COURSE DESCRIPTION –
Insertion of a Short Peripheral Venous Cannula under Ultrasound Guidance

Academic year 2025/2026

Course title in	**Polish**	**Zakładanie krótkiej kaniuli obwodowej pod kontrolą USG**
	English	**Ultrasound-guided short peripheral cannula insertion**

1. LOCATION OF THE COURSE WITHIN THE SYSTEM OF STUDIES

1.1. **Field of study/Course name**	Insertion of a Short Peripheral Venous Cannula under Ultrasound Guidance
1.2. **Course Syllabus prepared by**	dr Marta Kordyzon, PhD in Health Sciences
1.3. **Contact details**	marta.kordyzon@ujk.edu.pl

2. GENERAL COURSE CHARACTERISTICS

2.1. **Language of Instruction**	English
2.2. **Prerequisites ***	Knowledge of vascular anatomy and experience in performing standard peripheral venous cannulation

3. DETAILED COURSE CHARACTERISTICS

3.1. Form of Instruction		Lectures, practical classes
3.2. Place of Instruction		Lectures - online Practical classes - teaching facilities of the Medical Simulation Centre (CSM UJK)
3.3. Form of assessment		Credit with grade
3.4. Teaching Methods		1. Expository method: informative lecture (with multimedia presentation). 2. Practical methods: demonstration and presentation, medical simulation (pre-briefing, group exercises, debriefing)
3.5. Bibliography	**Required reading**	1. Latos M, Sak-Dankosky N, Baumgart K, Sadownik B. *Vascular Access in Clinical Practice.* PZWL, Warsaw 2022. 2. Block B. *Ultrasound Anatomy – Colour Atlas.* PZWL, Warsaw 2023.
	Further reading	1. Latos M, Szymczak A, Sadownik B, Solecki M. Midline Catheters and Long Peripheral Cannulas in Clinical Practice. PZWL, Warsaw 2024.

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1.Course objectives (by form of instruction)

Lectures:

C1. To familiarise participants with the theoretical foundations of medical ultrasonography necessary for vascular imaging.

C2. To discuss vascular anatomy in the context of ultrasound imaging to enable safe and precise cannulation.

C3. To provide knowledge on indications, contraindications and potential complications of ultrasound-guided cannulation, as well as principles of equipment selection and cannula patency maintenance.

C4. To develop participants' critical thinking skills and their ability to apply current scientific and clinical knowledge to ensure safe infusion therapy.

Practical classes:

C1. To acquire skills in assessing peripheral venous vessels for cannulation using ultrasonography.

C2. To master ultrasound imaging techniques for vein localisation during cannulation.

C3. To develop skills in constructing an infusion line and maintaining peripheral access patency.

C4. To develop the ability to critically evaluate one's own performance and make independent and responsible decisions.

4.2 Course content (by form of instruction)

Theoretical classes:

1. Basics of ultrasound machine operation.
2. Anatomy of the vascular system.
3. Ultrasound identification of peripheral vessels and neural structures; selection of the cannulation site.
4. Patient qualification for peripheral access placement: indications, contraindications, equipment selection.
5. Technique of ultrasound-guided peripheral venous puncture.
6. Principles of maintaining patency of a short peripheral cannula.
7. Construction of an infusion line.
8. Complications of peripheral vascular cannulation.

Practical classes:

1. Practical foundations of safe ultrasonography, introduction to equipment handling, probe selection and basic settings.
2. Vessel imaging techniques and needle guidance under ultrasound (demonstration on instructor and training models).
3. Ultrasound-guided peripheral cannulation performed by participants on simulators – demonstration and discussion of each stage (preparation, needle insertion, confirmation of intravascular placement).
4. Construction of a safe infusion line and maintenance of short peripheral cannula patency.

4.3. Intended learning outcomes

	Upon successful completion of the course, the student
W01	understands the physical principles of ultrasound operation, ultrasound vascular anatomy, and fundamental vessel and needle visualisation techniques necessary for safe and effective cannulation;

W02	knows the indications, contraindications and potential complications of ultrasound-guided peripheral cannulation, as well as principles of equipment selection and cannula patency maintenance.
U01	assesses peripheral venous vessels for cannulation using ultrasonography;
U02	performs ultrasound imaging to localise peripheral veins during cannulation;
U03	constructs an infusion line and properly maintains peripheral access patency.
K01	critically evaluates their own performance and provides constructive feedback to colleagues while respecting cultural and worldview differences;
K02	makes independent and responsible professional decisions guided by professional ethics and current scientific and clinical knowledge, acting in the best interest of the patient and personal professional development.

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes (code)	Method of assessment (+/-)																				
	~~Exam oral/written*~~			Written assessment			Practical assessment			Effort in class*			~~Self-study*~~			Group work*			~~Other (please specify) *~~		
	Form of classes			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*			*Form of classes*		
	L	*C*	...	*L*	*C*	...	*L*	*PC*	*C*	*L*	*C*	*PC*	*L*	*C*	...	*L*	*PC*	...	*L*	*C*	...
W01				+																	
W02				+																	
U01								+													
U02								+													
U03								+													
K01								+													
K02								+													

**delete as appropriate*

4.5. Criteria for Assessing Learning Outcomes

Form of classes	Grade	Grading criteria
lecture (L)	3	Demonstrates knowledge of the course content at the level of 61%–68%.
	3,5	Demonstrates knowledge of the course content at the level of 69%-76%
	4	Demonstrates knowledge of the course content at the level of 77%-84%
	4,5	Demonstrates knowledge of the course content at the level of 85%-92%
	5	Demonstrates knowledge of the course content at the level of 93%-100%
Practical classes (PC)	3	Practical task performance at the level of 61%-68%
	3,5	Practical task performance at the level of 69%-76%
	4	Practical task performance at the level of 77%-84%
	4,5	Practical task performance at the level of 85%-92%

	5	Practical task performance at the level of 93%-100%

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	Student's workload	
	Full-time Studies	**Part-time Studies**
DIRECT PARTICIPATION (CONTACT HOURS WITH INSTRUCTOR)	**-**	**30**
Participation in lectures	-	10
Participation in classes/practical classes	-	20 (17 sim. + 3 exam)
STUDENT'S INDEPENDENT WORK (NON-CONTACT HOURS)	**-**	**-**
Preparation for the lecture	-	-
Preparation for classes/practical classes	-	-
TOTAL NUMBER OF HOURS	**-**	**30**
ECTS CREDITS for the course of study	**-**	**1**

**delete as appropriate*

Approved for implementation (date and signatures of course instructors for the given academic year)

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