



GUIDELINE

SUBJECT/TITLE: Medication Preparation and Administration for Undergraduate Nursing Students (Medicine College Site and University of Calgary)		PAGE: 1 of 6
RELATED POLICY: Supervision of Clinical Competencies for Undergraduate Students (Calgary Campus and Medicine Hat College)	DATE ESTABLISHED: April 7, 2010	
AUTHORIZATION: Practice Policy and Procedure Committee Undergraduate Programs Committee Nursing Council	DATE LAST REVIEWED: November 8, 2021 May 3, 2019 (at MHC)	LAST REVISED: January 21, 2022 (at MHC)

This policy applies to all undergraduate students in the Faculty of Nursing.

*For students enrolled in Terms 7 and 8, also refer to the RELATED POLICIES referenced above.

Agency policies supersede this policy.

PURPOSE:

- To support the provision of safe and effective medication administration in a variety of practice settings.
- To promote a safe learning environment for nursing students during preparation and administration of medications.

DEFINITIONS:

In this policy:

- “HEALTH CARE PROFESSIONAL”** means a nurse or other regulated health professional who is qualified by education, training and provincial/federal licensure/regulation and who practices within their professional determined scope of practice.
- “UNDER DIRECT SUPERVISION”** means that the Nursing Instructor/Preceptor (or a practice site Health care professional (see definition) at the discretion of the Nursing Instructor/Preceptor) is present in the practice setting at the point of care and is providing supervision at the elbow of the nursing student for only that which falls within the supervising qualified Health Care Professional’s scope of practice.
- “UNDER INDIRECT SUPERVISION”** means that the Nursing Instructor/Preceptor (or a practice site Health Care Professional at the discretion of the Nursing Instructor/Preceptor) is readily available on

the unit or in the same location for guidance and consultation but is not directly at the elbow of the nursing student, for only that which falls within the supervising qualified HealthCare Professionals scope of practice.

- D. **“INDEPENDENT DOUBLE CHECK”** requires a qualified Health Care Professional to separately check each component of the work process (ISMP, 2013a), including the 7 rights of medication administration (right medication, dose, client, route, time/frequency, documentation, and reason [CARNA, 2015]). “The person asking for the double check must not influence the individual checking the product in any way” (ISMP, 2013a). If a practice site policy requires two independent qualified Health Care Professional signatures for administration of a particular medication, then the student must obtain signatures from two independent qualified Health Care Professionals – **in this case, the student’s signature cannot count as one of the independent signatures.**

Independent Double-Checks – A process where a second health-care professional (HCP) verifies a medication before it is administered to a patient. The result from the first check is not communicated with the HCP performing the second check and the second check must be performed independently (Institute for Safe Medication Practices, 2019).

POLICY STATEMENT:

1. **Medication Administration:** Nursing students will follow the guidelines for competent medication administration.
 - “Nursing students are responsible for functioning within their level of competence, recognizing their limitations and for seeking consultation or direction when needed” (CARNA, 2019).
 - A student may not administer ANY medications until he/she has completed the related theory and on-site practice and has successfully completed the medication calculation exam in term 5. Students must successfully complete a medication calculation exam in Term 6 and Term 7.
 - Students must complete the 7 rights of medication administration (right medication, dose, client, route, time/frequency, documentation and reason [CARNA, 2019]) and 3 checks prior to administering any and all medications. The 3 checks include:
 - 1) Compare the medication label to the MAR as you remove the drug from the storage area,
 - 2) Compare the medication label to the MAR as you prepare each drug,
 - 3) Compare the medication label to the MAR at the patient’s bedside before you administer each drug (ATI Nursing Education, nd)
 - Students will initially administer medication Under Direct Supervision in all practice courses.
 - Nursing students cannot be the Co-Signer for someone else.
2. **Independent double-checks by qualified Health Care Professional(s):** Nursing students administering the following classes of drugs must have them independently Double-Checked (including co-signature) by a minimum of one qualified Health Care Professional.

Including but not limited to:

- Narcotics (co-signature required on patient chart and narcotic count sheet, including wastage). Students are not permitted to administer narcotics via continuous infusion (exception, see #15).
- Insulin (s/c). Students are not permitted to administer insulin via continuous infusion (exception, see #15).

- Anticoagulants. Students are not permitted to administer heparin via continuous infusion (exception, see #15).
- Cytotoxics and chemotherapeutic agents.
- All divided doses, e.g. breaking tablets, multi-dose vials.
- Medications requiring compounding, which means “to mix together two or more ingredients of which at least one is a drug for the purposes of dispensing a drug or drugs, but does not include reconstituting a drug or drugs with only water” (Government Organization Act. R.S.A. 2000, c.G-10 Sch. 7.1, 1(b), P. 38).

The nursing student and qualified Health Care Professional must also consult and adhere to any applicable practice site policies.

- If a qualified Health Care Professional is permitted to administer the medication independently, then the nursing student must have the medication independently double-checked by **one** qualified Health Care Professional.
- If a qualified Health Care Professional requires the medication to be independently double-checked, then the nursing student must have the medication independently double-checked by **two** qualified Health Care Professionals – **in this case the student’s signature cannot count as one of the independent signatures.**

3. **Peripheral Intravenous (IV) Medication Administration:** Students in Terms 6-8 **are permitted** to change primary bag solutions and prepare IV medications via mini-bags, including reconstitution, after participating in the related on-site practice session and demonstrating knowledge of the related policy and procedures to their Nursing Instructor/Preceptor. These skills are to be carried out Under Direct Supervision of the nursing instructor (or a qualified Health Care Professional). Students may administer the same Under Indirect Supervision once deemed competent by the Nursing Instructor/Preceptor. Nursing students must consult with and adhere to any applicable practice site policies, which could supersede or limit this practice.

4. **IV Push Medications:**

Terms 3 through 7

Nursing students in Terms 3-7 are **not permitted** to administer IV medications via IV push.

Term 8

Please refer to Supervision of Clinical Competencies for Undergraduate Students (Calgary Campus and Medicine Hat College) policy.

5. **Peripheral Saline Locks:** Nursing students **are permitted** to flush a saline lock with a saline flush after participating in the related on-site practice session and demonstrating knowledge of the related policy and procedures to their Nursing Instructor/Preceptor. These skills are to be carried out under direct supervision of the Nursing Instructor/Preceptor (or a qualified Health Care Professional). The student and Nursing Instructor/Preceptor must adhere to practice agency policy.

6. **Central Venous Catheters:**

Terms 3 through 6

Nursing students in Terms 3-6 are not permitted to administer medications or change solutions

via a central venous catheter, midline catheter, and PICC line under any circumstances.

Terms 7 and 8

Nursing students in Terms 7 and 8 are **not permitted** to administer IV medications (above or below the pump) or change solutions above the pump via a central venous catheter, midline catheter, and PICC line. Refer to Supervision of Clinical Competencies for Undergraduate Students (Calgary Campus and Medicine Hat College).

7. **Hypodermoclysis:** Nursing students **are permitted** to initiate hypodermoclysis and administer medications via this route after participating in the related on-site practice session and demonstrating knowledge of the related policy and procedures to their Nursing Instructor/Preceptor. These skills are to be carried out under direct supervision of the Nursing Instructor/Preceptor (or a qualified Health Care Professional). Students may administer medications via hypodermoclysis under indirect supervision once deemed competent by the Nursing Instructor/Preceptor.
8. **Weight-Based Medications:** Nursing students **are permitted** to administer weight-based medications (where the weight of the client is included in the calculation of the dosage) after they have completed the related on-site practice session and demonstrate knowledge of this process.
 - If a qualified Health Care Professional is permitted to administer the weight-based medication independently, then the nursing student must have the medication independently double-checked by one qualified Health Care Professional.
 - If a qualified Health Care Professional requires the weight-based medication to be independently double-checked, then the nursing student must have the medication independently double-checked by two qualified Health Care Professional – in this case the student’s signature cannot count as one of the independent signatures. The nursing student and Nursing Instructor/preceptor must also consult and adhere to any applicable practice site policies.
9. **Vaccines:** Students must attend site training (or equivalent) and pass required testing as applicable.
 - If a qualified Health Care Professional **is permitted** to administer the vaccine independently, then the nursing student must have the vaccine independently double-checked by one qualified Health Care Professional.
 - If a qualified Health Care Professional requires the vaccine to be independently double-checked, then the nursing student must have the vaccine independently double-checked by two qualified Health Care Professionals – in this case, the student’s signature cannot count as one of the independent signatures.
10. **Blood and Blood Products:** Nursing students **are permitted** to administer blood and blood products under direct supervision after they have completed the related on-site practice session and demonstrate knowledge of the related policy and procedures to their Nursing Instructor/Preceptor. The nursing student and Nursing Instructor/Preceptor must also consult and adhere to any applicable practice site policies.
 - If a qualified Health Care Professional **is permitted** to administer the blood product independently, then the nursing student must have the blood product independently double-checked by one qualified Health Care Professional.

- If a qualified Health Care Professional requires the blood product to be independently double-checked, then the nursing student must have the blood product independently double-checked by two qualified Health Care Professionals – in this case, the student’s signature cannot count as one of the independent signatures.
11. **Infusion Pumps:** “Dose error reduction software shall be activated and utilized when available. Appropriate drug profiles from the drug library shall be utilized where available” (AHS, Infusion Pumps for Medication & Parenteral Fluid Administration, 2016). Independent double-checking of the pump programming is required for medications that require independent-double checks.
 12. **Patient controlled analgesic (PCA)/Patient controlled epidural analgesic (PCEA):** Nursing students **are not permitted to manipulate or regulate** these pumps or replace cartridges or solutions. Students may check values, but they may not clear the values.
 13. **Chemotherapy:** Nursing students **are not permitted** to administer intravenous chemotherapy. Intravenous chemotherapy may not be administered by students, even if identified as a specialized clinical competency. Please refer to Supervision of Clinical Competencies.
 14. **High alert medications (ISMP 2014):** Nursing students **are permitted** to administer High Alert medications (ISMP 2014) under Direct Supervision after they have demonstrated knowledge of high alert medication to their nursing instructor/preceptor. The nursing student and nursing instructor/preceptor must also consult and adhere to any applicable practice site policies.
 - If a qualified health care professional is permitted to administer high alert medication independently, then the nursing student must have the high alert medication independently double-checked by **one** qualified health care professional.
 - If a qualified health care professional requires the high alert medication to be independently double-checked, then the nursing student must have the high alert medication independently double-check by **two** qualified health care professionals – in this case the student’s signature cannot count as one of the independent signatures.
 15. **Term 8 – Directly Supervised Medication Administration:** Nursing students in **Term 8 are permitted** to give the following medications **Under Direct Supervision**, if identified as an acceptable Clinical competency, at the discretion of Preceptor(s)/Faculty Advisor. Refer to Supervision of Clinical Competencies for Undergraduate Students policy. Nursing students in Terms 5, 6, and 7 are not allowed to administer the following:
 - Heparin infusions
 - Insulin infusions
 - Oxytocin infusions (intrapartum)
 - Direct IV push medications
 - Parenteral nutrition
 - Narcotic (opioid) continuous infusions
 - Medications above the pump with central lines, mid-line catheters, an PICC’s
 - If a qualified health care professional is permitted to administer the medication

independently, then the nursing student must have the medication independently double-checked by **one** qualified health care professional.

- If a qualified health care professional requires the medication to be independently double-checked, then the nursing student must have the medication independently double-checked by **two** qualified health care professionals – **in this case the student's signature cannot count as one of the independent signatures**. The nursing students and nursing instructor/preceptor must consult and adhere to any applicable practice site policies.

16. **Verbal Orders/Transcription of Orders:** Nursing students are not permitted to receive and/or transcribe verbal orders, in person or via telephone.

REFERENCES

Alberta Health Services (2016). *Infusion Pumps for Medication & Parenteral Fluid Administration*.

College and Association of Registered Nurses. (2021). *Medication Management Standards*. Retrieved from https://nurses.ab.ca/docs/default-source/document-library/standards/medication-management-standards.pdf?sfvrsn=4265098d_15

Government Organization Act. Revised Statutes of Alberta. (2000). Alberta Queen's Printer.

Institute for Safe Medication Practices-Canada. (2013a). *Independent double checks: Undervalued and misused: Selective use of this strategy can play an important role in medication safety*. Retrieved from <https://www.ismp.org/newsletters/acutecare/showarticle.aspx?id=51>

Institute for Safe Medication Practices – Canada. (2014). ISMP list of high-alert medications in acute care settings. Retrieved from <https://www.ismp.org/tools/highalertmedications.pdf>