Syllabus of the subspecialty Paediatric Urology

	Code
1. Normal and pathological embryology of the urinary and genital tract	CON
1.1. Development of the kidney and ureter	
1.2. Development of the bladder and the urethra	
1.3. Development of the female genital tract	
1.4. Development of the male genital tract	
2. Nephrology	NEPH
2.1. Normal physiology of the urinary tract and kidney	
2.2. Pathophysiology of pre and postnatal hydronephrosis	
2.3. Haematuria	
2.3.1. Definition	
2.3.2. Analysis	
2.3.4. Aetiology	
2.3.5. Diagnostic	
2.4. Parenchymal pathology	
2.4.1. Glomerular diseases (glomerulonephritis, hemolytic-uraemic-syndrome)	
2.4.2. Tubular diseases (acute renal insufficiency, hereditary diseases)	
2.4.3. Interstitial nephritis	
2.5. Renal insufficiency and dialysis	
2.5.1. Aetiology of chronic renal insufficiency	
2.5.2. Clinic (pyuria, anaemia, hypertension, bone metabolism; growth disorders)	
2.5.3. Dialysis (indication, peritoneal-haemodialysis)	
2.6 Renal transplantation	
2.6.1. Indication	
2.6.2. Selection, risks and contra-indications	
2.6.3. Preparation and diagnostic work-up	
2.6.4. Transplantation-immunology (HLA)	
2.6.5. Cadaveric and living donor kidney	
2.6.6. Surgical technique of explantation, implantation and postoperative technical complication	
2.6.7. Working of Euro-Transplant-organization	
2.6.8. Posttransplant immunosuppression technique	
3. Infection	INF
3.1. Definition of UTI (asymptomatic bacteriuria, bacterial cystitis, pyelonephritis)	
3.2. Diagnosis of UTI (microbiology, culture media, preparation techniques)	
3.3. Specific infection clinical features (abscess, tuberculosis, candida, eosinophilic cystitis, cystitis-cystica)	
3.4. Orchitis, epididymitis	
4. Principles in diagnosis of the urinary tract	DIA
4.1. History and physical examination of the child at different ages	
4.2. Associated clinical signs with anomalies of the urinary tract	
4.3. Urinalysis (stix, microscopic, chemical, culture)	
4.4. Serum-analysis	
4.5. Imaging of the urinary tract	
4.5.1. Ultrasound, color Doppler: theory, possibilities and limitations	
4.5.2. X-ray: protection principles, urography, cystography, video-urodynamics	
4.5.3. Contrast media: principles, indication and contra-indications	

4.5.4. Computerized tomography (principles, interpretation, possibilities, limitations)
4.5.5. Magnetic Resonance Imaging (priniciples, interpretation, possibilities, limitations)
4.6. Special imaging of the urinary tract using radio-isotopes
4.6.1. Principles
4.6.2. Static imaging: DMSA
4.6.3. Dynamic imaging: DTPA, MAG-3
4.6.4. Interpretation of clearance and glomerular filtration rate: principles and limitations
4.6.5. Direct and indirect cystography
4.6.6. Extrarenal imaging: neuroblastoma
4.7. Prenatal diagnostic
4.7.1. Ultrasound
4.7.2. Urinalysis (electrolytes, tubular markers)
4.8. Non-invasive diagnostic of the lower urinary tract
4.8.1. Uroflowmetry (principles, methods, interpretation)
4.8.2. Electromyography (principles, methods, interpretation)
4.9. Invasive diagnostic of the lower urinary tract
4.9.1. Antegrade and retrograde cystography (technique, interpretation)
4.9.2. Video-urodynamic study (technique, interpretation)
4.9.3. Cystometry (ambulatory and non-ambulatory)

5. Pre-, peri- and postoperative management of the child - Anesthesia principles FLU
5.1. Selection, pre-operative studies
5.2. Parental information pre- and postoperative
5.3. Ambulatory surgery
5.3.1. Selection
5.3.2. Local anesthesia techniques (methods, pharmacology)
5.4. Pain management (oral, rectal, parenteral)
5.5. Postoperative fluid management
5.6. Anaesthesia (principles, premedication)

6. Anomalies of the kidney and the upper urinary tract - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: UPP
6.1. Prenatal hydronephrosis and associated problems (pulmonary hypoplasia)
6.2. Renal agenesis
6.3. Renal hypoplasia
6.4. Renal dysplasia (multicystic dysplastic kidney, cystic dysplasia with obstruction)
6.5. Renal duplication : incomplete
6.6. Polycystic infantile and adult renal disease
6.7. Horseshoe-kidney
6.8. Renal ectopia
6.9. Uretero-pelvic junction obstruction (UPJ)
6 10. Megacalycosis
6.11. Ureterocele (intra- and extravesical)
6.12. Ectopic ureter

7. Anomalies of the lower urinary tract - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: LOW
7.1. Urachal pathology (open urachus, cysts, sinus, diverticulum)
7.2. Exstrophy – Epispadias - Complex
7.3. Bladder diverticulum
7.4. Vesico-ureteral reflux

7.5. Urethral valves
7.6. Urethritis posterior
7.7. Urethral strictures
7.8. Duplication of the urethra
7.9. Urethral diverticulum
7.10. Meatal prolapse
7.11. Urogenital sinus anomalies
7.12. Cloacal anomalies

8. Anomalies of the upper and lower urinary tract - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: LOW
8.1. Prune-Belly-Syndrome

9. Anomalies of the penis - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: PTS
9.1. Hypospadias
9.2. Phimosis (lichen sclerosus)
9.3. Epispadias
9.4. Buried penis
9.5. Penoscrotal web
9.6. Micropenis

10. Anomalies of the testis and the scrotum - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: PTS
10.1. Maldescent of the testis (cryptorchism, ectopia, retractile)
10.2. Anorchia, polyorchia
10.3. Hydrocele, hernia
10.4. Varicocele,
10.5. Spermatocoele

11. Sexual differentiation problems SEX
11.1. Embryology and physiology of genital differentiation
11.2. Hermaphroditism, female and male pseudohermaphroditism
11.3. Mixed gonadal dysgenesis
11.4. Chromosomal abnormalities

12. Function disorders of the lower urinary tract FUN
12.1. Normal anatomy and physiology
12.2. Classification of functional disorders
12.3. Urinary diversion techniques
12.4. Non-neuropathic function disorders
12.5. Neuropathic function disorders : conservative treatment, bladder augmentation
12.6. Management of associated problems of neurogenic disorders (bowel, tethered cord, pubertas praecox, latex allergy, amnesia)

13. Primary monosymptomatic nocturnal eneuresis FUN
13.1. Pathophysiology
13.2. Treatment options

14. Paediatric urology emergencies - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: EME
14.1.Renal infectious problems (pyonephrosis, renal abscess)
14.2.Renal non-infectious problems (trauma, renal vein thrombosis)
14.3. Ureteral trauma

14.4. Adrenal haemorrhage
14.5. Renal colic (acute upper urinary tract obstruction)
14.6. Urinary retention
14.7. Testicular torsion
14.8. Torsion of the appendix testis
14.9. Incarcerated hernia
14.10. Testicular rupture
14.11. Orchitis
14.12. Epididymitis
14.13. Paraphimosis
14.14. Priapism
14.15. Penile and scrotal trauma
14.16. Bladder trauma (intra- and extraperitoneal rupture)
14.17. Urethral rupture
14.18. Trauma of the female genital tract
14.19. Infection of the female genital tract (vulvovaginitis, foreign body)
14.20. Acute hydro- and haematocoele
14.21. Idiopathic scrotal oedema

15. Urolithiasis LIT

15.1. Aetiology
15.2. Metabolic disorders
15.3. Chemical characteristics
15.4. Clinical, diagnostic and management
15.5. Treatment options

16. Paediatric urology oncology - Diagnostic, management, therapeutic options, surgery selection, surgical techniques of: ONC

16.1. Wilms tumour
16.2. Neuroblastoma
16.3. Rhabdomyosarcoma
16.4. Testicular tumours (Leydig cell, Yolk Sac, Leukaemia)
16.5. Hypernephroma
16.6. Pheochromocytoma

17. Management and social aspects of the care of the child as a patient

17.1. Communication skills with the child and its family
17.2. Knowledge of the psychosocial and sexual development of a child