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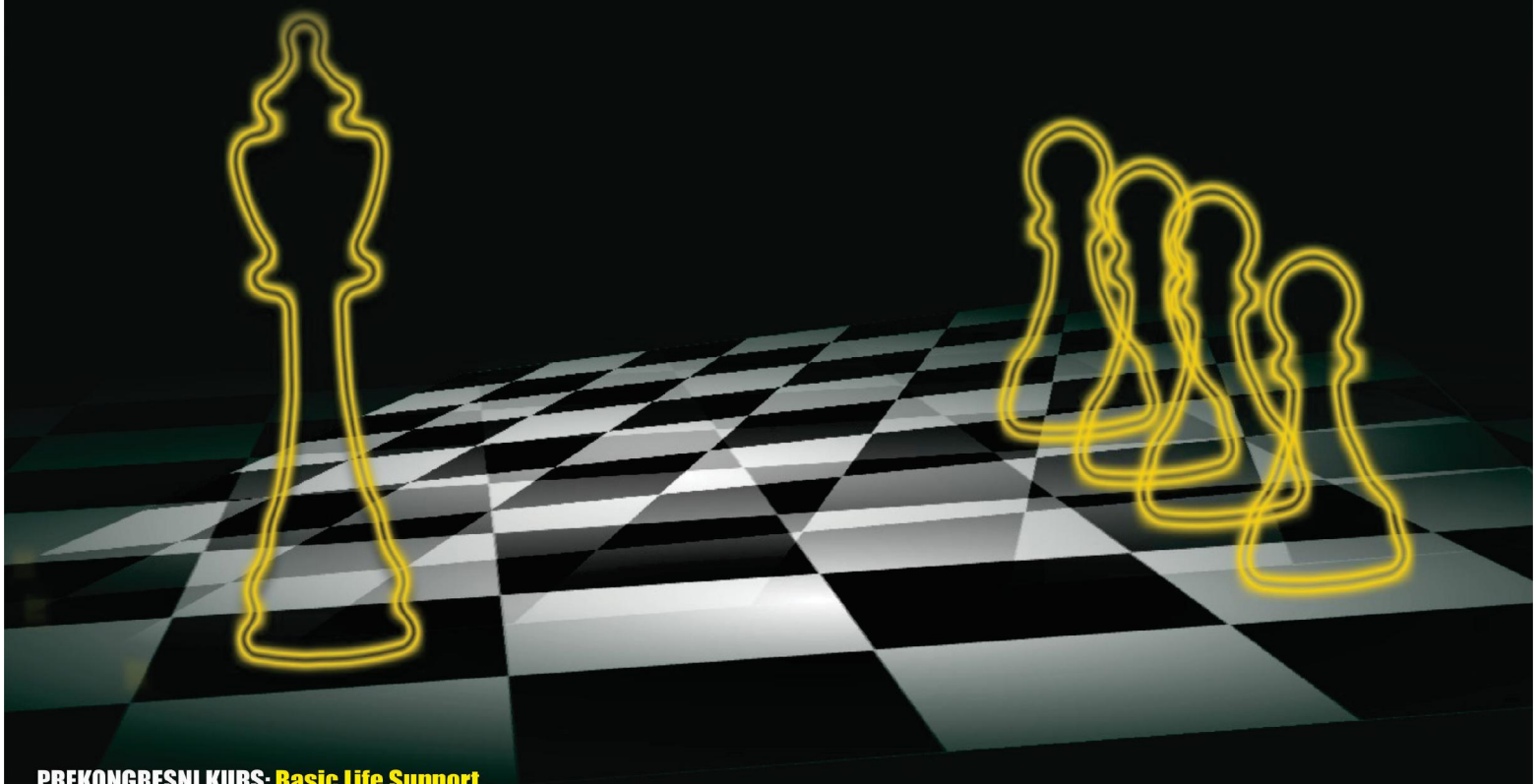

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ACUTE ABDOMINAL PAIN

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The percentage of abdominal pain that is serious and life-threatening in 10% of cases requires surgery. Acute abdomen is a condition that requires urgent treatment. The most common conditions that lead to acute abdomen can be: infection, inflammation, vascular occlusion or obstruction. The patient will usually have sudden abdominal pain with nausea or vomiting.
The causes of an acute abdomen include appendicitis, perforated peptic ulcer, acute pancreatitis, ruptured sigmoid diverticulum, ovarian torsion, volvulus, ruptured aortic aneurysm, lacerated spleen or liver, and ischemic bowel. The approach to the patient with an acute abdomen should include a history of the development of pain and a physical examination. Localization of pain is important because it can determine the localized process. However, in patients with free air or free fluid in the abdomen, diffuse pain may occur. Auscultation may reveal absent bowel sounds, and palpation may reveal tenderness/defans, suggesting peritonitis.
The types of pain that occur in the acute abdomen are: visceral (related to the basic organs), somatic/peritoneal pain (muscle strain, herpes zoster, abdominal wall, trauma) and referred pain. OPQRST is used to define pain: Onset (acute, gradual or chronic), Provocation and palliation (movement, pressure or reset), Quality (sharp, dull, crushing or burning), Region and radiation (location, whether it radiates to other areas). Severity (scale 0-10), Time (how long and has it changed over time).
Surgical abdomen is associated with severe abdominal pain, usually sudden, with an onset of <24 hours, the patient suffers, often associated with visceral and parietal pain.
Perforating pain (of visceral origin) occurs in perforating diverticulitis, perforated ulcer or intestinal obstruction, abscesses open to the abdominal cavity, eg: IBD. The stomach is hard, during palpation the patient "defends himself".
Ischemic bowel is associated with severe pain that is not proportional to clinical signs, has an elevated lactate level. Diffuse, constant pain, but normal/unremarkable examination.
In acute infections: eg: appendicitis, diverticulitis, cholecystitis, the patient "defends himself" during palpation and usually has a high temperature.
In the diagnosis of abdominal pain, in addition to laboratory tests, abdominal radiography, ultrasound and CT are necessary.
Key words: acute abdomen, surgical abdomen, OPQRST

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FACIAL INJURIES

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Introduction: Facial injuries are often presented as combined injuries to the bony structures of the maxillofacial region and the soft tissues of the face.
Source and selection of available material: Review of available professional literature through PuBMed, MedLine and available online journals using the terms: face, injury, examination and guidelines.
Synthesis of materials: Recognition and primary management of maxillofacial injuries in the pre-hospital setting, at the scene, as well as during transport is a prerequisite for a positive outcome of definitive management in hospital. The mechanism of injury is a factor that will significantly influence the presentation of the injury. The examination contains the usual components such as inspection and

palpation, but it is also extremely important to notice other associated injuries as some of them could be life threatening.
Airway assessment and hemorrhage control take precedent, vision-threatening injury should also be evaluated. If based on physical examination there is suspicion that facial fracture exists, facial CT is the gold standard. Nasal bone fractures, orbital fractures, anterior maxillary wall, and zygomatic arch fractures could be detected by ultrasound. Head CT should be strongly considered in any patient with facial fracture given the high incidence of concomitant intracranial injury. Facial fracture is also a marker of increased risk for cervical spine fracture in trauma. CT angiography is recommended to screen for cervical vessel injury with displaced mid-face and complex mandible fractures.
Definitive care may require combined work of physicians of several specialties, but primary and proper pre-hospital care is of the greatest importance.
Key words: face, injury, examination, guidelines

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RAPID SEQUENCE INTUBATION (RSI)

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RSI definition: One of the main priorities of doctors at the pre-hospital and hospital level. The procedure of introducing a tracheal tube in order to ensure patency/stability of the airway. Opening the airway as soon as possible, shortening the period of hypoxia and inadequate ventilation, avoiding hypo-perfusion.
The goal of the technique: to shorten the period from the loss of protective airway reflexes to the fixation of the tube in the trachea.Without solving "A" according to the ABCDE algorithm, all subsequent treatment procedures will be useless.
RSI indication: Respiratory insufficiency of any etiology. Impaired state of consciousness (GKS<9).Upper airway instability due to trauma.Burns, swelling, deformations in the area of the oral cavity.
Anaphylactic reactions that compromise the upper respiratory tract.
The need for complete sedation in order to perform urgent diagnostic and therapeutic procedures.
Failed NIV (non-invasive ventilation).
RSI indication: Is the patient able to independently maintain a free airway?Can the patient maintain satisfactory oxygenation and ventilation?Do we anticipate deterioration in the sense of partial or complete closure of the airway in a short period (nature of illness or trauma)?
RSI algorithm:
1. Preparation (patient, team, equipment)
2. Pre-oxygenation
3. Premedication
4. Induction, paralysis
5. Intubation with confirmation of the correct position of the tube
6. Po-intubation care
1. Preparation: Preparation of the patient, medical team and equipment.
- explain the procedure to the patient.
- if necessary, place a nasogastric tube and empty the stomach.

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- check i.v. channels.
- clean the oral cavity and remove the dentures.

Are you expecting a difficult intubation?

- directed anamnesis

-directed examination of medical documentation (previous difficult intubation)

- clinical examination of the patient (pathology of the oral cavity, airways, neck...)

2. Pre-oxygenation, maximum duration of the procedure 3-5 min.Pre-oxygenation slows down and reduces desaturation during the period when the patient is not being ventilated.

- spontaneous pre-oxygenation: spontaneous breathing through a mask with a tank with a non-return or non-return valve.
- breathing through an AMBU balloon with low pressure and low tidal volume

3. Premedication. Reduce or prevent the physiological response to direct laryngoscopy: tachyarrhythmias, hyperthension, laryngospasm...- Atropine 0.02mg/kg body weight. It will reduce the possibility of bradycardia, hypersecretion and salivation- Opioid analgesics (greater circulation stability). Fentanyl 1-3mcg/kg body weight.

4. Introduction to anesthesia, paralysis We perform hypnotics and muscle relaxants, which we inject one after the other.Hypnotics: Ketamine, Etomidate, Propofol, Thiopental, Miodazolam.

Relaxants: Succinylcholine and Rocuronium

- Succinylcholine/Leptosuccin 1.5mg/kg body weight. Effect after 30-60 seconds, duration of action up to 10 minutes. It is widely used despite numerous side effects (bradycardia, hyperkalemia, malignant hyperthermia).
- Rocuronium 1mg/kg body weight. Effect after 60 seconds, works up to 60 minutes. Almost without side effects, the existence of an antidote (Sugamadex 16mg/kg bw).The advantage of Leptosuccin is its very fast action and duration of effect of 5-10 minutes. Wide use despite numerous side effects (allergy, bradycardia, hyperkalemia, malignant hyperthermia).Rocuronium, antagonist Sugamadex (Bridion) 16mg/kg body weight stops the effect of Rocuronium in 3min.

7. Po-intubation careMonitoring of vital functions, checking parameters on the ventilator (breathing method, breathing frequency, TV 6-7ml/kg of ideal body weight, oxygen concentration in the air, addition of a non-depolarizing muscle relaxant (Rocuronium) in case we used Succinylcholine for relaxation (the duration of the effect is 5- 10min), need additional analgesia (Fentanil), continuous sedation (Propofol, Etomidate...).In case of breathing complications check:

- position and depth of the tube
- mechanical obstacles in the tube
- occurrence of pneumothorax
- ventilation pneumothorax
- failure of the equipment (fallen tubes, closed valve on the bottle, empty bottle, empty respirator battery).

MODIFICATIONS OF THE RSI PROCEDURE

Based on clinical judgment, the basic RSI algorithm can be adapted to the patient's condition and needs.

- seek expert help in a timely manner during preparation and recognized complications.
- patients who are not breathing spontaneously are ventilated and pre-oxygenated with a mask and a breathing balloon with the addition of oxygen.

- in case of emergency, premedication is skipped or echoes are given as part of the introduction to anesthesia.
- neck injuries require in-line stabilization of the cervical spine.
- in case of failed i.v. times all drugs can be given intraosseously.
- in case of failed RSI, we switch to the alternative airway protection algorithm

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WHEN DO I USE POCUS IN THE EMERGENCY DEPARTMENT?

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Emergency medicine specialists have introduced ultrasound in the Emergency Department a long time ago, but with the development of technology, the bedside ultrasound (point-of-care ultrasound - POCUS) is now widely used in hospital emergency departments. The method itself is cheap, harmless, painless and depending on the operator – not-time-consuming. In the University Hospital Dubrava Emergency Department, POCUS is most often used in the work-up of abdominal pain, where with the help of POCUS we can immediately confirm or rule out acute inflammation of the gallbladder, free fluid in the abdomen, dilatation of the renal duct system, abdominal aneurysm, raise a suspicion for ileus or even confirm the diagnosis of a hernia. Bedside ultrasound can also be used to visually examine the heart - global contractility, size of heart cavities, presence of pericardial effusion, enlargement of the ascending aorta, presence of pleural effusions, and additionally volume status by examining the inferior vena cava. Pulmonary ultrasound can add more information when differentiating between heart failure and pneumonia. Pneumothorax can be seen more quickly with ultrasound and pleural effusion can be evaluated and easily re-evaluated after evacualtion. The second most common indication for the use of ultrasound in our emergency department is the exclusion of proximal deep vein thrombosis, which significantly shortened the lenght of stay of patients in the emergency department. In critically ill patients, one organ or region is not systematically evaluated, but depending on the differential diagnosis, all conditions that can lead to a certain severe clinical picture are evaluated. Newer indications for POCUS include ultrasound during resuscitation which is an exciting new field open for more research and potential benefits.

Key words: Emergency Medicine; Ultrasound; Critical Illness; POCUS; Emergency Medicine Specialists.

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SPONTANEOUS DIAPHRAGM RUPTURE: CASE REPORT

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INTRODUCTION: Spontaneous diaphragm rupture (SDR) is considered one of the rarest thoracoabdominal emergencies, occuring in less than a 1% of a diaphragmatic rupture cases. SDR is associated with a sudden increase of intra-abdominal pressure due to intense coughing, physical exercise,weithg lifting, vomiting or delivery.

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The case report of a spontaneous diaphragm rupture is presented.
The 47-year old male patient, a truck driver, came to an emergency department due to chest discomfort, fatigue and shortness of breath. One month before, after a lifting a heavy weight, he had an episode od intense chest pain, descibed like a tightening around a entire chest. His medical history was significant for surgically treated thoracal penetrating wound, complicated by pleural empyema repeated surgical interventions) and PTE. On examination an extreme obesity was noted, on auscultation atenuated breathing sounds were heard bilaterally in lower parts of the lungs, the rest of physical findings were normal. He was hemodinamic and respiratory stable, with no ECG abnormalities. Due to elevated D Dimer values, CT pulmoangiografy was performed. CT findings included 2 cm defect of the left hemidiaphragm, with preperitoneal adipose tissue and blood vessels prolaps in left hemithorax and consequent compression of the lung and minor atelectasis. Surgical treatment was indicated, but was abandoned at that moment due to high perioperative risk considering patient's extreme obesity. Surgical treatment was postponed until the patient's BMI decrease.
DISCUSSION AND CONCLUSION: Only about 30 cases of spontaneous diafragm rupture detailed reports were published in the world-wide literature. It is more common on the left side. Spontaneous rupture of the diaphragm is a potentially life-threatening condition associated with high morbidity and mortality rates, therefore, an early diagnosis is of paramount importance. Chest or epigastric pain or dyspnoea caused by exercise, weight lifting, intense coughing, vomiting, childbirth, or Valsalva's maneuver should raise suspicion of SRD.
Key words: spontaneous diafragm rupture, diafragm, chest pain
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TREATMENT OF PATIENTS WITH CRUSH INJURY

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It was observed that, in road traffic accidents extremities were the most affected parts of the body (41% lower extremity and 21% upper extremity). Superficial injuries were found to be most common (47%), followed by fractures (20%), crush injuries (14%) and concealed injuries (12.4%) (1). Major reason of morbidity and prolonged hospital stay after traffic accidents is musculoskeletal injury. Victims who survive after the major traumatic injuries can succumb to the various life threatening complications. Most of these injuries are directly related to the bone and soft tissue injuries. Goal of an anesthesiologist is to address initial musculoskeletal insult and treat or avoid secondary complications. Every trauma patient has a possibility of crush injury and they should be searched for the same thoroughly. Early diagnosis and treatment of problems like hypovolemia, crush syndrome, rhabdomyolysis can avoid further metabolic, cardiovascular and renal complications. Thus early diagnosis and management of crush injury can modulate the overall outcome of a trauma patient. This management of crush injury patient is a multidisciplinary work and requires good interdepartmental coordination for successful outcome. More sophisticated biochemical studies and devises to measure intercompartmental pressures are required to avoid unnecessary fasciotomies.
Key words: Crush injury, treatment, hypovolemia, rhabdomyolysis
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ABDOMINAL ULTRASOUND EXAMINATION AND FREE FLUID IN THE ABDOMEN

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Ultrasound is becoming increasingly important in the primary examination of patients. It is gaining significance in emergency medicine on the site as well as in family medicine practice. The procedure itself is simple, easily accessible and reproducible; it provides us with a quick answer towards setting a diagnosis. The FAST examination is standardised, accurate and fast; moreover, it will provide very useful information. We apply it in traumatised and hypotensive patients of unknown cause. It is easy to learn how to use, which can be done in courses and exercises. Winfocus courses are probably the best known, but there are others as well. FAST is just one of the many examinations taking place in emergency medicine.
Ultrasound is also part of the ABCDE protocol when examining a patient.
Ultrasound in family medicine clinics and emergency rooms is accessible and affordable. It does not take much time but it gives us important information about the patient's condition. We can monitor the dynamics of events because the examination is reproducible and simple. With ultrasound, we get a simple answer, for example YES or NO. It is mainly used when we want to know whether free fluid is present in the peritoneal space or not, whether pneumothorax is present or whether there is also fluid in the pleural space. It is not only useful in trauma but also in other emergency situations, especially in vague hypotensive conditions.
Ultrasound in emergency medicine has become an integral part of the ABCDE protocol.

Hepatorenal window
The probe was placed in the axillary line. The marker is oriented towards the head. We are looking for free running in the upper quadrant D, mainly hepatorenally, in Morison space.
We move anterior and posterior, forward and backward. The diaphragm is easily seen and fluid in the pleural space is also checked.
Splenorenal space
For the splenorenal space, place the probe in the posterior axillary or mid axillary line, with the marker towards the head. Search especially for free fluid intraperitoneally, in particular below the diaphragm and around the left kidney.
Retrovesicular space
The probe is placed just above the symphysis, mostly tangentially, and then turned sagittally. The marker is directed towards the head and when the probe is rotated 90 degrees, it is directed towards the D side of the patient. We ask whether there is any free fluid intraperitoneally or not. We look for free fluid in the Douglas space. There are differences between men and women; however, the general approach is the same.
EFAST is an ancillary component of the screening of patients on the spot. The order of screening is determined by us, depending on what fits best and what is closest to us. It gives us a lot of useful information to help diagnose and further refer the patient appropriately.
Ultrasound is becoming smaller, more convenient and cheaper. Now there are already such probes existing where the image is projected onto android devices with a corresponding application.
It is rapidly developing and becoming an integral part of emergency and general medicine. In the future, it will become a compulsory piece of equipment for physicians, just as the stethoscope is now considered to be.

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ARE WE READY TO WORK ON INACCESSIBLE TERRAINS?

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INTRODUCTION: In the last decade, extreme sports got many supporters. Responsible for this adventuristic fun is hormone adrenalin because of whom actors want repetition of the same excitement and experience. Mortality during mountain climbing and biking was lower than paragliding or rock climbing. Traumatic deaths occur much more in activity performed by younger adults, though number of deaths of cardiovascular diseases was higher in activity performed by older, such as mountain climbing and tracking. In study of A. Mcintoch in last six years, in Australia were 995 deaths, which 88% were males age 15-54. In our country there is no data of injuries or deaths in these conditions.
CASE REPORT: On the day of September 21-st. 2021. Emergency unit of Niš at 16:04 got a call that a young female got a leg injury during mountain biking on Koritnjak, Niska Banja, on hilly, forest terrain at 808m above sea level. After call, an emergency unit arrived at 16:24. We had to walk downhill for 400m to get to injured person. On a site we found a female at age 24, on her back, conscious with pale skin and sweaty from sharp pain, with a left leg where upper leg deformity was present above and right leg under the bike. She told us that she fell of a speeding bike because she lost control during downhill ride.
RESULTS: At the moment of examination vitals were: BP-150/80mmHg, HR-105/min, SpO2-98%, RF-16/min, BT-36°c, Gly-4,9mmol/l. Locally, injured leg was in abdution with deformity, pain ad swelling in upper leg. Pulse was palpable either on a. dorsalis pedis or a. poplitea.Inj ured leg was immobilized with a splint and fixation bandages, for pain relief, we gave ampule of Novalgetol, and placed her on a ferno stretcher. Because of inaccessible terrain and difficulty extraction for accident site, we need to call Gorska sluzba spasavanja. Time until they arrived was 40 minutes, approximately at 17:10. When they arrived, we additionally immobilized injured leg with splints and bandages, placed her on a transport wheel stretcher and extracted her to ambulance for 30 minutes. We arrived to the hospital at 18:10.
DISCUSSION Are we self-conscious how these sports are dangerous? Extreme sports, no matter how harmless and fun they look, are common cause of different type of injuries. Mountain biking is characterized by off-road cycling by using specially designed bicycle. That is an Olympic sport and most common recreation during summer. Recently estimated in Alps there are 18,7 million mountain bikers. Number of contestants rising in whole world: for example, in Germany numbers raised for 9,6% from 2014. to 2018. In the USA, that number was 23,3% between 2006. and 2015. It can be estimated that death rate of approximately 0,0002% (2 on 1 million mountain bikers). Most serious injuries and deaths occur during sudden deceleration, which results falling over handlebars or occurs during jumps and stunts. Death cases on a mountain bike which are in literature, show two different locations of injuries: craniocervical and trunk (liver, spleen, diaphragm, lungs...). Factors favoring severe falls with risk of death includes surfaces, lack of knowledge of terrain and surroundings. In our country, there is no special emergency unit training for taking care of injured in extreme sports. Except annual health check of medical teams, there is no check for their physical training or estimation that there is physical capability for work in inaccessible terrains. Also, there is a special equipment for self-care of medical teams (helmets, waterproof jackets, mountain shoes, gloves...) and equipment for extraction (wheel stretcher, lifeboats, safety belts, blankets). Emergency unit solves all of this problems cooperating with Emergency fire unit and occasionally with non-governmental organization called Mountains rescue service.
Key words: Mountain biking, injuries, care

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ANAMNESIS AT THE BEGINNING AND AT THE END – CASE REPORT

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INTRODUCTION: Acute aortic dissection is one of the most urgent and dramatic conditions in clinical practice. In 1-3% of all autopsies there is aortic dissection. The aorta is the largest blood vessel in the body, with a diameter of 35 mm. Aortic dissection is the accumulation of blood in the medial layer, caused by a crack in the intimal part with delayering of the wall. Arterial hypertension stands out as the biggest risk factor. It is more common in men, in the 6th and 7th decade of life. Severe, sudden, tearing pain in the chest is a symptom of this condition. Neurological symptomatology is also possible, in the form of pain, weakness up to the complete loss of limbs. The final diagnosis is made by CT aortography or transesophageal ultrasound. Unfortunately, aortic dissection does not always appear with typical symptoms. The incidence of wrong diagnoses, that is, unrecognized aortic dissection, is in 40% of cases.
METHOD: This paper presents the case of a patient with acute dissection type I which, upon arriving at the Emergency Center, had a disturbed state of consciousness and anamnestic information that she had consumed alcohol.
RESULTS: The patient, 57 years old, was brought by the ambulance Belgrade to the Reception and Triage Room of the Emergency Center late in the evening. According to the accompanying doctor, the patient was brought from the restaurant, where she vomited. Brought in on a recumbent cart, without an escort or other heteroanamnastic data. When asked if she had consumed alcohol, she answered affirmatively that she drank a cocktail. Objectively: somnolent, communication is established, but not deepened, she gives the impression that she is intoxicated, Afebrile, eupnoic, hemodynamically stable. EKG normal. Gas analysis as well. A CT scan of the endocranium was performed, which described reductive changes of a chronic nature. Considering the CT of the endocranium without acute events, and that the patient's hemodynamic, respiratory and metabolically disturbed state of consciousness cannot be explained, and that there is information about alcohol consumption, the patient was referred to the Military medical Clinic, toxicologist. Later in the night, the patient is brought in from the VMA, accompanied by a medical team, this time under suspicion of acute aortic dissection. From the toxicologist's report, it is learned that the patient's blood alcohol level that was determined at the VMA was low. During the examination, the patient complained of chest pain. Considering EKG was normal, an orientational ECHO of the heart was performed, which raised the suspicion of aortic dissection, and a CT aortography was performed, which showed discectomy of the ascending aorta. The patient is now objectively: conscious, oriented, hemodynamically stable, states that she was at dinner, drank a cocktail, felt severe chest pain and nausea and does not remember anything more. The patient was immediately transferred to the UKCS Vascular Surgery Clinic, where she was operated on that morning. After two weeks, she was discharged from the hospital with advice for further rehabilitation and follow-up.
DISCUSSION: This case is significant because it shows that a serious condition such as aortic dissection does not always have to manifest with typical symptoms. When it comes to serious patients, vitally endangered, it will be easier for us to decide on one of the imaging methods, in order to rule out certain emergency conditions and establish the right diagnosis. The problem is stable patients with non-specific symptoms, how to not be late with a timely diagnosis and decision about further treatment? Most of the factors that help with decision-making in the emergency center are objective, amenable to quantification, testing, and comparison. However, there are also those that are subjective and subject to individual interpretation. They should have as little input as possible in the final decision, which should be based on standardized and clear diagnostic and treatment protocols. Patients, critically ill, come to the Emergency Center accompanied by Emergency ambulance medical teams. The very handing over of patients and the transfer of information is extremely important for the creation of further feedback, which is specific in the form of time and sequence of appropriate

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actions. And because of this, everyone must be trained in adequate communication, which should also follow the appropriate sequence of information, inclusion of necessary facts and questions, and standardized presentation of the patient and his complaints. And finally, we have to go back to the beginning, which is the history, that is, the patient and what he complains about, which is why he originally asked for help.

Key words: aortic dissection, chest pain, emergency

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BURNOUT ASSESSMENT IN NURSES FROM AN EMERGENCY SERVICE

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INTRODUCTION: Maslach et al.) consider that Burnout is a multidimensional syndrome composed of three subscales: emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion is characterized by lack of energy and enthusiasm and a feeling of depletion of emotional resources. This can be accompanied by feelings of frustration and tension among workers, since they realize that they are no longer able to spend the same amount of energy on the care of their clients or other people as they did before. Depersonalization is characterized by an emotional insensitivity, which makes the professional interact with clients, colleagues and with the organization in a dehumanized manner.

DATA SOURCE AND SELECTION OF MATERIALS: Retrospective analysis of literature with settings: Burnout, Emergency Room Nurse. Searching is done through: PubMed, Medline and electronic journals accessible via KoBSON as well literature available in the library.

RESULTS OF SYNTHESIS: The number of working hours, which can be associated with high productivity and higher energy expenditure, can lead to instabilities in the individual, in his quality of life, in his relationship with others, and in the quality and safety of the care provided to clients. Several studies consider that workload is a relevant factor for burnout syndrome, because the higher the workload, the higher the level of burnout. However, other authors found that this factor does not interfere with the existence of burnout, which is in agreement with the results obtained in this study. It should be noted that the weekly workload common in public services and legally regulated in Portugal is of 40 hours. Some nurses work more hours, as they are also employed in other institutions. Regarding the time in the profession, several studies demonstrate that professionals with longer work experience have more professional maturity, work more safely and can keep control during times of stress, which corroborates the results found in this study. The data point out that vacations serve as a protective factor for burnout. In the population studied, all had been on vacation in the prior 12 months, and the most significant part had been on vacation in the prior six months. We could wonder if the time elapsed since the last vacation could influence perceived burnout, but the relationship found was not significant. An implication for practice is that more attention should be given to factors that may be relevant to the quality of care, including perceived burnout, which is high among nurses in the context of emergency services. The implications of this syndrome on people's quality of life and on the quality of care is acknowledged.

CONCLUSION: The fact that there are high levels of burnout among those who want to change service and even institution, in addition to the fact that the relationship with longer work experience is not statistically significant, demonstrates that the current work conditions are what determine higher levels of burnout.

Keywords: Burnout, Emergency Room Nurse

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CAN NURSES BE TEACHERS?

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INTRODUCTION: The recognition of the complexity of healthcare delivery systems and the need for parallel improvements in nursing roles prompted the introduction of major reforms in nursing education in some parts of the world (Marrow, 2009; Rich & Nugent, 2010; Salminen et al., 2010; Spitzer & Perrenoud, 2006). These reforms were based on an understanding of the TPG and were intended, among other things, to help bridge the gap between theory and practice
DATA SOURCE AND SELECTION OF MATERIALS: Retrospective analysis of literature with settings: Emergency Nurse, education, teaching. Searching is done through: PubMed, Medline and electronic journals accessible via KoBSON as well literature available in the library.
RESULTS OF SYNTHESIS: The increasingly complex requirements of today's nursing practitioners, have been accompanied by demands on nurse educators to look at new ways to facilitate learning in the clinical area. In recent years nursing education has undergone a period of major change in many countries through integrating with universities. While nurse educators are striving to respond to changes in education the dichotomy between the theoretical input taught in the classroom and what is practiced or experienced on the wards remains a problem. It should also follow that if a gap exists between theory and practice, efforts should be taken for its reduction). According to 32 many initiatives have been introduced in an effort to bridge the theory–practice gap and these have focused around the role of the nurse teacher. These changes in education are redefining the role of the nurse teacher, therefore, the part that they currently play and will play in the future needs to be carefully considered. Findings of this study confirmed the existence of the TPG in the context of nursing education and practice in the country of interest in sub-Saharan Africa and add to the growing literature acclaiming Theory practice gap as a global phenomenon. Stakeholders of nursing education and practice in the research setting are yet to realize the realities of the implications of the TPG and its associated challenges on contemporary nursing education and practice. In the context of the research setting, the existence of TPG revolved around system inadequacies; resource constraints; challenges of the clinical learning environment; clinical placement and supervision; and nurse faculty factors. Inadequate establishment of a community of learning with a shared mental model of learning outcomes aligned with learning activities and sessions was largely accountable for the theory practice gap in this setting.
CONCLUSION: Fortunately, nursing and teaching have a lot of skills in common. Most of us will be happy to know that switching from nursing to a teaching position isn't all that far-fetched, given that we have the right mindset.
Key words: Nurse, education, teaching.

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COVID-19 IN EMERGENCY MEDICAL SERVICE (EMS) PANČEVO- ONE YEAR ANALYSIS

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INTRODUCTION: Covid-19 infection - from fear at the beginning of the pandemic to understanding, to a vaccine and control of the disease with a decrease in the number of infected, the world has come a long way. From the first registered patient in Serbia in March 2020. to October 2022., protocols and recommendations for treatment changed, and the number of infected people gradually decreased. The clinical picture varied, from asymptomatic, then mild or moderate with upper respiratory tract infection, to pneumonia and acute respiratory distress syndrome (ARDS). Emergency medical services

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(EMS) are responsible for the care of pre-hospital Covid-19 patients, as well as their transport to appropriate secondary or tertiary facilities. The aim of the work is to examine the frequency of occurrence of patients with Covid-19 infection in a one-year period in EMS Pančevo, as well as their epidemiological characteristics and method of treatment.
METHODS. The retrospective study covered a one-year period from October 1st 2021. until September 30th 2022. The data were taken from the protocol of home visits (HV). Patients with a diagnosis of U07.1 were selected; who had a confirmed infection at the time of examination, with a positive antigen or PCR test. The results are presented through descriptive statistics.
RESULTS. Out of a total of 6,210 patients in HV in the given period, there were 161 (2,59%) patients with confirmed Covid-19 infection. In relation to gender, there were more women 85 (52.8%), while there were 76 (47.2%) men. The youngest patient was 5-year-old male, while the oldest was a 96-year-old woman. The average age of women was 72.65±16.4 SD years, while for men it was 62.53±18.25 SD years. A total of 111 (68.95%) patients were referred and transported to the hospital after initial care. On the other hand, 50 (31.05%) of them were taken care of in the field with adequate therapy. In total 32 (19.86%) patients had associated diagnoses, the most common of which were I10, I95, R55, R53, R42, J18 and R07.4. Most patients were treated in November 2021; 48 of them, in contrast to June 2022, when we did not have a single Covid-19 positive patient in the field.
DISCUSSION. Our results show that in a one-year period, 2.59% of patients with Covid-19 were treated in relation to the total number of interventions. There were slightly more female patients, 52.8%. The clinical picture varied, from moderate with predominantly respiratory symptoms to severe, most often accompanied by pneumonia. Most of our patients had a severe clinical picture, most often presented as dyspnea with low O2 saturation. Thus, the majority of patients, 68.95%, were referred and transported to the infectious department due to deterioration, while slightly more than a third of patients, 31.05%, were treated in the field. Almost a fifth of patients (19.86%) sought help for other conditions, such as hypotension, hypertension, weakness, instability and dizziness, chest pain; and they were Covid-19 positive at the time. We conclude that the EMS is an essential link in the care, treatment and transport of Covid-19 positive patients in prehospital conditions, predominantly the ones with severe form of disease.
Keywords: Covid-19. EMS, pandemic

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EMERGENCY LUNG ULTRASOUND

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INTRODUCTION: The importance of ultrasound diagnostics in emergency department is based on the fact that it is a radiological examination method that does not involve the use of ionizing radiation, can be repeated several times in a short period of time, minimally invasive, simple to carry out, does not involve transporting the patient to the radiology service and enables immediate decision-making on diagnosis and further treatment of the patient.
METHODS: The aim of the paper is to point out the importance of ultrasound examination of the lungs in emergency situations and to show the basic pathological substrates. The paper evaluated the ultrasound findings of the lungs of patients examined in the ultrasound room of the Emergency Center, in whom a clinical suspicion of an acute pathological condition in the chest was established.
RESULTS: Emergency lung ultrasound can reliably identify pneumothorax, consolidation, atelectasis, interstitial syndromes, pleural effusions with a high degree of sensitivity. Experts consider it a reliable tool on the basis of which a clinical decision can be made. Ultrasound is very important in the

detection of septations in the pleural effusion that CT cannot detect, in the detection of the dynamic "air" bronchogram, which is important in the differential diagnosis of atelectasis, as well as in the diagnosis of diaphragm dysfunction during respiratory insufficiency.
DISCUSSION: Chest radiography is the most commonly used visualization method of examination in emergency department and is certainly used for the diagnosis of ARDS. Radiography cannot monitor changes in the interstitium in a short period of time and cannot detect small pneumothorax but ultrasound can detect more discrete changes in the interstitium, which is important for making the optimal therapeutic decision.
Kay words: Lung, Interstitium, Ultrasound, Pneumothorax

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EMERGENCY ROOM ČAČAK DURING COVID EPIDEMIC- EXPERIENCES

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INTRODUCTION. Emergency Room is service of intensive treatment which firstly conducts stabilization of vital functions and necessary diagnostic procedures. Also, if needed, latter treatment and further diagnostics.
AIM is to gain insight into efficiency in taking care of patient stricken with Covid 19 infection as result of organization and the way of functioning of Emergency Room Čačak.
METHODOLOGY. We used protocols of Emergency Room Čačak since 06/01/2022 until 08/31/2022 and protocols of vital parameters of Covid 19 infected patients, protocols of patients tested on SARS CoV2 as well as available literature.
DISCUSION. Emergency Room Čačak is located at ground floor in Hospital building with easy access from outside and it is directly connected with diagnostic services and other specialist services. After examination and conduction of diagnostic interpretation patient is sent to further treatment or to Primary Covid Infirmary. During Covid 19 pandemy in Emergency Room Čačak an infirmary for examination of Ag+ SARS CoV2 patients and patients suspected to be infected with Covid 19 virus had been set. In June in Emergency Room Čačak had been examined 1346 patients and in Covid Infirmary 126 patients which is 9,3%. After 20 o'clock had been examined 131 patients with Covid-like symptoms of which 67 patients had been confirmed SARS CoV 2 infection. In July 1330 patients had been examined of which 103 in Covid Infirmary. After 20 o'clock 111 patients of which 43 had positive Ag test for SARS CoV 2 which is 38,7%. In August in Emergency Room Čačak 1366 patients had been examined and in Covid infirmary 87 patients which is 6,4%. After 20 o'clock 41 patient had been examined of which 34 tested positive on SARS CoV2 which is 39%.
CONCLUSION. Additional requests during epidemy Covid 19 demand support and improvement in functioning of this service. Enhance epidemiological supervision and use of Personal Protective Equipment.
Key words: SARS CoV2, Covid infirmary, vital functions

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FIELD HOSPITAL IN NATURAL AND HUMAN CAUSED - DISASTER: A SYSTEMATIC REVIEW

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INTRODUCTION: Medical preparedness of hospitals plays a significant role in reducing mortality and treating serious injuries in disasters and emergency situations caused by natural forces and intentionally or unintentionally caused by the human factor. The main characteristic of these situations is a large number of injured people, which can result in exceeding the personnel and material capacities in stationary facilities.
DATA SOURCE: Retrospective analysis of literature with determinants: natural disasters, human disasters, field hospital, military hospital, mobile hospital, emergency medical unit. The search was performed through: PubMed, MEDLINE, Google scholar and electronic journals available through KoBSON. The study included 18 works that were published in English and full available.
SYNTHESIS: Disasters occur quickly, indiscriminately and instantaneously leading to great consequences for people, material goods and the environment. Inadequate treatment of injured people at the disaster site and their subsequent transportation negatively affects the medical prognosis of patients. The organization of work in emergency situations has the task of providing perfectly equipped and organized first acute care at the scene of the accident and thus minimizing the loss of life. A field hospital is a mobile medical unit that serves as a temporary station to provide emergency medical care to the injured in areas affected by natural and industrial disasters or in war-torn areas. After providing emergency medical assistance, the injured are transported to a permanent hospital facility. The results showed that complexes consisting of tent units are the fastest and easiest solution for intervention and solving a short-term crisis situation. Field hospitals used in war or earthquake affected areas are prefabricated steel and concrete structures. The advantage of tent units is reflected in their mobility and purpose: they are used as mobile workplaces or logistics units in field conditions.
CONCLUSION: The study collected useful data that should be focused on the establishment of a field hospital with the aim of preventing the consequences and increasing the society's resilience to disasters.
Key words: disasters, field hospital, emergency situations.

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FOCAL MYOCARDITIS, AN UNUSUAL IMITATOR: CASE REPORT AND LITERATURE REVIEW

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INTRODUCTION: Acute myocarditis is a serious inflammatory condition of the myocardium. It affects people of all ages and has a broad etiology. Dramatic and acute ST-elevation can be wrongly interpreted as acute coronary syndrome, thus misleading physicians. Invasive coronary angiography is necessary for evaluation of myocardial injury. Absence of coronary artery disease leads to the working diagnosis of myocardial infarction with non-obstructive coronary arteries (MINOCA). There are different algorithms in evaluating this diagnosis of myocardial injury. In this case, careful history, clinical exam, and eventual cardiovascular magnetic resonance (CMR), could provide a solution for the dilemma. Here we present a case of acute focal myocarditis with markedly elevated troponins, in which diagnosis was finally made using CMR.
METHODS: A thorough search of MEDLINE database, patient history and literature were made. Search terms: “Myocarditis”, “focal”, “acute”, “MINOCA”, “myocardial injury”.

CASE: A male patient, 26-year-old, without cardiovascular risk factors presented with severe chest pain, diaphoresis, pallor, and dyspnea. He had no fever. Blood pressure was 160/110 mmHg. ECG is shown in Fig. 2. In laboratory there was an extreme elevation of Troponin (I day-6.374 ng/ml, II day-16.947 ng/ml III day-10.302 ng/ml, V day-0,207 ng/ml). Other parameters were normal. As there was an increase in troponin levels along with inferior leads ischemic ST elevation, initial diagnosis of acute coronary syndrome-Inferior-posterior-lateral STEMI was suspected. Initial treatment was given according to that suspicion and consisted of acetylsalicylic acid, clopidogrel, pantoprazole, tramadol, ramipril, bisoprolol, diazepam. Echocardiography showed normal EF (52%), heart size and ventricle wall thickness, with hypokinesia of medial basal segment of inferior wall of left ventricle. The patient was then sent to catheterization laboratory for further evaluation, which showed absence of coronary artery disease. A working diagnosis of MINOCA was established. Viral serology was negative for acute infection with CMV, EBV, Parvovirus B19, Adenovirus and Coxsackievirus. During next days of hospital stay, patient complained of chest discomfort, but there were no further ECG changes, and troponin levels normalized. To distinguish MINOCA from other causes of myocardial injury with elevated troponins, a CMR was done. CMR finding showed inferolateral subepicardial edema on T2 and STIR sequences with late gadolinium enhancement (LGE) in the same region. The finding was consistent with focal myocarditis of inferolateral localization. Further treatment consisted of beta blockers, ACE inhibitors and avoidance of strenuous activity for the next six months. The patient fully recovered and had no further complications with ECG only showing flat T-wave in D3 lead.
DISCUSSION: Myocarditis is an inflammatory disease of myocardium that is likely underdiagnosed. It is a significant public health issue. Acute myocarditis can be defined as a period of <1 month between symptom onset and diagnosis. Here we presented a case of a young patient with acute myocarditis. Focal myocarditis is an unusual manifestation of myocardial disease and can confuse physicians, especially if it occurs along with elevated cardiac markers and ST-elevation, but in a young patient, without any known comorbidity, this diagnosis must be considered. Here, a cardiovascular magnetic resonance may be a useful tool
Key words: Myocarditis;MINOCA;CMR;Troponin

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FROM EXPERIMENTS TO DEFIBRILLATION AND LIVES SAVED

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INTRODUCTION: Defibrillation is a process in which an electrical device called a defibrillator sends an electric shock to the heart to stop an arrhythmia resulting in the return of a productive heart rhythm. The beginnings of research and development of defibrillator date back to the beginning of the twentieth century. In addition to doctors, scientists from other branches participated in research and development.
METHODS: The search was done using PuBMed, MedLine and electronic magazines available through internet browsers.
RESULTS: The development of emergency medicine is directly related to the technological development and progress of society as a whole. Education of healthcare workers is the basis for timely and correct use of defibrillators as a life-saving device. AEDs are designed to be simple to use for the layperson who have received adequate training for this.
DISCUSION: The first researches were performed on the open heart of experimental animals. It was concluded that slight electrical shocks could induce an erratic heartbeat, and that a stronger shock could restore the heart's natural rhythm. The earliest form of the device we would recognize today as an external defibrillator was developed by electrical engineer, William Kouwenhoven, 1930.The first successful reversion of ventricular fibrillation case conducted on a human was in 1947 in on a 14-year-

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old boy during open heart surgery with a congenital heart disease. Further research was directed towards the development of a defibrillator that would deliver current through the chest. Dr. V. Skin and A. Klimov made the most progress in this in the sixties of the last century. The rapid technological development that followed in the years behind us, led to the portable form of defibrillator that we know today, and research on improvement is still the focus of scientists and medical experts.
Key words: Defibrillation, automated external defibrillator, history

GASTRIC AND DUODENAL ULCER - IMPORTANCE OF ULTRASOUND

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INTRODUCTION: Ultrasound diagnosis of gastric or duodenal ulcers is important in the concept of emergency medicine. Ultrasound detection of the ulcer niche is presented by irregularities in the hypoechoic layer of the mucosa with thickening and hypoechoicity of the submucosa with a gas inclusion showing extension from the lumen. Indirect ultrasound signs are increased echogenicity of peribulbar or perigastric fat tissue, distension and paresis of the stomach, painful sensitivity to dosed compression, weaker compressibility and band-like fluid infiltrates. The most significant complication of ulcer disease is perforation, which presents itself as free gas inclusions in the surrounding fatty tissue, which are usually not detectable on native radiography of the abdomen.
The aim of the paper is the presentation of ultrasound signs of gastroduodenal ulcer and perforation as the most significant complications.
METHODS: The paper evaluated the ultrasound findings of patients examined in the ultrasound room of the Emergency Center, in whom a clinical suspicion of ulcer disease was raised, which was later confirmed by endoscopic examination.
RESULTS: Ultrasound examination of the abdomen in the case of gastric ulcer usually shows increased echogenicity of perigastric and periduodenal fat tissue as well as thickening of the gastroduodenum wall, loss of stratification, incompressibility and hyperechoic echoes within hypoechoic altered submucosa that may represent hemorrhagic content. With ultrasound, we can establish a diagnosis of perforation with a negative finding on native radiography of the abdomen. The basic ultrasound sign of perforation is linear, horizontally oriented hyperechoic echoes in the perigastric and periduodenal fat tissue, behind the left lobe of the liver, in the hilus of the liver and along the lig. teres with a "comet tail" artifact, and we can also see free fluid in the surrounding recesses, within which echoes of the origin of the gastroduodenal content can be seen.
DISCUSSION: Ultrasound is the initial visualization diagnostic procedure in acute abdominal conditions and can be of great use in the diagnosis of gastroduodenal ulcer disease and its complications, which enables faster diagnosis and immediate determination of the therapeutic protocol.
Key words: Ultrasound, stomach, duodenum, ulcus disease

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INFECTIVE ENDOCARDITIS – THE IMPORTANCE OF EARLY RECOGNITION IN EMERGENCY DEPARTMENTS

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INTRODUCTION: Infective endocarditis (IE) is a life-threatening disease with significant in-hospital mortality (15-20%). Due to its frequent subacute onset, making a diagnose usually takes time and patients often present at hospital with complications, which increases the risk of unfavourable outcome

Clinical manifestations of IE can be cadiac and extracardiac. The most frequent cardiac manifestation is developement of vegetations leading to valvular and perivalvular destruction. Increase in the size and number of vegetations can lead to significant valvular regurgitation, but also to formation of perivalvular abscess, pseudoaneurysm or fistula. These entities require immediate intervention to avoid heart failure as the most common complication of IE. Extracardiac manifestations are usually the consequence of embolism due to vegetation fragmentation. The most often affected organs in patients with left-sided IE are the brain, spleen and kidneys, presenting as embolic stroke, intracerebral or subarachnoid hemorrhage, brain abscess, mycotic aneurysm, spleen and kidney infarction or abscess. Patients with right-sided IE usually present with pulmonary embolism with lung infarction and/or abscesses. Due to severe complications, approximately half of the patients with IE require surgical treatment. According to 2015 ESC recommendations, there are three main indications for early surgical approach in IE: heart failure, prevention of embolic events and uncontrolled infection. The French embolic risk calculator (ERFC - Embolic Risk French Calculator) proved to be a useful tool in assessment of embolic risk in IE, pointing out six factors associated with increased embolic risk: age, diabetes mellitus, atrial fibrillation, previous embolism, vegetation length >10mm and Staphylococcus aureus as the causative agent.

DISCUSSION: Since acute complications may be the first manifestation of IE, they should be considered in febrile patients with heart murmurs or predisposing factors for IE presenting at emergency departments. Timely recognition of patients with IE, especially those requiring early surgical treatment, is crucial to reduce the mortality.

Key words: infective endocarditis, early recognition, emergency

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NURSE TRIAGE IN THE EMERGENCY DEPARTMENT

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INTRODUCTION: The Emergency Nurse definition is: An Emergency Nurse in A&E is a nurse who has a sound nursing practice based on all aspects of A&E nursing, with formal post-basic education in holistic assessment, physical diagnosis, prescription of treatment and promotion of health. The Emergency Nurse Practitioner is a key member of the healthcare team directly available to members of the public. He/she must be an autonomous practitioner, able to assess, diagnose, treat and discharge patients without reference to a doctor, but within prearranged guidelines. He/she must be able to make independent referrals to other healthcare professionals

DATA SOURCE AND SELECTION OF MATERIALS: Retrospective analysis of literature with settings: Emergency Nurse, role and responsibility, triage. Searching is done through: PubMed, Medline and electronic journals accessible via KoBSON as well literature available in the library.

RESULTS OF SYNTHESIS: Triage is one of the main tasks for emergency nurse. Immediate assessment on arrival in A&E now forms the basis of one of the quality standards within the Patients' Charter. The term 'immediate' has been criticized as being impractical and, although clarified as

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meaning within five minutes of arrival, it remains controversial. A debate also exists as to how, when, and where triage occurs. Crouch identifies three methods of triage:1. before registration of the patient 2. with registration of the patient 3. after registration of the patient. Blythin advocates the application of the first method of triage, which requires the triage nurse to be situated in or near the waiting area and undertake a preliminary assessment of the patient. This method is favored by many practitioners in an attempt to achieve Charter standards. Other practitioners have adopted a combined triage and registration occurring within the waiting area.
The triage nurse has a responsibility to record any assessments made of the patient's needs. Some authors have estimated that it can take up to 10 minutes to complete a full triage history.This delay may result in failure to achieve the Patients' Charter standard. To address this requirement some departments have developed a two-stage system of triage. The first stage entails a brief history taking and superficial assessment of the patient by an experienced nurse to identify any immediate requirement for care. Brief documentation occurs here. Following registration, the patient undergoes an in-depth assessment by another nurse, with more extensive documentation taking place. Two immediate problems can be identified with this triage system. If the first triage nurse meets the Patients' Charter standards but breaches the Code of Conduct by not adequately documenting the patient's problems, the nurse's accountability for practice is surely questionable. Another problem surrounding the triage of patients within the waiting area relates to the confidentiality of patient information. Even the briefest of assessments entails the triage nurse requesting personal information from the Unless there is a specially allocated area within the waiting area, this confidential information may be overheard by other patients or relatives. This may constitute a breach of confidentiality. To alleviate these difficulties, other practitioners have adopted a system where the patient is registered first and then proceeds to a specially designed area where a full triage assessment is undertaken and documented. This may in the department falling short of the Charter standard. Supporters of this method of triage acknowledge this difficulty, but suggest that the benefits in terms of quality outweigh the problems of patients not being assessed 'immediately'. The benefits of triage in relation to the reduction of patient waiting times in A&E has also been the subject of considerable debate. Some observers suggest that triage can reduce overall waiting times for A&E patients. It is also suggested that triage reduces anxiety and dissatisfaction of patients and relatives with lower priorities of care, by allowing them early access to a qualified nurse for assessment. Other studies, however, challenge the role of triage in reducing waiting times to treatment, suggesting that it may actually increase waiting times. Some also suggest that there is no discernible difference in patient satisfaction between groups of patients who are triaged and those who are not.
CONCLUSION: Potential benefits of Emergency Nurse triage systems are: earlier assessment and treatment,and discharge of some patients without referral to a medical practitioner, reduction in waiting time to treatment for patients in certain categories, earlier initiation of diagnostic measures
earlier referral of patients to other health professionals, if appropriate
Keywords: triage, Emergency Department Nurse

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NURSES' ROLE IN VITAL SIGN MONITORING AT EMERGENCY DEPARTMENT

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INTRODUCTION: current standard of care is intermittent monitoring of vital signs with Early Warning Scores (EWS), in which nurses play an important role in the measurement, recognition of possible deterioration, and follow-up. Vital signs are the most basic, core elements of nursing care. Vital sign monitoring is a nursing intervention that measures a patient's heart rate, respiratory rate,

blood pressure, and temperature. These are the "vital" signs because they are indicators of how well a patient is doing, which help assess the overall health of patients and determine whether they are improving or worsening over time.
DATA SOURCE AND SELECTION OF MATERIALS: Retrospective analysis of literature with settings: Responsibilities, Nurse, Emergency care, vital signs. Searching is done through: PubMed, Medline and electronic journals accessible via KoBSON as well literature available in the library.
RESULTS OF SYNTHESIS: Taking Vital Signs provide a bird's eye view of a patient's state and alert nurses to changes in condition which might require a doctor's attention. Vital signs are monitored for two main reasons: to make sure that patients are healthy enough for surgery or other procedures and to keep track of recovery after surgery or other procedures. Nurses need to know how fast or slow the patient's heart is beating to assess if there's any danger from going forward with a procedure (like surgery), or if they need to take extra precautions. It is also important for them to know what changes have happened since their last visit to determine if something needs further investigation or treatment. Researches suggesting that long nursing shifts on hospital wards are associated with lower quality of care and worse patient outcomes, this finding points to one possible mechanism, as using vital signs observations as an indicator, job performance would appear to be lower for HCAs working longer shifts. This in turn is likely to be a product of the increased fatigue that is frequently reported by those working long shifts. These studies have relied on general reports of missed care, whereas we focused specifically on vital signs observations. Evidence of the association between staffing levels and missed care shows that, in general, RNs are more likely to report that lack of time causes them to miss interpersonal care (eg, talking and comforting patients and planning patient care) than 'clinical' care. Research undertaken with RNs and HCAs in the UK found that vital signs observations were a central feature of HCAs' roles. Furthermore, there are reports of RNs considering the assessment of vital signs a basic task and therefore one that RNs may delegate to less qualified staff members. Recent studies have shown that nurse-reported missed care mediates the relationship between low staffing and mortality with a further study showing specifically that missed vital signs observations mediated an association between RN staffing levels and mortality. Account for staff characteristics including age and personal commitments external to work, both of which may influence job performance. Working hours involved a larger proportion of long shifts, delays in obtaining scheduled vital signs observations by nursing support staff were observed.
CONCLUSION: Nurses should always follow protocol when taking vital signs so that they get accurate results every time without having to repeat them multiple times, which can waste precious time when dealing with patients who may have urgent needs for care, such as those who have just undergone surgery or come into the ER after being involved in an accident.
Key words: emergency nurse, vital signs,

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PREHOSPITAL TREATMENT OF PATIENTS WITH RENAL CALCULI IN EMERGENCY DEPARTMENT BANJALUKA

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INTRODUCTION: Nephrolithiasis is increasingly considered a systemic disease associated with chronic renal insufficiency and bone disorders. If left untreated, it is a chronic kidney disease with a recurrence rate of more than 50% in 10 years. The pathophysiological mechanism of calcium calculi formation is complex and diverse and includes low urine volume, hypercalciuria, hyperoxaluria, hyperuricosuria, hypocitraturia and abnormal urine pH. According to the anatomical localization of the calculus, the urinary calculi is divided into: renal calculi, uretric calculi, bladder calculi and

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urethral calculi.
OBJECTIVE: The objectives of the researchs are to show the frequency of patients with symptomatic and asymptomatic renal and urinary calculi, the effectiveness of pharmacotherapy at the pre-hospital level, and the need for hospital treatment.
METHODOLOGY: Statistical retrospective analysis included 529 patients who, in the period between July 1, 2021 and December 31, 2021, came for an examination at the ED (Emergency Department) with a clinical picture that corresponds to abdominal colic. Patients' data was obtained by accessing the electronic information system. Classification of respondents was performed in relation to age, sex, pharmacotherapy effectiveness, relationship between renal calculi and other causes of abdominal colic.
RESEARCH RESULTS: In 529 patients during the six-month period, 111 of them (20.9%) presented clinically manifested renal calculi. The number of male respondents was higher in percentage, and amounted to 62% of respondents. In relation to the age structure, the largest share of respondents was between the ages of 35 and 55, or 70%. The patients' treatment required the use of 2 or more analgesics in 95% of cases. Only small number of patients, 5%, required hospital treatment.
CONCLUSION: A significant number of patients who visit the ED (Emergency Department), due to abdominal pain, suffer from renal and urinary calculi as the underlying disease. Only a small number of them require hospital treatment, primarily due to ineffective pain relief. In order to make more accurate differential diagnosis, it is necessary to perform an ultrasound examination at the primary level, considering possible hydronephrosis, which implies proper therapy and hospital treatment.
Key words: renal calculi, pharmacotherapy, ultrasound.
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RESPONSIBILITIES OF AN EMERGENCY ROOM NURSE

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INTRODUCTION: Emergency Room Nurse (ER Nurse) is a medical professional who aids patients in an emergency situation, performs minor surgeries when necessary and treats patients who have experienced critical injuries or allergic reactions. Requirements and skills needs are: able to work under high-pressure, have attention to detail to quickly determine the medical needs of patients, good organizational skills to ensure the ER has essential supplies, verbal communication
DATA SOURCE AND SELECTION OF MATERIALS: Retrospective analysis of literature with settings: Responsibilities, Emergency Room Nurse. Searching is done through: PubMed, Medline and electronic journals accessible via KoBSON as well literature available in the library.
RESULTS OF SYNTHESIS: Emergency room staff play one of the most critical roles in a hospital setting - the frontline of triage and treatment for patients with everything from mild colds to extreme injuries. When it comes to an emergency room nurse, consider him or her the ace of hearts in a deck stacked with a whole team of medical professionals. The duties of an emergency room nurse are vast and cover a lot of ground. However, in the fast-paced setting of an emergency room, they need to be executed quickly and cohesively. Here are 7 key responsibilities of an emergency nurse:
1.**Triage** An emergency room nurse helps staff prioritize care based on the critical nature and severity of a patient's condition. A nurse's medical knowledge, quick thinking, and attention to detail lend a hand towards comprehensively assessing a patient's needs, obtaining their medical history and personal information, and seeking a doctor's evaluation immediately for life-threatening issues.
2. **Taking Vital Signs** Vital signs provide a bird's eye view of a patient's state and alert nurses to changes in condition which might require a doctor's attention.

3. **Administering Medicine** Sometimes E.R. patients will already be on existing medication that needs to be administered during their stay there. Nurses will confirm current medication lists with patient and family (or call on the hospital pharmacist to) Providing
4. **Treatment** Nurses may also assist with minor medical procedures as part of the treatment response, helping to stabilize a patient and assist the doctor with everything from suturing wounds to intubating critical patients.
5. **Monitoring Patients** Nurses are responsible for overseeing follow-through on doctor's orders, from making sure medications are given to checking on completion and results of diagnostic tests that are ordered. Patients and their families may make requests for simple things like another blanket or a snack, and nurses bear the responsibility of fielding these requests and keeping the patient comfortable.
6. **Charting;** Emergency room nurses are required to chart all patient medical history, contact information, current condition, medications, and treatment, as well as update their electronic medical records throughout their stay in the E.R.
7. **Discharge** Emergency room nurse handles the discharge paperwork, explaining it to the patient and their family/caregiver, and answering any questions they may have. They also confirm transportation from the E.R. with the patient, their destination (especially if they are going to a rehab or assisted living facility), and follow-up recommendations for care and doctor's visits.
CONCLUSION: Working as a nurse in an emergency room requires patience under fire, high stress and anxiety tolerance, attention to detail, and superior communication and organizational skills, as well as a strong heart and ethic to help others.
Key words: emergency nurse responsibility

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RHABDOMYOLYSIS AS AN ACUTE CONDITION IN NEPHROLOGY

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INTRODUCTION: Rhabdomyolysis is a clinical syndrome that occurs in all ages, more often in men and most often if the BMI is greater than 40 kg/m2. The causes are numerous and can be traumatic or non-traumatic. The most significant complication of rhabdomyolysis is acute kidney damage, which occurs in about 10-40% of such patients, in about 5-15% of patients with acute kidney damage rhabdomyolysis occurs, while the total mortality of patients with rhabdomyolysis and acute kidney damage ranges up to 80%.
THE AIM of this paper is the analysis of clinical manifestations and the current diagnostic and therapeutic approach in this clinical syndrome.
MATERIAL AND METHODS: books, journals and database search were used for writing this paper
RESULTS: Most of the symptoms are non-specific, only 10% of patients have the classic triad of symptoms: pain and weakness in the muscles and dark urine. The clinical presentation of rhabdomyolysis varies depending on the severity of muscle damage. Patients have pain in the muscles of the proximal group, swelling, stiffness or cramps. Skin discoloration and blisters may be seen. Patients complain of malaise, fever, stomach pain, nausea, vomiting. Cardiovascular disorders are a consequence of electrolyte and acid-base disorders and hypovolemia. The severity of rhabdomyolysis is classified in relation to the level of creatinine kinase. Compartment compression syndromes may occur. Diagnostic tests should help determine the cause and the presence of complications. Prognosis and prediction of the risk of acute kidney damage, the need for dialysis treatment and the outcome of the treatment can be assessed during the admission of the patient using the McMahon score. The therapy is primarily aimed at treating the cause of rhabdomyolysis, and at the same time measures are

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applied to prevent acute kidney damage and correct metabolic disorders, treatment of infection and hemodynamic disorder of the patient.
DISCUSSION: The McMahon score based on the entered variables: age, gender, cause and initial values of calcium, creatine kinase, phosphate and bicarbonate can predict the risk of acute renal failure without waiting for the value of creatine kinase to be greater than 5000 U/L. A score of 6 or higher has greater specificity and sensitivity ((86% vs 83% and 68% vs 55%) in relation to creatine kinase (CK) that is greater than 5000U/L for acute kidney injury and dialysis treatment. Recommendations for treatment have also emerged from published papers and meta-analyses.
CONCLUSION: the outcome of patients with rhabdomyolysis depends on the cause and comorbidities, and can be significantly improved if treatment is started aggressively and early. However, acute kidney damage induced by rhabdomyolysis requires long hospital treatment. Although a third of patients with acute kidney damage have an oliguric form, in most cases recovery of renal function occurs.

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SUB-MASSIVE PULMONARY EMBOLISM ARISING FROM LIPOSARCOMA

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INTRODUCTION: Submassive pulmonary embolism (PE) is an emergency condition with obstruction of a significant part of the pulmonary circulation (PC), resulting in the right heart strain, without systemic hypotension. It can easily progress to massive PE with hemodynamic instability.
CASE REPORT: A 61-year-old male presented with progressive dyspnea three months after Covid-19. MDCT pulmonary angiography showed saddle PE with thrombus spreading into the right pulmonary artery (PA) and all distal branches. Considering hemodynamic stability, conservative treatment was performed. Three months later he underwent chest X ray due to dyspnea and cough. MDCT evaluation discovered inhomogeneous vascularized tumor (6x5cm/64ml) in the right upper lobe of the lung, with PC infiltration, suggesting a tumor-thrombus which extends along the right PA, entering the pulmonary trunk, left PA and several distal branches billateraly. Echocardiography revealed enlarged right ventricle, right ventricular systolic pressure up to 110 mmHg and "D-shape" of the left ventricle, with normotension. Magnetic resonance imaging confirmed the existence of a spiculated tumor infiltrating the PC, with embolism of the pulmonary trunk (thrombus length 33mm, almost completely filling the lumen in the small segment) and both PA branches (complete obstruction of the right PA by a thrombus 51mm long and 40mm thick, and more than 90% of the left PA lumen), but predominantly paraneoplastic, without characteristics of a tumor-thrombus. Abdominal MDCT revealed a tumor in the left posterior pararenal space (7x5cm/127ml). Due to high risk for bronchoscopy, he underwent percutaneous pararenal biopsy. Pathohistological finding indicated dedifferentiated liposarcoma.
DISCUSSION: The lack of correlation between radiographic and clinical findings, with hemodynamic stability despite the presence of large PC thromboemboli, should arouse suspicion of the chronicity as a part of malignant disease. Persistent large thromboemboli in the PC may primarily suggest PA intimal sarcoma, but other sarcomas as well as tumors of different origin may also be the cause.
Key words: submassive pulmonary embolism, liposarcoma, tumor-thrombus, paraneoplastic syndrome

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THE IMPORTANCE OF EARLY APPLICATION OF DEFIBRILLATION IN PREHOSPITAL CONDITIONS - CASE REPORT

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INTRODUCTION: Defibrillation is an integral part of cardiopulmonary resuscitation in cases of pulseless ventricular tachycardia and ventricular fibrillation. If cardiopulmonary resuscitation and defibrillation are started immediately after cardiac arrest, survival increases by 50-75%. Every minute of delay in defibrillation reduces the likelihood of patient survival.
METHODS. Retrospective presentation of the case using data from the patient's discharge list and protocols of services that participated in diagnosis and treatment.
CASE REPORT: A 45-year-old patient enters the Pirot Emergency Medical Service and suddenly loses consciousness, cardiorespiratory arrest is registered and cardiopulmonary resuscitation is started. Ventricular fibrillation is verified on the defibrillator monitor and defibrillation is started in biphasic mode of 200J. After the delivered shock, a sinus rhythm appears, the patient begins to breathe spontaneously, at first he is agitated and confused, and then he becomes conscious, there is only a period of no memory for the past event. During transport to Pirot General Hospital, a myocardial infarction of antero-septal localization is registered on the monitor. During treatment, in the coronary unit, fibrinolytic therapy was included, an EHO of the heart was performed, which showed LK enlarged, decreased systolic function EF 35%. After further diagnostics and coronary angiography, cardiosurgical revascularization of the myocardium was indicated due to multivessel coronary disease. Three months later, a quadruple aortic-coronary bypass was performed. Six years have passed since the aforementioned event, the patient still subjectively feels well, has no anginal attacks, is very active and tolerates effort satisfactorily, regularly goes to medical check-ups and takes the prescribed therapy.
DISCUSSION: Sudden cardiac arrest is the leading cause of mortality in the world and the largest number occurs in the prehospital setting. In about 80% of patients, acute cardiac arrest is caused by ventricular fibrillation, a shockable rhythm of arrest, and the return of spontaneous circulation and survival to the admission clinic of the hospital depend on immediately taken CPR measures, that is, early defibrillation. Survival is all the greater, if the interval from the occurrence of ventricular fibrillation to the application of defibrillation is shorter, and with the passage of every minute, the chances of survival decrease by about 7-12%. In the aforementioned case of acute cardiac arrest with a shockable arrest rhythm, the early application of defibrillation significantly contributed to the success of CPR and the revival of the patient without any subsequent sequelae. A large number of acute cardiac arrests occur in out-of-hospital circumstances, so whether the patient will survive or not often depends on the quick and proper response of eyewitnesses. Starting cardiopulmonary resuscitation and early application of defibrillation by eyewitnesses, which would be made possible by the existence of AED defibrillators, especially in high-frequency public places, would significantly contribute to a favorable outcome of resuscitation.
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THE ROLE OF A MEDICIAL TECHNICIAN IN TREATMENT OF PATIENTS WITH ELEVATED DDIMER

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BACKGROUND/AIM: Medical technician is a significant part of EMS BL. In emergency situations, such as pulmonary embolism, which presents a challenge for emergency medical staff, the role of the medical technician in collaboration with the doctors is key. The aim of the study is to point out the importance of the role of the medical technician in the recognition of symptoms and work procedures in the care of patients with elevated D dimer, especially patients with suspected pulmonary embolism.
MATERIAL AND METHODS: Data for analyisis obtained by retrospective processing of data from electronic health records (Web medic) of patients examined in EMS BL (outpatients clinic and field) on the basis of the D dimer service from the codebook of the HIF RS (1100032); protocol D dimer in EMS BL; patient protocols in EMS BL (outpatient clinic and field). The gender and age of the patient, vital parameters, D dimer values and therapy were recorded. The symptomatology, referral diagnosis and whether the patient was cared for in EMS BL or was referred for further diagnostics at the tertiary level were recorded. Data analyzed with the help of MS Excel 2013.
RESULTS: In the period from 01.06.2018. to 30.06.2022. in EMS BL ,502 blood samples were analyzed on D dimer. The largest number of samples was processed in 2021. year (177). The female gender predominated (57%) and the most represented patients were in the age of group of 60-90 years. Of the total number, elevated D dimer values were found in 145 patients (28,88%), of which 20 (13,79%) were suspected of pulmonary embolism. In patients with elevated D dimer, ECG was performed in 93,10% and IV line was opened in 85,51% of the patients. SpO2 was mesured in 74,41% and oxygen therapy was given in 66,20% of patients. Parenteral and per os therapy, according to the doctor's order, was given to 77,93% of patients. In the EMS BL, 44 patients with elevated D dimer were cared for, and 101 patients were referred for further diagnostics, of which 54 patients, with monitoring, were transported by the ambulance of the EMS BL. Symptomatology of patients suspected of pulmonary embolism (20): fatigue (7), pleuritic pain (12), respiratory problems (32), neurological problems (6), irregular heartbeat (4), swelling and pain in extremities (5), weakness and malaise (7), nausea and vomiting (7), surgery (4). The above mentioned patients underwent an ECG, SpO2, an IV line was opened, oxygen therapy was administered, some pharmacological therapy was administered and they were transported by ambulance to the tertiary level with continuous monitoring.
DISCUSSION: Due to limited competencies, the medical technician can not make decisions independently and therefor works in cooperation with the doctor in order to take care of all conditions in a way that is the best for patient. Upon the patient's arrival at EMS BL, the medical technician takes an anamnesis, which provides information about symptoms, previous illnes and the therapy he is using. Observing the patient, observes an objective clinical picture and processes vital parameters (BP,ECG,SpO2). Based on the data obtained, the doctor makes a referral diagnosis and the medical technician, on his order, takes a blood sample and processes D dimer according to the procedure. D dimer as a diagnostic data excludes pulmonary embolism and depending on the obtained values, the doctor decides on further procedures. According to the doctor's order, the medical technician places the patient in the appropriate position, applies oxygen therapy, opens IV line, applies farmacological therapy and with monitoring, transports the patient to the tertiary level. The advantage of working at EMS BL is the quality cooperation of medical technician and doctors with mutual respect for competencies. Working at EMS BL shows us every day the importance of education and the work of each medical technician on his professional advancement . An editorial technician is not only made up

of humanity and the guidelines of a doctor, but also knowledge, continuous education and the ability to master modern technology.

Key words: medical technician, teamwork, d dimer, EMS BL, pulmonary embolism

Abbreviations: EMS BL-Emergency Medical Service Banja Luka, HIF RS-Health Insourance Fund of Republic of Srpska

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THE TREATMENT OF POLYTRAUMATIZED PATIENTS IN THE EMERGENCY DEPARTMENT OF HEALTH CENTRE IN ZAJECAR (DOCTOR'S CHALLENGES THROUGH DIFFERENT SCENARIOS)

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INTRODUCTION: Polytrauma is a damage to several organ systems at the same time, which results in the loss of homeostatic mechanisms. Emergency services and emergency admission services within hospitals are increasingly encountering patients who have suffered severe trauma or polytrauma, a disease of the modern age, whether it is traffic trauma, work injuries or injuries caused by a cold weapon or firearms. Taking care of such patients represents a multidisciplinary approach and teamwork, adequate organization and communication between doctors at different levels play an important role in the survival of such patients. Following the golden hour rule , the availability of diagnostic methods, protocols, and the determination of doctors is of crucial importance.

RESULTS: Zajecar Medical Center has had a service for emergency admission and triage since 2016, whose responsibility has been the initial care and diagnosis of patients with polytrauma. This service covers the territories of the city of Zajecar, Knjaževac and Boljevac, where one doctor (a specialist in emergency medicine or general medicine) and two nurses/technicians work in a 12-hour shift. On average, 48 patients with different pathologies and conditions that require urgent treatment are examined in 24 hours. On a monthly basis, 14 patients are brought in under suspicion of polytrauma, of which an average of 3 are transported to a tertiary institution. In the following two scenarios, we can see that there is a lot of pressure on the doctor in the service and that the importance of experience, the availability of diagnostics and the cooperation of doctors play a crucial role.

Review number 1 – on October 11 ,2020 (Sunday) at 11:50 a.m., the ambulance team brings patient R.M. aged 63 from Koprivnica (a village located 17 km from Zajecar) without notice from the emergency physician. According to a colleague, hemodynamically stable, the woman got injuries from a tractor trailer which came loose and under acceleration and load, hit her and pressed her against the wall of the house . On the field, one vein path was opened, the patient was somnolent, she barely cried "stomach hurts", traces of a mild scratch on the abdomen, which is a meteoristic, pale, scar on the right eye. Soon the tension drops, GKS 5. The on-call surgeon and anesthesiologist are called. 3 more vein paths are opened, dopamine therapy is included and volume compensation. The patient is intubated, placed on mechanical support, a urinary catheter is placed, without diuresis. The on-call surgeon, although already received information about the blunt abdominal injury, asks for a trauma scan, and it is waited for the standby radiologist to arrive. Due to the unstable hemodynamic state, the scanner is performed at 1:50 p.m. Blood drives were given, hgb 16

Findings are as follows (abbreviated) - contusion of both lungs, serial fracture on the right from III to IV, partial pneumothorax, liver inhomogeneous, injury grIV according to AAST, rupture of the spleen gr IV according to AAST, fracture of saddle and iliac bones on the right. Exitus lethalis 14.15

Review number 2 - on September 23, 2022 at 2:30 p.m. (Friday), an ambulance brings a patient who fell from a height, announced admission from the field, B.S. aged 64 years. Before the arrival of the team, the radiologist was informed to come from home, as well as the on-call surgeon and anesthesiologist. Upon arrival, it was only noticed that the patient had a scratch on the right side of the head, he was

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given a ringer and a vein path was opened on the field. In the emergency department, it was 120/70, anisocoria GKS 5, intubated, blood analysis, fluid replacement, lung weakness on the right. The stomach is soft.
The anesthesiologist takes over further sedation of the patient. The Surgeon does an abdominal puncture, without blood content. Urinary catheter placed; urine clear.
MDCT TRAUMA SCAN (shorten results) – a linear fracture of the temporal bone about 46mm, fracture of the lateral wall of the right orbit, temporal right SAH, a generalized brain edema, a fracture of the L3 vertebra, threatening tension pneumothorax on the right, abdominal findings are normal.
After the scanning, the patient underwent thoracic drainage, hemodynamically stabilized and, accompanied by the team, he was transported to Nis Emergency Center at 3:40 p.m.
DISCUSSION: Taking care of polytrauma is a big challenge and stress for doctors, adequate organization, teamwork and communication play an important role in taking care of patients. Most often, as we see, the external findings on the body do not correlate with internal injuries, the data on the mechanism of the injury is of essential importance, for the sake of better decision-making in the diagnostic aspect. The role of the emergency medicine specialist in the care team can be of great importance, as well as the availability of fast diagnostic methods such as FAST to the greatest extent possible.
Key words: polytrauma, a golden hour, organization

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TRANSPORT OF COVID PATIENTS - RISKS AND CHALLENGES

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Sars-Cov 2 infection was something new for the healthcare system of both our country and the whole world.
Many things were solved on the fly, and existing protocols were adapted to new needs. Transporting a patient from the Covid ward to the established respiratory center carried the risk of virus contamination of the staff carrying out the transport, the risk of injuring the employees (which unfortunately happened because the patients were transported with the help of stretcher carts or wheelchairs), because the newly created situation with a large influx patients and those who, at the time of admission to the reception triage clinics, already met the condition to be placed in the respiratory center, dictated that everything be done as soon as possible, with the staff available at the given moment.
It should be kept in mind that the peak number of people suffering from Sars Cov 2 infection occurred during the summer of 2020 and that working in spacesuits is a difficulty in itself.
Securing the airway as well as procedures that generate an aerosol in patients with Sars-Cov-2 infection represent one of the riskiest procedures in the treatment of patients infected with the Sars-CoV-2 virus due to the high degree of contagiousness through the spread of aerosols, and they are the basis of treatment in case of exacerbation.
The video laryngoscope is the gold standard for intubation of patients with COVID-19, as it enables fast intubation and greater distance from the airway, but the availability of this type of laryngoscope is not great.
A special challenge is the transport of patients to another health facility due to the need for oxygen.
High flow devices and respirators with CIPAP mode, due to the high consumption of oxygen, require a good assessment of the amount of oxygen that should be in the oxygen bottles, that is, the number of bottles. The standard oxygen bottles found in ambulances are 10 L bottles, under a pressure of 200 bar, they have 2.1 cubic meters of oxygen, that is, 2100 liters of gaseous oxygen. At a flow rate of 100% 02 of 70 L/min, the bottle would last about 49 minutes.

As the transport to one of the Covid hospitals in Belgrade takes about 4 hours from Novi Pazar, you should have at least six bottles of oxygen at your disposal. As well as the consumption of oxygen while the ambulance is stopped due to the deterioration of the patient's condition and the administration of drugs when this happens.
Good training of the Covid teams and adequate equipment are necessary for providing quality health care to both Covid patients and medical staff.
Key words: Transport, Infection, Sars-Cov-2

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WEAKNESS - WHAT COULD BE HIDING BEHIND THIS SYMPTOM

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INTRODUCTION: Weakness or malaise can be roughly defined as muscle weakness. However, malaise as a symptom can be caused by an extremely large number of clinical conditions. The correct approach trough examination is especially important when the causes of weakness are life-threatening conditions.
METHODS: Search was carried out through PubMed, MedLine and electronic journals available through Internet browsers.
RESULTS: The focus of physician approach in situations of urgent management of a patient with acute weakness should be directed towards the exclusion of life-threatening conditions that can progress to cardiopulmonary or respiratory arrest.
DISCUSSION: It is useful to get answers to several important questions: Is the weakness global or focal? Is the feeling subjective or objective? Does the pain make it worse or not? Answers to these questions can provide the doctor with an adequate differential diagnostic approach.
A global, generalized and purely subjective feeling of weakness is probably caused by a multisystemic process such as metabolic disorders, exposure to toxins, an infectious process or paraneoplastic syndromes. Sudden onset of weakness raises concern for a central process such as stroke or other conditions that may mimic it such as hypoglycemia, postictal paralysis, migraine, multiple sclerosis, or peripheral neuropathies. Examination of the patient includes measurement of vitals, oxygen saturation and glycemia, examination by systems and a detailed neurological examination. The differential diagnosis of a patient complaining of weakness is extensive and is divided mainly etiologically into broad categories of metabolic, toxic, infectious, structural, endocrinological and cardiac diseases and this list is not exhaustive. Life-threatening conditions that present with weakness can be: myasthenia gravis, Guillain-Barre, botulism, adrenal insufficiency, organophosphate poisoning, carbon monoxide poisoning and hypokalemia.
Key words: weakness, anamnesis, differential diagnostics

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PROFESSIONAL COMMUNICATION IN EMERGENCY MEDICINE

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INTRODUCTION. The modern concept of emergency medicine brings to the forefront competent and effective professional communication. The Emergency physician must in the short term, usually under conditions of crowds and pressure, achieve successful communication with his patient and his family. He must communicate well within his team, as well as with other doctors-consultants, and with other professions – police, media.

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METHODS: The aim of this paper is to evaluate and reevaluate critical and controversial situations, whether they are critical due to the vital vulnerability of the patient, or due to poor interpersonal relationships in the collective. Through daily review of real situations, desensitization of actors and better insight is achieved. Professional meetings within the collective and within the institution, at the city level and globally provide examples of good practice.
RESULTS: Communication in a health institution takes place through formal and informal communication. Formal communication is transmitted according to certain rules and standards, it is official, distant and often leaves the impression of rigidity and inability to interact essentially. Informal communication is spontaneous, immediate and often produces a more constructive climate for problem solving. Resilience, as the ability to cope with the negative effects of stress, and on the other hand, burnout at work- extremes are between which daily professional functioning takes place. Conflict between healthcare professionals is a common feature of a modern healthcare environment that functions in conditions of overload and lack of quality human resources.
DISCUSSION: Intensive and permanent communication skills in the form of a designed protocol helps in conflicts and difficult interactions, which contributes to a culture of mutual respect. Teamwork, flexibility, active listening, empathy, synchronization of verbal and nonverbal communication contribute to the encouragement of team members. Seeking feedback and making decisions together have an impact on building an attitude and sense of security in a positive, safe and supportive environment.
Communication in emergency medicine is one of the most important skills that is learned, repeated, perfected and passed on to young colleagues. The art of communication is the aspiration of the author.
Key words: professional communication, communication skills, resilience, ethics
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WHAT IS THE YELLOW AREA OF THE EMERGENCY CENTER OF THE UNIVERSITY CLINICAL CENTER OF SERBIA?

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INTRODUCTION: With the opening of the completely new building of the Emergency Center of the University Clinical Center of Serbia (ECUCCS), a new triage system was introduced, which is based on the Early Serbian Triage Score (ESTS). There are 5 degrees of urgency, red, orange, yellow, and green.
METHODS: The patient's protocol determined the number of examinations per day and the time the patient stayed in the yellow area.
RESULTS: For the period from May to August 2022, a total of 5427 emergency patients were examined In May, 1,415 emergency patients were examined, of which 702 were hospitalized. In June, 1,321 were examined, of which 618 were hospitalized. For July 1295 examinations were performed, of which 679 were referred for hospital treatment. In August, 1,360 emergency patients were examined, of which 686 were referred for hospital treatment.
DISCUSSION: In April 2022, the new emergency center of the University Clinical Center of Serbia (ECUCCS) was opened. With the opening of a completely new building, a new work and triage system for the emergency center was introduced, the so-called Early Serbian Triage Score (ESTS).
ESTS consists of 5 degrees of urgency, with red as the most urgent, requiring immediate treatment mainly by an anesthesiologist. Then orange and yellow can wait for examination for 10 min and 60 min, which are taken care of by specialists in emergency medicine (EM). And green, as a delayed degree of urgency, where patients wait up to 240 minutes for examination.
Namely, the yellow zone consists of an ambulance with 14 boxes, where within each box there is a mobile bed, a ventilator, a monitor with a transport monitor, an outlet for oxygen, vacuum, air, a kit

for aspiration, thoracic drainage, and pleural puncture. As additional equipment, there are 5 portable ventilators, 2 portable defibrillators, a resuscitation cart with complete equipment, as well as a surgical cart for dressing and suturing wounds. Of the radiological equipment, there is one portable ultrasound machine and one portable X-ray machine. There are also two isolation rooms with all the accompanying equipment within the yellow zone.
The entire process of triage, examination, assessment for appropriate diagnostics, initial care, and the need for other consultative specialist examinations of the patient is the domain of work and responsibility of EM specialists. After treating the patient, the EM specialist, in agreement with the consultants, decides on further hospital treatment of the patient or the patient can be referred for further home treatment with adequate therapy.
Every patient who requires care in the yellow zone lies on the bed all the time, is fully monitored (ECG, BP, SO2), and blood is taken for the basic blood count. Further analyzes and diagnostics depend on the condition of the patient and the complaints that brought him to ECUCCS.
With the existence of this zone, certain procedures in UCUKCS such as administering thrombolysis and preparing the patient for thrombectomy in acute stroke, without prior admission of the patient to the stroke unit, have been significantly accelerated. Preparation and incisional care of the patient for the catheterization room for myocardial infarction, considering that the patient is transferred directly to the room without prior admission to the coronary unit. Quick preparation for emergency surgery is enabled, where the patient from the yellow zone is driven directly to the operating room without prior admission to the intensive care unit.
The average stay of a patient in the yellow zone from his entry to complete care and diagnosis is about 2 hours and 30 minutes.
Key words: triage, initial care, patients, critical care

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COMA, FREQUENCY IN EMERGENCY MEDICAL SERVICE IN BANJA LUKA

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INTRODUCTION: The causes of coma are numerous and assume the etiological causative agent of the field represents a real challenge for the doctor. The aim of the research was to determine the frequency of coma occurrence and the etiology of coma in SHMP BL. Also, the aim was to analyze the accuracy of the referral diagnosis and potential factors that can help the doctor diagnose correctly.
METHODS: A retrospective cross-sectional study was conducted. In the database of the Emergency Medical Service Banja Luka (SHMP BL), in the period from 1.1.2022. to 1.10.2022., all patients diagnosed with coma (ICD: R40, E16, I63) were found. The SHMP BL protocols were used, as well as the Web Medic database. The sex and age of the patient, vital parameters, diagnostic methods and therapy were recorded. The referral diagnosis, the department to which the patient referred, as well as the final diagnosis established in hospital conditions were recorded.
The data were analyzed with the help of IMB SPSS for Windows v. 18.0. Normality of data distribution was determined using Kolmorgorov-Smirnov test, and based on the results applied appropriate parametric/nonparameter statistical tests: Hi-square test, Student t-test/Man-Whitney U-test, ANOVA/Kruskal-Wallis test. The statistical significance level was taken by $p<0.05$.
RESULTS: In the period from 1.1.2022. to 1.10.2022. there were 95 patients diagnosed with coma. The average age of the patients was 67.76 ±16.56 years, 56 (58.9%) men and 39 (41.1%) women. Of these, in 41, the patient was diagnosed with hypoglycemic coma and these patients were taken care of in the field. 17 patients were diagnosed with stroke, 10 patients had sepsis and shock of different etiology, 4 patients were in a coma of epileptogenic origin, 7 patients had a traumatic brain injury and 15 patients

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who are individual cases, dissection of abdominal aortic aneurysm, respiratory failure, conversive reaction, meningoencephalitis, renal failure, complete av block, terminal stage of cancer. Of the 54 patients, 32 (59.3%) patients were confirmed as a referral diagnosis, while 22 (40.7%) patients were hospitalized with a second diagnosis.
DISCUSSION: To take into account the frequency of etiological causes of coma, the results of this retrospective study were compared with other studies.
In one observational study "Coma and impaired consciousness in the emergency room" by S Forsberg, J. Hoyer, C. Enander, In Ludwigs, in which 938 patients participated, 38% of patients were etiological agents of coma poisoning, 24% focal neurological lesion, 21% metabolic disorders, 12% epileptogenic causes, 12% psychogenic.
It can be observed that in a retrosective study, poisoning as an etiological causative agent is found in a low percentage, statistically of no significance, while matabolic causes including hypoglycemia, sepsis, shock of different etiology, occupy the first place. The results of focal neurological lesions are similar in percentage.
Key words: Coma, frequency, etiological factor

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INTRAOSEAL ROUTE

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INTRODUCTION: In emergency situations if the I.V. route cannot be opened, according to the ERC guidelines from 2010, the best alternative method is to open the intraooseal pathway.
METHODS: Surveyof employed nurses, research of nursing literature, illustrative presentation of procedures and equipment.
RESULTS: Presentation of the procedure, and the development of awareness and motivation about the procurement of equipment and the application of the same method in home institutions.
DISCUSSION: No one should be endangered by the lack of a venous pathway.
Key words: Intraoseal, ERC, invasive

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