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Guidance on potential changes to anaesthetic drug usage and administration during pandemic emergency pressures

The COVID-19 pandemic has affected services in many ways. The increased number of patients needing critical care will increase the demand for drugs used in both anaesthesia and critical care and this demand will need to be managed carefully.

The Association of Anaesthetists and the Royal College of Anaesthetists, working closely with the Chief Pharmaceutical Officer at NHS England, have produced this guidance which summarises potential mitigations to be used in the management of such demand. Direct alternative drugs and techniques are offered. The options identified are not exhaustive but give a way of thinking about this situation.

Principles for departments of anaesthesia

- **ACT IMMEDIATELY** to minimise the use in anaesthesia of drugs needed in the care of COVID-19 patients in critical care*.
- Anaesthetists will be able to continue to use some first line drugs but departments should consider plans for the use of alternatives, particularly where the first line choice falls into the category of being subject to potential demand pressures#.
- Departments of anaesthesia and intensive care working with perioperative and critical care pharmacists, will need to collaborate to decide on policies and practices to ensure drugs are prioritised appropriately across the two areas.
- Decrease waste: only draw up what you will use including emergency drugs.
- Work with pharmacists to devise safe ways to use all the contents of drug vials and ampoules e.g. fentanyl 50 micrograms/ml x 10 ml. Although counter to normal good practice, this may include sharing vials / ampoules between patients to minimise waste. Good governance, strict infection control and safety are paramount. Minimising wastage of critical medicines during COVID-19.
- Decrease activity: only undertake urgent / emergency anaesthesia.

Alternative techniques

- Use local and regional anaesthesia when practicable and safe.
- Use inhalational anaesthesia for maintenance and restrict usage of propofol infusion for maintenance wherever possible (e.g. clinical priority indication: malignant hyperthermia).

First line drugs / priority clinical indications	Alternative drugs / techniques
Induction	
propofol #	thiopental sodium / etomidate
ketamine #	propofol / thiopental sodium / midazolam
Neuromuscular blockade - RSI	
rocuronium #	suxamethonium #
Neuromuscular blockade – routine	
rocuronium	vecuronium / atracurium*# / cisatracurium*# / pancuronium
Maintenance of anaesthesia	
propofol (TIVA) *	sevoflurane / isoflurane / desflurane
sevoflurane	Isoflurane / desflurane
Analgesia – short acting opioid	
fentanyl*#	alfentanil *#/ remifentanil
remifentanil #	none
Analgesia – longer acting opioid	
morphine #	Oxycodone #/ diamorphine / pethidine
Non-opioid analgesia	
paracetamol i.v.#	paracetamol oral or suppository
ibuprofen (NB caution as per guidance)	ketorolac, diclofenac, parecoxib
Sedation and transfer	
propofol tci	midazolam / lorazepam # / diazepam / dexmedetomidine#
midazolam * #	lorazepam / diazepam
Vasopressor by bolus	
Metaraminol#	phenylephrine# / ephedrine
Vasopressor by infusion	
noradrenaline*#	metaraminol / dopamine/ vasopressin / terlipressin#

* retain supplies of these drugs for use in critical care at times of increased demand during the COVID-19 crisis (each drug marked only once).

drugs which may be subject to demand pressure (each drug marked only once).

Practice points

- Low flow anaesthesia will minimise medical gas use where it can be used safely.
- The use of processed EEG monitors supports efficient use of both intravenous and inhalational anaesthetic drugs.

We are producing further more detailed guidance for specific drugs and procedures.

For more information, guidance and resources supporting your understanding and management of Coronavirus (COVID-19), visit: www.icmanaesthesiacovid-19.org
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