



NATIONAL NURSING ACADEMY
MINISTRY OF HEALTH

*Curriculum Requirement for Intravenous
Administration of Medications (IVAM) Course*

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Curriculum Requirement for Intravenous Administration of Medications

This curriculum is developed by the National Nursing Academy (NNA) to guide clinical faculty in designing, planning and implementing curriculum and assessment plans for clinical nursing skill-based course - Intravenous Administration of Medications (IVAM). The IVAM curriculum can be adopted by any healthcare institution that delivers the content stated herein and assessments to meet the stated performance standards.

NAME OF INSTITUTION

XXXXX

TITLE OF COURSE

Intravenous Administration of Medications Course (for Registered Nurses)

TITLE OF CERTIFICATE AWARD

Certificate of Competence

COURSE COORDINATOR

The course is led by a qualified Registered Nurse (RN) with current and valid practicing certificate issued by SNB.

CURRICULUM PLANNING COMMITTEE

Curriculum to be drafted by Nurse Educator(s) and/or Subject Matter Expert(s)

NEED FOR THE COURSE

The Intravenous Administration of Medications (IVAM) course equips RNs with knowledge, skills and attitudes for safe intravenous medication administration to patients.

DURATION OF THE COURSE:

Theoretical component: **14 hours** (includes practical, theory written and skill competency assessment)

**can use e-learning for part of the training hours*

Clinical component: **7 hours** (time used to perform 2 successful assessments for each mode/device type to meet the assessment criteria)

**Up to 12 weeks on the job practice and assessment of competence using a workplace-based assessment tool or equivalent*

Total: **21 hours**

TARGET GROUP OF LEARNERS

The target learners are RNs without a valid certificate in intravenous administration of medications.

Trainer to learners ratio

Theory: 1 trainer: 40 learners (max)

Practical: 1 trainer: 12 learners (max)

ENTRY REQUIREMENT

This course is targeted at RNs who meet any one of the following criteria:

- without prior knowledge and skills on intravenous administration of medications
- who require some form of refresher or re-assessment of clinical competency
- without a valid certificate in intravenous administration of medications
- as part of their nursing scope in managing patients under their care

OVERVIEW OF THE COURSE

One of the core skills required for a RN is to administer intravenous medications for patients. IVAM is part of care provision to patients who require intravenous medications/therapy in clinical areas.

AIM OF THE COURSE

This course aims to equip RNs with knowledge and technical skills to safely perform the skill of administering intravenous medications.

EXPECTED LEARNING OUTCOMES OF THE COURSE

Upon completion of this course, the learner will be able to:

- Apply knowledge of the institution's policies and procedures when administering intravenous medications.
- Apply a standard drug calculation formula to different medication prescriptions accurately and prepare the medications correctly.
- Apply knowledge of pharmacology when administering intravenous medications.
- Prevent, recognize and manage complications associated with IVAM.
- Discuss the legal and ethical implications surrounding current IVAM knowledge, skill and technological advances in administering intravenous medications.
- Demonstrate competence in administering designated medications intravenously to patients under their care.

CORE CONTENT

1. General concepts (organisation policies and procedural guidelines, nursing perspective, management of complications)
2. Drug calculations
3. Pharmacological knowledge of designated intravenous medications
4. Legal and ethical concepts (accountability of RNs; responsibilities of the RNs during situations where patients develop complications and problems arising from administration of intravenous medications)
5. Procedure for administration of designated intravenous medications

COURSE STRUCTURE

Module	Title	Lecture/ Tutorial (hrs)	Practical (hrs)	Clinical Practicum (hrs)
1	General concepts	1		
2	Drug calculations	1		
3	Pharmacological knowledge	4		
4	Legal and ethical concepts	0.5		
5	Theory assessment	0.5		
6	Skill practice		4	
7	Practical assessment		3	
Theory to include theory assessment		7 (exclude Lunch Break)		
Practical to include practical assessment			7 (exclude Lunch Break)	
Clinical practicum				7
TOTAL HOURS			21	

TEACHING AND LEARNING STRATEGIES

Theory teaching using different pedagogies – e-learning, didactic, discussions, video

Skill demonstration

Supervised skill practice

ASSESSMENT METHODOLOGY AND WEIGHTAGE

The assessment in the IVAM course for RNs comprises of:

Assessment Methodology	Assessment Criteria
Single Best Answer (SBA) or Multiple-Choice Question (MCQ) Test.	80% correct responses via a 30 item SBA/MCQ test. <u>Time/Duration:</u> 30 minutes. Learners are allowed an additional 2 (two) attempts to meet passing criteria of 80%. After which, a re-course is indicated regardless of the outcomes of competency assessment.
Skill Performance and Competency (a) Structured Competency Assessment (skill practice) (b) Clinical Competency Assessment (OJT)	(a) Structured Competency Assessment (skill practice) Successful completion of all modes of intravenous medication administration with minimal prompting in simulated environment. Mode & device assessment stations include: 1) bolus 2) intermittent via bag or bottle 3) continuous via bag/bottle (infusion pump) 4) continuous via syringe (syringe pump) (b) Clinical Competency Assessment (OJT) Minimum 2 successful assessments for each mode/device used for intravenous administration of medications within 12 weeks (3 months). To be demonstrated by competency assessment/verification by nursing supervisors.

RNs have successfully completed the course upon meeting all assessment criterion (80% for theory assessment & 100% for both simulated and clinical competency assessment) and with the submission of completed “Intravenous Administration of Medications (including High Alert Medications)” competency checklist to Nursing Education unit within 12 weeks (3 months) of the course completion date.

A standard skill checklist indicating the minimum requirement is attached as reference to develop competency assessment checklist that meets institution requirement.

COURSE EVALUATION

The programme coordinator will review the contents every year (or as necessary) to update the curriculum, course materials (includes online materials), theory test and clinical competency checklist.

HOD of Nursing Education will be provided with the course evaluation done by learners that is reviewed and endorsed for continuous improvement.

PHYSICAL FACILITIES

The theory sessions require a classroom with audio-visual setup. eLearning delivery is supported by the local learning management system.

The practical sessions require skills laboratory for small group hands-on practice on part task models that support intravenous medication administration with flashback.

Standard Skills Checklist for Intravenous Administration of Medications

ROLES AND RESPONSIBILITIES

The Learner	<ol style="list-style-type: none"> 1. Achieve the required level of competency as stipulated in the skills checklist. 2. Seek feedback from the trainer/assessor immediately after each practice/assessment. 3. Identify areas for improvement and improve on the performance. 4. Ensure the skills competency is completed within the allocated time frame. 5. Submit the completed checklist to Nursing Education Unit through the ward supervisor.
The Trainer	<ol style="list-style-type: none"> 1. Ensure that the learner demonstrates competency in all the steps stipulated in the checklist. 2. Provide feedback to the learner immediately following each supervised practice/assessment. 3. Ensure that the learner has achieved the required level of competency prior to performing the skill on patients independently. 4. Indicate the final result at the end of the assessment for which the learner must acknowledge and fill in the feedback section.

PERFORMANCE STANDARDS OF INTRAVENOUS ADMINISTRATION OF MEDICATIONS

Assessment of knowledge	Apply intravenous administration of medication procedural knowledge based on hospital policies/protocol
Infection control	Demonstrate aseptic/clean technique and standard (universal) precautions in preparation, administration and follow up action
Consent	Explain procedure to patient and obtain verbal consent
Preparatory Phase	<ul style="list-style-type: none"> • Check diagnosis, medication record, indication and any contraindication of patient, countercheck administration rights with another competent RNs • Prepare the requisites • Identify appropriate peripheral intravenous (IV)/central line site
Performance Phase	<ul style="list-style-type: none"> • Approach and identify patient • Assess IV access for patency and condition • Administer medication using the different mode: bolus; burette and infusion bag/syringe pump
Evaluation Phase	<ul style="list-style-type: none"> • Clear used requisites • Evaluate the patient's response towards the drug(s), condition of the infusion and cannula site, and document accordingly • Inform doctor immediately if patient develops any allergic reaction and carry out appropriate intervention

OUTCOME OF ASSESSMENT

	MODE OF ADMINISTRATION (Successful Assessment 1)		
	BOLUS	BURETTE	CONT. INFUSION
	Date:	Date:	Date:
Assessor's Designation /Name			
Assessor's Signature			
Learner's Signature			
	MODE OF ADMINISTRATION (Successful Assessment 2)		
	BOLUS	BURETTE	CONT. INFUSION
	Date:	Date:	Date:
Assessor's Designation /Name			
Assessor's Signature			
Learner's Signature			

FEEDBACK ON OUTCOME BY ASSESSOR

(Feedback on the overall performance. To state the number of unsuccessful attempts (if any) and document any area of skills gap and improvement needed.)

VALIDATED BY NURSING SUPERVISOR AND NURSE EDUCATOR

Designation (NM/NC/NE/CM)	Nursing Supervisor	Nurse Educator
Name		
Signature		
Date		

* Delete where applicable

Legend

NM: Nurse Manager	NC: Nurse Clinician	NE: Nurse Educator	CM: Clinic Manager
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ACKNOWLEDGEMENTS

We would like to thank the public healthcare institutions and nursing representatives for their valuable inputs in the development of the curriculum requirement for the IVAM course.