Approved at the methodic meeting
of the Department of Propaedeutic Pediatrics and Medical Genetics
on the August, 30, 2023 (Minutes No 1)

MODERN METHODS OF GENETIC DIAGNOSTICS
(CURRICULUM)
(Dentistry Faculty, the 3rd Year of Study, 2023-2024)

Practice: 20 hours
Self-works: 40 hours
Total: 60 hours

Practice Curriculum

No	Topic	Hours
	Part 1. Syndromological analysis	
1	Clinical and genealogical analysis. Method of compiling pedigree	2
2	Syndromological analysis. Using of syndromological analysis in the diagnosis of hereditary pathology	2
	TOTAL	4
	Part 2. Cytogenetic methods of diagnosis of congenital and hereditary pathology	
3.	Cytogenetic research methods in the clinic. Chromosomal abnormalities (numerical, structural).	2
4.	Chromosomal polymorphism, chromosomal instability, gonadal mosaicism, single-parental dysmosis.	2
	TOTAL	4
Part 3. Biochemical methods of diagnosis of congenital and hereditary pathology		2
5.	Diagnosis of hereditary metabolic diseases	2
6.	Massive screening programs in the early diagnosis of hereditary pathology	2
	TOTAL	4
	Part 4. Molecular genetic methods of diagnostics of hereditary pathology	
7.	Modern methods of DNA-diagnostics of hereditary pathology	2
	TOTAL	2
Part 5. Prenatal diagnosis of congenital and hereditary pathology.		2
8.	Methods of prenatal diagnosis.	2
9.	Invasive methods of prenatal diagnosis	2
10.	Laboratory methods of prenatal diagnosis	2
	TOTAL	6
	TOTAL for discipline	**20**

Self-work Curriculum

No	Topic	Hours
	Part 1. Syndromological analysis	
1.	Methodology of examination of a patient with a suspicion of hereditary pathology. Conducting analysis of phenotypic features of proband and its family members	4
2.	Method of compiling pedigree	2
	TOTAL	6
	Part 2. Cytogenetic methods of diagnosis of congenital and hereditary pathology	
3.	The structure and functions of chromosomes.	2
4.	Cytogenetic research methods in the clinic.	2

5.	Molecular-cytogenetic diagnostic methods (FISH)	3
6.	DNA sequencing	3
	TOTAL	10
	Part 3. Biochemical methods of diagnosis of congenital and hereditary pathology	
7.	Programs of selective screening in diagnostics of HMD.	3
8.	Modern methods of clarifying the diagnostics of HMD. Interpretation of the results of high performance liquid chromatography	3
9.	Modern methods of clarifying the diagnostics of HMD. Interpretation of the results of gas chromatography - mass spectrometry	3
10.	Modern methods of clarifying diagnostics. Interpretation of the results of tandem mass spectrometry	3
11.	Interpretation of the results of enzyme diagnosis of lysosomal diseases accumulation	3
	TOTAL	15
	Part 4. Molecular genetic methods of diagnostics of hereditary pathology	
12.	Structure and functions of DNA	2
13	New technologies in molecular diagnostics (DNA analysis on microchips)	4
	TOTAL	6
	Part 5. Prenatal diagnosis of congenital and hereditary pathology	
14	Prenatal ultrasound diagnosis of birth defects	3
	TOTAL	3
	TOTAL for discipline	**40**

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and Medical Genetics, Professor, MD _____ Olena LYCHKOVSKA