



**NEWBORN EMERGENCY TRANSPORT SERVICE MEDICAL GUIDELINES**  
**SECTION: 11**

**PART 2: CLINICAL GUIDELINES**

NETS11.2.17  
Title of policy: Surgical problems  
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Neonatology Clinical Guidelines  
King Edward Memorial/Princess Margaret Hospitals  
Perth Western Australia

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## **Surgical problems**

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### **Surgical problems**

Note: It is of particular importance in all surgical retrievals to bring a sample of hand-labelled maternal blood signed by the staff taking the sample.

- **Bowel Obstruction, Perforation or Peritonitis**

- Keep NBM.
- Drainage of the stomach with large-bore NGT.
- Fluid resuscitation (normal saline) is likely to be required.
- Ventilation may be more difficult as a distended abdomen may cause increased respiratory compromise.
- If flying, any free air will be exacerbated by lower cabin. pressures, so a sea level may be required or drainage of free air prior to transport.
- IV antibiotics Amoxicillin, Gentamicin and Metronidazole
- If NGT losses are high, consider replacement with normal saline.

- **Oesophageal Atresia**

Consider in any baby with antenatal history of polyhydramnios who is particularly mucousy, choking with feeds or difficulty in passing a NGT.

- Confirm by inability to pass NGT further than 10cm with chest X-Ray
- Nurse in flat position
- Insert a reprogle tube.
- To maintain patency of the reprogle tube, flush with 0.5mls of normal saline every 15minutes, and suction gently with a 50ml syringe. **DO NOT use the portable suction device, as the pressure is too high, & can result in tissue necrosis.**
- Losses from the reprogle tube should be recorded and replaced if excessive
- Intubation & ventilation should be avoided wherever possible (in cases of distal fistula) as massive abdominal distension can occur, with possible stomach perforation. Always discuss with the on-call neonatologist.

- **Congenital Diaphragmatic Hernia**

### **Key points:**

- Often the sickest/ most complex-to-transport patients. Always discuss with the on-call neonatologist.
- Suspect if respiratory distress, a scaphoid abdomen and poor air entry one side
- Confirm with CXR (if available)
- Pulmonary hypoplasia & pulmonary hypertension common

### **Management:**

- Bag and mask ventilation should be avoided to prevent bowel distension.
  - A large-bore nasogastric tube (8 FG) should be passed to decompress the stomach and small bowel.
  - Infants should be intubated & ventilated.
  - Sedate with a morphine infusion.
  - Muscle relaxation may be necessary, especially if vigorous/ struggling against the ventilator.
  - Monitor pre-ductal oxygen saturations.
  - An arterial line is desirable.
  - The aim of a **lung protective strategy** is to minimise barotrauma and decrease mortality. This is achieved by allowing for permissive hypercapnia (PaCO<sub>2</sub> 45-55 mmHg & pH to 7.3) and relative preductal hypoxaemia (preductal SaO<sub>2</sub> 85%).
    - Aim for PIP < 25cmH<sub>2</sub>O
    - Rate ~ 60/min
    - The Stephan ventilator cannot deliver HFOV
  - Surfactant is NOT routinely given, as this can exacerbate matters.
  - Manage PPHN (see section 8):
    - Nitric oxide is not yet available on transports
    - Alternative to Nitric oxide is a PGE1 infusion
  - Inotrope support/ volume may be necessary.
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- **Gastroschisis**
    - The major problem is heat & fluid losses from exposed viscera. This can be minimised by placing the whole of the lower half of the baby in a plastic bag (or cling film). Do not cover with moist packs or cotton wool as these can become cold and exacerbate the problem.
    - Observe the circulation to the viscera, but do not handle the bowel excessively. Repositioning may improve this if compromised.
    - Lie the baby on its right side for transport
    - Insert size 8 NGT and aspirate. Leave on free drainage
    - 2 x PIV to be inserted
    - Give **10-20mls/kg/hr** normal saline to cover fluid losses in addition to usual fluids which should start at **100-120mls/kg/day**
    - Give IV antibiotics (Amoxicillin, Gentamicin and Metronidazole)
    - Observe thermoregulation carefully
  - **Exomphalus**

- This is not an urgent transport as the protective membrane prevents heat and fluid loss. If however this ruptures then treat as for Gastroschisis.

- **Myelomeningocele**

- This is not a middle of the night emergency.
- The back should be covered by a protective dressing.
- Surgical closure is recommended within the 1<sup>st</sup> 24 hours in order to prevent infection and trauma to the exposed tissues.
- Avoid using latex

Antibiotics are sometimes indicated, if the defect is open &/or there is CSF leakage.

- **Transport of neonates following surgical procedure**

It is unit protocol that babies who require transportation to another hospital less than 24hrs post surgery:

- Are transported by the NETS team in the NETS transport cot. Nurse only is permissible if authorized by SR or Consultant.
- Are continuously cardiopulmonary monitored
- Require suction, oxygen and an appropriate sized bag and mask available **at all times** during transportation