

Ministry of Health Protection of Ukraine
Poltava State Medical University

Approved
at a meeting of the department
pediatric surgery
with traumatology and orthopedics
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Methodical instructions
for independent work of students
in preparation for the practical training and in the classroom

Academic discipline	Traumatology and Orthopedics
Module № 1	Traumatology and Orthopedics
Content module № 2	Damage to the spine, pelvis, bones and joints of the upper and lower extremities
The topic of the lesson	Damage to the pelvis
Course	5
Faculty	Medical

1. Actuality of theme:

Damage of bones pelvis is made by 4-7% breaks. The plural breaks of pelvis can be accompanied by heavy traumatic shock, loose of blood, combination damages. In connection with foregoing, timely diagnostics of damages of pelvis and timely medicaid, especially on the before hospital stage, life of victim allows to save.

An important role is played by the grant of the specialized help in the time-urgent order and further treatment with the purpose of prophylaxis of early complications of deformation of pelvic ring, development of neuritises, arthrosis changes, contracture in a thurl, that over quite often brings to disability.

Thus, frequency of damages, weight of clinical motion, difficulties in diagnostics, complication of treatment, the considerable percent of various complications is determined actuality of this pathology in preparation of doctor.

2. Educational aims:

- to become familiar with clinical and X-ray presentation of damages of pelvis.
- to master principles of diagnostics, treatment and prophylaxis of complications.
 - to know clinical and X-ray presentation of damages of pelvis.
 - to master the methods of inspection, complex, conservative treatment of damages of pelvis.
 - to know testimonies, methods of surgical treatment of damages of pelvis.
 - to know and able to use a transport immobilization.
 - to capture the methods of diagnostics of the complicated damages of pelvis.
- to define a testimony and facilities of surgical treatment of damages of pelvis.
 - to know principles of medical, social and labour rehabilitation of patients with the various damages of pelvis.

3. Base knowledge, abilities, skills necessary for the study of theme:

Discipline	Discipline	Able
Normal anatomy	Structure of pelvis.	To use knowledge of structure of pelvis at implementation of practical skills.
Topographical anatomy and operative surgery	Topographical correlations of pelvis.	To use knowledge of topographical correlations for implementation of intra pelvis narcosis.

General surgery	Principles of immobilization of pelvis.	To fix a pelvis depending on the type of damage.
Medicine of catastrophes	Sequence of executions on the before hospital stage at the damages of pelvis.	To execute anaesthetizing, stop of bleeding.
Radio-therapy	X-ray picture at the survey sciagram of organs of pelvis.	To diagnose the damage of organs of pelvis.

4. Materials for before auditorium of independent work

4.1. Reference map for independent work with literature on the topic «Damage to the pelvis»

Basic tasks	Pointing
To learn:	
Etiology	To name basic etiologic factors
Clinic	To make classification of clinical displays
Diagnostics	To give the list of basic methods of diagnostics
Differential diagnostics	What differential diagnostics is conducted with
Treatment	To diagrammatize treatment

4.2. Professional algorithms in relation to a capture by skills and abilities:

Task	Pointing	Notes
To inspect sick with a damage pelvis	To interpret these inspections, choose the method of treatment	To pay attention to circumstances of trauma, mekhanogenesis, weight
To execute immobilization of pelvis	To execute piling in the pose «of frog», counterextesion on a hammock	To pay attention to prophylaxis of bedsores
To execute anaesthetizing at the damage of pelvis	To execute a intra pelvis blockade on Shkolnicov-Selyvanov	To mark the signs of correct implementation of blockade
To render the first aid at central dislocation of thigh	To impose a double skeletal counterextesion	To pay attention to prophylaxis of bedsores
To work out a plan treatment at the complicated break of pelvis	To appoint necessary inspections, anti shock therapy	To pay attention to prophylaxis of festering-septic complications

4.3. Table of contents of theme

Differentiated to go near treatment of patients, many classifications of breaks of pelvis are offered.

In Ukraine use classification of Kaplan A.V.:

- the regional breaks are breaks of bones of pelvis outside a pelvic ring.
- are breaks of pelvis without violation of safety of pelvic ring.
- are breaks of pelvis with violation of safety of pelvic ring.
- are breaks of cotyle.
- are breaks of pelvis with the damage of his organs.

Regional breaks and breaks without violation of safety of pelvic ring belong to relatively easy breaks, as at them, as a rule, there is not traumatic shock, and loose blood insignificant, the common state of patient is not heavy.

The clinic of dislocation of thigh prevails at the breaks of cotyle. The breaks of pelvis with violation of safety of pelvic ring makes about 50% and belongs to the heavy traumas. Most cases are accompanied by shock, loose blood, and sometimes by the damage of pelvic organs that make about 7% cases.

The first place occupies the damage of urethra. The break of urinary bladder occupies the second place. Breaks of urinary bladder can be intra- and extra-peritoneal. For diagnostics of damages of urinary bladder a cystoscopy, contrasting cystography, is used. Damage of rectum happen rarely.

Basic in diagnostics of breaks of bones of pelvis is X-ray research that sometimes needs to be executed in a few projections, and if necessary - computer diagnostics.

When a patient is in a state of traumatic shock, first of all try to take off pain, conduct anti shock therapy:

1. Intravenous introduction is 2 mls of a 1% solution of misdelivering.
2. Correct piling of patient in the pose "of frog"(on hard stretchers, roller under knees).
3. Immediate setting of the system for intravenous transfusion of anti shock liquids (the best method is a cannulation of under clavicle vein).
4. intra pelvis anaesthesia on Shkolnicov-Selyvanov.

The breaks of pelvis with violation of integrity of front and back department of pelvic ring (type of Malgeni) treat oneself the system of skeletal counterextesion or vehicles of the external fixing.

The breaks of symphysis are treated on a hammock, but the method of treatment is ousted by the cored vehicles. At the unaccrete and not fresh breaks of symphysis of patients operate.

The breaks of cotyle arise up because of indirect trauma. Mostly breaks happen back and back - overhead edge of cotyle with dislocation of thigh-bone.

Treatment: quickly to set the dislocated thigh, and then if necessary openly to set the fragment of cotyle and execute fixing of fragment spirally. For immobilization and unloading of thurl a skeletal counterextesion is used during 1,5 month, walking is then settled by means of crutches no-load extremity during 2,5-3 months.

Central dislocation of thigh-bone.

The bottom of cotyle breaks a secret in such cases. Showing out the head of thigh is possible a one moment hand method under anesthesia with subsequent treatment by means of skeletal counterextension, or a head is set by a double skeletal counterextension during the first two weeks. It is important to recover overhead part of bottom of cavity, that has the basic loading, and burries in other areas of cavity are filled by a cicatrical tissue (after hemarthrosis). Through 2-2,5 month a counterextension is dismantled and let to walk by means of crutches. The complete loading of extremity is possible in 3,5-4 months.

Breaks of pelvis with the damage of pelvic organs.

Ill-timed diagnostics results in peritonitis, festering - to septic complications and even death of patient. The breaks of pelvis with the damages of his organs need immediate anti shock therapy and diagnostics of the damaged pelvic organs.

Materials for self-control

A. Questions for self-control:

- Mekhanogenesis of damages of pelvis.
- Clinic of different breaks of pelvis.
- Classification of breaks of pelvis.
- Providing of the first aid.
- Treatment of damages of pelvis.
- Prophylaxis of early and late complications of damages of pelvis.

B: Tests for self-control: see an appendix

C: Tasks for self-control: see an appendix

Recommended literature

The main literature:

1. Traumatology and orthopedics : textbook for students of higher medical educational institutions / edited by Golka G. G., Burianov O. A., Klimovitskiy V. G. – Vinnytsia : Nova Knyha, 2018, – 400 p. : il.
2. Venger V. F. Serbyuk V. V. Rashed Mochammad. Traumatology and orthopedics. – Odessa: Druk, 2006. – 248 c.
3. Bur'yanov O. A. Traumatology and Orthopedics. K.: Medicine, 2007. – 216 c.

Background Information:

1. David J. Dandy, Dennis J. Edwards Essential Orthopaedics and Trauma, Churchill Livingstone Elsevier, 2009, - 490 p.
2. David L. Hamblen, A. Hamish R. W. Simpson Adams's Outline of Orthopaedics, Churchill Livingstone Elsevier, 2010, - 485 p.
3. Ronald McRae, Max Esser Practical fracture treatment, Churchill Livingstone Elsevier, 2008. – 447 p.
4. Ronald McRae Clinical orthopaedic examination, Churchill Livingstone Elsevier, 2010. – 323 p.
5. David J. Dandy, Dennis J. Edwards Essential Orthopaedics and Trauma Churchill Livingstone Elsevier, 2009, - 490 p.
6. Borland WA. Illustrated Medical Dictionary. - 29th edition. -Philadelphia, 2003.

Internet resources:

<https://www.4tests.com/usmle#StartExam>
http://goto.grockit.com/kaplan/quizzes/medical.php?utm_source=kaptest&utm_medium=kaptest&utm_term=us-med&utm_content=try-us-for-free-us-med&utm_campaign=usmle-step1-qzzer
<http://www.nejm.org/multimedia/interactive-medical-case>
<http://www.roadto10.org/ics/>
http://www.medscape.com/index/section_1436_0
<http://www.webmd.com/a-to-z-guides/quizzes/>
http://www.medicinenet.com/quizzes_a-z_list/article.htm
<https://medlineplus.gov/surgeryvideos.html>
<http://www.bidmc.org/yourhealth/bidmcinteractive/quizzes.aspx>
<http://hardinmd.lib.uiowa.edu/index.html>
<https://www.youtube.com/user/nucleusanimation/videos>
<http://www.medicalstudent.com/>
http://www.thestudentroom.co.uk/wiki/Resources_for_Medical_Students
<http://www.nucleuscatalog.com/>

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