|  |
| --- |
| 2-5 Hypertension v.1 |
| Hypertension is most commonly due to inappropriate depth of anaesthesia or inadequate analgesia.  You should rapidly exclude a problem in adequate oxygen delivery, airway and breathing first. |

START.

❶ **Immediate actions**

* Recheck blood pressure AND increase anaesthesia AND reduce stimulus.

❷ **Adequate oxygen delivery**

* Check fresh gas flow for circuit in use AND check measured FiO2.
* Visual inspection of entire breathing system including valves and connections.
* Rapidly confirm reservoir bag moving OR ventilator bellows moving.

❸ **Airway**

* Check position of airway device and listen for noise (including larynx and stomach).
* Check capnogram shape compatible with patent airway.
* Confirm airway device is patent (consider passing suction catheter).

❹ **Breathing** - exclude **hypoxia** and **hypercarbia** as causes:

* Check chest symmetry, rate, breath sounds, SpO2, measured VTexp, ETCO2.
* Feel the airway pressure using reservoir bag and APL valve <3 breaths.

❺ **Circulation**

* Check rate, rhythm, perfusion; increase frequency of BP check.
* Check cuff size and location, consider intra-arterial monitoring.

❻ **Depth**

* Ensure adequate depth of anaesthesia and analgesia.

❼ Consider underlying problem (Box B).

❽ Call for help and consider temporising drug (Box C) if problem not resolving.

|  |
| --- |
| Box A: CRITICAL CHANGES |
| If problem worsens significantly or a new problem arises, call for help and go back to START of 1-1 Key Basic Plan. |

|  |
| --- |
| BOX B: POTENTIAL UNDERLYING PROBLEMS |
| * Inadequate anaesthesia / analgesia (alfentanil can be diagnostic – see Box C for dose) * Inadequate neuromuscular blockade * Consider whether you could have made a drug error * Omission of usual antihypertensives * Distended bladder * Vasopressor administered by surgeon * Surgical tourniquet * Excess fluid (over-administration / overload / TURP syndrome) * Medical causes: drug interaction, renal failure, raised intracranial pressure, seizure, thyrotoxicosis, phaeochromocytoma |

|  |
| --- |
| BOX C: TEMPORISING DRUGS FOR HYPERTENSION |
| * Alfentanil 10 µg.kg-1 (adult 0.5-1 mg) * Propofol 1 mg.kg-1 (adult 50-100 mg) * Labetolol 0.5 mg.kg-1 (adult 25-50mg). Repeat when necessary. * Esmolol 0.5 mg.kg-1 (adult 25-50mg) Follow with infusion. * Hydralazine 0.1 mg.kg-1 (adult 5-10mg) * Glyceryl trinitrate 0.5-5 µg.kg.min-1 infusion (adult 2-20 ml.hr-1 of 1 mg.ml-1 solution) |

The Association of Anaesthetists of Great Britain & Ireland 2018**. www.aagbi.org/qrh** Subject to Creative Commons license CC BY-NC-SA 4.0. You may distribute original version or adapt for yourself and distribute with acknowledgement of source. You may not use for commercial purposes. Visit website for details. The guidelines in this handbook are not intended to be standards of medical care. The ultimate judgement with regard to a particular clinical procedure or treatment plan must be made by the clinician in the light of the clinical data presented and the diagnostic and treatment options available.

2-5