



GENERAL NEPHROLOGY

Enrollment year	2021/2022
Academic year	2023/2024
Regulations	DM270
Academic discipline	MED/14 (NEPHROLOGY)
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE
Course	DIETISTIC
Curriculum	PERCORSO COMUNE
Year of study	3°
Period	(18/09/2023 - 19/01/2024)
ECTS	3
Lesson hours	24 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	RAMPINO TERESA - 2 ECTS RAMPINO TERESA - 1 ECTS
Prerequisites	//
Learning outcomes	<p>The course aims to provide knowledge of the anatomy of the kidney and urinary tract, elements of renal physiology (glomerular hemodynamics, function of the tubule, measurement of renal function), the basis for the recognition of nephrological pathologies through the examination of urine, the elements to understand the mechanisms underlying chronic renal failure, acute renal failure, diabetic nephropathy, kidney stones -the elementary notions of renal function replacement therapies: hemodialysis and peritoneal dialysis. In addition, the course aims to provide the basis to elaborate a diet in acute, chronic renal failure and in dialysis treatment.</p>

Anatomy of the kidney and urinary tract

Elements of renal physiology

Glomerular hemodynamics:

- renal perfusion,
- glomerular filtration: measurement
- renal self-regulation
- renin angiotensin system
- tubulo-glomerular feedback

Sodium reabsorption

Potassium reabsorption and secretion

Concentration and dilution of urine

Urinalysis: analysis and evaluation of results

Chronic renal failure

Causes of chronic renal failure

Progression of chronic renal failure

Renal adaptation to nephron loss

Water metabolism in chronic renal failure

Sodium metabolism in chronic renal failure

Potassium metabolism in chronic renal failure

Calcium-phosphorus metabolism in chronic renal failure

Alterations in lipid metabolism in chronic renal failure

Alterations in carbohydrate metabolism in chronic renal failure

Dietary therapy of chronic renal failure

Hypoproteic-high-calorie diet: protein intake
and energy

Contribution of vitamins, salt and water

Calcium, phosphorus and potassium intake

Diet compliance check

Acute renal failure

Acute functional renal failure

Acute organic kidney failure

Acute obstructive renal failure

Diagnosis and diet therapy of acute renal failure

Kidney and diabetes

Alterations of carbohydrate and kidney metabolism
glycosuria and TmG

Diabetic nephropathy
pathogenesis

natural history and clinical picture

how to slow the evolution of diabetic nephropathy

diet therapy

Extracorporeal hemodialysis

The filter

The artificial kidney

Vascular access

The dialysis liquid

The diffusive transport of solutes

	<p>The convective transport of solutes Dietary therapy of the patient on extracorporeal dialysis</p> <p>Peritoneal dialysis: Dialysis membrane Access to the peritoneum Execution methods Comparison between peritoneal and extracorporeal dialysis Diet therapy in patients on peritoneal dialysis</p> <p>The pathologies of the patient on dialysis Secondary hyperparathyroidism: diagnosis and diet therapy Anemia of the uremic patient</p> <p>Urinary tract calculi Definition and incidence of the various types of stones Calculations of calcium salts Pathogenesis and diet therapy Uric acid calculations Pathogenesis and diet therapy Cystine calculations Pathogenesis and diet therapy</p> <p>Kidney transplant: Transplantation immunology. Living transplant, transplant from a donor after brain death or circulatory death. Evaluation of patient before transplantation. Transplant complications in the short and long term. Therapy and diet in the transplanted patient</p>
Teaching methods	The course is organized in lectures and a day in laboratory to learn the technique of urine analysis and a day in the hemodialysis and peritoneal dialysis center to know the techniques of dialysis.
Reccomended or required readings	<p>Libetta C. et al. Malattie Renali ED Piccini Schena FP et al . Malattie dei reni e delle vie urinarie. Ed Ragni Dal Canton A., Rampino T. Lessons of nephrology. A pocket-size handbook of renal disease</p>
Assessment methods	<p>Oral exam Evaluation scale 0-30 The oral exam will focus on the topics covered in class and will serve to assess the level of achievement of the objectives, the communicative ability and the use of appropriate scientific language.</p>
Further information	<p>During the academic year, the tutor is available for individual meetings or groups of students in order to provide clarifications and information on the topics covered. Tel. +390382502591 e-mail: t.rampino@matteo.pv.it</p>
Sustainable development	Health and well-being

