



# Monitoring u jedinici intenzivnog lečenja

## Monitoring in the Intensive Treatment Unit

Lazar Jovičić, Sladana Petrović, Dragana Radosavljević, Lidija Ignjatović

Univerzitetski klinički centar Kragujevac

University Clinical Center Kragujevac

### Apstrakt

Prepoznavanje kritičnog pacijenta i rana primena terapijskih mera preveniraju srčani zastoj i predstavljaju prvu kariku u lancu preživljavanja.

ABCDE algoritam obavlja se brzo u pet koraka i obuhvata proveru: disajnog puta, disanja, cirkulacije, neurološkog statusa i pregled celog tela pacijenta. Kritični znaci pogoršanja pacijenta slični su, bez obzira na uzrok, tako da adekvatan pristup ABCDE traumatizovanom pacijentu podrazumeva: pravilno prepoznavanje mehanizma povredivanja, prepoznavanje simptoma i vrste preloma, njihovu imobilizaciju, prepoznavanje i zaustavljanje krvarenja, nadoknadu volumena i poziv za pomoć.

Inicijalni pregled počinje slovom A, što predstavlja prohodnost disajnjog puta. Disajni put može biti prohodan, delimično i kompletno opstruiran. Disanje proveravamo metodom GLEDAJ – SLUŠAJ – OSEĆAJ koja ne traje duže od 10 sekundi i za to vreme palpiramo puls. U sklopu pregleda disanja bitni parametri su saturacija kiseonika, respiratorna frekvencija, auskultacija pluća i pokretljivost grudnog koša. Dve osnovne tehnike otvaranja disajnjog puta su: zabaci bradu – podigni glavu i trostruki hvat. Pomagala koja obezbeđuju prohodnost disajnjog puta su: orofaringealni i nazofaringealni tubus. Alternativna supraglotična sredstva koja koristimo kao napredne tehnike obezbeđenja disajnjog puta su: laringealna maska, I-gel maska, laringealni tubus, king laringealni tubus i mnoga druga sredstva novije generacije. Probleme na nivou cirkulacije pratimo pomoću cirkulatornih parametara: tenzija, vreme kapilarnog punjenja (periferna perfuzija), auskultacija srca i srčana frekvencija. Prepoznavanje cirkulatornog kolapsa i adekvatna nadoknada volumena, uz kontinuirani monitoring ritma i pritiska, smanjuju rizik od nastanka smrti. U sklopu neurološkog statusa, važna je procena simetričnosti zenica, koncentracije glukoze u krvi, brza procena nivoa svesti (AVPU – skala). A – odgovara pacijentu koji je svestan i orientisan, V – pacijent koji odgovara na govorne komande, P – predstavlja reakciju na bolne draži, U – kada izostaje odgovor na bilo koji stimulus. Kompletan ABCDE pristup završava se otkrivanjem pacijenta uz minimalan gubitak topote, proveru znakova alergije, traume i hemoragije.

ABCDE pristup je kompletiran uz upotrebu kontinuiranog monitoringa, dvanestokanalnog EKG-a, promenom IV linije, oksigeno-terapijom, kao i efikasnom komunikacijom sa timom. Najteži oblik pogoršanja je kardiorespiratori zastoj, gde je indikovano što pre započeti mere napredne životne podrške koje uključuju: primenu visoko kvalitetne kompresije grudnog koša (dubina kompresije 5–6 cm, frekvencija 100–120/min), obezbeđenje disajnjog puta, postavljanje elektroda defibrilatora i registrovanje inicijalnog ritma srčanog zastaja. Za efikasno zbrinjavanje potrebno je razmotriti reverzibilne uzroke, uz primenu tretmana za šokabilne ili nešokabilne ritmove i upotrebu

### Abstract

Recognition of a critical patient and early application of therapeutic measures prevents cardiac arrest and represents the first link in the chain of survival.

The ABCDE algorithm is performed quickly, in five steps, and includes a check of the airway, breathing, circulation, neurological status, as well as an examination of the patient's entire body. Critical signs of patient deterioration are similar regardless of the cause, so an adequate approach to the ABCDE of a traumatized patient includes proper recognition of the mechanism of injury, recognition of symptoms, types of fractures, their immobilization, recognition and stopping of bleeding, volume replacement and calling for help.

The initial examination begins with the letter A, which represents the patency of the airway. Airway can be passable, partially or completely obstructed. We check breathing using the LOOK - LISTEN - FEEL method, which lasts no longer than 10 seconds, and during that time we palpate the pulse. As part of the breathing examination, important parameters are oxygen saturation, respiratory rate, lung auscultation and chest mobility. The two basic techniques for opening the airway are: chin tuck - head lift and triple grip. Aids that ensure airway patency are: oropharyngeal and nasopharyngeal tubes. Alternative supraglottic devices that we use as advanced techniques for securing the airway are: laryngeal mask, I-gel mask, laryngeal tube, king laryngeal tube and many other devices of the newer generation), auscultation of the heart and heart rate. Recognition of circulatory collapse and adequate volume replacement, along with continuous monitoring of rhythm and pressure, reduces the risk of death. As part of the neurological status, it is important to assess the symmetry of the pupils, the concentration of glucose in the blood, the rapid assessment of the level of consciousness (AVPU - scale). A - corresponds to a patient who is conscious and oriented, V - a patient who responds to voice commands, P - represents a reaction to painful stimuli, U - when there is no response to any stimulus. The complete ABCDE approach is completed by exposing the patient with minimal heat loss, checking for signs of allergy, trauma, and hemorrhage.

The ABCDE approach was completed with the use of continuous monitoring, twelve-lead ECG, IV- line change, oxygen therapy, and effective communication with the team. The most severe form of deterioration is cardiorespiratory arrest, where it is indicated to start advanced life support measures as soon as possible, which include the application of high-quality chest compression (compression depth 5 - 6 cm, frequency 100 - 120/min), securing the airway, placing defibrillator electrodes and registering the initial rhythm of cardiac arrest. For effective care, it is necessary to consider reversible causes, with the application of treatment for shockable or non-shockable rhythms and the use of appropriate drugs. We can use the defibrillator

odgovarajućih lekova. Defibrilator možemo upotrebiti za uspešnu i sigurnu defibrilaciju, za brzu procenu ritma, sinhronu kardioverziju i neinvazivnu transkutanu elektrostimulaciju srca. Nakon srčanog zastoja, povratak spontane cirkulacije zahteva kvalitetan postresustacioni tretman koji će značajno uticati na životni ishod pacijenta.

for successful and safe defibrillation, for rapid rhythm assessment, synchronous cardioversion and non-invasive transcutaneous electrostimulation of the heart. After a cardiac arrest, the return of spontaneous circulation requires quality treatment that will significantly affect the patient's life outcome.