



WP 3.3. EVALUATION SKILL CHECKLISTS VALIDATING COMPETENCIES GUIDELINE



Enhancing Practices and Strengthening Core Competencies
in Disaster Nursing through the Learning HUB (ECoDN-HUB)

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Cooperation partnerships in higher education (KA220-HED)

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Evaluation Skill Checklists, Validating Competencies Guideline Content

1. Skill checklists (Pretest and Post tests for Eighth Scenario)

- SCENARIO 1: Resuscitation of an Adult in Cardiac and Respiratory Arrest During an Earthquake
- SCENARIO 2: First Aid for Airway Obstruction (Choking) in an Adult During a Landslide
- SCENARIO 3: First Aid for Severe Leg Bleeding After an Earthquake
- SCENARIO 4: First Aid for an Open Chest Injury During a Flood
- SCENARIO 5: First Aid for an Open Abdominal Injury During a Flood
- SCENARIO 6: First Aid for a Femur Fracture During a Tornado
- SCENARIO 7: Infection Prevention and Control Measures After an Earthquake
- SCENARIO 8: First Aid for a Seizure During a Forest Fire

2. Satisfaction surveys

3. VR Usability Questionnaire

SOCIO-DEMOGRAPHIC INFORMATION FORM

1. Age:
2. Gender:
3. Institution:
4. What year are you in? (For students):
5. Duration of professional experience (For nurses and instructors): ____ years
6. Have you ever worked in a disaster or emergency situation?
 - a. Yes
 - b. No
7. Have you received any training in disaster nursing or first aid?
 - a. Yes, theoretical training
 - b. Yes, practical training
 - c. No
8. Have you previously participated in a simulation-based training (e.g., VR/AR, mannequins, high-fidelity simulations)?
 - a. Yes
 - b. No
9. Have you ever used virtual reality (VR) or augmented reality (AR) headsets before?
 - a. Yes
 - b. No

Skill Checklists

Pretest and Post tests (MCQ (Multiple Choice Questions) Questions for Eighth

SCENARIO 1: Resuscitation of an Adult in Cardiac and Respiratory Arrest During an Earthquake

Multiple Choice Questions

1. What is **the first step** in Basic Life Support (BLS) for an adult in cardiac and respiratory arrest?
 - a) Check the pulse
 - b) Start chest compressions
 - c) Ensure scene safety
 - d) Give rescue breaths
2. What should be the rate and depth of chest compressions in an adult?
 - a) 60–80/min, 2–3 cm
 - b) 100–120/min, 5–6 cm
 - c) 80–100/min, 3–4 cm
 - d) 120–140/min, 7–8 cm
3. How should the electrode pads of an Automated External Defibrillator (AED) be placed correctly?
 - a) Both pads on the abdomen
 - b) Right upper chest and lower left chest (near the armpit)
 - c) Both pads on the left chest
 - d) On both sides of the neck
4. During rescue breathing for an adult without spontaneous breathing, how much air should be delivered?
 - a) Enough to inflate the victim's cheeks
 - b) Just enough to make the chest rise visibly
 - c) With maximum lung capacity
 - d) Continuously and rapidly
5. When the patient starts breathing again during CPR, what is **the most appropriate** action?
 - a) Continue CPR
 - b) Keep the patient lying flat on the back
 - c) Place the patient immediately in the shock position
 - d) Place the patient in the recovery position

SCENARIO 2: First Aid for Airway Obstruction (Choking) in an Adult During a Landslide

Multiple Choice Questions

1. What is the **most appropriate first** step when an adult has a **partial airway obstruction**?
 - a) Immediately perform the Heimlich maneuver
 - b) Lay the victim down and start CPR
 - c) Encourage the victim to keep coughing
 - d) Attempt back blows
2. Which of the following is a sign of **complete airway obstruction**?
 - a) Ability to cough and make sounds
 - b) Silent open mouth, inability to breathe, universal choking sign
 - c) Normal breathing
 - d) Rapid talking and panic
3. What is the correct sequence of actions in case of **complete obstruction**?
 - a) 5 back blows → 5 abdominal thrusts (Heimlich)
 - b) 2 rescue breaths → 30 chest compressions
 - c) Apply a tourniquet
 - d) Blind finger sweep into the victim's mouth
4. What should be done **first** if a person with airway obstruction becomes **unconscious**?
 - a) Start CPR
 - b) Sit the victim upright
 - c) Lay the victim on their side and wait
 - d) Give the victim water
5. Where should the fist be placed during **abdominal thrusts (Heimlich maneuver)**?
 - a) On the upper part of the sternum
 - b) Between the navel and the lower end of the sternum (xiphoid process)
 - c) Under the neck
 - d) On the sides of the ribs

SCENARIO 3: First Aid for Severe Leg Bleeding After an Earthquake

Multiple Choice Questions

1. What is **the first step** in the case of severe leg bleeding?
 - a) Apply direct pressure to the wound
 - b) Apply a tourniquet
 - c) Move the victim
 - d) Elevate the bleeding area
2. Which of the following is a sign of **arterial bleeding**?
 - a) Dark red, slow oozing blood
 - b) Pink, frothy blood
 - c) Bright red, spurting bleeding
 - d) No bleeding
3. When should a tourniquet be applied?
 - a) In minor abrasions
 - b) When direct pressure fails to stop the bleeding
 - c) In nosebleeds
 - d) In small cuts
4. Where should a tourniquet be applied?
 - a) Just below the injured area
 - b) Directly over a joint
 - c) 5–7 cm above the wound, never over a joint
 - d) At the ankle
5. What is **the most important information** to record when applying a tourniquet?
 - a) The brand of the material used
 - b) The time the tourniquet was applied
 - c) The name of the person applying the tourniquet
 - d) The victim's blood type

SCENARIO 4: First Aid for an Open Chest Injury During a Flood

Multiple Choice Questions

1. What is **the most appropriate** first step in the case of an open chest injury?
 - a) Cover the wound with a dry cloth
 - b) Seal the wound completely on all four sides
 - c) Seal the wound with a waterproof material (e.g., plastic) on three sides
 - d) Apply direct pressure on the wound
2. Which of the following is a sign of a **sucking chest wound (open chest injury)**?
 - a) Foamy blood coming from the wound with a sucking sound at each breath
 - b) No blood coming from the wound
 - c) Only bruising around the wound
 - d) The victim coughing up blood
3. Why is one side left open when sealing a chest wound?
 - a) To allow the bleeding to continue
 - b) To let trapped air escape from inside
 - c) To calm the victim
 - d) To save material
4. What position should be given to a person with an open chest injury?
 - a) Prone (lying face down)
 - b) Supine, flat on the back
 - c) Semi-fowler position (semi-sitting)
 - d) Supine with knees bent
5. Which of the following is an **incorrect intervention** for an open chest injury?
 - a) Covering the wound with a plastic sheet
 - b) Sealing the wound on all four sides
 - c) Calming the victim
 - d) Calling emergency services (112)

SCENARIO 5: First Aid for an Open Abdominal Injury During a Flood

Multiple Choice Questions

1. What is **the correct first** step in the case of an open abdominal injury?
 - a) Push the organs back inside
 - b) Apply direct pressure on the wound
 - c) Cover the wound with a moist sterile dressing
 - d) Do nothing and wait
2. Which of the following is a sign of **shock**?
 - a) Pale and cold skin
 - b) Rapid pulse
 - c) Altered consciousness
 - d) All of the above
3. What position should be given to the victim?
 - a) Prone, arms at the side
 - b) Supine, with knees slightly bent
 - c) Lying on the side
 - d) Sitting upright
4. Which material is correct to use for an open abdominal injury?
 - a) Dry gauze
 - b) Cotton
 - c) Moist sterile dressing
 - d) Plastic bag
5. Why is it dangerous to touch or push back the organs of the victim?
 - a) It increases the risk of infection and internal injury
 - b) It makes the wound smaller
 - c) It reduces the risk of shock
 - d) It stops the bleeding

SCENARIO 6: First Aid for a Femur Fracture During a Tornado

Multiple Choice Questions

1. Which of the following is one of **the most important** symptoms/signs of a femur fracture?
 - a) Mild pain and redness
 - b) Swelling, deformity, and inability to move
 - c) Itching of the skin
 - d) The victim being able to walk comfortably
2. What is **the most important** first aid intervention for a patient with a femur fracture?
 - a) Trying to straighten the leg
 - b) Immobilizing the leg and keeping it still
 - c) Making the victim walk
 - d) Giving painkillers
3. Which material can be used to immobilize a femur fracture?
 - a) Hard materials such as wood or an umbrella
 - b) A pillow or soft cloth alone
 - c) Plastic bag
 - d) Dry cloth
4. What is the **most critical mistake** made during immobilization?
 - a) Adding soft padding
 - b) Checking circulation
 - c) Moving or trying to straighten the leg
 - d) Securing with bandages at 3–4 points
5. In which situation should a tourniquet be applied in a femur fracture?
 - a) If there is severe bleeding and it cannot be stopped by other methods
 - b) In every fracture case
 - c) To reduce pain
 - d) If there is slight bruising on the leg

SCENARIO 7: Infection Prevention and Control Measures After an Earthquake

Multiple Choice Questions

1. What is **the first step** that should be taken for infection control during first aid?
 - a) Immediately cover the patient's wound
 - b) Perform hand hygiene
 - c) Remove gloves
 - d) Reassure the victim
2. Which of the following is an example of **personal protective equipment (PPE)**?
 - a) Gloves and mask
 - b) Sterile gauze
 - c) Clean water
 - d) Bandage
3. What is the correct practice if there are coughing individuals around the injured person?
 - a) Ignore them
 - b) Advise them to wear a mask
 - c) Remove them from the area
 - d) Do nothing
4. Used gauze, gloves, and masks should be disposed of in which bin?
 - a) General waste bin
 - b) Waste bag marked for infectious waste
 - c) Recycling bin
 - d) Glass waste bin
5. When should hand hygiene be performed to minimize infection risk?
 - a) Only before first aid
 - b) Only after patient contact
 - c) Both before and after patient contact
 - d) It is not necessary

SCENARIO 8: First Aid for a Seizure During a Forest Fire

Multiple Choice Questions

1. What is the correct first aid intervention for a person having a seizure?
 - a) Put a hard object in their mouth
 - b) Hold and restrain their arms and legs
 - c) Remove dangerous objects from around the victim
 - d) Immediately give them water
2. How should the patient's head be protected during a seizure?
 - a) Place a soft object under the head
 - b) Press the head against the hard ground
 - c) Do nothing
 - d) Forcefully turn the head to the side
3. How should the duration of a seizure be monitored?
 - a) Remember it approximately
 - b) Use a stopwatch or clock to measure the duration
 - c) Ask bystanders afterward
 - d) There is no need to monitor the duration
4. What position should the patient be placed in after the seizure ends?
 - a) Supine, flat on the back
 - b) Semi-sitting position
 - c) Lateral (recovery) position
 - d) Prone (face-down) position
5. What information should be given to emergency services (112) after a seizure?
 - a) The patient's name
 - b) The seizure duration and the patient's condition (consciousness, breathing)
 - c) The patient's last meal
 - d) The patient's age

Satisfaction Surveys

Satisfaction Survey for the Pilot Training on AR/VR-Based Disaster Nursing Education

Purpose: This survey aims to evaluate the effectiveness of the AR/VR pilot training in disaster nursing and measure participant satisfaction. Please read each statement carefully and select the option that best reflects your opinion.

Evaluation Scale:

- Agree
- Neutral
- Disagree

No	Statement	Agree	Neutral	Disagree
1	The training increased my awareness of disaster nursing.	☐	☐	☐
2	The AR/VR scenarios were realistic and instructive.	☐	☐	☐
3	The duration of the training was sufficient.	☐	☐	☐
4	The training content was clear, understandable, and well-structured.	☐	☐	☐
5	The use of AR/VR technology made it easier for me to learn.	☐	☐	☐
6	I found this training beneficial for my professional development.	☐	☐	☐
7	The simulations contributed to acquiring essential skills.	☐	☐	☐
8	I would recommend this training to others interested in similar topics.	☐	☐	☐
9	Access to AR/VR content was technically smooth.	☐	☐	☐
10	Overall, I am satisfied with this training.	☐	☐	☐

VR Usability Questionnaire

Please rate each statement on a 5-point Likert scale: 1 = Strongly disagree, 2 = Disagree somewhat, 3 = Unsure, 4 = Agree somewhat, 5 = Strongly agree.

No	Item (Statement)	1 Strongly disagree	2 Disagree somewhat	3 Unsure	4 Agree somewhat	5 Strongly agree
1	The VR headset and the Showtime app were easy to use.	☐	☐	☐	☐	☐
2	I received sufficient information and instructions before using the equipment.	☐	☐	☐	☐	☐
3	It was easy to know what to do.	☐	☐	☐	☐	☐
4	I did not have any technical problems.	☐	☐	☐	☐	☐
5	The presented situation was realistic.	☐	☐	☐	☐	☐
6	The pace and the narrative in the 360° video were good.	☐	☐	☐	☐	☐
7	The visual quality of the 360° video was good.	☐	☐	☐	☐	☐
8	The audio quality of the 360° video was good.	☐	☐	☐	☐	☐
9	I would like to see more scenarios together with related learning activities.	☐	☐	☐	☐	☐
10	What I experienced in the 360° video was useful for my future professional practice.	☐	☐	☐	☐	☐
11	What I experienced in the 360° video was useful in improving my communication skills.	☐	☐	☐	☐	☐
12	What I experienced in the 360° video improved my professional competence.	☐	☐	☐	☐	☐
13	This 360° video was useful as part of my education program.	☐	☐	☐	☐	☐
14	The learning activities were useful for my future professional practice.	☐	☐	☐	☐	☐
15	The learning activities were useful for improving my communication skills.	☐	☐	☐	☐	☐
16	The learning activities improved my professional competence.	☐	☐	☐	☐	☐
17	The 360° video and the related learning activities were useful as a part of my education program.	☐	☐	☐	☐	☐