ENVIRONMENTAL MCQ'S

1.Which is true in anaphylaxis?

a) iv antihistamines are a first line drug
b) administration of glucagon has no role
c) H2 antagonists should be given with H1 antagonists to maximize their effect
d) The first choice route of administration of adrenaline in severe anaphylaxis is i.m.
e) Steroids are considered acute first line drugs

2.How long should a patient be kept after receiving adrenaline for anaphylaxis?

a) overnight
b) 12 hours
c) 10 hours
d) 6-8 hours
e) 4-6 hours

3.With regard to lightening injury which is not characteristic?

a) keraunoparalysis
b) initially mute and unable to move
c) ventricular fibrillation
d) feathering burns
e) eye trauma

4.Which is true?

a) the mortality of a lightening strike is 60%
b) the victim should not be touched immediately after the strike as they are charged and dangerous
c) lightening strike should be managed similarly to high voltage electrical injury
d) if they survive the intial arrythmia, hypoxic arrest may follow
e) fixed dilated pupils is an indicator of death

5.If you are caught outside in a lightening storm, what should you NOT do?

a) crouch on the ground
b) stand beside the tallest object eg. Pole, but not touching it
c) get in a trench
d) keep your feet together
e) avoid puddles

6.Which is NOT true with regard to electocution?

a) death at the time of exposure is usually due to VF
b) all patients should be cardiac monitored for 8-12 hours
c) arrythmias occurring late are rare and usually self resolve
d) AC current produces tetanic contractions
e) The path of the current is unreliable when predicting injury

7.Which is false?

a) blood vessels and nerves are the most conductive
b) classical fractures from a tetanic contraction are in the vertebra and long bones
c) when a shoulder dislocates it is often posteriorly
d) in a pregnant lady the fetus experiences less damage than the mother
e) the degree of deep tissue damage is proportional to the size of the burn

8.With regard to drowning which is false?

a) 50% of teenage drownings involve alcohol
b) death within 24 hours of suffocation after immersion is the definition
c) the majority of drownings are 'wet' , involving aspiration
d) the amount of fluid aspirated into the lungs is 50% of the lung volume
e) electrolyte abnormalities in near drownings are rarely significant

9.Which of the modalities below are NOT of any benefit in the management of any drowning?
   a) oxygen
   b) steroids
   c) CPAP/PEEP
   d) CXR
   e) Antibiotics

10.Which is false?
   a) all patients with CXR abnormalities should be admitted
   b) all hypoxemic patients should be admitted
   c) an asymptomatic patient with a normal CXR should be observed for 24 hours
   d) exogenous surfactant therapy has recently been shown to be of no benefit
   e) hyperbaric oxygen therapy is of no benefit

11.Which is false with regard to high altitude medicine?
   a) the typical PaO2 of a climber on mount everest (8848m) is <30mmHg
   b) at 3500m 30% of climbers will develop Acute Mountain Sickness
   c) AMS is primarily a neurological syndrome
   d) AMS is due to cerebral vasodilation and increased ICP
   e) AMS is predictied by underlying physical fitness

12.Which is false?
   a) AMS is directly related to rate of ascent and altitude reached
   b) AMS and HACE (high altitude cerebral oedema) are on a contiuum
   c) HACE is characterized by severe truncal ataxia progressing to coma and death
   d) Rapid descent is not advocated as it can worsen symptoms
   e) Acetzolamide, dexamethasone and hyperbaric oxygen are all recognized as treatment .

13.With regard to High Altitude Pulmonary Edema (HAPE) which is false?
   a) The pulmonary artery pressures are raised
   b) it is cardiogenic in origin
   c) like AMS and HACE, the exact mechanism is unknown
   d) descent is associated with resolution of symptoms
   e) Nifedipine and other vasodilators are the drugs of choice

14.With regard to radiation accidents which is INCORRECT?
   a) management of life threatening injuries takes priority over complete and proper decontamination
   b) exposed victims to ionising radiation from X-ray equipment and accelerators are not a threat to others and do no need decontamination
   c) the most sensitive tissues to the effects of radiation are the haemopoietic system and the GIT
   d) X-rays and gamma rays are more penetrating than alpha and beta rays
   e) The RBC count in the first 48 hours is a marker of severity of exposure

15.Which of these is incorrect in respect to acute radiation exposure?
   a) There is a prodrome of nausea, vomiting conjunctivitis and erythema
   b) There is a latent period of hours to weeks prior to the illness manifest period
   c) The neurovascular syndrome is seen prior to the haemopoietic syndrome and GIT syndrome
   d) Death is likely from the neurovascular,CVS and severe GIT syndrome
   e) Survival is likely from the haemopoietic and mild GIT syndrome

16. With regards to decontamination which is incorrect?
    a) it should begin at the scene if possible
    b) the clothing should be removed because as much as 80% of contaminating material can be on the clothing
    c) at hospital the priority is to decontaminate the intact skin prior to the orifices
    d) at hospital the priority is to decontaminate the wounds prior to the intact skin
    e) waste water from the decontamination process of more than one person cannot go into the normal drainage system

17. Which statement is incorrect?
    a) Boyles law states that the volume of a gas is inversely proportional to its pressure at a given temperature
    b) Henry's law states that the amount of gas dissolved in a liquid is proportional to it partial pressure
    c) At sea level the absolute pressure is 1 atmosphere
    d) For every 10 metres you descend the pressure increases by 1 atmosphere
    e) The greatest change in gas volume over a given change in depth occurs the deeper you are

18. Which is incorrect with regard to pulmonary barotrauma?
    a) the treatment of a pneumothorax includes recompression therapy
    b) arterial gas embolisation usually occurs within 20 minutes of surfacing
    c) treatment of arterial gas embolism involves lying the pt flat, applying 100% oxygen and undergoing recompression therapy
    d) pneumomediasinum is treated with simple observation, not recompression therapy
    e) the second most common cause of diving death is arterial gas embolism, after drowning

19. Which statement is incorrect regarding decompression illness?
    a) Decompression Illness involves the liberation of inert gas, usually nitrogen, from solution into gas bubbles
    b) Its onset after surfacing is usually longer than that of arterial gas embolism
    c) Is more likely with multiple dives or if ascent to altitude soon after flying
    d) Classically it presents with joint pains, neurological abnormalities, audiovestibular symptoms or pulmonary symptoms
    e) Back pain soon after surfacing from a dive should be treated expectantly with NSAID's and reviewed in 24 hours

20. Which is incorrect with regard to Australian insects?
    a) death from s bee sting in Australia is usually due to anaphylaxis as opposed to venom effect
    b) ticks act by slowing the action potential classically causing weakness, Bells pasly, difficulty swallowing and flaccid paralysis
    c) once the tick is removed symptoms usually improve
    d) 30% of scorpion bites in Australia are fatal
    e) the pus caterpillar toxin classically produces a grid pattern on the skin

21. Which is incorrect with regard to hypothermia?
    a) If a pt is 26 degrees and in VF DCR should be attempted at 200 joules and if unsuccessful tried again when warmed 1 degree
    b) In severe hypothermia blood gases should be interpreted after adjusting for the patients temperature
    c) Core afterdrop is probably of little significance in the clinical setting
    d) most pts who are 32 degrees or above will endogenously warm themselves
    e) in a non arrested severely hypothermic pt left pleural lavage and cardiopulmonary bypass are not advocated

22.Which is incorrect with regard to hypothermia?

a) the typical ECG appearance is a slow idioventricular rhythm
b) the J or Osborn wave is the extra positive deflection after the normal S wave
c) the J wave is best seen in leads 2, V3-V6
d) rectal temperature is often used to assess core temperature though it is unlikely to be as accurate as oesophageal and right heat temperature
e) at a temperature less than 32 degrees shivering stops and an alter mental state is present

23.Which statement is incorrect?

a) heat exhaustion is largely secondary to a decreased intravascular volume
b) pts with heat exhaustion differ from those with heat stroke in that they have normal neurological function
c) classically people with heat stroke have a temperature above 41 degrees Celsius
d) suxamethonium is safe to use in a hyperthermic pt in the first 8 hours
e) in heat stroke shivering can be minimized by using chlorpromazine and benzodiazepines

24.Which statement is incorrect?

a) the risk of malignant hyperthermia is genetically inherited
b) drugs which classically cause malignant hyperthermia include inhalational anaesthetic agents, suxamethonium and amide local anaesthetics
c) the drug used to treat malignant hyperthermia is dantrolene
d) serotonin syndrome classically causes CNS, autonomic and motor dysfunction
e) the drug used to treat severe serotonin syndrome is bromocriptine

25.Which statement is incorrect?

a) serotonin syndrome usually onsets within a few hours of drug ingestion where as Neurolept Malignant Syndrome usually takes days
b) they both display autonomic dysfunction
c) the length of duration of NMS is usually longer than that of Serotonin Syndrome
d) most cases of serotonin syndrome self resolve in 24-48 hours where as drug treatment is the usually required in NMS
e) both serotonin syndrome and NMS give a high CK and ocular clonus

ANSWERS

1)C 2)D 3)C 4)D 5)B 6)B 7)D 8)D 9)E 10)C 11)E 12)D
13)B 14)E 15)C 16)C 17)E 18)A 19)E 20)D 21)B 22)A 23)D 24)E
25)E

1. Which of the following statements is true of hypothermia

a) Immersion is the commonest cause
b) J waves are common less than 34°c
c) Infrared thermometers are the best to use in cold ambient temperatures
d) Disseminated intravascular coagulation may result
e) The commonest metabolic abnormality is a metabolic alkalosis

2. To control shivering during the treatment of heat stroke the best regimen is

a) Diazepam 0.05mg/kg IV titrated to effect
b) Chlorpromazine 25mg IV over ½-1 hour
c) Rapid sequence induction with suxamethonium 1.5mg/Kg
d) Cool H_2O (32°c) spray
e) All of the above

3. Which creature is responsible for the most deaths in humans

a) Great white shark
b) Honey bee
c) Funnel web spider
d) Redback spider
e) Brown snake

4. Which of the following may be useful in severe Funnel Web spider envenomation

a) Pressure bandage and immobilisation of the patient
b) Metoprolol 0.02mg/kg titrated to effect
c) Atropine 0.01mg/kg titrated to effect
d) Antivenom, 2 ampules stat (125U/ampule, Rabbit IgG)
e) All of the above

5. The most common symptom associated with mushroom poisoning is

a) Hallucinations
b) Lacrimation
c) Dry mouth
d) Jaundice
e) Gastroenteritis

6. All of the following statements are true except

a) Most current from a lightening strike flashes over the victim causing little harm
b) The arrest rhythm most often seen after lightening strike is VF
c) High voltage power cables are more likely to cause rhabdomyolysis than lightening strike
d) Alkalinisation of the urine may be of benefit in the treatment of high voltage electrical injury
e) Delayed cataracts are recognised after both lightening strike and high voltage power cable injury

7. A 7yr male is involved in a house fire. There are partial thickness burns to both lower limbs, the back and half of the left arm

a) He has a 30% burn
b) His fluid requirement is estimated about 7L in the 24hrs from arrival in the ED
c) As there are no areas of full thickness burn, this fits the American Burn Association criteria for a moderate burn
d) Analgesia in this case should take a back seat to precise mapping of the burn to determine fluid requirements
e) A central line in the right IJV should carry no more risk of infection than in any other patient

8. Carbon monoxide poisoning

a) Is more significant for the foetus compared to the mother
b) Usually presents with “cherry red” skin
c) Is almost never associated with angina
d) Is associated with coma at a concentration above 30%
e) Is only problematic due to displacement of O_2 from Hb

9. The surgical registrar has inadvertantly performed a KUB on a 12/40 pregnant woman in the course of a work up for abdominal pain. A KUB exposes the foetus to 0.1RAD (0.1REM). What is the threshold radiation dose for foetal mental retardation

a) 0.05 RAD
b) 0.5 RAD
c) 5 RAD
d) 50 RAD
e) 500 RAD

10. Which of the following patients would be most able to cope with conditions and be in least danger at a remote ski resort at 2500m

a) A 55yr male with unstable angina
b) A 34 week pregnant female
c) A 23yr male with sickle cell disease
d) A 75yr female with stable COAD
e) A 70yr male with stable CHF

Answers

MCQ

1. D
2. A
3. B
4. E
5. E
6. B
7. E
8. A
9. C
10. D