MINISTRY OF HEALTH OF UKRAINE

ODESA NATIONAL MEDICAL UNIVERSITY

Faculty Medical №1

Department of simulation medical technologies

CONFIRMED by
Vice-rector for scientific and pedagogical work

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September 1, 2023

METHODICAL RECOMENDATION FOR ACADEMIC DISCIPLINE

«EMERGENCY CONDITIONS IN MEDICINE»

Faculty, course: International, 5 year

Educational Discipline: Emergency conditions in medicine

Approved:

The methodical recommendation was approved at the meeting of the department of simulation medical technologies

Protocol No. 1 of 28.08.2023

Head of the department _____ Oleksandr ROGACHEVSKYI

(signature)

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PRACTICAL TRAINING

Practical lessons No. 6

Topic: Bladder catheterization in adults and children.

Purpose: To form, master and practice practical skills for catheterization of the urinary bladder in adults and children .

To learn the ability to independently use knowledge and skills when performing skills for catheterization of the urinary bladder in adults and children .

C to form a clear idea of the sequence of actions in the algorithm of performing skills for catheterization of the urinary bladder in adults and children .

To form the competence of professional communication in the team during the performance of bladder catheterization skills in adults and children .

Basic concepts: urinary bladder, catheterization.

Equipment: female bladder catheterization simulator, male bladder catheterization simulator, sterile gown, mask, urinary catheter of the appropriate size (14-16-18 Fr), tweezers, forceps, oilcloth, sterile wipes, diapers, 1-2 kidney-shaped tray, urinal, 6 tampons, sterile gloves, diapers, sterile tubes, antiseptic solution, anesthetic solution, lubricant .

Plan:

1. Organizational activities (greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic).
1. Control of the reference level of knowledge (frontal survey) :

requirements for theoretical readiness of students to perform practical classes (concepts , indications, contraindications, technique , algorithm and complications during the performance of bladder catheterization skills in adults and children) ;

questions (clinical situations) to check basic knowledge on the subject of the lesson:

To know:

1. Concept.
2. Indication.
3. Contraindication.
4. Conducting technique.
5. Adherence to the algorithm of actions.
6. Complication.

1. Formation of professional skills and abilities:

- mastering skills:

1. Quick recognition of an emergency in a patient.
2. Be able to quickly give and receive commands to medical personnel depending on the critical situation (teamwork).
3. To be able to quickly carry out a differential diagnosis of an emergency.
4. Examination.
5. Determination of the emergency aid scheme based on the theoretical knowledge obtained in previous departments.
6. Help (catheterization of the urinary bladder in adults and children).
7. Communication skills with staff and relatives in an emergency patient situation.

- task content:

For each topic nosology:

1. Briefing.
2. Conducting a clinical simulation scenario.
3. Debriefing.

- recommendations (instructions) for performing tasks:
  1. It is mandatory to have theoretical knowledge on the topic obtained while attending classes at previous departments.
  2. Acquaintance with the methodical recommendations of the department before the class.
  3. Completion of the elective course of the department of simulation medical technologies "Professional communication skills in extreme situations".

- requirements for work results and control materials for the final stage of the lesson: Passing a clinical scenario with a positive result for a simulated patient.

Catheterization of the urinary bladder with an elastic catheter in adults

Indication.

1. Diagnostic catheterization:

1.1. Obtaining urine from the bladder;

1.2. Measurement of the amount of urine (hourly diuresis);

1.3. Differentiated kidney function tests;

1.4. Water balance research;

1.5. Administration of contrast for x-ray research methods.

2. Medical catheterization:

2.1. Acute and chronic urinary retention;

2.2. Adenoma of the prostate;

2.3. Neurogenic disorders of urination;

2.4. Washing the bladder;

2.5. Preparation for surgery;

2.6. Enuresis;

2.7. Administration of medical drugs.

Contraindication:

1. Acute prostatitis;

2. Suspicion of rupture of the urethra in connection with blunt or penetrating trauma (blood in the urethra, hemoscrotum, perineal bruises, the prostate cannot be palpated);

3. Stricture of the urethra;

4. Acute inflammatory processes of the urethra and bladder.

Necessary equipment: sterile gown, mask, urinary catheter of the appropriate size (14-16-18 Fr), tweezers, forceps, oilcloth, sterile napkins, diapers, 1-2 kidney-shaped trays, urinal, 6 tampons, sterile gloves, diapers, sterile tubes , antiseptic solution, anesthetic solution, lubricant .

Equipment (for men):

1. Provide the patient with psychological preparation and explanation of the manipulation. Get consent.

2. Position on the back with a pillow placed under the back. Wash the external genitalia (without sterile gloves).
3. Wrap the penis with sterile napkins.
4. Pull back the foreskin. Hold the penis with the left hand and extend it to its maximum length perpendicular to the surface of the body, in order to straighten the front part of the urethra.
5. Treat the head of the penis and the opening of the urethra with an antiseptic solution with the right hand. Carry out superficial anesthesia of the urethra with the help of an anesthetic. Follow the rules of asepsis during manipulation.
6. Lubricate the tip of the catheter and take it with your right hand. First hold the end of the catheter with your left hand, and then fix it between the little finger and the fourth finger of the right hand.
7. Holding the penis with your left hand, slowly push the catheter into the urethra with your right hand for a length of up to 15 cm. If you feel tissue resistance, pull out the penis as much as possible and continue inserting the catheter until urine is released.
8. To fix the catheter, fill its balloon with 5-10 ml of distilled water (do not use NaCl solution - the valve will dry out).
9. Carefully pull the catheter by its end until you feel tissue resistance.
10. Attach the ureter to the end of the catheter.
11. The foreskin must be returned to its normal position to prevent paraphimosis.

Technique (features for women):

1. The patient is in a supine position with legs spread apart and half-bent in the knee and hip joints.
2. Place a urine collection tray between the patient's legs.
3. Spread the labia minora with the left hand.
4. With the right hand, treat the entrance to the urethra with the help of a napkin soaked in an antiseptic solution.
5. With your right hand, take the pre-lubricated catheter and insert it into the opening of the urethra approximately 10 cm or until urine appears.
6. Fill the balloon of the catheter with 10 ml of distilled water.
7. Attach the catheter to the ureter.
8. Visualization of the entrance to the urethra can be complicated by vaginal atrophy, congenital female hypospadias, or previous surgery. In this case, the opening of the urethra is located deeper in the vault of the vagina and in front of the urethro-vaginal membrane.

9. Confirmation of correct catheter placement can be obtained by inserting a lubricated index finger into the vagina and palpating the catheter through the urethrovaginal membrane.

Catheterization of the urinary bladder with an elastic catheter in children

Indication.

1. Diagnostic catheterization:

1.1. Obtaining urine from the bladder;

1.2. Measurement of the amount of urine (hourly diuresis);

1.3. Differentiated kidney function tests;

1.4. Water balance research;

1.5. Administration of contrast for x-ray research methods.

2. Medical catheterization:

2.1. Acute retention of urine;

2.2. Neurogenic disorders of urination;

2.3. Washing the bladder;

2.4. Preparation for surgery;

2.5. Enuresis;

2.6. Administration of medical drugs.

Contraindication:

1. Acute prostatitis;

2. Suspicion of rupture of the urethra in connection with blunt or penetrating trauma (blood in the urethra, hemoscrotum, perineal bruises, the prostate cannot be palpated);

3. Stricture of the urethra;

4. Acute inflammatory processes of the urethra and bladder.

Necessary equipment: sterile gown, mask, urinary catheter of the appropriate size, tweezers, root forceps, oilcloth, sterile napkins, diapers, 1-2 kidney-shaped trays, urinal, 6 tampons, sterile gloves, diapers, sterile tubes, antiseptic solution, anesthetic solution, lubricant .

Equipment (for boys):

12. Provide the patient or his parents with psychological preparation and explanation of the manipulation. Get consent.

13. Position on the back with a pillow placed under the back. Wash the external genitalia (without sterile gloves).

14. Wrap the penis with sterile napkins.

15. Pull back the foreskin. Hold the penis with the left hand and extend it to its maximum length perpendicular to the surface of the body, in order to straighten the front part of the urethra.

16. Treat the head of the penis and the opening of the urethra with an antiseptic solution with the right hand. Carry out superficial anesthesia of the urethra with the help of an anesthetic. Follow the rules of asepsis during manipulation.

17. Lubricate the tip of the catheter and take it with your right hand. First hold the end of the catheter with your left hand, and then fix it between the little finger and the fourth finger of the right hand.
18. Holding the penis with your left hand, slowly push the catheter into the urethra with your right hand for a length of up to 15 cm. If you feel tissue resistance, pull out the penis as much as possible and continue inserting the catheter until urine is released.
19. To fix the catheter, fill its balloon with 5-10 ml of distilled water (do not use NaCl solution - the valve will dry out).
20. Carefully pull the catheter by its end until you feel tissue resistance.
21. Attach the ureter to the end of the catheter.
22. The foreskin must be returned to its normal position to prevent paraphimosis.

Technique (specific features of girls):

1. The patient is in a supine position with legs spread apart and half-bent in the knee and hip joints.
2. Place a urine collection tray between the patient's legs.
3. Spread the labia minora with the left hand.
4. With the right hand, treat the entrance to the urethra with the help of a napkin soaked in an antiseptic solution.
5. With your right hand, take the pre-lubricated catheter and insert it into the opening of the urethra approximately 10 cm or until urine appears.
6. Fill the balloon of the catheter with 10 ml of distilled water.
7. Attach the catheter to the ureter.
8. Visualization of the entrance to the urethra can be complicated by vaginal atrophy, congenital female hypospadias, or previous surgery. In this case, the opening of the urethra is located deeper in the vault of the vagina and in front of the urethro-vaginal membrane.
9. Confirmation of correct catheter placement can be obtained by inserting a lubricated index finger into the vagina and palpating the catheter through the urethrovaginal membrane.

4. Summary:

After completing the lesson on the topic " Catheterization of the urinary bladder in adults and children ", students should:

Have formed and practiced practical skills for bladder catheterization in adults and children .

To learn the ability to independently use knowledge and skills when performing skills for catheterization of the urinary bladder in adults and children .

To have a well- formed and clear idea of the sequence of actions in the algorithm for performing bladder atheterization skills in adults and children .

To have the formed competence of professional communication in the team when performing the skills of catheterization of the urinary bladder in adults and children .

5. List of recommended literature:

Main:

1. Anesthesiology, intensive care and intensive care: a study guide (University I-III of the Republic of Armenia) / A.A. Ilko. - 2nd ed., revised. and add., "Medicine", Kyiv, 2018
2. Surgery: textbook / O.Yu. Usenko, G.V. Bilous, G.Y. Putintseva. - 5th edition. - K.: VSV "Medicine", 2021. - 416 p.
3. Surgical diseases (textbook) — P.D. Fomin, Ya.S. Bereznytskyi, Ya.S. Bereznytskyi, O.A. Viltsanyuk, M.D. Zheliba et al., - K.: Medical University "Medicine", 2017

Additional:

1. Emergency situations in surgery (study guide) — L.M. Kovalchuk, K.M. Bobak, A.I. Bobak, V.V. Kyretiv et al., 2017

Electronic information resources:

1. https://www.c-tecc.org/our-work/guidance - Committee on Tactical Emergency Relief
2. https://zakon.rada.gov.ua/laws/show/z0356-22#n42 - Order of the Ministry of Health of Ukraine No. 441 dated 09.03.2022 "On approval of procedures for providing pre-medical assistance to persons in emergency situations"
3. https://gmka.org/uk/category/dlya-medykiv/nevidkladna-hirugiya/ - Global Alliance for Medical Knowledge