Graduate School of Health Sciences / Cardiovascular Perfusion M.S

2023 - 2024 Academic Year

PEDIATRIC PERFUSION

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
PEDIATRIC PERFUSION	PRFY1231170	Spring Semester	2+2	3	6

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	Turkish
Course Level	Second Cycle (Master's Degree)
Course Type	Elective
Course Coordinator	Prof.Dr. Halil TÜRKOĞLU
Name of Lecturer(s)	Prof.Dr. Ahmet ŞAŞMAZEL, Assist.Prof. Serhat Bahadır GENÇ
Assistant(s)	
Aim	
Course Content	This course contains; 1.Basic anatomy, physiopathology and classification of congenital heart diseases,2. Surgical treatment options in congenital heart diseases,3. History of pediatric perfusion and differences from adult perfusion,4. Hypothermia/normothermia and pulsatile/nonpulsatile flow in pediatric perfusion,5.Acid-base management and myocardial protection,6. KPB effects (respiratory system, nervous system, SIRS),7.Circuits and systems,8.Prime, hemodilution and modified ultrafiltration,9. CPB management (CPB entry-follow-up-leave, anticoagulation),10. Pediatric mechanical circulation support,Principles of cardiopulmonary bypass,hemofiltration,Neonatal, infant and pediatric heart lung transplantation,Pulmonary hypertension and nitric oxide.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1. will know the basic anatomy, physiopathology and classification of congenital heart diseases	10, 14, 16, 3, 5	E
2. will know the surgical treatment options in congenital heart diseases		
2.1 will know the definition of palliative and corrosive surgery		
2.2 will know basic surgical techniques		
3. Will know the history of pediatric perfusion and its differences from adult perfusion		
4. Will know hypothermia/normothermia and pulsatile/nonpulsatile flow in pediatric perfusion		
5. Will know acid-base management and myocardial protection.		
6. Will know the effects of KPB on systems		
6.1 will know the effects of CPB on the respiratory system		
6.2 will know the effects of CPB on the nervous system		
6.2 will know the effects of CPB on the nervous system		
7. Will know the circuit and systems		
7.1 will know cannulation techniques and appropriate cannulas		
7.2 Will be able to choose the appropriate circuit and oxygenator.		
8. Will be able to know prime, hemodilution and modified ultrafiltration applications.		
8.1 will know the properties of Prime and its effect on hemodilution		
8.2 Will be able to know the definition of modified ultrafiltration and its application indication and technique.		
9. KPB management (KPB entry-follow-up-leave, anticoagulation) will know		
9.1 know pediatric CPB entry, follow-up and exit techniques and criteria		
9.2 will know anticoagulation and bleeding management techniques in pediatric CPB.		
10. Will know the application of pediatric mechanical circulatory support.		
10.1 will know the indication of pediatric circulatory support systems		
10.2 will know the setup and follow-up of the pediatric circulatory support system.		

Teaching Methods	10: Discussion Method, 14: Self Study Method, 16: Question - Answer Technique, 3: Problem Baded Learning Model, 5: Cooperative Learning
Assessment Methods	E: Homework

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	1.Basic anatomy, physiopathology and classification of congenital heart diseases	
2	2. Surgical treatment options in congenital heart diseases	
3	3. History of pediatric perfusion and differences from adult perfusion	
4	4. Hypothermia/normothermia and pulsatile/nonpulsatile flow in pediatric perfusion	
5	5.Acid-base management and myocardial protection	
6	6. KPB effects (respiratory system, nervous system, SIRS)	
7	7.Circuits and systems	
8	8.Prime, hemodilution and modified ultrafiltration	
9	9. CPB management (CPB entry-follow-up-leave, anticoagulation)	
10	10. Pediatric mechanical circulation support	
11	Principles of cardiopulmonary bypass	
12	hemofiltration	
13	Neonatal, infant and pediatric heart lung transplantation	
14	Pulmonary hypertension and nitric oxide	

Evaluation Methods	**Weight(%)**
Midterm Exam	50
General Exam	50

Resources
Pediatric Perfusion