



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
John of God Hospital and
HSE Community Healthcare East

Medication Workbook for Stage 4 Internship
BSc Mental Health Nursing Students

Student Name:

Student Number:

Tel:

Email

Introduction

This booklet has been developed as a tool to assist you in gaining knowledge of some commonly used medications in your practice placements in Stage 4. It must be completed during each placement. You have received lectures relating to medication administration in UCD. In previous placements you have experienced medication practice in the clinical area. This workbook will assist you to link theory to practice and to become a competent nurse in relation to medication management.

Medication management is an important aspect of your NCAD assessment. An example of the Domains and Standards specific to this area in mental health placements are detailed in table 1 below:

Table 1: Domains and Standards that pertain to Medication Management

Table 1: Domains and Performance Indicators that pertain to Medication Management

Mental Health Nursing Practice Placement

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6
1.1.1	2.1.1	3.1.1	4.1.2	5.1.3	6.1
1.1.2	2.1.2	3.1.2	4.1.3		6.2
1.1.3	2.1.3	3.1.3	4.2.1		
1.1.4	2.2.1		4.3.1		
1.1.5					
1.1.10 a,b,c,d					

SIGNATURE BANK

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

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

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Learning Outcomes

During your Internship placements, within your nursing practice you should be able to:

- Summarise the Nursing and Midwifery Board of Ireland regulations in relation to medication management (Nursing and Midwifery Board of Ireland, 2018) (in press)
- Identify and explain the 10 'Rights' (R's) as per NMBI Standards for Registered Nurses and Midwives on Medication
- Describe the use of local policies and procedures for medication management (including controlled drugs)
- Demonstrate competent hand hygiene techniques (e.g.: hand washing; use of alcohol gel)
- Demonstrate a knowledge of the emergency trolley medications
- Discuss how medications are prescribed (e.g.: on Medication Record, discharge prescription pad etc)
- Discuss the steps involved in the safe administration of medication
- Observe and participate in the calculation, double checking and preparation of medications including practicing the 10 rights of medication administration and the rationale for this: right patient, right reason, right drug, right route, right time, right dose, right form, right action, right documentation, right response (NMBI, 2018)
- Consider the administration of medications and your time management – what is the impact of one on the other?
- Distinguish and discuss the types of storage of medications and the rationale
- Know the appropriate action to take if you encounter a medication prescription that is incorrect or unclear
- Discuss /Act appropriately and professionally in the instance of a medication error and complete forms if an error occurs

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 during each internship placement. You will be expected to identify a minimum of **5 different** medications common to each of your clinical placements throughout stage 4. Include examples of PO / IM / SC / PR / transdermal / topical/ inhaled / and controlled medications.

Part 2 Student Medication Worksheet

The 'Core elements of the Medication (Drug) Round' Student and preceptor's guide (below) provides you and the RPN with a-step-by- step approach to completing medication administration.

You will be required to participate in the administration of medication to a minimum of 10 patients per clinical placement (if appropriate as determined by clinical staff). For each of these you will be required to complete a **Student Medication Worksheet**. You and the RPN will sign and date the worksheet. The worksheet provides 10 steps that will be assessed by your RPN before, during and after medication administration.

It is important that you that you self-assess your performance and receive written/verbal feedback from your supervising RPN. Over the course of the 36 weeks of Internship your level of confidence and competence will increase.

The following explains the requirements for each section of the workbook that is to be completed on each placement

Medication Name	This refers to the approved (Generic) name of the medication, which is the name that must be used when the medication is prescribed
Brand/Trade Name	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
Medication Group	What group does the medication belong to? Is it an analgesic, anti-depressant, anxiolytic, anti-pyretic, antibiotic?
Indication	Why is this medication used and for which condition and/or symptoms?
Dose	Doses may vary depending on weight, age, route used or the indications for use.
Route	How should the medication be administered e.g. orally, rectally, intravenously, inhalation, intramuscularly, subcutaneously
Frequency	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.
Peak Action/Duration of Action	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?
Contraindications/Cautions	It is extremely important to identify contraindications before administration
Side-Effects	When you know the side-effects, you can identify the reason quickly and prevent or manage the side-effect in an effective manner
Observe /participate in administration of medication	Observe correct practice for checking the 10 rights, preparation and double checking of medication
Participate under supervision in preparation, calculation, administration and documentation of medication	During your placements increase your involvement in medication administration whilst working within your scope of practice. For example, during your internship placements you will increase your involvement by being a second checker in medication administration. Use the Local Medication Policy as a guide.

The information you require can be obtained from a number of sources including, Hospital Formulary, the Irish Medicines Formulary, the British National Formulary, the hospital/community pharmacist, doctors, nursing/midwifery colleagues, articles, local policies and guidelines, NMBI guidelines and UCD lecture notes on medication administration and pharmacology notes.

It is of the utmost importance that there is evidence of the student's ongoing understanding with regard to the core elements of medication management as outlined in every phase of the programme from Stages 1 to 4.

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, 2018, pp-15): 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 which contains accurate, up to date, regulator approved information on medicines available in Ireland (Medicines.ie, 2019), The Irish Medicines Formulary, British National Formulary, Hospital Formulary, the hospital/community pharmacist, doctors, nursing/midwifery colleagues, articles, local policies and guidelines and NMBI guidelines.

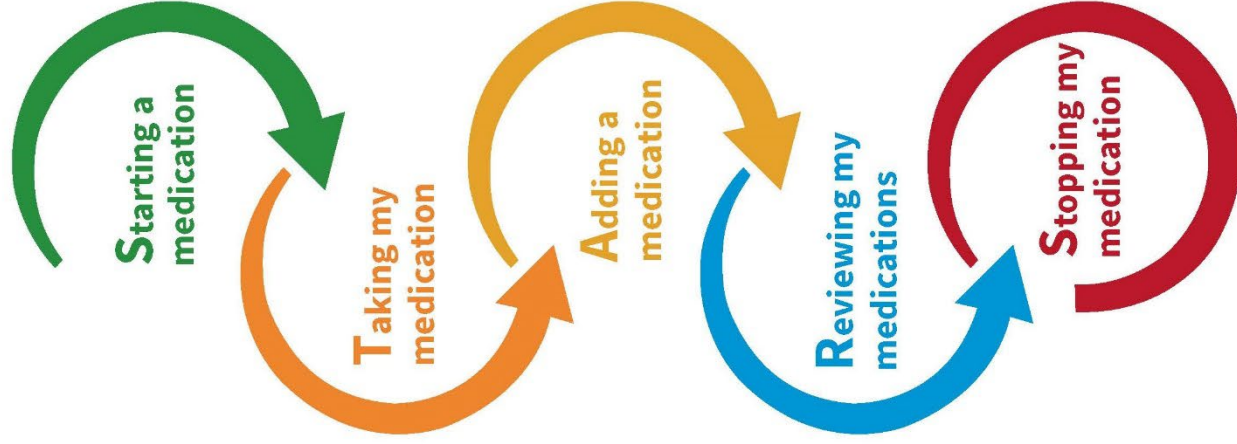


The Ten Rights of Medication Management



Source: <https://www.nmbi.ie/Standards-Guidance/Medicines-Management> (March 2018)

5 Moments for Medication Safety



- ▶ What is the name of this medication and what is it for?
- ▶ What are the risks and possible side-effects?
- ▶ Is there another way of treating my condition?
- ▶ Have I told my health professional about my allergies and other health conditions?
- ▶ How should I store this medication?
- ▶ When should I take this medication and how much should I take each time?
- ▶ How should I take the medication?
- ▶ Is there anything related to food and drink that I should know while taking this medication?
- ▶ What should I do if I miss a dose of this medication?
- ▶ What should I do if I have side-effects?
- ▶ Do I really need any other medication?
- ▶ Have I told my health professional about the medications I am already taking?
- ▶ Can this medication interact with my other medications?
- ▶ What should I do if I suspect an interaction?
- ▶ Will I be able to manage multiple medications correctly?
- ▶ Do I keep a list of all my medications?
- ▶ How long should I take each medication?
- ▶ Am I taking any medications I no longer need?
- ▶ Does a health professional check my medications regularly?
- ▶ How often should my medications be reviewed?
- ▶ When should I stop each medication?
- ▶ Should any of my medications not be stopped suddenly?
- ▶ What should I do if I run out of medication?
- ▶ If I have to stop my medication due to an unwanted effect, where should I report this?
- ▶ What should I do with leftover or expired medications?



CORE ELEMENTS OF MEDICATION (DRUG) ROUND - STUDENT AND PRECEPTOR'S GUIDE

Always refer to local policy

Communication and Preparation

Communicate effectively with the patient/parent/guardian. Decontaminate hands in accordance with local policy/ guidelines

Ensure that all necessary equipment is available and clean.

Use correct technique in dispensing medication.

Demonstrate the ability to assess and interpret patient information i.e. TPR, BP, bowels, pain assessment, blood results and identify appropriate action.

Check the patient's / service user's identity: verbally, ID bracelet and prescription chart / photo.

Before administering the medication, consult the patient's prescription chart and check the following

Any known allergies

Medication

Dose

Date and duration of prescription

Route and method of administration

Frequency of administration/last administered

Signature of doctor /prescriber

Expiry date

Administer the medication under supervision according to the 10 rights

Ensure that the medicine trolley is not left unattended/unlocked at any stage during or after the medication round.

Ensure that the patient has taken medication prior to leaving the patient (offer the patient a drink, if appropriate).

Make a clear, accurate and immediate record of medication administered or withheld and rationale for withholding medication

Medication Knowledge for the student

1. Know the normal dose and frequency of medications common to this clinical area.
2. Can discuss the nursing considerations regarding medications common to this clinical area (e.g. side effects, contraindications).
3. Can discuss the nursing considerations for changing the composition of medications, if required (e.g. crushing, breaking, dissolving, giving capsule v liquid).
4. Can explain why each patient is prescribed their particular medications.
5. Can identify what they would do if:
 - the patient refused medication, the medication was unavailable, a medication error occurred

Always refer to the local medication policy for medication management

Part 1 Identify medications commonly used in the area and complete the information required below

First placement (Level 4A)

Medication Generic / Brand /Trade name	Group and indications	Dose / Route	Frequency	Peak action /duration of action	Contraindications / Cautions / Nursing Considerations	Side effects	Participates in Please tick	Signature Staff/ Student and date
1.							Preparation Calculation Administration Documentation of administered medication	
2.							Preparation Calculation Administration Documentation of administered medication	

3.							Preparation Calculation Administration Documentation of administered medication	
4.							Preparation Calculation Administration Documentation of administered medication	

5.							Preparation Calculation Administration Documentation of administered medication	
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Student Signature: _____ **Date:** _____

Preceptor Signature: _____ **Date:** _____

Part 2 Student Medication worksheet Level 4A.

Student Name:	Ward/Area:	Date Assessor		Date Assessor		Date Assessor		Date Assessor		Date Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Medication worksheet Level 4A

Student Name:	Ward/Area:	Date		Date		Date		Date		Date	
		Assessor		Assessor		Assessor		Assessor		Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Signature: _____ **Date:** _____

Preceptor Signature: _____ **Date:** _____

Student Feedback Sheet

Drug administration	Date	Students comments	Students signature	Feedback from RPN (student can summarise in writing below the oral feedback received)	Staff Nurse Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Part 1 Identify medications commonly used in the area and complete the information required below

Second placement (Level 4B)

Medication Generic / Brand /Trade name	Group and indications	Dose / Route	Frequency	Peak action /duration of action	Contraindications / Cautions / Nursing Considerations	Side effects	Participates in Please tick	Signature Staff/ Student and date
1.							Preparation Calculation Administration Documentation of administered medication	
2.							Preparation Calculation Administration Documentation of administered medication	

3.							Preparation Calculation Administration Documentation of administered medication	
4.							Preparation Calculation Administration Documentation of administered medication	

							Preparation Calculation Administration Documentation of administered medication	
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Student Signature:_____Date: _____

Preceptor Signature:_____Date:_____

Part 2 Student Medication worksheet Level 4B.

Student Name:	Ward/Area:	Date Assessor		Date Assessor		Date Assessor		Date Assessor		Date Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Medication worksheet Level 4B

Student Name:	Ward/Area:	Date		Date		Date		Date		Date	
		Assessor		Assessor		Assessor		Assessor		Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Signature: _____ **Date:** _____

Preceptor Signature: _____ **Date:** _____

Student Feedback Sheet

Drug administration	Date	Students comments	Students signature	Feedback from RPN (student can summarise in writing below the oral feedback received)	Staff Nurse Signature
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Part 1 Identify medications commonly used in the area and complete the information required below

Third placement (Level 4C)

Medication Generic / Brand /Trade name	Group and indications	Dose / Route	Frequency	Peak action /duration of action	Contraindications / Cautions / Nursing Considerations	Side effects	Participates in Please tick	Signature Staff/ Student and date
1.							Preparation Calculation Administration Documentation of administered medication	
2.							Preparation Calculation Administration Documentation of administered medication	

3.							Preparation Calculation Administration Documentation of administered medication	
4.							Preparation Calculation Administration Documentation of administered medication	

5.							Preparation Calculation Administration Documentation of administered medication	
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Student Signature:_____ **Date:** _____

Preceptor Signature:_____ **Date:** _____

Part 2 Student Medication worksheet Level 4C.

Student Name:	Ward/Area:	Date Assessor		Date Assessor		Date Assessor		Date Assessor		Date Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Medication worksheet Level 4C

Student Name:	Ward/Area:	Date Assessor		Date Assessor		Date Assessor		Date Assessor		Date Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Signature: _____ Date: _____

Preceptor Signature: _____ Date: _____

Student Feedback Sheet

Drug administration	Date	Students comments	Students signature	Feedback from RPN (student can summarise in writing below the oral feedback received)	Staff Nurse Signature
1					
2					
3					
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7					
8					
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10					

Part 1 Identify medications commonly used in the area and complete the information required below

Fourth placement (Level 4D)

Medication Generic / Brand /Trade name	Group and indications	Dose / Route	Frequency	Peak action /duration of action	Contraindications / Cautions / Nursing Considerations	Side effects	Participates in Please tick	Signature Staff/ Student and date
1.							Preparation Calculation Administration Documentation of administered medication	
2.							Preparation Calculation Administration Documentation of administered medication	

3.							Preparation Calculation Administration Documentation of administered medication	
4.							Preparation Calculation Administration Documentation of administered medication	

5.								
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Student Signature: _____ **Date:** _____

Preceptor Signature: _____ **Date:** _____

Part 2 Student Medication worksheet Level 4D.

Student Name:	Ward/Area:	Date Assessor		Date Assessor		Date Assessor		Date Assessor		Date Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Medication worksheet Level 4D.

Student Name:	Ward/Area:	Date		Date		Date		Date		Date	
		Assessor		Assessor		Assessor		Assessor		Assessor	
Note one drug round relates to administering medication(s) to one patient.		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Prepares drug trolley and washes hands.											
2. Checks medication order is correct; allergy section is completed and signed by doctor. Check expiration of medication											
3. Check vital signs, laboratory values, where appropriate											
4. Is knowledgeable about drug name, expected mechanism of the medication. Where to access the information i.e. IMF/ BNF											
5. Assess patient appropriately prior to administration for possible side effects, signs and symptoms of adverse effects											
6. Knowledgeable about exercising professional judgment in withholding medication and who to consult											
7. Applies the 10 Rights of medication management											
8. Accurately documents administration of the medication and patient response											
9. Is knowledgeable about ordering from pharmacy, collecting medication and organising discharge prescriptions											
10. Is knowledgeable about reporting drug errors and medication information services in pharmacy											

Student Signature: _____ Date: _____

Preceptor Signature: _____ Date: _____

Student Feedback Sheet

Drug administration	Date	Students comments	Students signature	Feedback from RPN (student can summarise in writing below the oral feedback received)	Staff Nurse Signature
1					
2					
3					
4					
5					
6					
7					
8					
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10					

Suggested reading:

- Berman, A. and Synder, S. (2012) *Kozier & Erb's fundamentals of Nursing: Concepts, Process and Practice*. 9th 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.
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- 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: NMBI.
- Nursing and Midwifery Board of Ireland (2018) *Standards for Registered Nurses and Midwives on Medication Administration* [Draft]. Dublin: NMBI.
- 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.
- Starkings, S & Krause, L. (2018) *Passing Calculations Tests in Nursing*, 3rd edn., London: SAGE Publication Ltd.

Useful websites

Nursing and Midwifery Board of Ireland (2020) Guidance for Registered Nurses and Midwives on Medication Administration. Available at: <https://www.nmbi.ie/Standards-Guidance/Medicines-Management> (Accessed 20th October 2021)

Dosagehelp.com (2018) Available online at: <http://www.dosagehelp.com/>
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Queens University Belfast, Numeracy Skills for Drug Calculations, Available at: <https://www.qub.ac.uk/elearning/public/NumeracySkillsforDrugCalculations/>
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Drug calculations quiz page (page (2018) Available at: <http://www.testandcalc.com/quiz/index.asp>
(Accessed 20th October 2021)

World Health Organizations (2019) 5 Moments for medication <https://apps.who.int/iris/rest/bitstreams/1210432/retrieve>
(Accessed: 20th October 2021)