







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 thestation	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)

Nº	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







Algorithm of examination of a patient in critical condition ABCDE (Scenarios 1 and 2)

Algorithm stages		Actions
		Assessment of the situation
Introductory actions	1.	✓ look around with head turning, show a safety gesture
introductory actions	2.	Assessment of consciousness
		✓ without touching the victim
	3.	Providing other helpers (call for help)
	4.	Provision of laying
	5.	Put on gloves
	6.	Assess the patency of the upper respiratory tract with a tongue blade
	7.	Perform aspiration of the contents of the oral cavity using
		suction (if necessary)
A	8.	Provide pulse oximetry
\boldsymbol{A}	9.	Provide oxygen therapy
		✓ maximum/average/minimum flow
	10.	Perform comparative chest percussion
	11.	Perform comparative auscultation of the lungs with a phonendoscope
D	12.	Evaluate the frequency of respiratory movements for at
D		least 10 seconds
	13.	Assess the position of the trachea
	14.	Evaluate the refill of the neck veins
	15.	Perform palpation of the pulse on the radial artery
	16.	Palpate the pulse on the carotid artery
	17.	Measure blood pressure (BP) using a cuff
	18.	Perform auscultation of the heart with a phonendoscope
	19.	✓ applying the electrodes correctly
C	17.	✓ interpreting the electrocardiogram (ECG)
	20.	Squeeze the pad of a finger to assess capillary refill
	21.	Provide venous access and blood sampling for analysis
	22	Assess the condition of the skin by palpating
	22.	hands and/or forehead, and/or cheeks, and/or ankles of the patient
	23.	Check the reaction of pupils to light
D	24.	Provide a blood glucose meter
v	25	Evaluate muscle tone (by flexion and extension of each
	25.	arm and each leg)
	26	Palpate the pulse on the femoral arteries from
	26.	both sides
	27	Examine the back with a turn to the side and release from
	27.	clothes (imitation)
	20	Conduct a rectal examination to find
${f E}$	28.	internal bleeding (if necessary)
	29.	Look at the lower legs and popliteal areas to find varicose veins
	20	Perform palpation of the back of the foot and shins for determining
	30.	edema
	21	Perform a superficial palpation of the abdomenon four sides of the
	31.	navel
	32.	Temperature measurement







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)

Δ	Upper respiratory tract patency	The airways are visually passable
Λ	Saturation	80%
	When performing O2 insufflation	94%
	Frequency of respiratory rate	70
В	Lung percussion	Boxed sound, retraction of the compliant places is observed, additional musculature is involved in the act of breathing
	Lung auscultation	Dry wheezing on exhalation, expiration is prolonged
	Trachea	Normal
	Neck veins	Normal
	HR	150
	BP	95/65
	Cardiac auscultation	Tones are muffled
	ECG	Sinus rhythm
C	Capillary filling	2 seconds
	Intravenous access + tests	+
	Skin	Pale, cyanosis of the nasolabial triangle
	Pupil response	Photoreaction is preserved
D	Muscle tone	Normal
	Blood glucose	5 mmol/L
	Abdominal palpation	The abdomen is soft and swollen
E	Femoral arteries	Pulse symmetrical, good filling
E	Varicose	Not detected
	Swelling	Not detected
	Back	No visible trauma
	Per rectum	No need
	Body temperature	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 5-9 Women: 10 - 50 years 0-20 > 50 years > 30Men: 10 - 50 years 0-15 > 50 years > 20		
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)







Scenario 2

Febrile seizures

Information (briefing) for the accredited person

You are a general practitioner. You have been called urgently to the manipulation room with a 2-years-old child (10kg) 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	Upper respiratory tract patency Saturation	The airways arevisually passable 97%
	When performing O2 insufflation	9170
	when performing 02 insufficient	-
	Frequency of respiratory rate	60
D	Lung percussion	Clear lung sound
В	Lung auscultation	Vesicular respiration
	Trachea	Normal
	Neck vein	The veins of the neck are swollen
	HR	150
	BP	95/65
	Cardiac auscultation	Tones are muffled
C	ECG	Sinus rhythm
	Capillary filling	2 seconds
	Intravenous access + tests	+
	Skin	Hyperemic, warm to the
		touch
_	Pupil response	Photoreaction is preserved
D	Muscle tone	Clonic seizures
	Blood glucose	4 mmol/l
	Abdominal palpation	Abdomen is soft, painless
	Femoral arteries	The pulse is symmetrical
	Varicose	Not detected
E	Swelling	Not detected
	Back	No visible injuries
	Per rectum	No need
	Body temperature	38.0







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 - 160,0	00	
Hematocrit (HCT)	40	%	35,00 - 47,00		
Mean corpuscular volume (MCV)	87	fL	81,00 - 101,0		
Mean corpuscular hemoglobin (MCH)	30	pg	27,00 - 34,00)	
Mean corpuscular hemoglobin concentration (MCHC)	325	g/L	310,00 - 360,0	00	
Erythrocyte sedimentation rate (ESR)	7	mm/s	0,5-2 years	5-9 0-20 > 30 0-15 > 20	
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	0,03	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	0,6	%	0,50 - 5,00		
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

Make sure there is no danger to yourself or the victim and, if necessary, ensure safety				
Determine the type of obstruction: - <u>Baby 7 months</u> : 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. Wrap your thumb and middle finger around the corners of the jaw and use your index finger to extend the baby's lower jaw				
- Ask a 6 years old child: "How are you feeling?"				
Complete obstruction of the upper airway by a foreign body				
If the victim is unable to cough and if he loses consciousness: - <u>Baby 7 months</u> : Place the infant in a face-down lying position, positioned along yourforearm (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 isnecessary to point the infant's head down and place it below the body level. Give 5 sharp strokes with the base of your palm between the shoulder blades				
- <u>Child 6 years old</u> : Stand beside and a little behind the victim, holding him with onehand and leaning him forward with the other. Give 5 sharp strokes with the base of your palm between the shoulder blades.				
Check whether the airway obstruction has been eliminated				
Give chest thrusts to infants or abdominal thrusts to children if the foreign body has notbeen removed - <u>Baby 7 months</u> : 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 tohold 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.				
- <u>Child 6 years old:</u> Stand behind the victim and wrap both arms around him at the levelof the upper abdomen Tilt the torso. Make hard a first and place it between your helly button and the vinheid process. Wrap the other				
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 upwardthrusts.				
Check whether the airway obstruction has been eliminated				
If the manipulation was ineffective				
Put the child on the ground (flat stable surface)				
Assess the level of consciousness: - Child age 6: Shake the child by the shoulders, ask, "How are you feeling?"				
Assess breathing: Place the palm of one hand on the child's forehead Grasp the child's lower jaw with two fingers of the other handBring the ear close to the child's lips Use your eyes to observe the child's excursion of the chest Evaluate the presence of normal breathing for no more than 10 seconds				







Call an emergency medical technician (103)				
9.	Put the phone on speaker mode Report coordinates Number of victims Sex Approximate age Condition of victim Amount of assistance provided			
	5 initial breaths			
10.	Kneel at the side of the child			
11.	Place the palm of one hand on the child's forehead Grasp the child's lower jaw with two fingers of the other hand Tilt the child's head moderately, releasing the airway, draw air into the lungs			
12.	Perform 5 rescue breaths - <u>Baby 7 months</u> : Seal the baby'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 your hand on your forehead, pinch the child'snose. Seal the child's lips with your lips (or with the mask of the AMBU bag)			
13.	Exhale into the child until the chest rises visibly Release the baby's lips for 1 second Repeat breathing into the childInhale a total of 5 breaths			
14.	Assess life signs within 10 seconds			
	Chest compressions			
15.	Start chest compressions as soon as possible			
16.	Perform 15 compressions in a row - Child 7 months: (Two-Finger Technique) Place two thumbs on the lower half of the sternum, pointing the fingertips toward the child's head. With the hands both hands should wrap around the lower part of the child'schest. The fingers should support his back. • The compressions are counted out loud. • Depth of compressions - 2 cm • Frequency of compressions - 100-120 per minute - Child 6 years old: (One-handed technique) Place the base of the palm of one hand on the lower half of the child's sternum • Rescuer's arm is vertically • Not bent at the elbow • Palm does not detach from the child's chest • The other hand holds the child's head during compressions • Compressions are counted out loud • Depth of compressions - 4 cm • Frequency of compressions - 100-120 per minute			







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







Scenario 3, 4

№	Action of the accredited	Evaluation Criteria	
1	Made sure there was no danger to himself and the victim and, ifnecessary, ensured safety.	□ yes	\Box no
2	Correctly identified the type of obstruction	□ yes	\square no
3	Performed five sharp strokes with the base of the palm between the child's shoulder blades	□ yes	□ по
4	Chose the right place to strike	□ yes	□no
5	Checked whether the airway obstruction was eliminated	□ yes	□ no
6	Performed chest thrusts on infant or abdominal thrusts on child	□ yes	□ no
7	The right place for the thrusts was chosen	□ yes	□ no
8	Evaluated the consciousness level	□ yes	□ no
9	Evaluated the breathing level	□ yes	□ no
10	Called a specialist (EMC) according to the algorithm Coordinates of the accident place Number of victims Gender Approximate age Condition of victim Amount of your assistance	□ yes	□ по
11	Correctly performed 5 rescue breaths	□ yes	□ no
12	Correctly performed chest compressions	□ yes	□ no
13	Adequate compression depth	□ yes	□ no
14	Adequate hand position during compressions	□ yes	□ no
15	Full straightening of the chest after each compression	□ yes	□ по
16	Adequate compression frequency	□ yes	□ по
17	Checked for signs of life	□ yes	□ no

European Resuscitation Council Guidelines 2021: Paediatric Life Support https://www.cprguidelines.eu/