



SECHENOV UNIVERSITY
LIFE SCIENCES

AMSEA

Azerbaijan Medical Simulation
Education Association



SIMULATION CENTER
SECHENOV UNIVERSITY
BAKU

THE GUIDE TO THE OSCE

Pediatrics

Practical skills in pediatrics

Specialty:
General medicine

The duration of the station

The total time to complete the skill is 10 minutes.

Accredited person's time at the station is 8.5 minutes (in case of early performance of a practical skill, the accredited person stays inside the station until the voice command "Enter the station, say your ID number and listen to the assignment").

Timing of the practical skill

Time of the voice commanding	Voice Command	Action of the accredited person	Skill performance time
0'	Enter the station, say your ID number and listen to the assignment	Listen to the station assignment (briefing). Initiation of the work at the station	0,5'
8,0'	You have one minute left	Work continuing at the station	8,5'
9,0'	Time is up	Wait for the next command	1'

List of situations (scenarios)

N ^o	Situation
1	Broncho-obstructive syndrome (BOS)
2	Febrile seizures
3	Upper airway obstruction followed by cardiopulmonary resuscitation for 7 months old child
4	Upper airway obstruction followed by cardiopulmonary resuscitation for 6 years old child

The choice and sequence of situations (scenarios) of the station is decided by a member of the commission on the exam day

Scenario 1

Broncho-obstructive syndrome (BOS)

Information (briefing) for the accredited person

You are a general practitioner. You have been called urgently to the manipulation room with a 1 -year-old child (10 kg) lying on a couch

Reference information

(when assessing vital functions that are not independently reproduced by the simulator, the text will be read by a member of the commission)

A	<i>Upper respiratory tract patency</i>	The airways are visually passable
	<i>Saturation</i>	80%
	<i>When performing O2 insufflation</i>	94%
B	<i>Frequency of respiratory rate</i>	70
	<i>Lung percussion</i>	Boxed sound, retraction of the compliant places is observed, additional musculature is involved in the act of breathing
	<i>Lung auscultation</i>	Dry wheezing on exhalation, expiration is prolonged
	<i>Trachea</i>	Normal
	<i>Neck veins</i>	Normal
C	<i>HR</i>	150
	<i>BP</i>	95/65
	<i>Cardiac auscultation</i>	Tones are muffled
	<i>ECG</i>	Sinus rhythm
	<i>Capillary filling</i>	2 seconds
	<i>Intravenous access + tests</i>	+
	<i>Skin</i>	Pale, cyanosis of the nasolabial triangle
D	<i>Pupil response</i>	Photoreaction is preserved
	<i>Muscle tone</i>	Normal
	<i>Blood glucose</i>	5 mmol/L
E	<i>Abdominal palpation</i>	The abdomen is soft and swollen
	<i>Femoral arteries</i>	Pulse symmetrical, good filling
	<i>Varicose</i>	Not detected
	<i>Swelling</i>	Not detected
	<i>Back</i>	No visible trauma
	<i>Per rectum</i>	No need
	<i>Body temperature</i>	37.5

General blood analysis

Test	Result	Unit	Reference
Leukocytes (WBC)	4,3	10 ⁹ /L	4,00 - 8,80
Erythrocytes (RBC)	5,0	10 ¹² /L	3,80 - 5,30
Hemoglobin (HGB)	130	g/L	117,00 - 160,00
Hematocrit (HCT)	40	%	35,00 - 47,00
Mean corpuscular volume (MCV)	87	fL	81,00 - 101,00
Mean corpuscular hemoglobin (MCH)	30	pg	27,00 - 34,00
Mean corpuscular hemoglobin concentration (MCHC)	325	g/L	310,00 - 360,00
Erythrocyte sedimentation rate (ESR)	7	mm/s	0,5-2 years Women: 10 – 50 years > 50 years 30Men: 10 – 50 years > 50 years
Platelets (PLT)	210	10 ⁹ /L	150,00 - 400,00
Anisocytosis (RDW-SD)	36	fL	34,00 - 46,00
Anisocytosis (RDW-CV)	12,3	%	11,50 - 14,50
Platelet distribution width (PDW)	9	fL	9,00 - 17,00
Mean platelet volume (MPV)	10	fL	8,00 - 12,00
Platelet large cell ratio (P-LCR)	22	%	13,00 - 43,00
Thrombocrit PCT	0,24	%	0,15 - 0,40
Neutrophils	2	10 ⁹ /L	1,88 - 6,34
Lymphocytes	6,0	10 ⁹ /L	0,76 - 3,26
Monocytes	0,51	10 ⁹ /L	0,12 - 0,97
Eosinophils	0,7	10 ⁹ /L	0,02 - 0,44
Basophils	0,01	10 ⁹ /L	0,00 - 0,09
Neutrophils	61	%	47,00 - 72,00
Lymphocytes	55	%	19,00 - 37,00
Monocytes	6	%	3,00 - 11,00
Eosinophils	6	%	0,50 - 5,00
Basophils	0,2	%	0,00 - 1,00

Therapeutic measures

- Salbutamol via nebulizer - 1.5mg (0.15mg/kg)
- Magnesium sulfate IV - 500 mg (50 mg/kg)
- Prednisolone either oral or IV - 10mg (1-2mg/kg)

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Basophils	0,01	10 ⁹ /L	0,00 - 0,09
Neutrophils	61	%	47,00 - 72,00
Lymphocytes	55	%	19,00 - 37,00
Monocytes	6	%	3,00 - 11,00
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Basophils	0,2	%	0,00 - 1,00

Therapeutic measures

If seizures persist for more than 5 minutes, administer the first dose of benzodiazepines

- Midazolam IM 2mg (0.2 mg/kg)
or Lorazepam IV 1mg (0.1mg/kg)

If seizures last more than 20 minutes:

- Levetiracetam IV 400mg (40-60mg/kg)
Or Phenytoin IV 200mg (20mg/kg)
Or Valproic acid IV 400mg (40mg/kg)
Or Phenobarbital IV 200mg (20mg/kg)

Scenario 3,4

Upper airway obstruction followed by cardiopulmonary resuscitation

Information (briefing) for the accredited person

You were called for help while walking. As you came closer, you saw a 7 months/6 years old child with an upperairway obstruction. Your assignment is to help him within the limits of your skills.

**Sample texts of introductory in the framework of the dialogue between the member of the commission
and the accredited**

№	Action of the accrediting	Introductory text
1	When an accredited person demonstrates gesture "Environmental safety inspection"	"There is no danger"
2	When trying to assess the type of obstruction	"No coughing, no crying, no vomiting, cyanosis is detected"
3	When trying to assess the child's condition after manipulation	"Manipulation was ineffective"
4	In attempting to assess consciousness	"No reaction"
5	When attempting to assess breathing	"No breath"
6	When contacting the Emergency Medical Service (EMS) by telephone	Imitate an ambulance dispatcher: "Ambulance listening, what's wrong?"
7	In case the accredited person names the correct and complete information for the EMS: address; one victim, nearly 7 months or 6 years old child, unconscious, not breathing, the cause is not clear, proceed to CPR	The short answer is, "Accepted!"
8	In case the information is incomplete	Asking questions on behalf of Dispatcher to clarify: Location (address), age, sex, name of the

Algorithm of performing the skill

1.	Make sure there is no danger to yourself or the victim and, if necessary, ensure safety
2.	<p>Determine the type of obstruction:</p> <p><i>Baby 7 months:</i> Place the infant in a face-up lying position, positioned along your forearm (using your hip or knee for support if the baby's weight does not allow you to hold it), pointing the infant's head down and positioning it below body level.</p> <p>Wrap your thumb and middle finger around the corners of the jaw and use your index finger to extend the baby's lower jaw</p> <p><i>Ask a 6 years old child:</i> "How are you feeling?"</p>
Complete obstruction of the upper airway by a foreign body	
3.	<p>If the victim is unable to cough and if he loses consciousness:</p> <p>- <i>Baby 7 months:</i> Place the infant in a face-down lying position, positioned along your forearm (using your hip or knee for support if the baby's weight does not allow you to hold him/her). The infant's breast should be held in your hand and his jaw with your fingers. It is necessary to point the infant's head down and place it below the body level.</p> <p>Give 5 sharp strokes with the base of your palm between the shoulder blades</p> <p>- <i>Child 6 years old:</i> Stand beside and a little behind the victim, holding him with one hand and leaning him forward with the other.</p> <p>Give 5 sharp strokes with the base of your palm between the shoulder blades.</p>
4.	Check whether the airway obstruction has been eliminated
5.	<p>Give chest thrusts to infants or abdominal thrusts to children if the foreign body has not been removed</p> <p>- <i>Baby 7 months:</i> Place the infant in a face-up lying position, positioned along your forearm (using your hip or knee for support if the baby's weight does not allow you to hold it). Hold the back of the infant's head in your hand. Conduct up to five chest thrusts. Apply chest thrusts with two fingers to the lower half of the sternum, just below nipple level.</p> <p>- <i>Child 6 years old:</i> Stand behind the victim and wrap both arms around him at the level of the upper abdomen</p> <p>Tilt the torso.</p> <p>Make hand a fist and place it between your belly button and the xiphoid process. Wrap the other hand around the fist and make up to five sharp inward and upward thrusts.</p>
6.	Check whether the airway obstruction has been eliminated
If the manipulation was ineffective	
7.	<p>Put the child on the ground (flat stable surface)</p> <p>Assess the level of consciousness:</p> <p>- Child age 6: Shake the child by the shoulders, ask, "How are you feeling?"</p>
8.	<p>Assess breathing:</p> <p>Place the palm of one hand on the child's forehead</p> <p>Grasp the child's lower jaw with two fingers of the other hand. Bring the ear close to the child's lips</p> <p>Use your eyes to observe the child's excursion of the chest</p> <p>Evaluate the presence of normal breathing for no more than 10 seconds</p>

Artificial lung ventilation	
17.	Perform 2 breaths - <u>Child 7 months</u> : Seal the child's nose and lips with your lips (or with the mask of the AMBU bag) - <u>Child 6 years old</u> : With 1 and 2 fingers of the hand on the forehead, pinch the child's nose. Seal the child's lips with your lips (or with the mask of the AMBU bag) Exhale into the child until the chest rises visibly Detach the mouth of the child for 1 second. Exhale into the child again
18.	Continue chest compressions and ventilations at a 15:2 ratio for 2 minutes
19.	At the command: "One minute left" the resuscitation does not stop
20.	Check for signs of life within 10 seconds - Continue to hold the baby's head and check for vital signs: breathing, crying, movement, blinking

Check-list

Scenario 1, 2

№	Action of the accredited	Evaluation Criteria	
		<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
1	Made sure there was no danger to himself and the victim and, if necessary, ensured safety.	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
2	Assessed the victim's consciousness level correctly	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
3	Provided the bag and called the assistant (s)	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
4	Put on the gloves and suggested to assistant put them on	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
5	A- Correctly assessed airway patency	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
6	B- Evaluated saturation, provided oxygen therapy as indicated, assessed frequency of respiratory movements, examined trachea and neck veins	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
7	Performed lung percussion, auscultation of the lungs, and correctly interpreted the result	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
8	C- Correctly estimated peripheral pulse	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
9	Measured BP	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
10	Correctly performed auscultation of the heart and correctly interpreted the result	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
11	Correctly applied ECG electrodes and correctly interpreted the result	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
12	Provided intravenous access, took blood for necessary tests, checked white spot symptom, assessed skin	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
13	D- Correctly assessed pupil response, capillary blood glucose level, muscle tone	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
14	E- palpation of the abdomen, pulse on the femoral arteries, examination of the lower legs and feet for edema and varicose veins, measurement of body temperature, rectal examination (as indicated)	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
15	Followed the sequence of ABCDE – examination	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
16	Correctly established a preliminary diagnosis	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
17	Prescribed correct and complete treatment (Used only indicated medications, used the correct dosage, optimal method of injection)	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>
18	Commented actions out loud	<input type="checkbox"/> <i>yes</i>	<input type="checkbox"/> <i>no</i>

