Sedation

Mr Colin Dibble

Consultant in Emergency Medicine, NMGH

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Concepts

- Required often in ED to perform short painful procedures eg cardioversion, shoulder reduction etc
- Often not done properly, can be life threatening
- Aim for ‘conscious sedation’
- Potentially need the same level of care as for GA
- ALL drugs can put airway/breathing at risk
- Practice guided by National Guidelines issued by Intercollegiate working party chaired by Royal College of Anaesthetists

Preparation: Patient

- Last ate: starve for 4 hours if possible (i.e. able to wait)
- Other medical problems/medications, allergies. Previous anaesthetic problems: ASA grading I-V
- Observations pre-procedure
- Must have informed consent-documented. Consent form ideally
- Assess airway (LEMON score) [L=Look externally (facial trauma, large incisors, beard or moustache, and large tongue), E=Evaluate the 3-3-2 rule (incisor distance <3 fingerbreadths, hyoid/mental distance <3 fingerbreadths, thyroid-to-mouth distance <2 fingerbreadths) M=Mallampati (Mallampati score 3), O=Obstruction (presence of any condition that could cause an obstructed airway), N=Neck mobility (limited neck mobility)]

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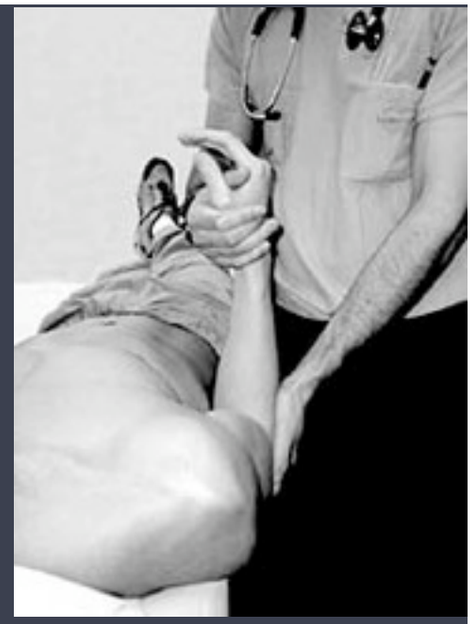

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Preparation: Personnel

- **2 doctors**, one with experience in sedation to do the sedation and monitor airway (MG or above ideally), and one to do the actual procedure
- Trained nurse for observation recording and post-procedure monitoring, assistance with equipment, procedure etc

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Preparation: Equipment

- Suction, working; & Yankeur sucker
- Tilt trolley, working
- Bag-Valve-Mask or equivalent, working
- ETT's & larygoscope, working
- Patent cannula
- SpO_2 monitor in all; recommend ECG, BP, q5mins
- O_2 15L via mask

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Drugs 1 use sedation agent & analgesic-cautiously (when required)

Drug	Dose	Onset/duration	Cons	Pros
Midazolam	1-5mg slow iv	2-3mins/ 30-90mins	Long sedation time, no analgesia, longer period of monitoring & airway risk	good amnesic/anxiolytic, many experienced in its use, antidote=flumazenil, wider therapeutic margin
Propofol	1.5-2.5mg/kg	20-40secs/ 2-5mins	apnoea, hypotension ++, stinging in injection	rapid onset, good airway relaxation, smooth induction, no hang over,
Etomidate	0.2-0.3mg/kg	20-40secs/ 2-3mins	extraneous movements, adrenal suppression	good cardiovascular stability, more widespread ED use
Ketamine (usually with midazolam, & atropine in paeds)	1-4mg/kg	30-60secs/ 10-15mins	Emergence (esp adults), movement, secretions, raised ICP/ocular pressure, vomiting, increased myocardial O_2 demand	maintains airway reflexes / breathing, analgesic properties, safe, difficult locations eg pre-hospital, good in hypotension, bronchodilator, IM dose, very good for paediatric sedation

Drugs 2

- Know the drugs you use well, when to, and, when not to use them
- Respect them, they are all anaesthetic drugs
- ALL patients with dislocations MUST have immediate morphine on arrival before imaging etc. May need topping up at procedure (eg fentanyl in syringe with propofol)
- S/E may include hypoxia, loss of airway, apnoea, bradypnoea, hypotension, bradycardia, emergence (ketamine), muscle movements (etomidate), hang over effects

Procedure 1

- Explain to patient; obtain informed consent-preferably consent form signed
- Check all equipment etc as above and draw drugs. Monitoring and oxygen applied
- Careful, slow titration to reach the point where patient is just responsive to persistent verbal stimuli-wait for effect (minutes)
- Colleague then attempts procedure. If reduction, slow and gentle is safer, requires less medication and causes less damage

Procedure 2

- Monitor level of consciousness, airway (mask misting), respiration, sats
- Stay with patient until GCS 14+.
- **DOCUMENT ALL ABOVE** (preop check, consent, monitoring, O_2) & drugs and doses, observations pre/intra and post sedation & times
- Operator (for procedure) documents' SEPARATELY in notes details of procedure, investigations and follow up

Recovery

- Patient must be observed by a doctor until sufficiently conscious to respond to questions appropriately, maintain airway, respirations and saturations and obs within normal
- Further recovery can be observed by nursing staff
- Discharge when GCS 15, no nausea/vomiting, ambulant without assistance, & has someone to accompany him/her home
- Advice: for 24 hours; no driving, no alcohol, rest & no work, no important decisions, may feel mild tiredness, nausea. Advice sheet ideal for this. Document this.

Questions?