

JSC "SOUTH KAZAKHSTAN MEDICAL ACADEMY"



«APPROVED»
Head of SKMA, Professor
M. Rysbekov
2022 year



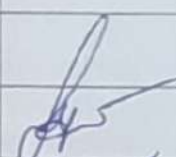
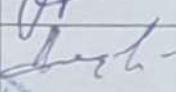

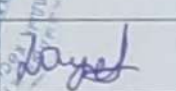

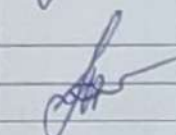
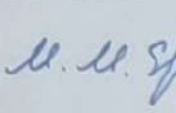
SOUTH KAZAKHSTAN
MEDICAL
ACADEMY

EDUCATIONAL RESIDENCY PROGRAM

7R01117 "ANESTHESIOLOGY AND RESUSCITATION FOR ADULTS, CHILDREN"

Shymkent 2022

The educational program of the residency 7R01117 "Anesthesiology and resuscitation for adults, children" was developed on the basis of the order of the Minister of Health of the Republic of Kazakhstan dated July 4, 2022 No. KR DSM-63 "On approval of state mandatory standards for levels of education in the field of healthcare" and proposals from all interested parties.

Position	Full name	Signature
Developed by		
Teaching staff of the Family medicine department. Anesthesiology-resuscitation		
Head of Department, Candidate of Medical Sciences, Ass.Prof.	Kauizbai Zh.	
Acting Professor, Candidate of Medical Sciences, Docent	Aldeshev A. A.	
Representative of Practical Healthcare: Deputy chief physician about medical part of CME with REM "Municipal hospital №2" of Shymkent city HD	Zhakibayev A.K.	
Resident of the EP " Anesthesiology and resuscitation for adults, children"	Yunusmetov E..	
Protocol of the department meeting No. 12 from " 03 " " 08 " 2022		
Discussed at the Residency CEP meeting		
Chairman of the CEP	Kauizbai Zh.	
Protocol No. 5 from " 04 " " 08 " 2022		
Approved by the Clinical Council		
Chairman of the Clinical Council	Kauizbai Zh.	
Protocol No. 5a from " 05 " " 08 " 2022		
Approved by the First Vice-Rector The First Vice-rector		
Protocol No. ___ from " 08 " " 08 " 2022	Yesirkepov M.M.	
Approved by the Academic Council		
Protocol No. 12 from " 08 " " 08 " 2022		

Passport of the educational program

1. Mission of the educational program

To be recognized as a leader in the field of training highly qualified, competitive anesthesiologists-resuscitators.

2. Purpose of the educational program:

In-depth training of a specialist who can assist the patient in restoring and maintaining the functions of vital organs and systems that are disrupted due to anesthesia, surgery, trauma, and other causes.

3. Objectives of the educational program:

- Strengthen teamwork and leadership skills;
- Strengthen the skills of basic medical treatment and diagnostic and preventive interventions;
- Teach to make professional decisions based on the principles of evidence-based medicine
- Teach to comply with the requirements of medical ethics and deontology when conducting expert, preventive, therapeutic and diagnostic measures;

4. The professional standard on the basis which the educational program was developed Professional standard "Anesthesiology and resuscitation for adults, children" Minister of Health of the Republic of Kazakhstan dated July 4, 2022 No. KR DSM-63 "On approval of state mandatory standards for levels of education in the field of healthcare" and proposals from all interested parties.

5. The field of professional activity. Healthcare

6. Objects of professional activity. Medical organizations providing inpatient and outpatient care, healthcare systems of the Republic of Kazakhstan.

General information

№	EP characteristics	Data
1	Registration number	7R09100006
2	Education area code and classification	7R01 Healthcare (medicine)
3	Code and classification of training areas	7R011 Healthcare
4	Group of educational programs	7R017 Anesthesiology and resuscitation (adult, children)
5	Code, name of the educational program	7R01117 «Anesthesiology and resuscitation (adult, children)» (residency)
6	Type of EP	Updated EP
7	ISCED level	7
8	NQF level	7
9	SQF level	7
10	Distinctive features of the EP	None
	Partner university (JEP)	-
	Partner university (TDEP)	-
11	List of competencies	KC1. Patient supervision: able to formulate a diagnosis, prescribe a treatment plan and evaluate its effectiveness based on evidence-based practice at all levels of medical care. KC2. Communication and collaboration: able to effectively interact with the patient, his environment, and healthcare professionals in order to achieve the best results for the patient KC3. Safety and quality: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care KC4. Public health: able to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in his specialty, provide basic assistance in emergency situations, work as a part of interprofessional teams to implement a policy of strengthening the



		<p>health of the nation</p> <p>KC5. Research: able to formulate adequate research questions, critically evaluate professional literature, effectively use international databases in his daily activities, and participate in the work of the research team</p> <p>KC6. Training and development: able to study independently and train other members of a professional team, actively participate in discussions, conferences and other forms of continuous professional development</p>
12	Learning outcomes	<p>LO1: able to formulate a syndromic diagnosis, prescribe an intensive care plan and evaluate its effectiveness based on evidence-based practice at the hospital level, conduct anesthesia manuals in specialized sections of surgery, obstetrics and gynecology, transplantology, etc</p> <p>LO2: able to effectively interact with a patient in need of anesthesia support/intensive care and his relatives, by healthcare professionals in order to achieve the best results for the patient.</p> <p>LO3: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care during anesthesia and intensive care.</p> <p>LO4: is able to act within the legal and organizational framework of the health care system of the Republic of Kazakhstan in the provision of anesthesia, intensive care, resuscitation, provide basic and extended assistance in critical and emergency situations, work as part of interprofessional teams to implement the national health promotion policy.</p> <p>LO5: able to formulate adequate research goals and objectives, critically evaluate the specialized literature on anesthesiology and resuscitation, effectively use international databases in their daily activities, and participate in the work of the research team.</p> <p>LO6: able to learn independently and train other members of the professional team, actively participate in discussions, conferences and other forms of continuous professional development.</p>
13	Form of education	Full-time
14	Language of education	Kazakh and Russian
15	Amount of credits	210
16	Duration of the training	3 years
17	Assigned degree, qualification	Doctor-anesthetist and resuscitator adult, children
18	Availability of an appendix to the license for the direction of training	KZ 36LAA00011387
19	Availability of EP accreditation	Exist
	Name of accreditation body	IAAR
	Duration of accreditation	№KZ73LAA00011788 10.06.2022 – 09.06.2027
20	Information about disciplines	Appendix 1.2

Appendix 1.1

The matrix of correlation of learning outcomes according to the educational program as a whole with the competencies being formed

	LO1	LO2	LO3	LO4	LO5	LO6
KC1	+	+	+			
KC2		+		+		
KC3			+		+	
KC4				+		
KC5					+	
KC6						+

Appendix 1.2

The matrix of achievability of competencies/learning outcomes

№	Name of the discipline	Short description of the discipline	Cycle (BD, PD)	Component (MC, UC, CC)	Number of credits.	General learning outcomes (codes)
1	Anesthetic management in surgical patients	Organization of anesthetic and resuscitation care. Current legal and regulatory acts. Preparation of the workplace and anesthesia and respiratory equipment. Preoperative examination, assessment of the patient's condition. Choice of anesthesia based on the patient's initial condition and the amount of surgical intervention. Determining the risk of anesthesia. Preoperative preparation. Choice of premedication. Intraoperative measures aimed at maintaining hemodynamics. Infusion and transfusion therapy. Correction of WEB and ABS.	PD	MC	34	LO1 LO2 LO4
2	Intensive care in patients with surgical and therapeutic profile	Monitoring of vital functions of patients. Establishment of a syndromic diagnosis, identification of pathological leading syndromes, prevention of complications of the underlying disease, pathogenetic and syndromic intensive care. Rules for infusion therapy, correction of water-electrolyte balance disorders, and fasting. Transfusion and complications during transfusion therapy. Blood-saving technologies and alternative treatment methods. Parenteral nutrition. Basic principles of antibacterial therapy.	PD	MC	34	LO1 LO3 LO5
3	Anesthetic management in pediatrics and neonatology	Influence of the child's age, general condition and concomitant diseases on the choice of anesthesia method. Preoperative examination. Malformations and diseases of organs and systems. Allergic diseases and conditions. Metabolic disorders of various etiologies and their correction. Inhalation anesthesia. Non-inhalation anesthesia. Combined methods of anesthesia. Features of tracheal intubation and indications for it.	PD	MC	34	LO1 LO2 LO3
4	Intensive care in pediatrics and neonatology	Diagnostics, etiopathogenetic treatment and intensive care of syndromic disorders and critical conditions in children and newborns. Nursing of newborns. Monitoring of vital functions of children. Calculation of infusion and transfusion therapy, correction of electrolyte disturbances, coagulation	PD	MC	34	LO4 LO3 LO5

		potential and blood gas composition in children and newborns. Resuscitation and intensive care for critical conditions in newborns according to WHO programs.				
5	Anesthesia and intensive care in obstetrics and gynecology	Risk factors for anesthesia and surgery. Preparation. Labor pain relief. Features of anesthesia in obstetrics and gynecology. Errors and complications. Anaesthetic tactics in case of complications. Intensive care for hemorrhagic shock, DIC syndrome. Intensive care for severe preeclampsia, eclampsia, HELLP the syndrome. Intensive care for thromboembolic complications in obstetric and gynecological practice. Amniotic embolism, intensive care. CPR	PD	MC	14	LO2 LO3 LO6
6	Anesthesia and intensive care in neurosurgery and neurology	Features of preparation for anesthesia in patients with damage to the bones of the skull, brain and spinal cord. Selection of components for maintaining anesthesia and its features. Features of anesthesia during operations in the "sitting" position. Coma and comatose states. Acute cerebrovascular accident in young children and newborns. Intensive care of emergency conditions in neurosurgery and neurology.	PD	MC	11	LO1 LO2 LO3 LO5
7	Anesthesia and intensive care in cardiac surgery, perfusion	General anesthesia in cardiac surgery. Regional anesthesia in cardiac surgery. Monitoring during an anaesthetic benefit. Anaesthetic manual in cardiac surgery in patients with concomitant pathology. Intensive care and monitoring in the postoperative period. Intensive care of critical conditions in cardiac surgery.	PD	MC	11	LO4 LO5 LO6
8	Intensive care in cardiology	Acute left ventricular failure: Severity of cardiogenic pulmonary edema. Differential diagnosis with bronchial asthma. Intensive care of acute left ventricular failure. Acute right ventricular failure. Diagnosis of pulmonary embolism. Intensive care of acute right ventricular failure. Intensive care of acute vascular insufficiency. Correction of hemodynamics. Correction of respiration and metabolism. Correction of the blood coagulation system.	PD	MC	9	LO1 LO2 LO5
9	Anesthesia and intensive care in maxillofacial surgery, dentistry and otorhinolaryngology, ophthalmology. Ambulatory anesthesiology.	Features of anesthesia in MFS, dentistry and otorhinolaryngology, ophthalmology. Basic requirements for anesthesia in outpatient dental practice. Features of preoperative preparation, indications and contraindications for performing anesthesia on an outpatient basis. Features of anesthesia and intensive care in children. Intensive care and monitoring in the postoperative period. Intensive care for critical conditions.	PD	MC	7	LO1 LO2 LO4 LO3
10	Intensive care	Pathophysiological changes of vital organs	PD	MC	6	LO1

	for infectious diseases	and systems in infectious pathology and septic conditions in adults and children. Clinic, depending on the nature of the microflora. Principles of intensive care. The place of sorption detoxification methods in the intensive care program. Infection control and selection of antibacterial drugs. Prevention of purulent-septic complications in children and newborns.				LO2 LO3 LO6
11	Intensive care for acute poisoning, efferent medicine.	The main directions of intensive care of acute poisoning: methods of limiting, slowing down, stopping the entry of poison into the body, depending on the route of its penetration (at the prehospital stage, in specialized hospitals). Antidotes and antidote therapy. Efferent therapy. Methods of intracorporeal and extracorporeal detoxification. Detoxification mechanism, indications, contraindications.	PD	MC	6	LO3 LO5 LO6
12	Innovative technologies in anesthesiology and intensive care Specialized methods in anesthesiology	Ensuring patient safety in the operating room (SpO ₂ , PetCO ₂ , etc.), basic principles. General anesthesia with a low-flow method, technique, advantages, disadvantages. Modern ventilation modes. Kinds. Indications. Hypothermia, types, methods, indications. Non-invasive methods of blood circulation control (BP, MOS, SI, PPS, Echocardiography, rheography). Invasive methods of blood circulation control (BP, CVP, MOS, SI, OPPS, PiCCO monitors). Methods for assessing the metabolic status. Neuroanesthesiology, hypothermia, controlled hypotension. High-frequency ventilation in anesthesiology. Ultrasound in neuroaxial anesthesia. Assessment of the level of anesthesia depth by bispectral analysis. Artificial blood circulation, electrocardiostimulation in cardioanesthesia. Multimodal methods of anesthesia. Features. Controlled hemodilution during anesthesia. Features in critical conditions. Features of anesthesia in spinal cord surgery.	PD	OC	4	LO1 LO3 LO5 LO6
13	Features of reanimation and intensive therapy in medicine of catastrophes	Choice of anesthesia method in conditions of mass admission of victims. Features of preoperative preparation. Maintaining homeostasis during anesthesia. Principles of correction of infusion and transfusion therapy, oxygen regime. Intensive care in the postoperative period. Intensive care for burn shock, severe cold trauma. Resuscitation care for electrotrauma. Restoration of heart	PD	OC	4	LO2 LO3 LO4 LO6

	Efferent therapy in the clinic of endo- and exotoxicosis	activity and respiration in case of electric shock. Principles of efferent therapy. Pathogenetic basis of extracorporeal detoxification. Kinds. Toxicokinetic and toxicodynamic aspects. Endotoxycosis. Modern detoxification and corrective therapy. Efferent detoxification methods Natural detoxification. Hyperbaric oxygenation. Electrochemical oxidation of blood. Hemodialysis. Pasmapheresis. Ultrafiltration. Lymphohemoplasmosorption. Indications and contraindications, preparation, complication				
	TOTAL					208
	FINAL CERTIFICATION					2
	TOTAL					210

The matrix of achievement of LO by various teaching methods

LO	Applied teaching and learning methods	
LO1: able to formulate a syndromic diagnosis, prescribe an intensive care plan and evaluate its effectiveness based on evidence-based practice at the hospital level, conduct anesthesia manuals in specialized sections of surgery, obstetrics and gynecology, transplantology, etc	Analysis of clinical material, feedback from the resident	Curation of patients Modeling of the clinical situation
LO2: able to effectively interact with a patient in need of anesthesia support/intensive care and his relatives, by healthcare professionals in order to achieve the best results for the patient.	Reflective diary	Curation of patients
LO3: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care during anesthesia and intensive care.	Supervision of clinical work	
LO4: is able to act within the legal and organizational framework of the health care system of the Republic of Kazakhstan in the provision of anesthesia, intensive care, resuscitation, provide basic and extended assistance in critical and emergency situations, work as part of interprofessional teams to implement the national health promotion policy.	Supervision of clinical work	
LO5: able to formulate adequate research goals and objectives, critically evaluate the specialized literature on anesthesiology and resuscitation, effectively use international databases in their daily activities, and participate in the work of the research team.	Writing abstracts, articles Analysis of scientific articles	Public speaking
LO6: able to learn independently and train other members of the professional team, actively participate in discussions, conferences and other forms of continuous professional development.	Observation	Curation of patients

The matrix of achievement of LO by various teaching methods and assessment methods

LO	Assessment methods	
LO1: able to formulate a syndromic diagnosis, prescribe an intensive care plan and evaluate its effectiveness based on	Testing Oral interview	Mini-clinical exam

evidence-based practice at the hospital level, conduct anesthesia manuals in specialized sections of surgery, obstetrics and gynecology, transplantology, etc		Check-list Assessment of practical skills
LO2: able to effectively interact with a patient in need of anesthesia support/intensive care and his relatives, by healthcare professionals in order to achieve the best results for the patient.	Mini-clinical exam	Maintaining diary Assessment 360 ^o
LO3: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care during anesthesia and intensive care.	Analysis of medical records Analysis of the anesthesia card Analysis of intensive care card	Check-list Assessment of practical skills
LO4: is able to act within the legal and organizational framework of the health care system of the Republic of Kazakhstan in the provision of anesthesia, intensive care, resuscitation, provide basic and extended assistance in critical and emergency situations, work as part of interprofessional teams to implement the national health promotion policy.	Feedback from patients Feedback from other residents	Assessment 360 ^o
LO5: able to formulate adequate research goals and objectives, critically evaluate the specialized literature on anesthesiology and resuscitation, effectively use international databases in their daily activities, and participate in the work of the research team.	Presentation, abstract Publications	Check-list RIW assessment
LO6: able to learn independently and train other members of the professional team, actively participate in discussions, conferences and other forms of continuous professional development.	Portfolio Clinical records Self-assessment	Check-list RIW assessment

Work plan for the entire period of study

Cycle of disciplines	Discipline code	Name of discipline/modules	Amount of credits	General hours	Classroom	RIC		1 year of study	2 year of study	3 year of study	Form of control	FE
						RIW T	RTI C					
PD		Cycle of profiling disciplines	208	6240								
PD	MC	Mandatory component	200	6000								
		R-AMSP	34	1020	204	663	153	34			Exam	
		R-ICPSTP	34	1020	204	663	153	34			Exam	
		R-AMPN	34	1020	204	663	153		34		Exam	
		R-ICPN	34	1020	204	663	153		34		Exam	

		pediatrics and neonatology									
	R-AICOG	Anesthesia and intensive care in obstetrics and gynecology	14	420	84	273	63			14	Exam
	R-AICNN	Anesthesia and intensive care in neurosurgery and neurology	11	330	66	214	50			11	Exam
	R-AICCS P	Anesthesia and intensive care in cardiac surgery, perfusion	11	330	66	214	50			11	Exam
	R-ICC	Intensive care in cardiology	9	270	54	175	41			9	Exam
	R-AICMS DOOA A	Anesthesia and intensive care in maxillofacial surgery, dentistry and otorhinolaryngology, ophthalmology. Ambulatory anesthesiology.	7	210	42	136	32			7	Exam
	R-ICID	Intensive care for infectious diseases	6	180	36	117	27			6	Exam
	R-ICAPE M	Intensive care in acute poisoning, efferent medicine.	6	180	36	117	27			6	Exam
OC	Optional component		8	240	48	156	36	2	2	4	
	R-SMA	Specialized methods in anesthesiology	4	120	24	78	18	2	2		Exam
	R-ITAIC	Innovative technologies in anesthesiology and intensive care									
	R-FRITM C	Features of reanimation and intensive therapy in medicine of catastrophes	4	129	24	78	18			4	Exam
	R-ETCEE	Efferent therapy in the clinic of endo- and exotoxicosis									
	TOTAL		208	6240	1248	4056	936				
IC	Intermediate certification										
FE	Final examination		2	60						2	60
	TOTAL		210	6300	1248	4056	936	70	70	70	60