

Emergency Medicine Key Features of the Priority Topics for the Assessment of Competence in Family Medicine at the Enhanced Skills Level

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Priority Topics in Emergency Medicine (in alphabetical order)

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| Abdominal pain |
| Abuse (domestic) |
| Airway management |
| Analgesia/sedation |
| Anaphylaxis |
| Arrhythmia |
| Asthma/COPD |
| Burns |
| Cerebrovascular accident (CVA) |
| Chest pain |
| Common fractures/MSK injury |
| Continuous quality improvement (CQI) |
| Critical appraisal |
| Decreased level of consciousness |
| Deep venous thrombosis (DVT)/pulmonary embolus (PE) |
| Delirium/agitation |
| Emergency medical services (EMS) |

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| Environmental |
| Eye: red eye, loss of vision |
| First-trimester bleeding |
| Gastrointestinal (GI) bleed |
| Headache |
| Infectious diseases |
| Ischemic heart disease |
| Lacerations |
| Multiple patients |
| Multiple trauma |
| Pediatric fever |
| Pre-eclampsia |
| Pulmonary edema |
| Seizures |
| Shock/dehydration |
| Shortness of breath |
| Suicide risk |
| Toxicology |

ABDOMINAL PAIN

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| <p>1. In a patient who presents with undefined abdominal pain, develop an appropriate differential diagnosis that considers the probabilities of different diagnoses in different situations, such as:</p> <ul style="list-style-type: none"> • Age (e.g., intussusception, AAA) • Gender (e.g., ectopic pregnancy, testicular torsion) • Location and migration of pain (e.g., appendicitis) • Life-threatening causes (e.g., ischemic bowel, AAA, perforated viscus) • Atypical presentations of abdominal pain (e.g., new onset flank pain in an older patient = AAA) |
| <p>2. In a patient whose abdominal pain is out of proportion to physical findings, consider and rule out serious pathology (e.g., pancreatitis, ischemic bowel).</p> |
| <p>3. In a patient with abdominal pain without a confirmed intra-abdominal cause, consider and rule out extra-abdominal causes (e.g., acute coronary syndrome, pneumonia, migraine/URI in children, DKA).</p> |
| <p>4. In a patient who presents with abdominal pain and symptoms and signs that suggest the need for immediate surgical intervention, do not delay for further unnecessary investigation.</p> |
| <p>5. In a patient with a presumed diagnosis for abdominal pain, select imaging that is most appropriate for the presumed diagnosis (e.g., FAST in trauma, CXR for free air, ultrasound for biliary/GYN, CT for bowel/retroperitoneal).</p> |
| <p>6. In a patient with abdominal pain who has a negative test result for your suspected diagnosis, do not rule out significant disease based on a test that has a low sensitivity (e.g., do not rule out appendicitis in the absence of fever or in the absence of an elevated WBC count).</p> |
| <p>7. When considering imaging for a patient with abdominal pain, incorporate the risk of radiation exposure and lifelong cancer risk in diagnostic strategies.</p> |
| <p>8. In a patient with abdominal pain, do not over-diagnose UTI as the cause, especially in females.</p> |

ABUSE (DOMESTIC)

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| <p>1. In patients who may be at higher risk for undeclared domestic abuse (e.g., the elderly, individuals in same-sex relations, pregnant women, substance abusers, frequent presenters to the ED) look for and recognize discrete indicators of possible abuse when establishing the differential diagnosis for their complaints.</p> |
| <p>2. In a patient who presents with an injury or injuries, look for and recognize presentations that may be suggestive of undeclared abuse (e.g., typical and atypical patterns of injury, late presentations, recurrent presenters).</p> |
| <p>3. When abuse is suspected, use appropriate means to find and confirm all injuries or manifestations of abuse, both recent and old (e.g., old files, skeletal survey, funduscopy).</p> |

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| 4. When abuse is suspected or declared, provide a confidential, non-judgmental, supportive, and safe environment for the patient to facilitate disclosure and the establishment of an effective therapeutic relationship. |
| 5. When abuse is suspected or confirmed, use a multidisciplinary approach to intervene and provide support (e.g., sexual assault team, domestic abuse counsellors, and crisis/social workers). |
| 6. When abuse is suspected or confirmed, ensure that management includes the patient's informed consent and agreement to the plan, reports to authorities as appropriate, and a disposition that ensures the safety of the patient and other vulnerable parties (e.g., children, elders). |

AIRWAY MANAGEMENT

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| 1. In a patient for whom initial attempts to control the airway have failed; use alternative techniques to obtain airway control. |
| 2. Anticipate the need for pre-emptive airway control in patients who do not obviously need it on initial survey (e.g., burns, trauma, edema/mass effect, coma, morbid obesity). |
| 3. In a patient who needs airway control, assess the likelihood of a difficult airway (e.g., 3-3-2, Mallampati, LEMON), and prepare according to the level of difficulty identified. |
| 4. In a patient who has particular circumstances that affect airway management, (e.g., trauma, pediatrics, comorbidity) tailor your management appropriately to the circumstances. |
| 5. In a patient who requires rapid sequence induction (RSI) but has contraindications or special indications for the choice of medications, select and use the medications appropriately. |
| 6. In an intubated patient, identify failed airway placement in situations where it is not clinically obvious (e.g., use oxymetry, ETCO ₂ , blood gases). |

ANALGESIA/SEDATION

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| 1. Given a patient in pain, assess analgesic needs in a structured fashion, using pain scales and objective signs (e.g., HR, BP, diaphoresis) and taking note of patient preferences and previous responses to analgesic regimens. |
| 2. Given a patient with a painful condition, select appropriate techniques and agents for the condition (e.g., drugs, splints, local infiltration, peripheral or regional block) using the most effective/least dangerous combinations available. |
| 3. Given a patient who requires strong analgesia, provide adequate analgesia tailored to the cause of pain using appropriate/multiple agents by appropriate routes, and in higher doses as required and titrated to pain relief. |
| 4. Given a patient with a painful condition requiring sedation, ensure adequate analgesia is provided simultaneously. |

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| 5. Before performing procedural sedation, assess formally for risks of complications (e.g., airway, hemodynamics). |
| 6. In a patient who is or has been sedated, monitor for desired effects and complications, titrating for effect and safety and preparing to manage over-sedation, then ensure post-procedure monitoring with safe and practical discharge instructions. |

ANAPHYLAXIS

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| 1. In any patient presenting with shock, consider anaphylaxis as a possible diagnosis. |
| 2. In a patient with symptoms and signs suggestive of anaphylaxis, recognize and make the diagnosis even when the presentation is incomplete (e.g., may exhibit only some of rash/hypotension/vomiting/wheezing/altered level of consciousness). |
| 3. Given a patient with a diagnosis of anaphylaxis, treat rapidly and aggressively by giving epinephrine appropriately and managing the airway early as required, and with timely IV access and appropriate fluid resuscitation. |
| 4. When discharging a patient after the resolution of an anaphylactic reaction, as part of the treatment plan prescribe appropriate emergency self-rescue medication (e.g., epinephrine), educate appropriately (MedicAlert, rebound symptoms, precipitant avoidance), and arrange follow-up (e.g., allergy testing/desensitization). |

ARRHYTHMIA

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| 1. Given a patient presenting with non-specific symptoms that may be from hypoperfusion (e.g., dizziness, vertigo, light-headedness, syncope, presyncope), rule out arrhythmia as a possible cause. |
| 2. When interpreting a patient's ECG, identify subtle signs that may indicate a risk of serious arrhythmia (e.g., prolonged QT in toxicology, peaked T waves in hyperkalemia, delta waves in palpitations). |
| 3. When interpreting an ECG or rhythm strip of a patient with an arrhythmia, use a systematic approach to the interpretation of the arrhythmia (e.g., differential diagnosis of narrow or wide complex tachycardia, diagnose AV blocks). |
| 4. In managing a patient with an arrhythmia, distinguish between stable and unstable presentations (e.g., signs of inadequate perfusion, risk of imminent collapse) and select the most appropriate treatments (electrical and/or pharmacological) according to the stability of the patient. |
| 5. Given a patient with a specific arrhythmia, establish a differential diagnosis of the likely precipitating causes. |
| 6. In a patient presenting with a specific arrhythmia (e.g., WPW, toxicology, hypothermia, prolonged QT), adjust management to the special circumstance. |
| 7. In a patient with a reperfusion arrhythmia, manage supportively with clearly indicated pharmacotherapy. |

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| 8. Given a patient who has return of spontaneous circulation following cardiac arrest, initiate therapeutic hypothermia as indicated. |
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ASTHMA/COPD

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| 1. When a patient presents with a first episode of wheezing, consider a wide differential diagnosis (e.g., foreign body, croup/bronchiolitis, airway obstruction, CHF, PE, pneumonia, anaphylaxis) before concluding it is asthma. |
| 2. In a patient with an exacerbation of asthma/COPD, look for a high-risk history (e.g., previous ICU stays/intubations, recent steroid use, multiple ER visits) to help determine optimal management. |
| 3. In a patient with an exacerbation of asthma/COPD, use objective measures to establish the severity of episode (e.g., FEV1/peak flows, rising pCO ₂ , fatigue, mental status). |
| 4. Given a patient with asthma and comorbid conditions, identify and treat the comorbid conditions in a timely fashion (e.g., CHF, CAD, pneumonia, pneumothorax). |
| 5. When a patient presents with acute asthma, initiate treatment to stabilize prior to definitive diagnosis (e.g., early beta agonists, steroids, oxygen, anticholinergics). |
| 6. Given a patient with an asthma or COPD exacerbation, use steroids (systemic and/or inhaled) when indicated. |
| 7. In a patient with impending respiratory failure that may not be obvious, look for and recognize the important clinical indicators of worsening respiratory deterioration (e.g., signs of fatigue on physical exam, confusion, hypoxia, hypercarbia), and initiate early, aggressive, non-invasive airway support as needed (e.g., BiPAP, CPAP, Heliox). |
| 8. Prior to discharging a patient after management of an acute exacerbation of asthma/COPD: a) Ensure that the episode is truly resolved (e.g., patient passes a "road test" on exertion and objective measurements such as FEV1 are good) b) Review disease management with the patient to reduce the likelihood of early recurrence and return (e.g., ensure proper MDI technique, adequate prescriptions, timely follow-up) |

BURNS

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| 1. In burn patients, assess carefully also for associated injuries (e.g., trauma, smoke inhalation, toxic exposure [cyanide, carbon monoxide]), and for complications (e.g., compartment syndrome, rhabdomyolysis, acidosis, electrolyte abnormalities). |
| 2. In burn patients with possible inhalational injury, seek signs of potential airway injury and intervene early, if indicated. |
| 3. In patients with severe burns, treat pain early and effectively (e.g., IV analgesia). |

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| 4. In patients with major burns, administer fluid replacement appropriately (e.g. calculate fluid replacement based on time of injury rather than time of arrival in the emergency department) and monitor response. |
| 5. In a burn patient who has been assessed and stabilized, determine the appropriate disposition based on all the key factors in the clinical presentation (e.g., location and severity of burn, age of patient, comorbidity, social conditions). |
| 6. In patients who present with severe unexplained hand or finger pain, inquire about chemical exposure (e.g., hydrofluoric acid). |

CEREBROVASCULAR ACCIDENT (CVA)

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| 1. In a patient with acute neurologic signs or symptoms, consider diagnoses other than a CVA when establishing the differential diagnosis (e.g., migraine, hypoglycemia, Todd's paralysis, tumour) |
| 2. When a patient presents with symptoms secondary to non-MCA (middle cerebral artery) distributions (e.g., posterior circulation deficits, confusion), recognize CVA in subtle patient presentations. |
| 3. In a patient with new but persistent acute neurological deficit of likely vascular origin, determine the pertinence of attempting urgent reperfusion by: <ul style="list-style-type: none"> • Identifying the anatomic territory of injury • Looking for precipitating causes (e.g., arrhythmia, embolus secondary to ACS) • Selecting the appropriate imaging modality (non-contrast CT versus CT angiogram versus triphasic contrast CT) • Assessing the patient's eligibility for, and the risks of, thrombolysis. |
| 4. In a patient with a transient neurological deficit, stratify risk of a recurrent event (e.g., ABCD2) and arrange for ancillary evaluation (e.g., carotid Doppler, Holter monitor, ECG) in a timely fashion. |

CHEST PAIN

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| 1. In a patient with undifferentiated chest pain, assess for life-threatening diagnoses first and promptly recognize clinical presentations that clearly suggest these diagnoses (e.g., ACS, PE, pneumothorax, aortic dissection). |
| 2. In a patient with undifferentiated chest pain, initiate rapid treatment and investigation of possible diagnoses as they arise, even though the history may be incomplete (e.g., early ASA if possible ACS, early ECG). |
| 3. In a patient with undifferentiated chest pain, perform a detailed history of the characteristics of the pain and associated symptoms to help distinguish serious from benign diagnoses, and to generate the appropriate differential diagnosis for the patient. |
| 4. In a patient with undifferentiated chest pain, identify risk factors that may affect the pre-test probability of important possible diagnoses such as ACS or pulmonary embolus. |

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| 5. In a patient with undifferentiated chest pain, do not rule out important diagnoses based on unreliable clinical features or early test results (e.g., chest wall tenderness, response to a “pink lady,” normal cardiac enzymes, normal ECG, normal CXR, negative D-dimer). |
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COMMON FRACTURES/MSK

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| 1. Given a patient with one injury, look for other injuries that are commonly associated with it (e.g., calcaneus/L-spine, proximal fibula # with ankle injury, C-spine # with concomitant other spinal #, neurovascular injury with fracture/dislocation). |
| 2. Given a patient with a particular injury, suspect the appropriate particular causative etiology (e.g., posterior shoulder dislocation and seizures; nightstick fracture = look for other signs of assault). |
| 3. When a patient presents with localized pain, consider the possibility of a referred etiology (e.g., hip lesion presenting as knee pain, cervical disc presenting as upper limb pain). |
| 4. In a patient with a suspected fracture who has a negative initial X-ray, consider the possibility of occult fractures (e.g., scaphoid, hip, elbow) and manage accordingly. |
| 5. When managing displaced fractures/dislocations, assess neurovascular status before and after all manipulations, and reduce before imaging when indicated. |
| 6. In an injured patient with fracture(s), look for and identify those that may in fact be “open” but only when examined for carefully (e.g., puncture wounds, those covered with bandages, adjacent lacerations, closed fist injuries), to ensure timely treatment. |
| 7. When a patient presents with an injury that likely requires urgent operative treatment, refer promptly for surgical consultation (e.g., compartment syndrome, open fractures, fractures that require surgical management). |
| 8. In a patient with a fracture or injury that has been accurately diagnosed and initially managed, arrange appropriate disposition (e.g., splint, pain control, timely follow-up). |

CONTINUOUS QUALITY IMPROVEMENT (CQI)

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| 1. Given an adverse event, close call, or unexpected poor patient outcome, identify the causative contributing factors and implement corrective action to prevent recurrence. |
| 2. Given an adverse event, regardless of patient outcome, disclose its occurrence, effects, and consequences to the patient and/or their family. |
| 3. Plan and implement a proactive analysis of the quality of care using patient outcome measures (i.e., quality indicators). |
| 4. Given a quality of care analysis that has identified an issue that needs improvement (e.g., patient outcomes, efficiency of care delivery, patient satisfaction, patient safety), design a simple project to implement an intervention to improve the quality of care, including the re-measurement of the impact of the intervention. |

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| <p>5. Seek to improve general patient safety in the ED milieu by reviewing and identifying issues that need improvement based on the general principles of patient safety, including but not limited to:</p> <ul style="list-style-type: none"> • Use of two patient identifiers • Proper hand hygiene technique • Infection control precautions • Effective communication techniques such as Situation, Background, Assessment, Recommendation (SBAR) or graded assertions • Safe medication practices (e.g., avoid abbreviations, symbols, and certain dose designations) • Principles of medication reconciliation |
| <p>6. Include, on a permanent and ongoing basis, regular and effective quality improvement activities in all aspects of daily emergency medicine practice.</p> |

CRITICAL APPRAISAL

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| <p>1. When performing a critical appraisal, identify the type of study design (e.g., prospective, retrospective, case-control, observational, randomized, blinded) and identify its inherent strengths and limitations with respect to the presumed purposes of the study.</p> |
| <p>2. Given a specific study, identify any flaws in the study design and describe the confounding variables and sources of bias.</p> |
| <p>3. Given the data of a specific study, derive basic biostatistics (i.e., sensitivity, specificity, likelihood ratio, number needed to treat/harm) and interpret their meaning in this context.</p> |
| <p>4. Apply given basic biostatistics (i.e., sensitivity, specificity, likelihood ratio, number needed to treat/harm) to justify directions for specific clinical situations/practice.</p> |
| <p>5. Given the results of a specific study, determine the pertinence for clinical practice by assessing whether the outcomes have clinical significance versus statistical significance (i.e., patient-oriented versus disease-oriented end points), whether the results are applicable to one's own patient population/practice, and whether they correlate with the author's stated conclusions in the abstract/summary.</p> |
| <p>6. Given a specific clinical scenario, incorporate evidence-based information in clinical decision-making and management of the patient.</p> |

DECREASED LEVEL OF CONSCIOUSNESS

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| <p>1. In a patient presenting with altered level of consciousness (LOC), develop an appropriately broad differential diagnosis (e.g., metabolic, infectious, structural, medications, recreational drugs, post-ictal) while promptly ruling out the serious possible causes (e.g., intracranial hemorrhage/thrombosis, meningitis/encephalitis, toxins).</p> |
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| 2. In a patient with altered LOC, treat reversible causes promptly (e.g., hypoglycemia, hypoxia, opioid intoxication, hypotension/hypovolemia). |
| 3. In a patient presenting with altered LOC, actively seek collateral/pre-hospital history and confirm the nature of the change in LOC from the patient's baseline. |
| 4. When a patient presents with a decreased LOC, do not accept a minor diagnosis (e.g., alcohol intoxication) as a cause without having eliminated other potential serious causes (e.g., head trauma). |
| 5. In a patient with altered LOC, use both qualitative and quantitative descriptors to document the degree of decreased LOC and to monitor the trend in level over time (e.g., Glasgow Coma Scale). |

DEEP VENOUS THROMBOSIS (DVT)/PULMONARY EMBOLUS (PE)

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| 1. In a patient whom you suspect may have a DVT/PE, include the specific elements in the history that will permit an accurate assessment of the patient's baseline risk of the illness. |
| 2. In a patient whom you suspect may have a DVT/PE, examine specifically for the presence or absence of signs consistent with DVT/PE and for those suggestive of other competing diagnoses. |
| 3. In a patient whom you have questioned and examined for a possible DVT/PE, use available clinical decision rules to determine the patient's pre-test probability of having a DVT/PE. |
| 4. In a patient with a determined specific pre-test probability of having a DVT/PE, investigate using ancillary tests appropriate to this pre-test probability (e.g., do not order a D-dimer test in high-risk patients). |
| 5. In a patient whom you are investigating for a DVT/PE, adapt the testing to take into account their underlying medical history or comorbid conditions (e.g., ultrasound legs first for pregnant women, CT instead of VQ in patients with underlying respiratory disease). |
| 6. In a patient with a confirmed DVT/PE, initiate appropriate treatment adapted to their underlying medical history or comorbid conditions (e.g., no warfarin in pregnancy, no low-molecular-weight heparin in renal failure). |
| 7. In a patient with a confirmed DVT/PE, use objective findings (e.g., respiratory rate, oxygen saturation, biomarkers) to determine the safety of a potential treatment as an outpatient. |

DELIRIUM/AGITATION

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| 1. Given a patient presenting with agitation, look for and identify features to help distinguish between delirium, dementia, and psychosis. |
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| 2. Given a patient with delirium, consider a broad differential diagnosis (e.g., intracranial lesion, intoxication/withdrawal, metabolic) while looking for and promptly treating reversible causes. |
| 3. When managing an agitated patient, ensure the safety of all involved (patient, staff, families, other patients). |
| 4. In a delirious or agitated patient who requires physical restraint, first use appropriate chemical agents to sedate to appropriate levels, then ensure proper monitoring and surveillance as long as physical restraints are maintained. |
| 5. In a patient who is delirious, assess their capacity to make decisions about their medical care and decide on the need for a substitute decision-maker or formal certification and involuntary treatment. |

EMERGENCY MEDICAL SERVICES (EMS)

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| 1. Given a call to an ED from an EMS provider: <ol style="list-style-type: none"> a) Elicit a focused history regarding the pending patient or patients to adequately prepare for their arrival. b) Provide direction as required to EMS providers in the field for triage and ongoing treatment (e.g., notification of acceptance, protocol activation, symptom relief, termination of resuscitation). c) Prepare your department and the hospital as required for the arrival of incoming patient(s) (e.g., personnel and teams, space, equipment, OR, back-up). |
| 2. On arrival of a patient by EMS, obtain a focused history from the EMS personnel regarding information only available from them (e.g., details of scene, treatment en route, changes in patient status en route, length of time with patient). |
| 3. For a patient whose needs exceed the capacity of care of your facility, and for whom the benefits of transport appear to outweigh the risks, prepare your patient for transfer (e.g., airway control, IV access, decompress prior to air transport) to mitigate the potential risks inherent to the patient's conditions and the transport situation with the EMS resources available. |
| 4. Given a major out-of-hospital emergency situation (e.g., mass casualty, environmental disaster) advise and direct EMS in the management of patients prior to their arrival at the ED (e.g., triage, initial treatment, decontamination). |

ENVIRONMENTAL

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| 1. Suspect the diagnosis of heat stroke in a patient with altered mental status and fever in a situation of heat stress, and act immediately to reduce the temperature. |
| 2. When managing a patient with severe hyperthermia (i.e., at risk for heat stroke), cool the patient promptly and aggressively using multiple effective modalities, before having confirmed any etiological diagnosis, while considering the need to look for etiologies |

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| other than environmental heat stress (e.g., neuroleptic malignant syndrome, OD, endocrine, infections). |
| 3. When managing a hypothermic patient, use effective modalities for rewarming, monitor the temperature using an accurate probe, and continue appropriate resuscitation measures until core temperature has recovered. |
| 4. Recognise that pain and other unexplained symptoms after diving could be dysbarism in origin, and refer the patients for hyperbaric therapy when appropriate. |
| 5. In patients presenting following an electrical injury, consider and look for internal injuries (including myocardial) and associated trauma that are not apparent from external signs, and monitor appropriately until the risk of complication is mitigated. |

See also: Burns, Infectious diseases

EYE: RED EYE/LOSS OF VISION

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| 1. In patients with red eye, do not make a diagnosis of conjunctivitis without having first ruled out more serious possibilities (e.g., glaucoma, iritis, keratitis, foreign body). |
| 2. In a patient presenting with red eye or vision loss, obtain a detailed history of ocular symptoms (e.g., onset, progression, and previous episodes; trauma; pain; vision loss) and pertinent systemic illness (e.g., temporal arteritis, ankylosing spondylitis). |
| 3. For all patients with ocular complaints, measure and document visual acuity, then perform a detailed physical examination of the eye, including a slit lamp examination. |
| 4. In patients with viral ocular infections, avoid routine prescription of topical steroids. |
| 5. In patient presenting with a subconjunctival hemorrhage following trauma to the eye or orbital area, rule out the presence of a hyphema, including those that are diagnosed only on slit lamp examination. |

FIRST-TRIMESTER BLEEDING

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| 1. In a patient with acute vaginal bleeding, look for and recognize early signs of shock (e.g., vital signs, orthostatic changes). |
| 2. Given a patient with vaginal bleeding, consider pregnancy in the differential diagnosis and investigate appropriately to rule out an ectopic location when pregnancy is identified. |
| 3. In any patient with vaginal bleeding in the first trimester, perform an appropriate pelvic exam (both speculum and bi-manual). |
| 4. In the investigation of a pregnant patient with vaginal bleeding, recognize the limitations of quantitative beta-hCG and ultrasound testing (beta-hCG above discriminatory zone and no yolk sac in uterus) in ruling out ectopic pregnancy. |
| 5. In pregnant patients with vaginal bleeding, determine maternal Rh status so as to offer prophylaxis for Rh sensitization. |

6. In discharging a patient with a non-viable pregnancy, ensure appropriate arrangements for counselling, support, and follow-up.

GASTROINTESTINAL (GI) BLEED

1. In a patient with a GI bleed, look for key risk factors that may suggest the likely etiology (e.g., medications, substances, constitutional symptoms, stigmata of liver disease or coagulopathy).
2. In a patient with an apparent lower GI bleed, do not assume it does not originate from an upper GI tract source.
3. In a patient with symptoms possibly related to hypo-perfusion (e.g., hypotension/tachycardia, angina, syncope, confusion) but without overt GI complaints, consider occult GI bleeding in the differential diagnosis.
4. In a patient with a complaint of upper or lower GI bleeding (e.g., melena, hematemesis), conduct a careful ENT and pulmonary exam to exclude possible extra-intestinal sources.
5. In a patient with a severe GI bleed, resuscitate optimally (e.g., early type and screen/cross-match, O negative versus type-specific versus cross-matched blood, aggressive crystalloid infusion).
6. In a patient with a GI bleed, expedite specific therapeutic interventions when indicated (e.g., octreotide, IV proton-pump inhibitor, endoscopy versus surgical intervention) in addition to continuing appropriate resuscitation.

HEADACHE

1. Given a patient presenting with a headache, obtain a detailed description of the nature of the headache (e.g., onset and evolution, severity and quality, previous episodes, associated symptoms) to develop the appropriate differential diagnosis for the patient.
2. Given a patient presenting with a headache, consider life-threatening diagnoses (e.g., intracranial bleed, meningitis, space-occupying lesions, pre-eclampsia) and rule them out when necessary.
3. In a patient presenting with a headache, include in the physical exam a specific search for signs related to serious or life-threatening possible diagnoses (e.g., altered mental status, focal neurological findings, papilledema, meningismus, rash).
4. In a patient presenting with a headache that is not clearly related to an intracranial cause, consider extra-cranial causes (e.g., temporal arteritis, glaucoma/iritis, zoster/neuralgia, sinusitis).
5. Given a patient presenting with symptoms suggestive of a migraine headache and no other serious pathology, diagnose migraine and treat appropriately.
6. Given a patient presenting with a headache suggestive of serious pathology, investigate promptly and appropriately to confirm diagnosis (e.g., CT, lumbar puncture) and treat empirically before investigation when indicated (e.g., antibiotics/steroids for suspected meningitis).

INFECTIOUS DISEASES

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| 1. Given a patient with a suspected severe infection, use empiric antibiotics early, before completing investigations. |
| 2. In a patient with serious systemic infection, look for and recognize septic shock and treat septic shock aggressively when found, using a structured approach (i.e., goal-directed therapy in addition to antibiotics). |
| 3. Given a patient who presents with signs and symptoms of infection, look for and identify risk factors for more serious or more complicated infections (e.g., immunocompromised, age, comorbidity, travel, alcohol and substance use). |
| 4. In a patient with an apparent minor infection, look for and identify complications or more serious but less overt diagnoses (e.g., pharyngitis versus peritonsillar abscess, cellulitis versus necrotizing fasciitis, vaginitis versus STI or PID). |
| 5. In a patient with non-specific presentations such as altered mental status, fatigue, or weight loss, include infection in the initial differential diagnosis and consider some less common etiologies (e.g., malaria, tuberculosis, endocarditis, Lyme disease). |
| 6. In a patient who presents with signs and symptoms of infection of an unknown focus, include in the physical examination the appropriate specific assessment of commonly neglected areas (e.g., neck stiffness, skin signs in the elderly, vaginal and pelvic examination, foreign bodies in orifices or wounds). |
| 7. Given a patient with a fever of unknown cause, adapt the investigation to the age and the clinical context and do not either over- or under-investigate. |
| 8. Given a patient with a clinically identified bacterial infection, prescribe appropriate antibiotics based on clinical information (e.g., probable pathogens for age and clinical context, resistance patterns) before culture results. |
| 9. Do not use antibiotics for a clinical presentation of infection that is most likely non-bacterial, such as a viral upper respiratory infection. |
| 10. In a patient with a diagnosed infection or exposure, assess the need for and arrange post-exposure prophylaxis for the patient and others, when appropriate (e.g., post-needle sticks, communicable diseases, rabies, tetanus). |

ISCHEMIC HEART DISEASE

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| 1. Given a patient with potential acute coronary syndrome (ACS), initiate diagnostic testing without delay and plan ongoing testing until diagnostic resolution (e.g., early and serial ECG, early biomarker testing, chest pain protocols). |
| 2. In patients with potential ACS, accurately interpret ECGs, especially those with subtle changes and important rule-out diagnoses (e.g., pericarditis). |

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| 3. Given a patient with a confirmed or possible ACS, stratify the risks for both typical and atypical presentations to direct management choices. |
| 4. In a patient with suspected ACS, do not rule out the diagnosis based on a single negative test result or based on findings of limited usefulness (e.g., response of pain to a “pink lady,” chest wall tenderness, resolution of pain). |
| 5. Consider ACS as the possible cause of symptoms in atypical presentations. (e.g., fatigue, dizziness, dyspnea, atypical pain), especially in patients who may be at increased risk (e.g., elderly, cocaine users, females, diabetics). |
| 6. In a patient presenting with an STEMI, arrange for urgent reperfusion by the optimal available and appropriate means (e.g., PCI, thrombolysis). |
| 7. In a patient with ACS, assess risks and benefits of the possible specific interventions (thrombolytics, pacing, PCI, beta blockers) prior to initiating treatment. |
| 8. Given a patient with potential ACS stratified as low risk, ensure appropriate follow-up and investigation (e.g., provocative testing) until the diagnosis is eliminated or confirmed. |

LACERATIONS

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| 1. For all lacerations clarify the mechanism of injury to identify those at higher risk (e.g., infection, foreign bodies, deep structure injury) who may need more than simple suturing. |
| 2. Given a patient presenting with a laceration, look for specific associated injuries to adjacent structures (e.g., tendons, joints, nerves, vessels). |
| 3. Given a patient with a high-risk laceration, do not suture the wound before adequate exploration/irrigation/imaging of the wound and before considering the benefits of non-closure or delayed closure and close follow-up. |
| 4. Given a patient with a laceration at risk of infection, prescribe antibiotics to cover likely infecting organisms and arrange close follow-up for high-risk wounds, but avoid using antibiotics for low-risk wounds. |

MULTIPLE PATIENTS

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| 1. When assessing multiple simultaneous patients, risk-stratify and triage based on presenting complaint, vital signs, and ABCs. |
| 2. When dealing with multiple patients, prioritize the investigation and simultaneous management of all patients, first stabilizing situations that may require resuscitation and then performing timely reassessments as required. |
| 3. When dealing with multiple patients, ensure leadership and delegate tasks clearly (e.g., nursing, RT) and mobilize other resources/services early (e.g., colleagues, consultants, OR) to expedite and optimize the management of each patient. |
| 4. In special situations where the number and type of patients may exceed the usual capacity of the emergency department, mobilize available extra resources as soon as |

possible (e.g., activate disaster plan, work with EMS and other transportation services) and facilitate the implementation of plans within the emergency department itself.

MULTIPLE TRAUMA

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| 1. In major trauma patients, perform required critical interventions at the appropriate stages throughout the primary survey (e.g., immobilize C-spine, decompress pneumothorax, control bleeding, bind pelvis). |
| 2. In a patient with multiple trauma, ensure that the most life-threatening injuries are managed first by effectively determining the priority of all conditions as they are identified. |
| 3. Given a multiple trauma patient whose primary survey has been completed, use the secondary survey to assess for important and easily missed pathology and for iatrogenic complications (e.g., vascular compromise, back injury, scalp lacerations, iatrogenic hypothermia, unstable fractures). |
| 4. When assessing a trauma patient, ascertain whether there are other relevant conditions (e.g., pregnancy, hemophilia, medications, patient preferences/advance directives) that need to be considered in clinical decision making and management. |
| 5. While caring for a multiple trauma patient, look for subtle changes in the patient's condition (e.g., narrowed pulse pressure, agitation) that may indicate a developing complication and respond appropriately. |
| 6. Given a major trauma patient who requires aggressive volume replacement, administer fluid and blood products using defined clinical end points (e.g., MAP, massive transfusion protocol). |
| 7. In the setting of a trauma resuscitation, provide leadership to the care team and delegate tasks effectively (e.g., control bleeding during intubation, ask for pelvis to be bound during chest decompression, have portable chest ordered). |
| 8. Prepare a trauma patient for safe air or ground transport to reduce the necessity of treating new complications during the transport (e.g., immobilize fractures, prophylactic intubation, drainage tubes and catheters, adjust for atmospheric pressure). |

PEDIATRIC FEVER

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| 1. For a neonate, infant, or child who presents with fever, stratify the risk of sepsis based on age and other factors, and use the risk stratification to determine the appropriate septic work-up. |
| 2. For a neonate, infant, or child who presents with fever, look for and recognize subtle or non-specific signs and symptoms of sepsis (i.e., lethargy, poor feeding, and abnormal vital signs). |
| 3. In a child with suspected sepsis, provide early broad-spectrum antibiotic coverage. |
| 4. In a child with fever and rash, distinguish significant rashes (e.g., measles, meningococemia) from non-specific viral exanthems. |

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| 5. In a child with a prolonged or persistent fever without an evident focus of infection, look for less common causes (e.g., malaria, Kawasaki, inflammatory disorders, malignancy). |
| 6. In a child with acute fever and no obvious focus of infection, consider non-infectious exogenous causes (e.g., toxic exposure, heat-related illness). |
| 7. In a child with fever with a focus of infection that is likely non-bacterial (e.g., otitis media, viral URTI), do not prescribe antibiotics. |
| 8. When providing antipyretics to a child with fever, use dosing based on weight, not on age. |

PRE-ECLAMPSIA

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| 1. In a pregnant patient who presents with unexplained symptoms (e.g., abdominal pain, altered sensorium, headache) consider the diagnosis of pre-eclampsia even if the blood pressure is normal. |
| 2. In a pregnant patient who may have pre-eclampsia, assess in a structured fashion (e.g., risk factors, symptoms, signs, change in BP from baseline, blood tests) to try to rule in or rule out the diagnosis expeditiously. |
| 3. In a pregnant patient with non-specific symptoms such as nausea and vomiting or abdominal pain, rule out HELLP syndrome before diagnosing any other cause. |
| 4. In a patient with pre-eclampsia, start initial management (e.g., BP management, seizure precautions), monitor the mother and fetus for complications, and ensure urgent evaluation for the timing and manner of delivery. |

PULMONARY EDEMA

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| 1. In a patient with pulmonary edema, treat early and aggressively based on initial clinical presentation (e.g., BiPAP), prior to determination of underlying etiology. |
| 2. While providing symptomatic treatment to a patient with pulmonary edema, look for and identify the primary etiology (e.g., MI, fluid overload, anemia). |
| 3. In a patient with a diagnosed primary etiology for pulmonary edema, treat the primary etiology to avoid further decompensation (e.g., PCI/thrombolysis, diuretics, transfusion). |
| 4. In a patient with pulmonary edema, examine for and recognize impending respiratory failure and provide appropriate interventions (e.g., respiratory support, vasoactive agents). |
| 5. In a patient presenting with an apparent respiratory problem (e.g., shortness of breath on exertion, wheezing), consider and rule out subtle presentations of pulmonary edema as a possible cause. |
| 6. In a patient diagnosed and treated for pulmonary edema in the emergency department, assess the conditions for a safe discharge once clinically indicated (e.g., road test, living situation, follow-up). |

SEIZURES

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| 1. Consider the possibility of a seizure in the differential diagnosis for a patient with an atypical presentation but without witnessed frank seizure movements (e.g., confused or altered level of consciousness, incontinence, fall/injury/accident, tics in children). |
| 2. Given a patient with a seizure, investigate for rapidly reversible causes (e.g., hypoglycemia, toxicology, arrhythmias) and treat promptly. |
| 3. Given a patient with ongoing repeated seizures or persistent altered mental status between seizures, make the diagnosis of status epilepticus and treat promptly. |
| 4. In a patient who continues to seize actively, manage by: <ul style="list-style-type: none">• Assessing the airway and ventilation and supporting as necessary• Identifying specific conditions that require treatment other than standard anticonvulsant therapy (e.g., pre-eclampsia, toxidromes)• Using anticonvulsants in a progressive fashion to terminate the seizures as promptly as possible |
| 5. In a patient who has had a first seizure, counsel regarding high-risk activities and initiate the appropriate procedures for reporting to authorities (e.g., driving/sports/occupation). |
| 6. Given a patient with a first seizure, investigate to establish the underlying etiology in a timely fashion (e.g., CT, lumbar puncture, EEG, metabolic, toxicologic). |
| 7. In a known epileptic who has had a seizure, investigate appropriately but do not over-investigate without specific indication (e.g., verify compliance and check anticonvulsant levels, consider contributing causes). |
| 8. In a child with a typical febrile seizure, including a complete recovery, make a diagnosis based on history and physical exam alone, and do not over-investigate. |

SHOCK/DEHYDRATION

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| 1. In certain patient populations that may present in non-specific or atypical ways (e.g., pediatric, pregnant, elderly), recognize subtle signs of shock. |
| 2. Given a patient presenting with dehydration, accurately quantify the degree of fluid deficit, taking into account the age of the patient. |
| 3. In patients presenting with shock, resuscitate with the appropriate fluid for their condition (e.g., blood, crystalloid, colloid). |
| 4. Given a patient presenting in septic shock, treat aggressively and use clinical information to guide ongoing management (e.g., appropriate fluid resuscitation, evidence-based antibiotic choices, clinical reassessment). |
| 5. In patients presenting in shock, actively seek diagnoses beyond hypovolemia (e.g., cardiogenic, spinal, toxicological, anaphylactic). |

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| 6. In patients in shock, use ancillary tests as appropriate to aid in narrowing your differential etiologic diagnoses (e.g., ultrasound, CXR, ECG). |
| 7. Given a patient in shock requiring vasopressors, select the most appropriate agent based on etiology and clinical presentation. |
| 8. Given a patient in shock, administer non-fluid management where appropriate (e.g., steroids in Addison's disease, antidotes in toxicology). |

SHORTNESS OF BREATH

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| 1. In a patient with acute shortness of breath, assess to differentiate upper from lower airway pathology, as emergent management may be very different. |
| 2. Given a patient with undifferentiated shortness of breath, maintain a broad differential diagnosis while: <ul style="list-style-type: none"> • Looking for coexisting etiologies (e.g., pneumonia precipitating CHF) • Seeking an unrelated acute cause in the setting of a patient with a chronic illness (e.g., acute PE in a patient with COPD) • Identifying non-respiratory causes (e.g., metabolic acidosis, anemia, toxicology, CNS). |
| 3. Given a patient with severe shortness of breath, initiate appropriate emergent management prior to confirmation of final diagnosis, including the appropriate determination of when to use invasive versus non-invasive respiratory support. |
| 4. Given a patient with shortness of breath of any cause, accurately estimate the severity using both subjective and objective measures (e.g., altered LOC, peak flow, ABG) to avoid delayed detection of respiratory failure. |
| 5. Given a patient with shortness of breath at risk for pulmonary embolus, select ancillary evaluations recognizing the impact of pre-test probability on the interpretation of the results (e.g., D-dimer in "no-risk" and "high-risk" PE, rule out PE based on normal CXR). |

SUICIDE RISK

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| 1. Given a patient presenting with suicidal ideation or psychiatric complaints, inquire specifically about risk criteria for suicide (e.g., SAD PERSONS scale, hopelessness, lack of supports, impulsivity) to assess the risk of subsequent suicidal behaviour. |
| 2. In all patients, but especially in high-risk populations (e.g., geriatrics, post-partum, substance use), recognize subtle, atypical, or hidden presentations of suicidality (e.g., "accidental" medication errors, self-neglect, unexplained accidents or injury). |
| 3. Given a patient with suicidal ideation who does not wish to stay for voluntary evaluation or treatment, assess and document the criteria required for involuntary admission, then consider the patient's rights and the medico-legal consequences of involuntary admission before deciding the best way to proceed with care. |

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| 4. Given a patient with suicidal ideation whose risk of future suicidal attempt has been assessed as low, negotiate with the patient to develop a suitable plan for outpatient treatment and discharge home at the appropriate time. |
| 5. When developing a plan for the outpatient treatment of a suicidal patient, include the following: <ul style="list-style-type: none"> • Confirmed plans (time, persons, places) for subsequent visits and support • Contingency plans for extra support and rapid-contact information (e.g., crisis line) for unexpected acute situations or decompensation • Initial pharmacologic management when appropriate, with full discussion of expected effects and timelines, as well as possible side-effects |

See also Delirium/agitation

TOXICOLOGY

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| 1. In a patient with a suspected toxic exposure, gather available collateral history from the scene (e.g., EMS history, empty pill bottles, recent prescriptions) to better identify the likely toxins. |
| 2. Given a patient with a toxic ingestion: <ol style="list-style-type: none"> a) Identify specific toxidromes based on patterns of clinical findings b) Use antidotes judiciously based on the clinical toxidrome, considering the indications and contraindications as well as other data. |
| 3. When managing a patient with a toxic exposure, maintain a high level of suspicion for multidrug ingestion, especially with a mixed pattern of physical signs and symptoms (mixed toxidromes) or abnormal lab values (e.g., unexpected abnormal osmolar gap). |
| 4. In the patient with a toxic ingestion, select specific treatments based on the combined information from the clinical toxidrome and from the presumed ingestion or exposure (e.g., avoid beta blockers in sympathomimetic OD, order sodium bicarbonate in TCA toxicity with wide complex tachycardia). |
| 5. Given a patient with a toxic exposure, anticipate and identify complications that may arise secondary to the ingestion (e.g., respiratory depression, dysrhythmia). |
| 6. In a patient with a toxic exposure, use decontamination or elimination techniques when appropriate, based on time of exposure and on the pharmacokinetics of the toxins (e.g., sustained release medications, iron). |
| 7. Given a patient with a toxic exposure, judiciously select ancillary investigations that provide information that will affect management, as opposed to simply suggesting the presence of toxins (e.g., ECG, ABG, anion/osmolar gap, specific serum levels versus urine/gastric screens). |
| 8. In a patient in withdrawal or claiming to be in withdrawal (e.g., from alcohol, from opioids) assess the patient, including the use of objective signs, to determine what degree of withdrawal is present or imminent and the priorities for management. |