

THE SOCIETY OF SPORTS THERAPISTS



Sports Trauma Management

9. Exposure, Environment & Everything Else d. Medical Gases

Medical Gases

- Fire & explosion risk
 - Must be clearly labelled in storage & cars
 - Cylinder valves should not be lubricated with oil/grease
- Storage of medical gases
 - -7°C or less leads to liquefaction & separation of gases
 - Stored flat at temperatures below 5°C for 24 hours then invert several times before use
 - Stored in a well ventilated, dry environment with signage
 - Keep away from sources of ignition
 - Do not roll cylinders
 - Aligned in correct dates of replenishment
 - Replace when $\frac{1}{4}$ full & carry spare cylinder



Oxygen

- The brain can suffer a hypoxic injury if without O₂ for 3 minutes
- NRBM 15 L/min
- Inflate reservoir bag
- Check fogging of the mask
- May need additional BVM ventilation

Contraindications to Oxygen

- COPD



Entonox

- 50% nitrous oxide, 50% oxygen
- Self administered via a demand valve
- Children over the age 5 years should use a T-Spacer
- Analgesic effect in 4-5 breaths
- Drowsy
- Caution travelling abroad
 - Illegal in some countries



• Contraindications

- Nitrous oxide is 34 times more soluble than N & O₂ alone
- Therefore
 - Chest trauma (pneumothorax)
 - Decompression sickness
 - Bowel obstruction
 - Head injuries (reduced GCS)
 - Maxillofacial injuries (surgical emphysema & blow out fracture)
 - Intoxicated

Penthrox

- Alternative to Entonox
- Recently licensed anaesthetic in UK
- Used for chest trauma & facial injuries
- But not for head injuries
- 1hr analgesia or 20-30mins continuous use
- Can be used abroad





- Pentrox contraindications:
 - Renal impairment (can cause kidney failure)
 - Liver impairment (caution if used more than once every 3 months)
 - Not licensed for u18s
 - Head injury or reduced LOC
 - Ok for chest injury!