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New “Protocols” for critical care medicine in countries with limited resources

Abstract:

The article provides the list of new protocols in Critical Medicine that are recommended for the clinics with limited resources. These protocols can also be used during the wars and catastrophes.

Keywords: Protocols, clinics with limited resources, Critical Care Medicine

Introduction:

Medical evidence-based guideline is developed on the basis of clinical condition (nosology / syndrome) management, which represents the State policy document and is approved by the Ministry of Labour, Health and Social Protection. It is intended for clinicians, for health service managers, as well as for the patients, their families and caregivers.

The experience of many countries shows that a good guideline positively reflects on the process of care, improves clinical outcomes and health care resources and increases spending affectivity. Guidelines develop standards for health professionals, which facilitates the evaluation of service quality.

The use of guidelines is appropriate for medical staff education programs. Guideline also helps patients to make informed decisions and significantly contributes to the establishment of good communication between doctor and patient. National Protocol for clinical practice recommendations (guidelines) is developed on the basis of clearly defined stages of clinical management of the condition and action sequence.

Goals and Objectives:

Evidence-based clinical practice guidelines and protocols are established to aid the development and improvement of quality control.

Materials and Methods:

The medical standards in critical care medicine have been developed for the first time in 1995, which worked in Georgia for Several years. Nowadays, the Institute of Critical Care Medicine has newly established standards for emergency medical treatment, which has been approved by the Association of Critical Care Medicine.

Results and discussion:

Standards are presented in the form of 35 critical conditions. Each is made from blocks; each block describes the directions for usage of these medications and doses. As an example, we present the standard treatment for anaphylactic shock.

Code-88224	Critical Care	Bed days 3 b/d	
The level of medical care: Regional and central hospitals			
T78.2	Anaphylactic shock	Number	
Block	technology	necessary	Advisory
The patient received	B- 1	1	1
Daignoses	B-2 – 1,2,3,4,5,6	1	1
The main and auxiliary	B- 3-1,3-2	2	2
Care of patients	B- 4	2	2
Provision of water& electrolytes	B-5	2	2
inotrophyc effect therapy for heart	B- 10	2	2
Food	B-8-2	2	2
sensitivity of receptors	B- 45	3	3
antibacterial therapy	B- 25-1	1	1
Gastric mucosal protection	B- 46	1	1
Stimulation of intestinal	B- 47	1	1
Non-Differentiated therapy	B- 34	2	2
Cost	The total- 2100 lari	Bd day-700 lari	Salary Fund 40-50%
outcome:	Critical condition liquidation	Critical condition liquidation profound disability	death
Note			

The blocks are presented as follows:

#	Block 1-1	
1.	Name: patient's check in	
2.	Executive: Critical Care Medicine physician, critical care nurse, sanitary.	
3.	Controller: Head of department of Critical Care Medicine.	
4.	Terms: The first hour of patient's stay in hospital.	
5.	Job description:	<ul style="list-style-type: none"> • To lie the patient on bed • The release the air ways • Oxygen Supply • Connection to the cardio monitor • Catheterization the peripheral vein • Catheterization the urine bladder • Blood and urine laboratory tests • ECG • To perform the Section 1-2
6.	Indications: All patients who are in critical condition	
7.	Contraindications: does not exist	
8.	The result: The patient is placed on the bed, is under	
9.	Monitoring, all activities are performed by protocol.	
10.	Note:	<ul style="list-style-type: none"> • Conditions of block cancellation, stopping or or changing work • The doctor's signature

#	Block 1-2	
1.	Name: patient's check in	
2.	Executive: Critical Care Medicine physician, critical care nurse, sanitary.	
3.	Controller: Head of department of Critical Care Medicine.	
4.	Terms: The first hour of patient's stay in hospital.	
5.	Job description: evaluation severity of condition by digital analog scale, monitoring.	
6.	Indications: All patients who are in critical condition	
7.	Contraindications: does not exist	
8.	The result: The patient is under monitoring, severity of condition evaluated.	
9.	Note:	<ul style="list-style-type: none"> • Conditions of block cancellation, stopping or changing work • The doctor's signature:

#	Block 2-1	
1.	Name: Diagnoses.	
2.	Executive: Critical Care Medicine physician, critical care nurse, laboratory doctor, laboratory nurse, radiology doctor, radiology nurse.	
3.	Controller: Head of department of Critical Care Medicine.	
4.	Terms: The patient's stay in hospital for the first 6 hours.	
5.	Job description: To carry out the following studies:	ECG Chest X-ray Full Blood test Urine test Electrolytes Liver function tests Arterial Blood Gases Glasgow Coma Scale APACHE II scale Calculation of circulating blood deficiency Liquor and pleural puncture fluid analyses
6.	Indications: All patients who are in critical condition.	In case of meningitis or encephalitis liquor analyses should be performed. In case of pleural fluid level more than 700ml or In order to clarify the genesis of the fluid in the pleural cavity, pleural fluid analyses should be performed.
7.	Contraindications: Pleural puncture can be postponed because of acute cardiovascular failure. Spinal puncture can be deferred if there is a chance of brain tumor. Before CT scan.	
8.	Note: Each test should be performed in every 7 days. Test of the latter parameters should be doubled in the same period of time.	
9.	The result: The patient underwent appropriate studies.	
10.	Conditions of block cancellation, stopping or changing work.	
11.	The doctor's signature.	

#	Block 3-1	
1.	Name: maintenance with the main stuff	
2.	Executive: Critical Care Medicine doctor, Critical Care Medicine Nurse.	
3.	Controller: Head of department of Critical Care Medicine.	
4.	Job description: The patient should be provided with basic products	Catheters,
		Intubation tube,
		Tracheostomial tube,
		Urine bladder catheter
		Naso-gastral probe with, Spinal puncture needle
5.	Indications: all patients who are in critical condition	
6.	Contraindications: does not exist	
7.	The result: The patient is provided with main stuff	
8.	Note:	Conditions of block cancellation, stopping or changing by the other block
		The doctor's signature:

#	Block 3-2	
1.	Name: Auxiliary products.	
2.	Artist: Critical Care Medicine doctor, Critical Care Medicine Nurse.	
3.	Watchdog: Department of Critical Care Medicine.	
4.	Job description: The patient should be provided with Auxiliary products.	Cotton
		Bandages
		Syringe 2ml
		Syringe 5ml
		Syringe 10ml
		Syringe 20ml
		Infusion systems
		Alcohol
		Iodine
		Patch
		Rehabilitation tube
5.	All patients in critical condition	
	Contraindications: does not exist	
7.	The result: The patient is provided with auxiliary stuff.	
8.	Note:	Conditions of block cancellation, stopping or changing by the other block
		The doctor's signature:

#	Block 8-2	
1.	Name: Enteral nutrition	
2.	Executive: Critical Care Medicine Doctor, Critical Care Medicine Nurse.	
3.	Controller: Department of Critical Care Medicine.	
4.	Terms:	
5.	Job description:	It is essential 3500-4500k.kal per day.
		1g protein to kg weight. 1g fat and 1g carbohydrate.
6.	Indications: all critical patients	
7.	Contraindications: does not exist	
8.	The result: The patient in critical condition gets required energetic nutrition	
9.	Note: Nutrition is performed via a stomach probe or Gastrostomy	
10.	Conditions of block cancellation, stopping or changing work	
11.	The doctor's signature:	

#	Block 29-1	
1.	Name: Oxygenation of a patient on spontaneously breathing	
2.	Executive: Critical Care Medicine Doctor, Critical Care Medicine Nurse.	
3.	Controller: Head of department of Critical Care Medicine.	
4.	Terms:	
5.	Job description:	Oxygen supply is performed by following ways: through a nasal kanula, simple mask, Venturi mask, a mask with a reservoir 24-60% with a concentration of 1-6 l / min.
6.	Indications: All patients in critical condition	
7.	Contraindications: does not exist	
8.	The result: The rate of external indicators of respiration is satisfactory.	
9.	Note: Oxygen supply should be maintained above the level Sa O ₂ 90%, otherwise it is required artificial ventilation.	
10.	Conditions of block cancellation, stopping or changing work	
11.	The doctor's signature:	

#	Block 29-3	
1.	Name: Artificial ventilation	
2.	Executive: Critical Care Medicine Doctor, Critical Care Medicine Nurse.	
3.	Controller: Head of department of Critical Care Medicine.	
4.	terms:	
5.	Job description: initial parameters of ventilation in adults	FiO ₂ 100% keep < 60%, In order to prevent oxygen toxicity and lung injury. Respiratory Rate 8-12wT. 18-24/min To achieve the „therapeuti” hyperventilation. Modes CMV, SIMV, SiPAP, ByPAP. Volume of breathe in 6-8 l/kg. Inspiratory Flow Rate 60l/min I/E ratio 1/2½- 1/3. Plateau pressure <35sm H ₂ O should be maintained as possible at low rates in order to avoid of baro-trauma. PIP<45 sm. H ₂ O. PEEP 5sm. H ₂ O.
6.	Indications: Respiratory failure caused by various pathologies	
7.	Contraindications: Empyema of lungs	
8.	The result: Patients are on an artificial ventilation and adequate ventilation is provided	
9.	Note:	Conditions of block cancellation, stopping or changing work
11.	The doctor's signature:	

#	Block - 34		
1.	Name: Non differentiated therapy		
2.	Executive: Critical Care Medicine Doctor, Critical Care Medicine Nurse.		
3.	Controller: Head of department of Critical Care Medicine.		
4.	Terms:		
5.	Job description:		
	Medicine	Dosage	Units
	Diazepex	10mg/2ml	in amp
	Ketamini	500mg/10ml	In flacon
	Atropini	1mg/1ml	In amp
	Epinefrini	1mg/1ml	In amp
	Prednizolonum	30mg/1ml	In amp
	Clonidine	0,15mg	In amp
	Digoxini	50mkg/ml	1ml
	Dophamini	200mg/5ml	In / fl
	Dophamini	200mg/5ml	In / fl

	Furosemidi	20mg/2ml	In / amp
	Insulini Actrapidi	400 IU/10 ml	in / fl
	Neostogmini	2.5mg	In / fl
	Aminophilini	250mg/10ml	In amp
	Calci Gluconate	0.1/ml	In amp
	Lidocaini	10% 100mg/5ml	in amp
6.	Indications: Existence of an infectious process		
7.	Contraindications: Allergic reaction to antibiotics		
8.	The result: Prevention and treatment of infectious process		
9.	Note: The antimicrobial antibiotic is selected according to the sensitivity		
10.	Conditions of block cancellation, stopping or changing work		
11.	The doctor's signature:		

In each case, the physician treats these conditions as it is shown in blocks. However, he is allowed to use blocks accordingly in a given situation and conditions: suspend or remove any block, replace it with other block. There are basically two conditions, which should be accomplished: 1. Any changes in the standard must be proved; 2. The total cost of treatment should not exceed the standards prescribed value, when patient's critical condition fall in multiple standards, leading pathologic condition must be used to determine the standard.

Conclusion:

The result of the treatment standards for patients who are in critical condition, have a positive impact on the health care process. It improves clinical outcomes and increases affectivity of health care, as well as improves management of health care expenses. Standards of health care helps professionals and facilitates the evaluation of service quality.

The use of guidelines is appropriate for medical staff education programs, helps patients to make informed decisions and establishes good communication between doctor and patient.

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ახალი „პროტოკოლები“ კრიტიკულ მედიცინაში შეზღუდული რესურსების მქონე ქვეყნებისათვის

გაიდლაინებით მუშაობა დადებითად აისახება სამედიცინო მომსახურების პროცესზე, აუმჯობესებს კლინიკურ გამოსავლს და ხელს უწყობს ჯანდაცვის რესურსების ეფექტურად ხარჯვას. პროტოკოლებისა და გაიდლაინების შექმნის მიზანია მტკიცებულებებზე დაფუძნებული კლინიკური პრაქტიკის განვითარება და სამედიცინო დახმარების ხარისხის გაუმჯობესება; საქართველოს კრიტიკულ მედიცინაში სტანდარტები პირველად შემუშავებული იქნა 1995 წელს.ამჟამად კრიტიკული მედიცინის ინსტიტუტში შეიქმნა კრიტიკულ მდგომარეობათა მკურნალობის სტანდარტები, რომელიც დამტკიცებულია კრიტიკული მედიცინის ასოციაციის მიერ. ისინი წარმოდგენილია 35 კრიტიკული მდგომარეობის მკურნალობის სტანდარტით, რომელიც შედგება მიმართულებების ბლოკებისაგან, მოწოდებულია 49 მკურნალობის დიაგნოსტიკის და მანიპულაციების ბლოკი, თითოეულ ბლოკში კი აღწერილია ამ მიმართულებისთვის გამოსაყენებელი მედიკამენტები და მათი დოზები. ეს პროტოკოლები შემუშავებულია შეზღუდული რესურსების მქონე ქვეყნებისათვის.