


ОҢТҮСТІК ҚАЗАҚСТАН MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ	 SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»
DEPARTMENT OF «Introduction to the clinic» Practical training in clinical skills	044-75-

**Methodological manual for the teacher on teaching clinical skills at the Center for practical skills
(using the algorithm of execution)**


Rules and techniques of intravenous injections to patients.

Specialty: GM

Course: 2

Department: "Introduction to the clinic"

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DEPARTMENT OF «Introduction to the clinic» Practical training in clinical skills	044-75-

Reviewed and discussed at the meeting of the department
 Protocol No. 5 25.11.2022

Head of the Department



Zhumadilova A.R.

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DEPARTMENT OF «Introduction to the clinic»		044-75-
Practical training in clinical skills		

1.Name of the clinical skill: Intravenous administration of drugs

2.The purpose of training: Mastering the skills of intravenous administration using the necessary substances.

3.Time required for preliminary instruction and demonstration of the skill on a dummy: 5 minutes.

4.Time required to master the skill on your own: 10 minutes

5. Learning objectives:

The student should know.

- * Sanepid mode of the treatment room
- * The order of execution i \ v, i \ m, subc for needles
- * Procedure for the use of drugs
- * Know the specifics of the administration of certain drugs

The student must be able to.

- * Dispose of used tools in a syringe, etc.
- * Use of a disposable syringe.
- * Features of drip administration
- * Monitoring of the general condition of the patient

6.Trainer: Manual simulator for intravenous injections and punctures


Theoretical knowledge necessary for mastering clinical skills:

- 1 Ability to correctly find the topographical location of the blue vein.
- 2 Ability to communicate with patients.
- 3 Proficiency in general deontological theories.
- 4 Mastery of sterilization measures.

7.List of medical products and equipment: in the tray: medicines, 10 ml syringe, twist, cotton balls, 70% ethyl alcohol, roller, cutter, tourniquet.

8. Execution algorithm:

№	Step-by-step actions	Estimates are fulfilled	
		yes	no
1.	Introduce yourself		
2.	Explain to the patient the procedure of manipulation and obtain consent)		
3	Complete set of necessary items (in the tray: medicines, 10 ml syringe, twist, cotton balls, 70% ethyl alcohol, roller, cutter, tourniquet)		
4.	Wash your hands and put on sterile gloves		
5.	Study the name of the drug, dosage, timing of use		
6.	The neck of the ampoule is treated with a swab soaked in alcohol, then cut		
7.	Pump the right amount of medicine, remove the air, put the cap on the needle, put it in the tray		
8.	Ask the patient to take a sitting position		

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DEPARTMENT OF «Introduction to the clinic»	044-75-
Practical training in clinical skills	

9.	Put an oilcloth pillow under the patient's elbow (for maximum fixation of the elbow joint)		
10.	Apply a rubber tourniquet on two-thirds of the shoulder and treat the skin of the vaccination zone from top to bottom with a cotton ball soaked in alcohol (the first ball is in a wide volume, the second is the vaccination zone, the third is in the left hand)		
11.	Ask the patient to unclench his fist several times (for fullness of veins), keep his fist in a clenched position		
12.	Piercing the syringe for about 25 seconds, holding the syringe parallel to the Vein, without changing the position of the syringe in the right hand. Fixing the vein with the left hand, it is necessary to insert it into the vein, slightly changing the direction of the needle, while there should be a feeling of falling into the "free space", then the needle should be inserted several times		
13.	To make sure that the needle has entered the vein, you need to pull the plunger back when venous blood should appear in the syringe		
14.	Pull the loose ends of the tourniquet with your left hand and ask the patient to release his fist		
15.	Press the plunger with your left hand without changing the position of the syringe and slowly inject the drug, make sure that 1-2 ml of the solution remains in the syringe		
16.	Take a syringe at a fast speed, put a cotton swab moistened with alcohol on the place of vaccination, bend and press the elbow joint for 3-5 minutes		
17.	Dumping the syringe and the ball into the tray for packaged materials		
18.	Monitoring of the patient's condition		
19.	Take off sterile gloves and wash your hands		

Evaluation criterion

Time allotted for the task - 5 minutes

Maximum score: (100%)

Score: (%)

Full name and signature of the teacher who evaluated the criterion:


Test

1. For intravenous administration, it is possible to use drugs:

- a) glucose solution 5%;
- b) sodium chloride solution 0.9%
- c) sodium chloride solution 10%;
- d) camphor oil;
- e) synthomycin liniment



2. What is the role of the air tube in an intravenous drip system?
 - a) displaces the liquid from the vial with the solution;
 - b) contributes to the droplet movement of liquid through the system;
 - c) prevents the penetration of air into the tubes of the system;
 - d) contributes to the uniform flow of liquid from the vial;
 - d) everything is correct
3. What complications are associated with violation of the rules of asepsis and antisepsis during injections?
 - a) air embolism;
 - b) fat embolism;
 - c) allergic reactions;
 - d) hepatitis B disease;
 - e) development of post-injection abscesses and infiltrates
4. To perform venesection, the following instruments are required, except:
 - a) retractor;
 - b) Geigar's needle holder;
 - c) scalpel;
 - d) four-pronged hooks;
 - e) curettes of different sizes
5. Venesection is:
 - a) vein puncture followed by catheter insertion;
 - b) opening of the lumen of the vein;
 - c) a surgical method for the treatment of varicose veins;
 - d) all answers are correct;
 - d) there is no correct answer
6. Preparation C-4 is a mixture of:
 - a) hydrogen peroxide and ethyl alcohol;
 - b) hydrogen peroxide and chloramine solution;
 - c) hydrogen peroxide and formic acid solution;
 - d) hydrogen peroxide and oxalic acid;
 - e) hydrogen peroxide and glacial acetic acid
7. What are the indications for the use of intravenous infusions?
 - a) decrease in the volume of circulating blood;
 - b) intoxication of the body;
 - c) increased blood pressure;
 - d) violation of water and electrolyte balance;
 - e) pulmonary edema
8. Best ways to sterilize syringes and needles:
 - a) dry heat
 - b) autoclaving;
 - c) gas sterilization;
 - d) cold sterilization;
 - e) boiling
9. What complication can develop in case of penetrating vein perforation during venipuncture?

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- a) fat embolism;
- b) infiltrate;
- c) pyrogenic reaction;
- d) air embolism;
- e) all of the above is correct

10. What complication can develop if 10% calcium chloride solution enters the subcutaneous tissue?

- a) necrosis;
- b) fat embolism;
- c) pyrogenic reaction;
- d) air embolism;
- e) anaphylactic shock

9. Criteria for evaluating the performance of the skill.

Completed : The student completed a 10-step clinical skill. forces the whole skill from greeting to performing the intravenous injection skill using the necessary substances. There was contact with the patient. When the condition improved, they were sent for further examination and treatment, and otherwise, that is, when the condition worsened, an ambulance was called.

Completed by half: the student completed a clinical skill out of 10 6. He said hello, but did not complete the entire manipulation. There was no feedback from the patient. Said goodbye.

Failed: The student failed to complete the 10-step clinical skill. I didn't perform the whole manipulation. There was no feedback from the patient. Didn't say goodbye.

10. Literature:

Main references

- 1) A list of templates (samples) of SOPs for PHC (rules, instructions, procedures, algorithms) of the Accreditation Center (as of 06.06.2013) with additions by participants of the workshop on 27.05.2013.
- 2) Methodological recommendations "Standardization of clinical and non-clinical production processes in medical organizations, their implementation and monitoring", RSE at PCV "RCRZ" of the Ministry of Health of the Republic of Kazakhstan, 2017
- 3) American Heart Association. (2017). Monitoring your blood pressure at home. Verified on November 29, 2018 on the website <https://www.heart.org/en/health-topics/highblood-pressure/understanding-blood-pressure-readings/monitoring-your-bloodpressure-at-home>.

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