Resus guidelines traumatic cardiac arrest

In the UK, there are approximately 350 accidental drowning deaths each year. Drowning is more common in men 20 to 30 years, and occurs mainly in inland waters (e.g., lakes, rivers) and during the summer months. Aquatic rescue Whenever possible, bystanders should try to save the drowning victim without entering the water. Talking to the victim, arriving with a rescue aid (e.g., stick or clothing), or throwing a rope or floating rescue aid can be effective if the victim is near firm ground. The rescue may present significant risk to the rescuer, but a sensible risk assessment is needed to ensure that potentially surviving victims are rescued promptly. If entry into the water is essential, take a floating rescue aid, flotation device or boat. It's safer to get in the water with two first responders than alone. Submersion durations of less than 10 min are associated with a very high chance of a good result, and submersion durations of more than 25 min are associated with a low chance of good results. In the UK, the combined emergency services guidance recommends reviewing search and rescue efforts 30 and 60 minutes from when emergency services arrive on the scene (Figure 1). Extended rescue efforts of up to 90 minutes may be suitable for children or submerged in cold cold water, although the protective effects of extreme hypothermia are insufficient in the UK, where water is insufficiently cold to cool quickly and provide neuroprotection. Trained individuals should only consider ventilation in the water (with the support of a floating rescue aid) if there is likely to be a delay in arrival on land or a rescue vessel. Remove the victim from the water promptly. The chances of a drowning victim suffering a spinal injury are very low. Spinal precautions are unnecessary unless there is a history of shallow water diving, or signs of serious injury after water slide, water skiing, kite-surfing or boat racing. No more than 0.5% of these patients have a cervical spine injury and the rescue takes precedence over the protection of the cervical spine. If the victim is pulseless and apnoeic, remove them from the water as soon as possible while trying to limit neck flexion and extension. If there are concerns about cervical spine injury in the non-trapped patient, limit the flexion and extension of the cervical spine as much as possible and use a spoon stretcher for immobilization and transfer. Hypovolaemia after prolonged immersion can cause cardiovascular/prison collapse in water removal, especially if the victim is upright. Try to keep the victim in a horizontal position during and after water recovery. Figure 1. UK risk assessment for submersion (Reproduced with permission from the National Operational Guidance on Rescue and Floods.) Resuscitation after aquatic rescue Check for a response by opening the airways and checking for signs of life. The drowning victim rescued from the water within minutes of submersion is likely to show abnormal (agonal) (agonal) Don't confuse that with normal breathing. The CPR of the spectators is particularly important in these patients, as they will be hypoxic. If the viewer is trained or capable, cPR advice assisted by the dispatcher should include rescue breaths. In these patients, compression-only CPR is likely to be ineffective and should be avoided. Take five initial rescue breaths, complemented with oxygen, if available. If the victim has not responded to initial ventilations, place them on a firm surface before initiating chest compressions. Large amounts of foam caused by mixing moving air with water and surfactant can sometimes come out of the mouths of victims. If this occurs, continue the rescue/ventilation breathing until a rescuer with sufficient experience can intubate the trachea. Follow the standard ALS protocols. Consider early use of a mechanical chest compression device when a prolonged resuscitation attempt should be performed. Hypothermia is common after drowning. If the victim's core temperature is <30 °c,= limit= defibrillation= attempts= to= three= (delivered= at= maximum= defibrillator= output),= and= withhold= iv= drugs= until= the= core= body= temperature= increases=>of 30 °C. Retain adrenaline and amiodarone until the patient has been heated to >30 °C. Between 30-35 °C, the intervals between drug doses should be doubled when compared to normothermia intervals. Above >35 °C, standard drug protocols should be used. Pre-hospital reheating is of limited efficacy in unconscious patients, but the use of heating blankets and a warm environment should be considered. Opioid overdose In the known opioid overdose associated with respiratory depression, respiratory arrest or to help diagnose suspected opioid overdose, the initial initial dose of naloxone hydrochloride is 400 to 2000 mcg IV, given at intervals of 2 to 3 minutes and titrated to response. Naloxone may be given for cardiac arrest associated with opioid overdose, but its benefit is uncertain. If no response is observed after a total of 10 mg of naloxone IV, consider a drug that is not related to opioid or other process. If route IV is not available, naloxone can be given by IM, IO, SC, or intranaal routes. Additional doses may be necessary if the patient's level of consciousness drops, or if the patient's respiratory rate decreases again, because the half-life of naloxone may be lower than the opioid that causes respiratory depression. Only give as much as is necessary to achieve an adequate respiratory rate, since an overdose, particularly in chronic opioid users, can cause agitation and occasionally seizures. Cocaine toxicity Follow the standard ALS guidelines for resuscitation of patients with cocaine toxicity. Seizures cocaine toxicity should be controlled in accordance with standard benzodiazepine protocols. Cocaine can cause intense sympathetic stimulation, resulting in coronary artery spasm and subsequent myocardial infarction. Cardiac arrest in pregnancy Pregnancy-related deaths are relatively rare in the UK. The </30> </30> should always be considered when an adverse cardiovascular event occurs in a pregnant woman. Fetal survival usually depends on maternal survival, so initial resuscitation efforts should focus on the pregnant mother. Bleeding, embolism (thromboembolic and amniotic fluid), hypertensive disorders of pregnancy, abortion and sepsis of the genital tract are responsible for the majority of deaths directly associated with pregnancy.60 In the United Kingdom, maternal deaths (death during pregnancy, childbirth or in the 42 days after delivery) between 2009 and 2012 were associated with heart disease, neurological conditions, psychiatric conditions and malignancies.61 A quarter of pregnant women who died in the UK had sepsis had sepsis , and 1 in 11 had the flu. Significant physiological changes occur during pregnancy. Blood volume and cardiac production increase, along with thorough ventilation and oxygen consumption. At about 20 weeks, compression of the abdominal aorta and inferior vena cava through the gravid uterus can reduce distal blood flow and venous return, resulting in reduced cardiac production and hypotension. Evidence of specific interventions for the treatment of cardiac arrest in pregnancy is weak.2,62,63 Prevention of cardiac arrest in pregnancy Use the ABCDE approach to identify and treat the underlying cause (e.g., rapid recognition and treatment of sepsis, including early intravenous antibiotics). Place the patient in the left side position or manually place the uterus to the left. Give high-flow oxygen, guided by pulse oximetry and try to correct hypoxaemia. Establish access iv and give a fluid bolus (250 mL) if there is hypotension or hypovolaemia. Seek specialized help early and transport the patient to the nearest and appropriate hospital with minimal delay. Obstetric, anesthetic and neonatal specialists should be involved early in resuscitation. Changes to cardiac arrest in pregnancy Begin resuscitation according to standard ASS guidelines. The manual position for chest compressions may need to be slightly larger (2-3 cm) in the sternum for patients with advanced pregnancy (e.g., >28 weeks).63 Manually shifting the uterus to the left to minimize inferior compression of the vena cava. Add left side slope only if this is feasible. The patient's body will need to be supported on a firm surface to allow effective chest compressions (e.g., a full-length inclined operating table). Aim for between 15 and 30°. Even a small amount of slope can be better than no slope. The angle of inclination used must allow high quality chest compressions and, if necessary, cesarean delivery of the fetus (see below). If you lean on a firm surface it is not possible to maintain left uterine displacement and continue effective chest compressions with patient's supine. Defibrillation energy levels are recommended for standard defibrillation. If the left lateral tilt and large sinuses make it difficult to place an apical defibrillator electrode, use an anteroposterior or bi-axillary electrode position. Consider using a trachea trachea 0.5-1.0 mm smaller than usual, as the trachea may be narrowed by edema and swelling. SGAs are an appropriate alternative in the pre-hospital environment and may provide a faster means of oxygenation than potentially prolonged intubation attempts. Establish ACCESS IV as soon as possible, preferably at a level above the diaphragm. Identify and correct the cause of the arrest using 4 hours and 4Ts as appropriate. If resuscitation attempts do not reach ROSC, consider an immediate cesarean section to deliver the fetus. Try to deliver the baby within 5 minutes of the mother's cardiac arrest. This can benefit the mother from 20 weeks of gestation, when aortocaval compression can be significant, and benefit the newborn from 24 weeks of gestation. Anaphylaxis Follow the standard ALS guidelines for resuscitation of patients with heart failure and known or suspected anaphylaxis, including intravenous adrenaline. Give immediate adrenaline to IM according to current anaphylaxis guidelines to avoid cardiorespiratory arrest. If access iv or IO cannot be established quickly, give im adrenaline if cardiorespiratory arrest has recently occurred. Adrenaline is the most important drug for the treatment of anaphylaxis.62 As an alpha-receptor agonist, it reverses peripheral vasodilation and reduces edema. Its beta-receptor activity dilates the bronchial airways, increases the strength of myocardial contraction, and suppresses the release of histamine and leukotriene. Adrenaline is most effective when given right after the start of the reaction. The benefit of 0.5 mg IM adrenaline in cardiorespiratory arrest is uncertain, but it is unlikely to be harmful, and may be useful when given early, and if clinically appears to be in cardiorespiratory arrest, the patient still has very low cardiac output. Asthma Follow the current Thoracic Society/SIGN Asthma Guidelines to prevent cardiac arrest.64 Follow the standard ASS guidelines for resuscitation of patients with asthma-associated cardiac arrest. If access iv or IO cannot be established quickly, give im adrenaline if cardiorespiratory arrest has recently occurred. When proper skills are available, intubate the trachea to allow ventilation of rigid lungs and prevent gastric insufficiency. Identify and treat tension pneumothorax with needle decompression or thoracostomy as appropriate. Some case reports reported ROSC in patients with air capture when the tracheal tube was shut down.62 If you suspect dynamic hyperinflation of the lungs during CPR, chest compression when disconnecting the tracheal tube can relieve air capture. Although this procedure is supported by limited evidence, it is unlikely to be harmful in a desperate situation. Asthma-associated cardiac arrest results from respiratory exhaustion, respiratory acidosis, and venous return caused by high intrathoracic pressures. It can also be precipitated by a tension pneumothorax which is, on rare occasions, If there is a history of a severe asthma attack that leads to cardiac arrest, adrenaline of 0.5 mg IM may be given earlier if access iv is not immediately available. The benefit of IM adrenaline in cardiorespiratory arrest is uncertain, but it is unlikely to be harmful, and may be useful when given early, and if clinically appears to be in cardiorespiratory arrest, the patient still has very low cardiac output. Mass casualty incident When the demand placed for an incident in emergency medical services exceeds supply, a major incident is considered to have occurred. During a major incident, the goal of medical services is to make the most of it, to the fullest. The medical response to a major incident needs to be planned, organized and tested in a multidisciplinary environment (National Ambulance Resilience Unit). The declaration of a major incident needs to be made early and cascading to all emergency services. The first information on major incidents is usually communicated with the use of mnemonics, such as METHANE (or CHALETS): There is little international consensus on the management of major incidents, but the UK's advanced incident support and support system (MIMMS®) has been adopted by many international EMS systems. Initial management is described by the CSCATTT system. Command & Control Established in all emergency services Security Of Itself, the scene, patient communication Using corridors, radio, data and telephone systems Evaluation of the scene Screening Using screening sieve and screening type Treatment Generally only life-saving procedures Transport By appropriate means, to the appropriate hospital Chemical, biological, radiological, nuclear incidents (CBRN) The main priority of the first medical personnel on arrival at a cbrn incident is to ensure that all centers emergency services are alerted and are called early. If there is a victim, first responders can approach as usual. If there are two casualties, just approach carefully, considering all options. If there are three or more casualties, you should not approach. Instead, remove, contain the scene, report the situation, isolate yourself, and wait for specialized resources. While CBRN incidents are often regarded together as incidents that require special management, they have little in common. Biological incidents can be triggered by possible large-scale exposure to a biological incident (e.g., white powder incidents), but because all agents have an incubation period, victims rarely present at the same time at the same location. Radiological and nuclear incidents are generally immediately apparent and require a national response. Prevention of environmental contamination and evacuation are critical. Chemical incidents had major implications for pre-hospital providers. A chemical incident may initially present patients in a peri or real cardiac arrest. Proper management of the chemical incident scene is crucial for more exposure and escalation of incidents. Early recognition of chemical agent syndromes is vital, and pre-hospital care providers should be aware of the constant threat of this type of incident. These can result from terrorist action, industrial and chemical incidents, as well as isolated cases of toxic exposure. Signs of a CBRN incident can often be subtle or delayed and emergency medical personnel should always be aware of situational factors or abnormal patients who raise suspicions of an incident with CBRN. Exposure to a CBRN agent may occur through direct contact, inhalation, injection, ingestion, or irradiation. A patient in cardiac arrest as a result of a CBRN incident should only be approached and treated once the risk to first responders is known. Personal protection First responders should not approach potential victims unless appropriate personal protective equipment (PPE) is used. Personal protection is paramount if you suspect a CBRN incident. The immediate proximity around a possible CBRN incident site, requiring specialized PPE to be used, is described as the hot zone. In some cases, this may require the use of tight gas suits with integrated breathing apparatus. In case of doubt, the rescuer must retire to a safety site until the cbrn threat can be accurately identified and the necessary PPE brought to the scene. Entering a CBRN scene without proper PPE puts the rescuer at risk of damage and also runs the risk of spreading contamination. A CBRN patient will need decontamination before he can receive advanced medical care. Scene management Only people with correct PPE can enter hot and hot zones and only decontaminated patients can leave these zones. The CBRN scene is contained with a cord as soon as possible to prevent the spread of contamination. Hot, hot and cold areas need to be clearly isolated and controlled. Decontamination Whenever possible, patients should be decontaminated on site. This will require specialized resources that reduce the risk of contamination, particularly for local hospitals. However, patients can self-introduce themselves for medical care, so local hospitals should have a pre-tested plan to decontaminate patients upon arrival. Removing clothes and placing in a well-ventilated area removes most chemical agents. Agents.