersey: Pearson Prentice Hall.
- Brady, A., Malone, A. and Fleming, S. (2009) 'A literature review of the individual and systems factors that contribute to medication errors in nursing practice', *Journal of Nursing Management*, 17, pp.679- 697.
- Blair, K. (2015) *Medicines Management in Children's Nursing*, 2<sup>nd</sup> edn., London: SAGE Publication Ltd.
- Children's Health Ireland, at Crumlin (2020) *The hospital formulary and prescribing guide*. 2019 edn. Dublin: Children's Health Ireland
- CHI at Crumlin (2018) *Medication Safety. 10 Rights of medication safety*. Available at: <https://www.olchc.ie/Healthcare-Professionals/NursingPractice-Guidelines/Nursing-Practice-Guidelines.html>
- Dougherty, L., Lister, S., and West-Oram A. (eds) (2015) *The Royal Marsden Hospital Manual of Clinical Nursing Procedures*. 9<sup>th</sup> edn. Oxford: Wiley Blackwell Publishing.
- Drach-Zahavy, A. and Pud, D. (2010) 'Learning mechanisms to limit medication administration errors', *Journal of Advanced Nursing*, 66(4), pp.794-805.
- Gatford, D.J. and Philips, N. (2016) *Nursing Calculations*. London: Elsevier.
- Health Information and Quality Authority (2015) *Medicines Management Guidance*. Dublin: Health Information and Quality Authority
- Health Products Regulatory Authority (2014) *Safety Information*. Available online: <http://www.hpra.ie/homepage/medicines/safety-information>
- Jones, S.W. (2009) 'Reducing medication administration errors in nursing practice', *Nursing Standard*, 23 (50), pp40-46.
- Nursing and Midwifery Board of Ireland (2015) *Scope of Nursing and Midwifery Practice Framework*. Dublin: Nursing and Midwifery Board of Ireland
- NMBI (2020) *Guidance for Registered Nurses and Midwives on Medication Administration*, NMBI, Dublin. Available online: <https://www.nmbi.ie/NMBI/media/NMBI/NMBI-Medication-Administration-2020.pdf?ext=.pdf>
- Reid-Searl, K., Moxham, L. and Happell, B. (2010) 'Enhancing patient safety: The importance of direct supervision for avoiding medication errors and near miss by undergraduate nursing students', *International Journal of Nursing Practice*, 16, pp.225-232.
- Royal Pharmaceutical Society of Great Britain to (2018) *BNF*. March-September. Available at: <https://www.bnf.org/products/books/>
- Starkings, S. & Krause, L. (2018) *Passing Calculations Tests in Nursing*, 3<sup>rd</sup> edn., London: SAGE Publication Ltd.
- Tiziani, A. (2016) *Clinical Cases: Drug Calculations Case Studies*, 1<sup>st</sup> edn. Australia: Elsevier

### Useful websites

Nursing and Midwifery Board of Ireland (2018) Guidance to Nurses and Midwives on Medication Management. Available at: <https://www.nmbi.ie/Standards-Guidance/Medicines-Management>

Drug calculations quiz page (page (2018) Available at : <http://www.testandcalc.com/quiz/index.asp>

Dosagehelp.com (2020) Available at: <http://www.dosagehelp.com/>

Queens University Belfast (2020) Numeracy Skills for Drug Calculations, Available at: <https://www.qub.ac.uk/elearning/public/NumeracySkillsforDrugCalculations/>

World Health Organization (2019) 5 Moments for medication safety, Available at: <https://www.who.int/patientsafety/medication-safety/5moments/en/>