

MTF – Example Questions

1. Following elective reversal of colostomy in a 58 year old man with a BMI of 40, post-operative use of continuous positive airways pressure (CPAP) of 5cm H₂O:

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| A | is expected to reduce the incidence of respiratory complications | T |
| B | should be considered if the patient has CPAP treated obstructive sleep apnoea | T |
| C | should be planned if patient has a STOP BANG score of 5 | T |
| D | will be unnecessary if the patient has a STOP BANG score of 3 | F |
| E | is contraindicated as subsequent aerophagia will lead to anastomotic breakdown | F |

Rationale:

A STOP BANG score of 3 or more is associated with a high risk of OSA and CPAP should be considered. CPAP is safe after bowel resection and has not been shown to be associated with anastomotic breakdown, even in bariatric surgery.

2. A 28 year old female presents for laparoscopic sterilisation as a day case. She has a history of narcolepsy with cataplexy. Currently she is well controlled on modafinil 200mg twice daily, venlafaxine 37.5mg once daily and sodium oxybate 7.5mg in 2 divided doses at night.

The following are appropriate ways of managing her medication perioperatively:

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|---|--|---|
| A | All the drugs should be withheld on the day of surgery | F |
| B | Sodium oxybate should be withheld on the night before surgery | F |
| C | Modafinil should be continued on the day of surgery | F |
| D | Venlafaxine should be discontinued throughout the perioperative period | F |
| E | Consider withholding sodium oxybarate on the night after surgery | T |

Rationale:

Stopping venlafaxine risks provoking status catalepticus and so should be continued. Sodium oxybate is the sodium salt of gamma hydroxybutyric acid (GHB). It is used clinically as a sedative and has a very short duration of action, hence the two doses at night. It was previously used as an intravenous anaesthetic. Potentially there could be residual effects from drugs used during the anaesthetic which could potentiate the effects of sodium oxybate on the night after surgery. Modafinil is a stimulant and could be safely stopped, although some studies have shown that it improves recovery after general anaesthesia in patients who have not previously taken the drug.

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3. A 55 year old man has just completed a 100 mile ultramarathon. He felt light headed for the last 10 miles and collapsed at the finishing line. His pulse rate is 120 per minute, BP 90/50, capillary refill time 4 seconds. Urea and electrolytes: Na 130 mmol.l-1, K 3.2 mmol.l-1, Cl 103 mmol.l-1, Urea 15 mmol.l-1, Creatinine 130 micromol.l-1, Plasma osmolality 273 mOsmol.l-1, urine osmolality 380 mOsmol.l-1, Urinary Na < 20 mmol.l-1.

Which of these terms best describe his hyponatraemia?

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|---|------------------------------|---|
| A | hypotonic hypovolaemic | T |
| B | hypotonic euvolaemic | F |
| C | hypotonic euvolaemic | F |
| D | isotonic pseudohyponatraemia | F |
| E | hypertonic dilutional | F |

Rationale:

The clinical picture is typical of hypotonic hypovolaemic hyponatraemia. Urine osmolality is high and urinary sodium low as a result of the normal physiological response to dehydration and sodium losses from sweating. The patient will require water and sodium replacement until euvolaemic. Hypotonic euvolaemic hyponatraemia is seen in SIADH whereas hypotonic hypervolaemic hyponatraemia would be more typical of cirrhosis or heart failure. Pseudohyponatraemia is seen in hyperlipidaemic states and a hypertonic dilutional hyponatraemia can occur with severe hyperglycaemia or following the use of glycine or mannitol.

4. A previously healthy 25 year old primiparous woman has a normal vaginal delivery in the midwife-led delivery suite. Soon afterwards she is found collapsed from a suspected amniotic fluid embolism. Her blood pressure is 55/30.

Which of the following are likely to contribute to her hypotension:

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|---|--|---|
| A | Decreased venous return due to pulmonary vasospasm | T |
| B | Development of disseminated intravascular coagulopathy | T |
| C | Development of septic shock | T |
| D | Development of pre-eclampsia | F |
| E | Feto-maternal transfer of Rhesus antigens | T |

Rationale:

All of the above can occur but the immediate cause of hypotension is the reduced venous return to the left atrium secondary to pulmonary vasospasm.

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5. A 5 year old boy with cerebral palsy requires a tibialis anterior tendon transfer under general anaesthesia as a day case. His parents agree with your suggestion that a regional anaesthetic technique will enhance his post-operative analgesia.

The following regional anaesthetic techniques would be appropriate in this case:

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|---|---|---|
| A | Ankle block with 0.25% bupivacaine | F |
| B | Caudal block with bupivacaine and clonidine | F |
| C | Popliteal fossa and saphenous nerve block | T |
| D | Sciatic and femoral nerve block | F |
| E | Spinal with bupivacaine and fentanyl | F |

Rationale:

A caudal or spinal block would be bilateral and make mobilisation awkward.

Mobilisation may also be difficult with combined sciatic and femoral nerve blocks.

An ankle block might not cover all the operative area.