



## SIMULATION SCENARIO #2

# Cardiac Arrest After Accidental Hypothermia “One Serious Chill!”

Simulation Device: Thermometer

### Skills Progression Line



**Simulation Level: Efficient**

Source: Benner, P. E. (1995). *De novice à expert : excellence en soins infirmiers*. InterEditions.

*Any scenario presented by Innov2learn as part of its services, any person, name or details of the state of health are entirely fictitious and are not based on a true story or on confidential patient information. Innov2learn never identifies real people, living or dead, in its scenarios. Any potential resemblance or concordance with a real situation should be interpreted as a coincidence.*

# THE THERMO



- Inspired by the Welch Allyn Suretemp Plus 690.
- Allows you to simulate a temperature measurement.
- Compatible with low, medium, high-fidelity manikins or with a simulated/standardized patient.
- The oral and rectal probes are compatible with Welch Allyn probe covers.
- Comes with USB-C cable, an oral probe and a wall charger. A rectal probe can be included if mentioned when an order is placed.
- Powered by a rechargeable Lithium-ion battery (4-hour autonomy).
- Works in °C and °F (must be mentioned when ordering).

## THIS DEVICE IS



User-friendly



Remote-controlled via instant Bluetooth connection



Durable



Designed, manufactured and assembled in Canada



Environment-friendly  
(1 device bought = 1 tree planted)



Controlled via Innov2Learn's free, easy-to-use app for all devices

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Simulation Device: Thermometer

## NURSING SKILLS

This simulation develops the nursing student’s practical skills for dealing with a patient suffering from accidental hypothermia in an emergency room, under the supervision of an intern.

## AUTHORS

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## OVERVIEW OF THE CLINICAL SITUATION

An unconscious 58-year-old man under the influence of alcohol is brought to the emergency room by the pre-hospital emergency services for accidental hypothermia. He is homeless and has been found outside in -10°C weather. Upon arrival, his body temperature was 33°C. He has been brought to the shock room.

It is now 7:00 AM and the nursing student, along with an intern, needs to take the patient’s temperature. The intern asks follow-up questions about temperature checks and the implemented rewarming procedures. The patient’s temperature is now 32°C. The doctor has been informed and has prescribed a temperature check every 30 minutes. The patient suddenly goes into cardiac arrest.

## LEARNING GOALS

**COGNITIVE LEVEL:** Use the data collected to anticipate major physiologic impacts and recognize a life-threatening emergency.

**EMOTIONAL LEVEL:** Adopt a rigorous clinical monitoring approach for accidental hypothermia in a patient under the influence of alcohol;  
Communicate efficiently with the intern.

**PROCEDURAL LEVEL:** Establish priorities and coordinate care.

## TEACHING MATERIAL

- Innov2learn's Thermometer (Thermo Simulator)
- Mobile device (result towards the low end: 32°C)
- Standardized intern: actor
- Temperature Chart (previous monitoring)
- Hi-fi training dummy (bluish makeup to mimic cyanosis and veins, smell of alcohol, dirty, torn clothing)
- Emergency or heated blanket
- Monitor parameters: BP 80/62, pulse 110, sat. 98% (under an oxygen mask)
- Resuscitation equipment (crash cart)
- Patient chart: background (chronic alcoholism), no allergies, Glasgow Scale: 9, normal lab work: blood sugar level: 0.7g/L, alcohol level: 2.4g/L

## PRE-REQUISITE KNOWLEDGE/SKILLS

- Monitor and take vital signs/interpreting the data
- Capability to use a thermometer (according to local guidelines)/interpret the data
- Communication techniques/skills
- Ability to identify a medical emergency
- Knowledge of the anatomy and physiology of thermoregulation
- Drawing a correlation between alcohol and hypothermia
- Knowledge of the stages of hypothermia signs and its physiological effects

## LAB RESULTS\*

<u>Blood Count</u>	<u>Patient Results</u>	<u>Normal Human Range</u>
Erythrocytes	4.6	4.5-5.5 million/mm <sup>3</sup>
Haemoglobin	132	130-170 g/L
Hematocrit	43	42-52%
Leucocytes	4500	4000-10000/mm <sup>3</sup>
Polynuclear Neutrophils	45	40-70%
Polynuclear Eosinophils	1	1-4%
Polynuclear Basophils	0.5	<1%
Lymphocytes	22	20-40%
Monocytes	4	4-10%
Platelets	1500000	150000-400000/mm <sup>3</sup>
CRP	2	<5mg/L
Blood-sugar level	0.7	0.7-1g/L
Alcohol level	2.4	0 g/L

*\*Taken from the Guide des examens biologiques.*



# SIMULATION TIMETABLE

## EXPECTED INTERVENTIONS

- Adopt a monitoring and educational stance and use reassuring communication
- Teach the stages of hypothermia, its hemodynamic risks and complications
- Draw correlation
- Manage stress during the patient's cardiac arrest
- Coordinate care during the patient's cardiac arrest (call the doctor, establish priority of care)

### **Briefing (suggested duration: 30 minutes)**

1. Environment conducive to trust.
2. Rules of confidentiality and values: Positions about the patient's life situation (homelessness).
3. Introduce the clinical situation, the skills to be developed and the learning goals.
4. Briefly discuss possible emotional states for this type of clinical situation.
5. Provide guidance and support to students about the risks, prioritize a type of clinical monitoring that is appropriate to the situation and provide nursing care before medical care.
6. Expected Course of Action: Prioritize hemodynamic monitoring for accidental hypothermia. Transfer knowledge and know-how to the intern through explanations and demonstrations.

### **Caregiving Situation (suggested duration: 15 minutes)**

#### Expected Assessments

- Targeted clinical assessment including:
  - Taking temperature readings
  - Using the Glasgow Scale
  - Checking BP/pulse/saturation %
  - Evaluating the intern's stress and emotional state

### **Debriefing (suggested duration: 30 minutes)**

- Roundtable discussion of emotions (as needed).
- Feelings about homelessness: Discuss what this conjures up.
- Review the actions, decisions, and real-life consequences.
- Discuss how this can be part of the care plan.
- Review what was learned.
- Ask participants what they would do now if this were to happen again.
- Keywords to discuss: monitoring, patient distress, stress/emotional management, coaching, collaboration, group intervention cohesion.
- Reviewing the learning goals and elements to be explored:
  - Cognitive Level: Hypothermia monitoring components, treatment and associated risks, managing cardiac arrest (identifying a cardiac arrest, knowing what to do, coordinating care).
  - Emotional Level: Key attitudes and messages for intern supervision. Stress and emotional management during a life-threatening emergency.
  - Procedural Level: Providing information to the intern and doctor: What? When? Clinical monitoring parameters, Glasgow Scale, temperature.
  - Significant and durable competencies learned to be implemented in professional practice.

# CLINICAL TOOL: GLASGOW SCALE

TOTAL (FOR A MAXIMUM OF 15)

TYPES OF RESPONSES	APPROPRIATE STIMULI	RESPONSE	SCORE
<b>Best Motor Response</b>	• Verbal command	Obeys the command	6
		Localizes to painful stimuli; does not obey the command	5
	• Central pain by sternal rub or trapezius squeeze	Normal withdrawal of the arm in response to pain with no abnormal flexion	4
		Abnormal flexion of the arm at the elbow and pronation (decortication)	3
	• Peripheral pain	Abnormal extension of the arm at the elbow usually with shoulder adduction and internal rotation of the arm	2
		Absence of response	1
<b>Eye Opening Response</b>	• Bedside approach • Verbal commands • Pain	Opens eyes spontaneously	4
		Opens eyes in response to sound or command	3
		No opening of the eye after performing aforementioned stimuli but opens eyes in response to pain	2
		No opening of the eye after any type of stimuli	1
<b>Best Verbal Response</b>	• Verbal questions during full wakefulness	Appropriately oriented in all 3 dimensions (time, place, person)	5
		Confusion. Responds to questions coherently but there is some disorientation and confusion in at least one of the 3 dimensions	4
		Inappropriate words or sequence of words, no conversational exchange	3
		Incomprehensible sounds and moaning	2
		No verbal response even after painful stimuli	1

Reference: Lewis, S. et al (2016). Soins infirmiers médecine et chirurgie, 2ème édition. Chenelière éducation, p.568-569, July 31, 2009 decree concerning the Nursing diploma (translated back into English).



# SOURCES

## Reference List:

- Lewis, S. et al (2016). Soins infirmiers médecine et chirurgie, 2ème édition. Chenelière éducation, p.568-569, July 31, 2009 decree concerning the Nursing diploma (translated back into English).
- Kubab, N., Hakawati, I., & Alajati-Kubab, S. (2006). Guide des examens biologiques. Wolters Kluwer.