

1. Regarding migraines which is **incorrect** in its treatment
 - a) Chlorpromazine can have a success rate of up to 95%
 - b) Metoclopramide has extrapyramidal side effects in approx. 1% of patients
 - c) Promethazine, chlorpromazine and prochlorperazine can have extrapyramidal effects in up to 45% of patients
 - d) Opioids have good performance for acute migraine treatments

2. Which is **incorrect** about analgesia in children
 - a) Adolescence: behaviors can regress when anxious or in pain
 - b) Stranger anxiety is no longer an issue in primary school aged children
 - c) Children less than 9 months will adversely react to subsequent painful procedures after the initial exposure to pain
 - d) Toddlers should always be examined initially with a parental presence

3. Which is an appropriate dose for analgesia in children
 - a) Sucrose 3 ml orally for neonates
 - b) Intranasal fentanyl 1.5 mcg/kg
 - c) Morphine 0.5 mg/kg intravenous
 - d) Oxycodone 0.5 mg/kg orally

4. Which of the following is correct regarding procedural sedation of children in the ED
 - a) Aspiration risk is 5% in a non-fasted child receiving procedural sedation outside theater
 - b) Vomiting is more likely in the recovery phase than during sedation phase
 - c) The risk of vomiting cannot be decreased with pre-treatment including use of ondansetron
 - d) Laryngospasm cannot be overcome with airway manipulation maneuvers including pressure at 'Larson's point'

5. Regarding local anaesthetics which is correct
 - a) Prilocaine can cause oxidation of haemoglobin and create methemoglobin
 - b) The use of local anaesthesia with adrenaline often cause problems when given in end arterial fields such as fingers, toes
 - c) True allergic reactions to local anaesthetics is common
 - d) Ropivocaine has significantly more cardiotoxicity compared to lignocaine and bupivocaine

6. Which maximal safe dose of local anaesthetic is **incorrect**
- Bupivacaine 3 mg/kg
 - Ligocaine 4 mg/kg
 - Ropivacaine 3 mg/kg
 - Prilocaine 7 mg/kg
7. Regarding median nerve blocks which is correct
- It passes between flexor digitorum profundus and palmaris longis at the proximal wrist crease
 - It provides sensation to the palmar and dorsum of thumb, index, long and half of ring fingers
 - It provides innervation to the thenar muscles as well as 1st and second lumbricals
 - The palmar cutaneous branch lies deep to the recurrent branch of the median nerve
8. Radial nerve innervates which of the following
- Medial two Lumbricals
 - All of the extensor muscles of the forearm
 - Sensation of dorsum thumb, index, middle and ring fingers
 - All of the interossei muscles
9. Regarding Ulnar nerve blocks which is **incorrect**
- The ulnar nerve travels deep to the flexor carpi ulnaris
 - It innervates flexor pollicis brevis, adductor pollicis and all digiti minimi muscles except extensor
 - It innervates the medial two lumbricals and all of the interossei muscles
 - Skin innervation includes all of the 4th and 5th digit as well as the hypothenar eminence
10. Which is **not** a branch of the sciatic nerve that is anaesthetized in a full ankle block
- Saphenous nerve
 - Peroneal nerves
 - Tibial nerve
 - Sural nerve

11. Regarding ankle blocks which is **not** true
- a) The deep nerves are posterior tibial and deep peroneal
 - b) The superficial nerves need to be blocked by depositing local anaesthesia as a field block in subcutaneous space
 - c) A complete ankle block anaesthetizes four individual nerves that innervate the foot
 - d) The landmarks for performing an ankle block includes extensor hallucis longus, tibialis anterior tendon, Achilles and the malleoli
12. Which is correct regarding skin innervation of the ankle nerves
- a) 1st web space is innervated by superficial peroneal nerve
 - b) Majority of plantar surface is innervated by sural nerve
 - c) Saphenous nerve innervates the lateral aspect of the ankle
 - d) Posterior tibial nerve innervates the heel
13. Regarding facial nerve blocks which is correct
- a) Supraorbital nerve blocks will anaesthetize forehead and bridge of nose
 - b) Infraorbital nerve blocks can be done through mucosa superior to maxilla canine
 - c) Mental nerve block also anaesthetizes the teeth
 - d) Auricular field blocks need only to infiltrate the area superior to the external ear
14. Regarding intercostal nerve blocks which is correct
- a) The scapula and rhomboid muscles will only make blocking to ribs 1 to 3 difficult
 - b) The order from superior to inferior within the subcostal groove of a rib goes: nerve, artery, vein)
 - c) Blocking posterior to the midaxillary line ensures analgesia to the lateral cutaneous and anterior branch of the intercostal nerve
 - d) Pneumothorax occurs in 20% of patients or about 5% for each individual intercostal block
15. With respect to femoral nerve blocks and fascia iliaca blocks which is **incorrect**
- a) "3 in 1" blocks target the femoral, obturator and sciatic nerves
 - b) Ideal injuries for these blocks are neck of femur and proximal femur fractures
 - c) Fascia iliaca block technique will have two "pops" where the needle infiltrates the fascia lata and fascia iliaca
 - d) Ropivocaine 0.75% is used as it is less cardiotoxic and usual dose should be 1-3 mg/kg maximal dose of 300mg (40ml)

16. Which is **not** a typical contraindication for Bier's Blocks
- a) Sickle cell disease
 - b) Raynaud's disease
 - c) Poorly controlled epilepsy
 - d) Children
17. Which of the following is **least** useful score or scale for assessing depth of procedural sedation or sedation in the intubated patient
- a) Richmond Agitation Sedation Scale
 - b) Glasgow Coma Scale
 - c) Ramsay Sedation Scale
 - d) Observer's assessment of alertness/sedation scale
18. Which sedation agent property is true
- a) Nitrous oxide is relatively contraindicated in patients with pulmonary Hypertension
 - b) Entonox is 30:70 mixture of oxygen:nitrous oxide
 - c) Paradoxical agitation to midazolam has been reported in less than 1% of patients
 - d) Rigid chest syndrome occurrences in fentanyl administration usually occurs as a late complication
19. Which sedation agent property is **not** true
- a) Ketamine has degrees of dissociation depending on dose
 - b) Laryngospasm is more common in children given ketamine sedation
 - c) Egg or soy protein allergy is a contraindication for propofol
 - d) Ketamine should be avoided in patients with eye injuries or glaucoma
20. Which is **not** typical of the chronic pain types
- a) Myofascial headaches and chronic tension headaches are similar in their trigger point activation of pain
 - b) Chronic migraine (15 or more migraine days in a month) can lead to transformed migraine
 - c) Sciatica causes greater degrees of pain in the back than the corresponding dermatome distribution in the leg
 - d) Risk factors for chronic back pain includes male gender, advanced age and evidence of nonorganic disease

21. Which is typical of the chronic pain types
- a) Diabetic neuropathy is unrelated to glycemic control
 - b) Post herpetic neuralgia occurs in 8% to 70% of acute episodes of herpes zoster
 - c) Ocular symptoms such as tearing of eyes or red eyes should not occur with trigeminal neuralgia
 - d) Phantom limb pain is rare and occurs in <20% of amputations
22. Regarding Complex Regional Pain Syndrome CRPS which is correct
- a) CRPS Type I occurs post peripheral nerve injury ie post fractured limb
 - b) Myocardial infarction is an unusual cause of CRPS
 - c) CRPS can cause oedema, localized sweating and rubor that can mimic wound infection or osteomyelitis
 - d) Steroids have no role in the treatment of CRPS
23. Which of the following is **less** predictive of drug seeking behavior compared to the others
- a) Factitious illness, requests opioids
 - b) Has current illicit drug addiction
 - c) Uses aliases
 - d) Abusive when refused

Answers

1. D (Opioids have poor performance for migraines)
2. C
3. B (sucrose 0.1 to 0.5 ml orally max 5ml, IN fentanyl 1.5 mcg/kg up to 3 mcg/kg, morphine IV and oxycodone 0.1 to 0.2 mg/kg max 10mg. RCH analgesia and sedation guidelines 2016)
4. B (Aspiration risk is 1 in 30,000 in a non-fasted pediatric sedation outside ED, risk of vomiting may be decreased with ondansetron depending on sedation drugs used, laryngospasm can be overcome with pressure at Larson's point bilaterally whilst performing a jaw thrust. LITFL laryngospasm 2016)
5. A (LA with adrenaline appears to be safe for use in end arteries but should be avoided in the presence of vascular diseases such as Raynauds or Bergers and in vascular surgery, true allergy is uncommon and usual allergy is to preservatives: alternatives to amides and esters are diphenhydramine and benzyl alcohol with adrenaline, Ropivocaine has significantly **less** cardiotoxicity compared to lignocaine and bupivocaine)
6. D (Prilocaine 5 mg/kg)

7. C (It lies between palmaris longis and flexor carpi radialis, it does not provide sensation to dorsum of thumb, the palmar cutaneous branch lies superficial to the recurrent nerve and to the flexor retinaculum so is spared in carpal tunnel syndrome)
8. B (Radial nerve provides sensation to dorsum thumb, index and half of middle fingers, innervates all of the extensor muscles of posterior forearm)
9. D (Ulnar skin innervation hypothenar, all of 5th digit and medial half of 4th digit, muscle innervations: flexor pollicis brevis, adductor pollicis, palmaris brevis, all digiti minimi except extensor, medial two lumbricals and all interossei)
10. A (Saphenous nerve a branch of the femoral)
11. C (A complete ankle block anaesthetizes five nerves: superficial and deep peroneal, posterior tibial, sural and saphenous)
12. D (Saphenous nerve innervates medial aspect of ankle, posterior tibial innervates heel and majority of plantar, sural nerve innervates lateral plantar and lateral ankle, superficial peroneal innervates majority of dorsum of foot and deep peroneal innervates 1st web space)
13. B (Supraorbital nerve only supplies forehead, supratrochlear nerve supplies bridge of nose, mental nerve innervates gingiva but not teeth, auricular field block needs both superior and inferior injections around the external ear)
14. C (Scapula and rhomboid muscles make blocking ribs 1 to 6 difficult, subcostal groove of rib from superior to inferior runs vein – artery – nerve, pneumothorax rate is 8-9% or about 1.4% for each individual intercostal block)
15. A (3 in 1: femoral, lateral fem cutaneous and obturator. Ozemed and ASEM websites 2016: <http://www.ozemedicine.com/wiki/doku.php?id=fasciailiacusblock>. AND <http://www.asem.org.au/document.php/gbcokgx/Guidelines+for+use+in+the+ED.pdf>.)
16. D (contraindicated for children under 5 yo, RCH and RCEM websites 2016 and 2014: http://www.rch.org.au/clinicalguide/guideline_index/Biers_Block/. AND <http://secure.rcem.ac.uk/code/document.asp?ID=5360>.)
17. B (GCS especially Verbal can be a poor score for intubated patients LITFL GCS rev 2 Aug 2014)
18. A (N2O is a pulmonary vasoconstrictor, entonox is 50:50 oxygen:N2O, paradoxical agitation to midazolam occurs 1% to 15% of patients, rigid chest syndrome spasm of resp muscles occurs mostly in small children given high doses >5mcg/kg at a rapid IV bolus and usually requires intubation as opioid receptor antagonists does not reverse condition)
19. A (Ketamine has a threshold for dissociation but it cannot be 'deepened' by additional doses, ketamine associated laryngospasm occurs <1% to 2.5% primarily in children, ketamine is not absolutely contraindicated in head injury but has been shown to increase intraocular pressure, Propofol is formulated in egg and soybean oil.)
20. C (Sciatica causes greater leg pain than back pain)
21. B (Diabetic neuropathy can be prevented or slowed by glycemic control, ocular symptoms can occur with trigeminal neuralgia, phantom limb pain occurs in 30% to 81% of amputations)
22. C (CRPS type I also known as reflex sympathetic dystrophy is due to prolonged immobilization or disuse eg AMI or stroke, type II AKA causalgia due to peripheral nerve injury, early steroid use may reduce ongoing symptoms)
23. D (Tintinalli table 42-7 page 297)