Osh State University

Medical Faculty

Department "Biochemistry, Pathophysiology and Pharmacology"

**«APPROVED»**

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GUIDELINES FOR TRAINEES

TO EXTRACURRICULAR WORK INDEPENDENTLY

SECTION: **PATHOPHYSIOLOGY OF SYSTEM**

TOPIC: **KIDNEY PATHOLOGY.**

Developed: teacher Ismailov I.Dzh.

Methodical instructions approved at a meeting of the department

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OSH

**Study subject:** Kidney pathology

**Aim of the lesson**: to study the causes and mechanisms of kidney failure and its consequences.

**Format:** Preparing for the practical exercises.

**Questions for self-study:**

1. Role of kidneys in human organism. Etiology and pathogenesis of kidney diseases.

2. Pathogeny of infringements of urine formation (infringement of filtration, reabsorption, secretion and excretion).

3. The causes and mechanisms of diuresis infringements. Quantitative and qualitative infringements of urine formation (oliguria, anuria,

polyuria). Hypostenuria, isostenuria, hyperstenuria. The causes.

4. Infringements of urine composition. Pathological components of urine.

5. Pathogenesis of acute glomerulonephritis. Etiology, pathogeny and basic manifestations. Mechanisms of development of hypertension and hypostases in nephrites.

6. Consequences of chronic glomerulonephritis.

7. Pyelonephritis. Ethiopathogenesis. Characteristics of infringements.

8. Nephrotic syndrome. Clinical manifestations. Pathogeny of hypostases in nephrotic syndrome.

9. Pathogenesis of nephritic and nephrotic oedema.

10. Renal insufficiency. Uraemia. Concept of hemodialysis (an artificial kidney).

11. Urolithic illness. Factors and mechanisms promoting formation of stones.

**List of practical skills**

1. To be able to calculate the color index

2. To be able to interpret the change in the main indicators of red blood.

**Recommendations to UIRS:**

1. Making the album with the relevant tasks relating to using educational and methodological literature.

2. Master the techniques of creative use of the program material on this topic by using problem solving.

**Self-control on test tasks:**

*1. The factors promoting increase of glomerular filtration:*

a) hydrostatic pressure augmentation in capillars

b) hydrostatic pressure reduction in capillars

c) augmentation of oncotic pressure in capillars

d) reduction of oncotic pressure in capillars

e) augmentation of intrarenal pressure

*2. The factors causing decrease of glomerular filtration:*

a) decrease in a tone of efferent arteriole

b) decrease of oncotic pressure in capillars

c) iincrease of oncotic pressure in capillars

d) decrease in intrarenal pressure

e) increase of intrarenal pressure

*3. The materials which are exposed to reabsorption in proximal departments of renal tubule:*

a) glucose

b) amino acids

c) Nа

d) inulin

*4. The factors disturbing reabsorption of substances in proximal departments of renal tubule:*

a) depressing of activity of ferments in renal tubule epithelium

b) increaseв activity of ferments in renal tubule epithelium

c) surplus of reapsorption materials in primary urine

d) tubule damage

*5. The water reabsorption in proximal department of renal tubule* is caused*:*

a) active transport Nа+

b) glucose reabsorption

c) reabsorption K+

d) vasopressinum action

***6.*** *Factors of water reabsorption decrease in proximal kidney tubule nephroses:*

a) primary urine osmolar depressing

b) glucose level increase above 10,0 mmol/l in blood

c) electrocortin introduction

d) furosemide Introduction

*7. The water reabsorption in distal department of renal tubule is controlled by:*

a) vasopressinum

b) electrocortin

c) atrial natriuretic factor

d) insulin

*8. Hyposthenuria is:*

a) depressing of relative density of urine

b) depressing of diurnal diuresis

c) decresed urination frequency

*9. Hyposthenuria is caused by:*

a) tubular nephron device damage

b) Shumljansky-Boumen sheath damage

c) acute glomerulonethrithis

d) chronic glomerulonethrithis

*10. Hypersthenuria is:*

a) increase of urination frequency

b) increase of relative density of urine

c) prevalence of a night diuresis over a diurnal diuresis

LITERATURE:

1. Lecture material.

2. General and clinical pathophysiology/ Ed. by A. V. Kubyshkin –

Vinnytsa: Nova Knyha Publishers. – 2011. – P. 566-587.

3. Pathology/ ed. by E. Rubin and J.L. Farber. – 2nd ed. – 1994. – P.884 –

866.

4. Pathophysiology/ ed. by C. Paradiso (Lippincott’s review series). –

1995. – P. 279 – 297.

5. Pathophysiology of disease: an introduction to clinical medicine/ ed. by

S. J. McPhee, W. F. Ganong. – 2006. – P.456 – 480.