# ANAESTHESIA – not just passing gas

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# Disclosures

- No conflicts of interest
- Interest in conflict

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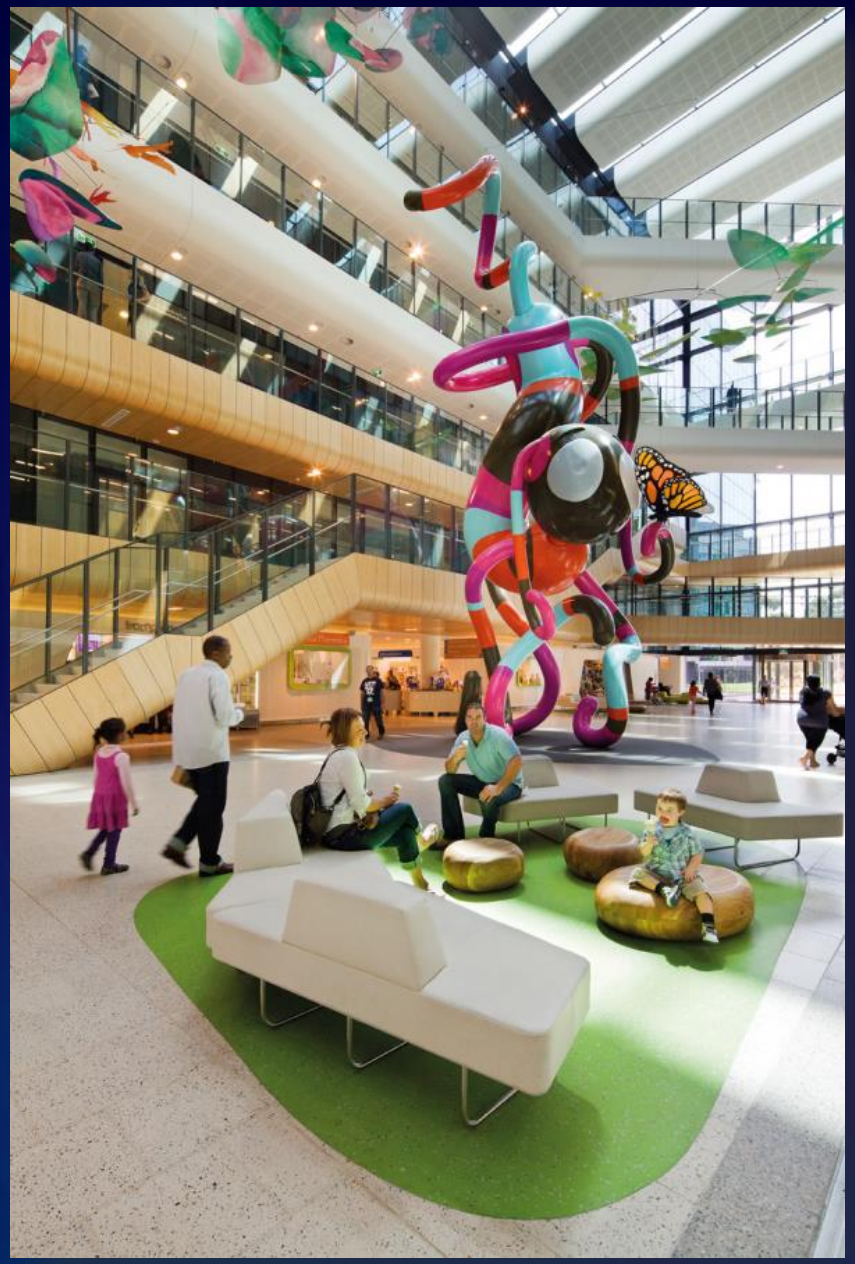

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# The Anaesthetist

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# Content

Role anaesthetists play in spreading bacteria

- Introduction to paediatric anaesthesia
- More than just 5 moments for hand hygiene
- What the literature says
- Solutions for anaesthetists

# More than 5 moments

- Anaesthetists have very poor compliance with guidelines
  - Biddle C, Shah J, (2012) Observed anaesthetists for 4 weeks. Hand hygiene opportunities average 34-41/hr. Aggregate failure rate 82%
  - Megeus et. al.  (2015) HH opportunities 11/hr with 8.1% adherence but during induction 77/hr with 3% adherence.

# The extent of the problem

- Birnbach et.al. (2015) Using simulation with dye on manequine’s lips showed 100% contamination of IV bungs within 6 minutes.

# The IV stopcock

# The IV stopcock

- Loftus et.al. (2008) Anaesthetists contaminate a sterile work environment.
  - The intravenous stopcock is contaminated in 32% (95% CI 20-45%) of cases.
  - Higher rates of stopcock contamination occur with work area contamination.
- Loftus et.al. (2012) Stopcock contamination increased mortality.

# IV stopcock

- Salzman et.al. (1993) In 10 out of 28 cases of CRS in neonates, bacteria was cultured from the intravenous hub before the blood.
- Loftus et.al. (2012) Contamination source of stopcocks
  - Provider 21%
  - Patient 14%
  - Environment 64%


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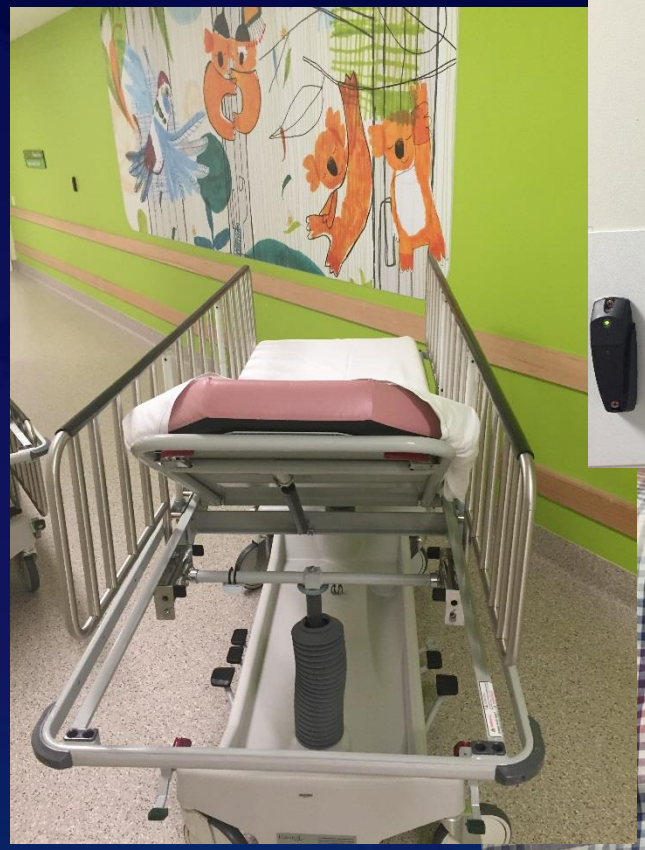




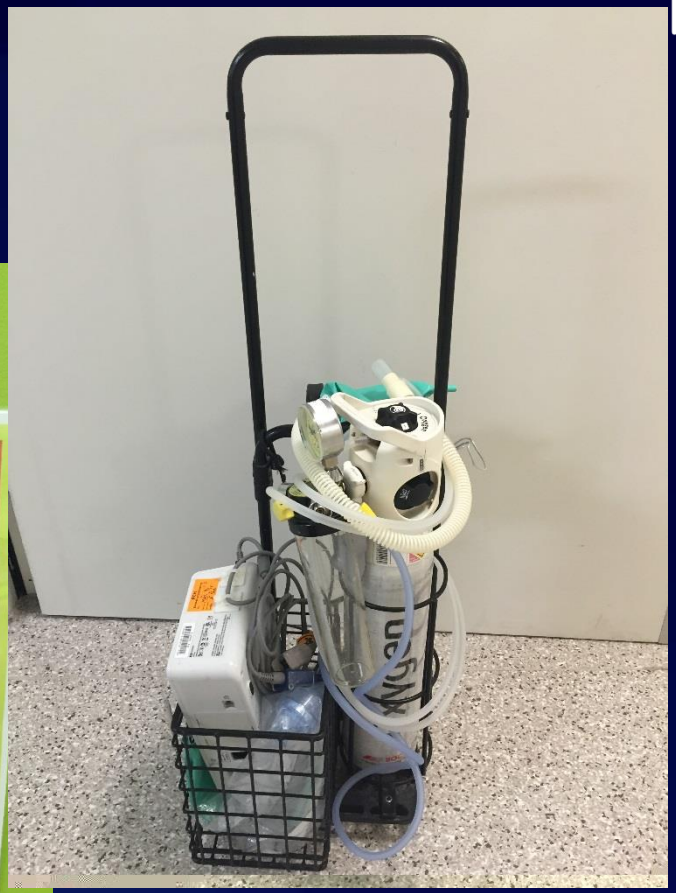

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# Contaminating the environment

- Birnbach et.al. (2015) Compared intubation wearing 1 set of gloves vs 2 sets during intubation
- Outer set was removed immediately post intubation
  - Resulted in 20 vs 5 contaminated sites in OR (P<.001)

# Feeding the bugs

- Cole et.al. (2015) Compared bacterial counts in stopcocks used with propofol (17%) and without (18.5%).
  - At 48hrs there was a 100 fold increase in CFU in propofol stopcocks cf. non-propofol, whether visible or not.

# Anaesthetists are very bad at hand hygiene

- However,
- The 5 moments of hand hygiene may not be the best tool to measure risk
- It is difficult to define the patient zone
  - Trolley
  - Bed
  - Anaesthetic machine
  - Drug trolley
    - draws

# What now?

- Increase awareness and take ownership
- Define the patient zones
- Clean hands after intubation
- Protect the IV stopcock AT ALL COST
  - Sterile IV insertion technique
  - Keep stopcock clean (novel technologies)
  - Swab ampoules before opening

# What now?

- Clean the environment between patients
  - Machines
  - Screens
  - Monitoring equipment
  - Torniquets