

# *Kids in Control?*



Integration of  
ANZCA PS9 (2010) in the  
Development of  
New Sedation Guidelines  
for the  
Management of  
Painful and Distressing  
Diagnostic and Therapeutic  
Interventions

**Megan James, CNC**  
Paediatric Pain Management



Sydney Children's  
Hospital Network,  
Randwick

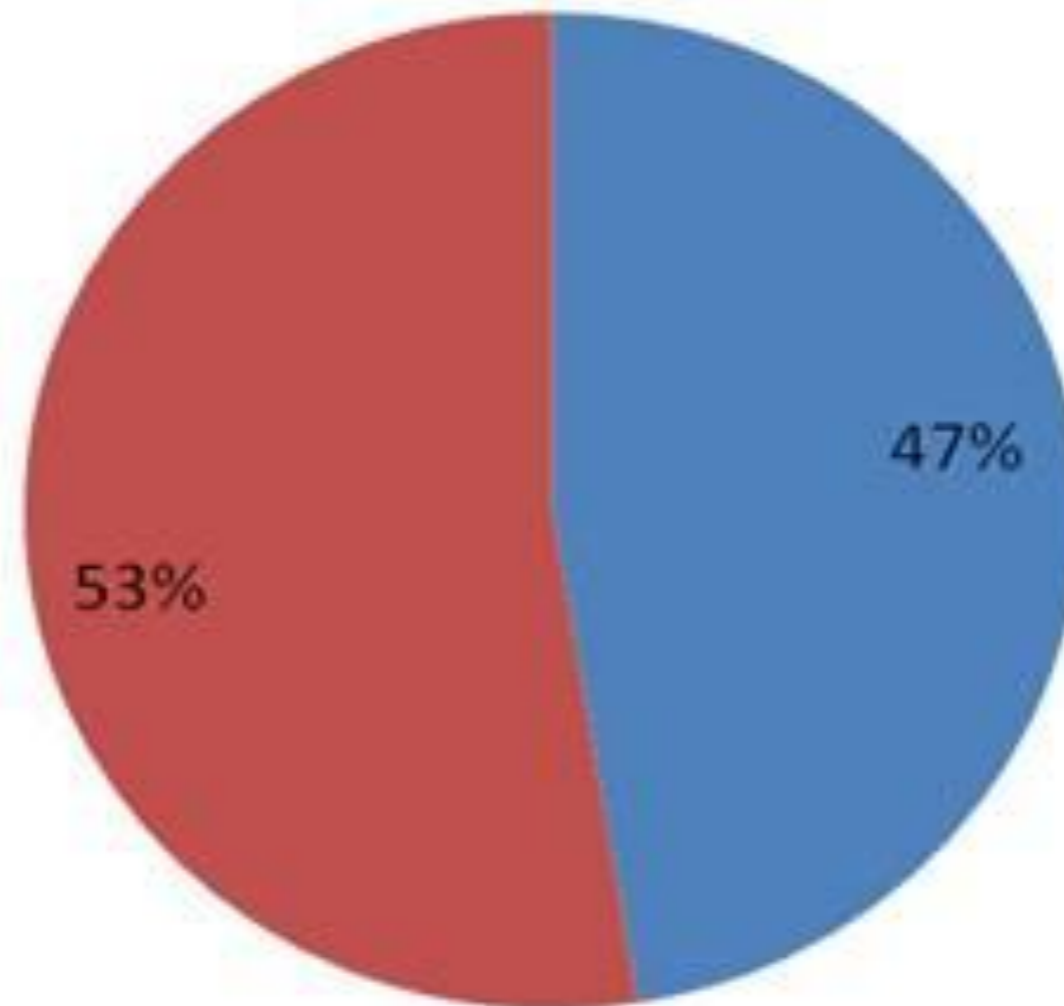
# Overview

- Background: Why sedate kids?
- ANZCA PS9 (2010)
  - ...It's coming!
- Times they are a changing:  
Sedation practices at SCH
- What is everybody else doing?
  - Paediatric sedation practices in Australian Nuclear medicine departments
- The story so far...
- Implementation



# ANZCA PS9 2010 Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical, Dental or Surgical Procedures

Are you aware of The Australian and New Zealand College of  
Anaesthetists (PS9 2010) document?



N = 38

■ Yes

■ No

# ANZCA PS9 2010

## Guidelines on Sedation and/or Analgesia for Diagnostic and Interventional Medical, Dental or Surgical Procedures

- FACULTY OF PAIN MEDICINE
- AUSTRALIAN AND NEW ZEALAND COLLEGE OF ANAESTHETISTS
- GASTROENTEROLOGICAL SOCIETY OF AUSTRALIA
- ROYAL AUSTRALASIAN COLLEGE OF SURGEONS
- AUSTRALASIAN COLLEGE FOR EMERGENCY MEDICINE
- COLLEGE OF INTENSIVE CARE MEDICINE OF AUSTRALIA AND NEW ZEALAND
- ROYAL AUSTRALASIAN COLLEGE OF DENTAL SURGEONS
- ROYAL AUSTRALIAN AND NEW ZEALAND COLLEGE OF RADIOLOGISTS

# Definitions

# PS9

- **Conscious sedation:**

- A drug induced depression of consciousness during which patients are able to *respond purposefully to verbal commands or light tactile stimulation*.
- Patient should be able to “Open your eyes” on command

- **Deep sedation:**

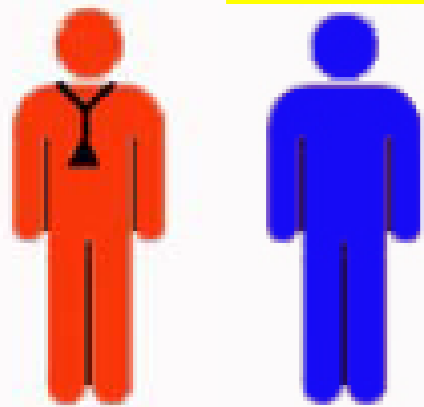
- Consciousness is lost and patients only respond to painful stimulation
- Associated with loss of the ability to maintain a patent airway, inadequate spontaneous ventilation and/or impaired cardiovascular function

# PS9 Requirements

- Patient Assessment
- Staffing
- Facilities and Equipment
- Monitoring
- Documentation
- Recovery, Transporting and Discharge
- Training for non-anaesthetists in procedural sedation

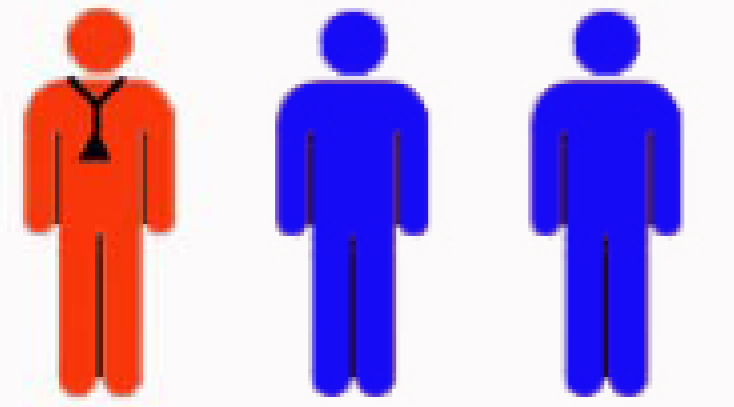


### Scenario 0: Two personnel – sedation by proceduralist



- Medical or dental practitioner proceduralist with airway and resuscitation skills, and training in nitrous oxide or low dose oral sedation techniques
- Assistant with training in monitoring sedation
- Conscious sedation using nitrous oxide alone and/or low dose oral sedation alone in ASA P 1-2 patients
- Heavy oral sedation and intramuscular or intravenous sedative/anaesthetic/analgesic agents must not be used

### Scenario 1: Three personnel – sedation by proceduralist



- Medical or dental practitioner proceduralist with airway and resuscitation skills, and training in sedation
- Assistant with training in monitoring sedation
- Assistant to assist both
- Conscious sedation in ASA P 1-2 patients
- Propofol, thiopentone and other intravenous anaesthetic agents must not be used

# *Oh a Times, they are a-changing....*

- 'Sedation Guidelines for Painful and Investigative Procedures' first developed 30 years ago
- Cote et al 2000: **The use of 3 or more sedation agents is strongly associated with adverse outcomes**
  - 3 sedation agents routinely being administered, sometimes 4 in order to complete both painful and non-painful procedures
- A low rate of complications - we think!
- Who 'owns' sedation? Limited clinical governance

# Cocktail

1. Chloral hydrate PO (30-50mg/kg) +
2. morphine (0.1- 0.2mg/kg) +
3. droperidol (0.01-0.02mg/kg) IM +
4. midazolam buccal/intranasal/oral if required



# What is everybody else doing??

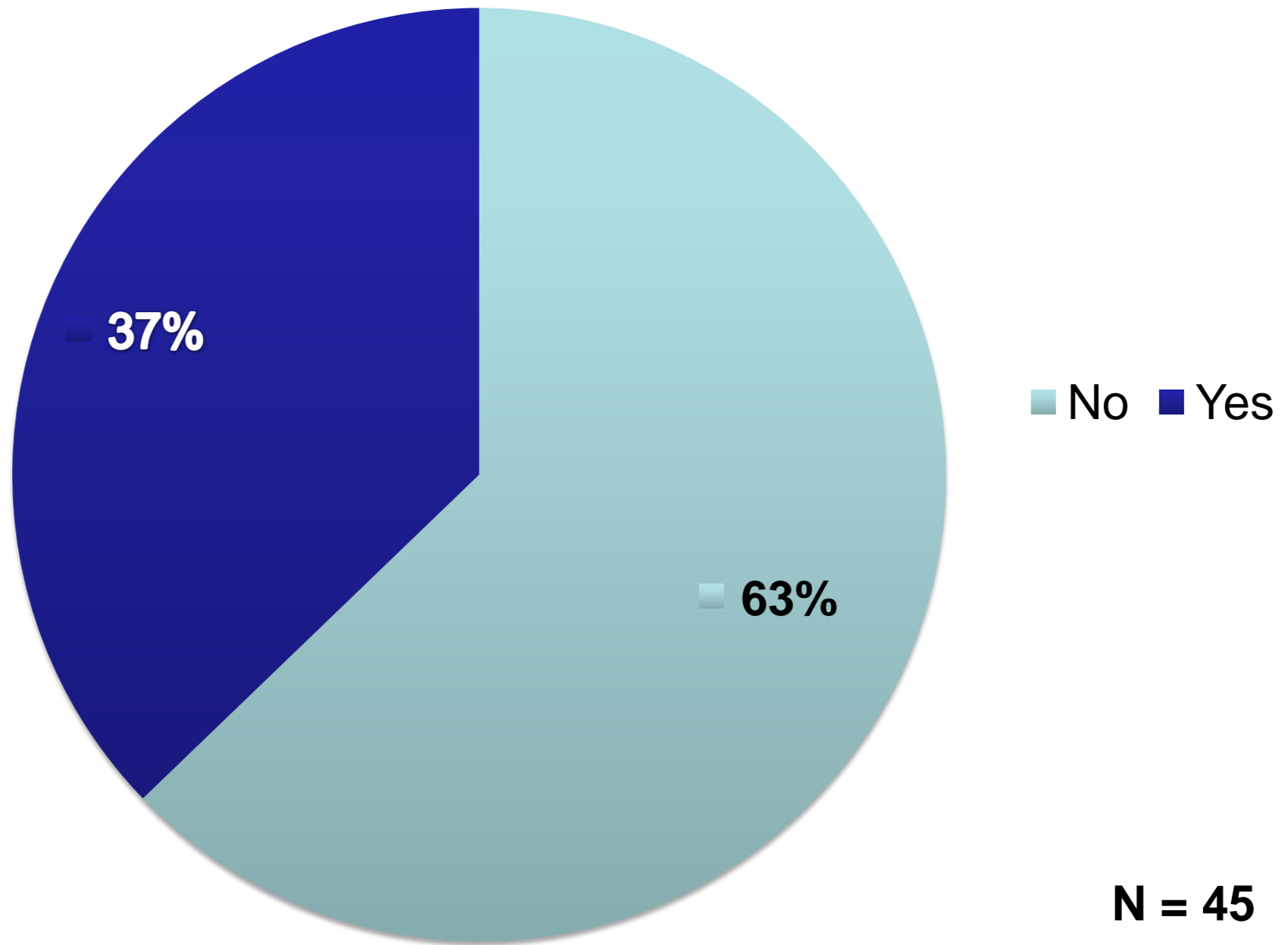


# Paediatric Sedation Practices in Australian Nuclear Medicine Departments

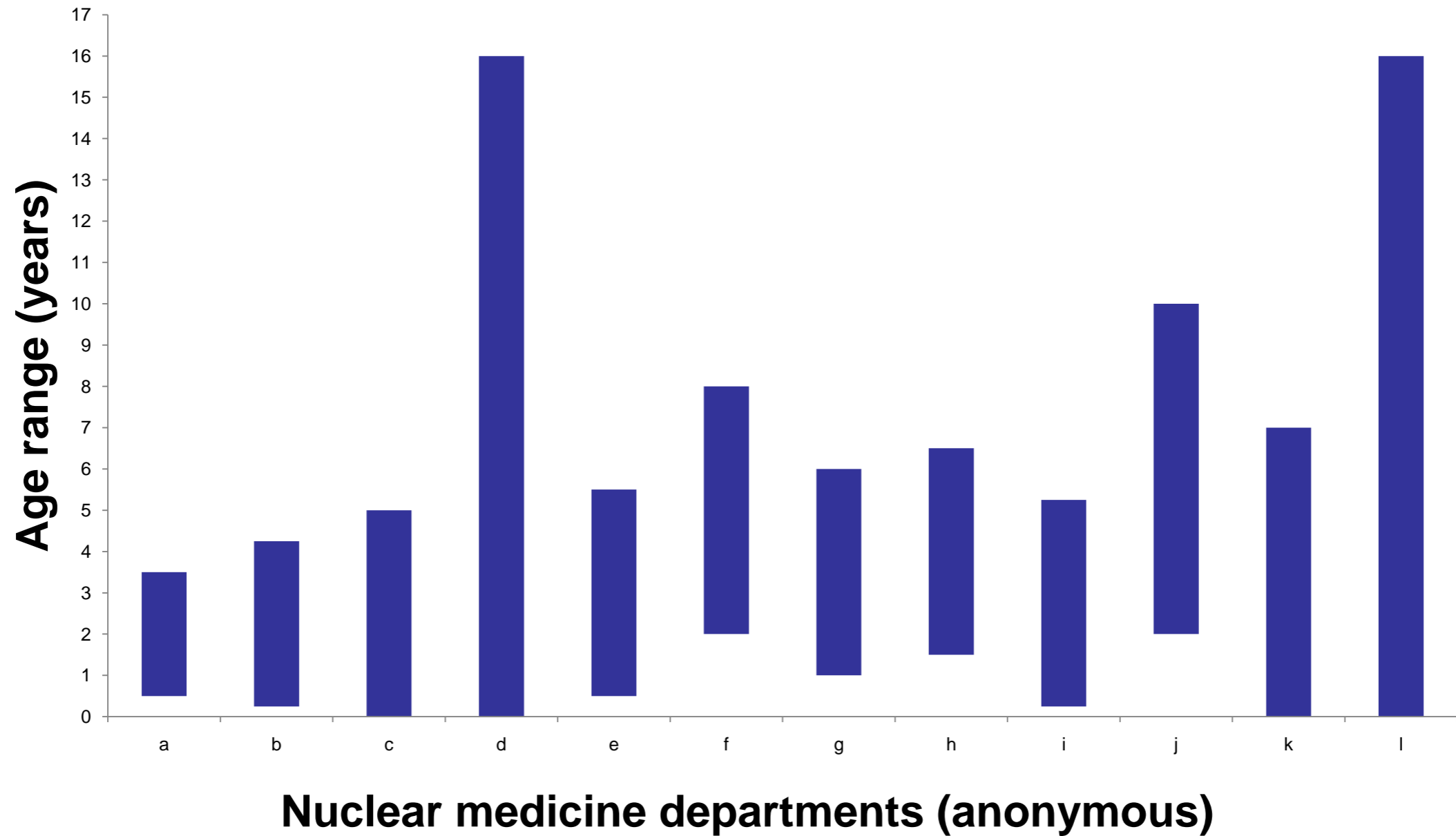
## Aim:

- To identify how nuclear medicine departments throughout Australia are complying with PS9 in regards to using sedation in children
- Identify how other institutions are managing children having nuclear medicine procedures both with and without sedation
- Identify best practice to improve the safety and the quality of the services we provide for children.

# Does your department provide sedation for paediatric patients?

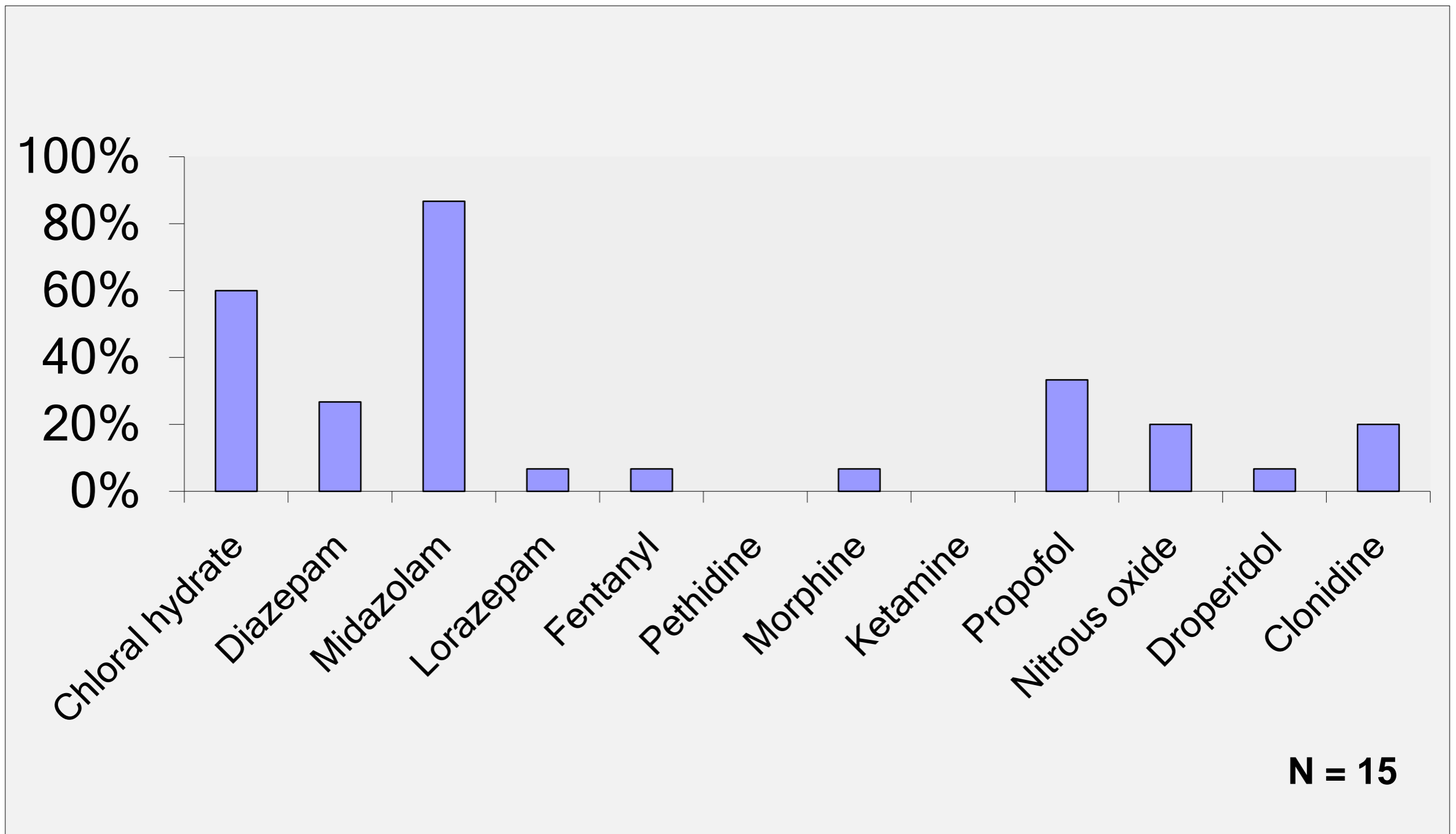


# Age range of children that require sedation



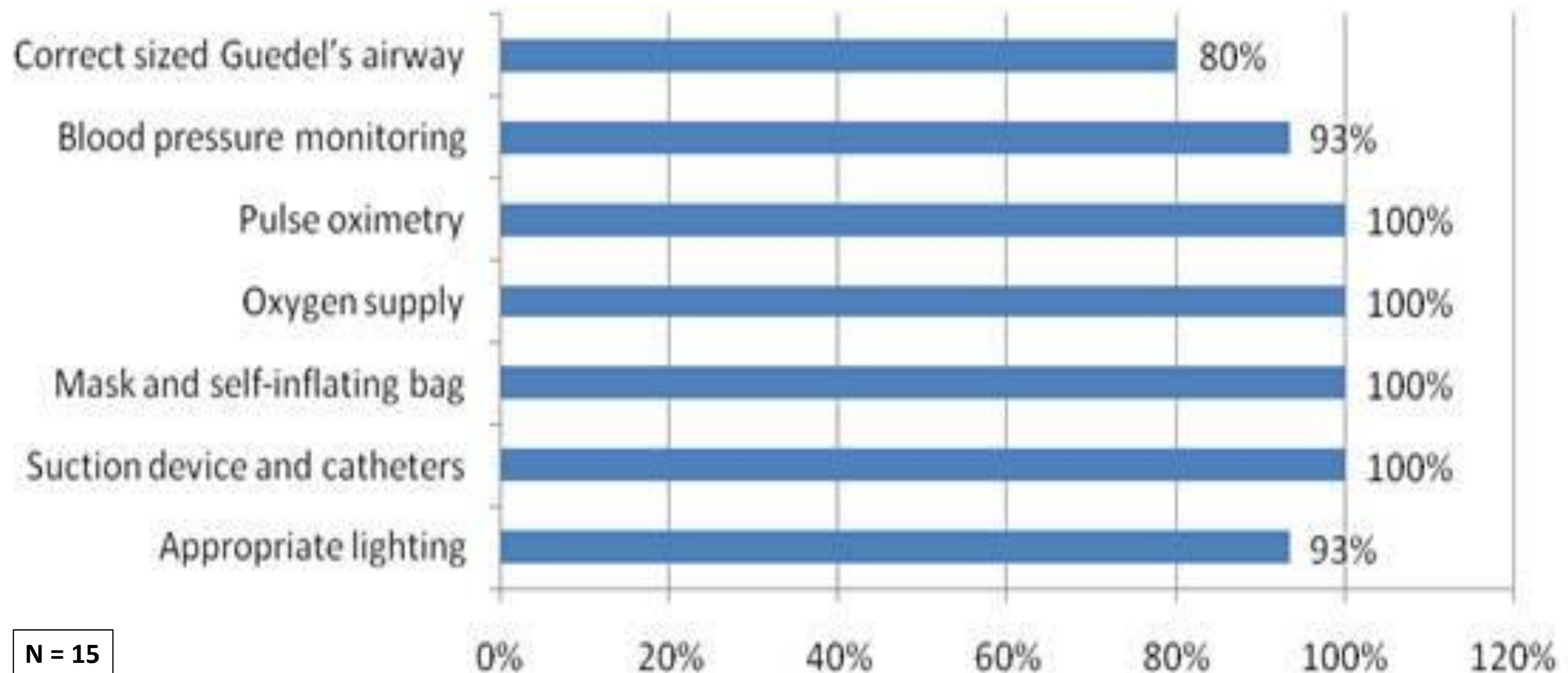
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# Which Pharmacological agents are currently used for sedation of children in your department?



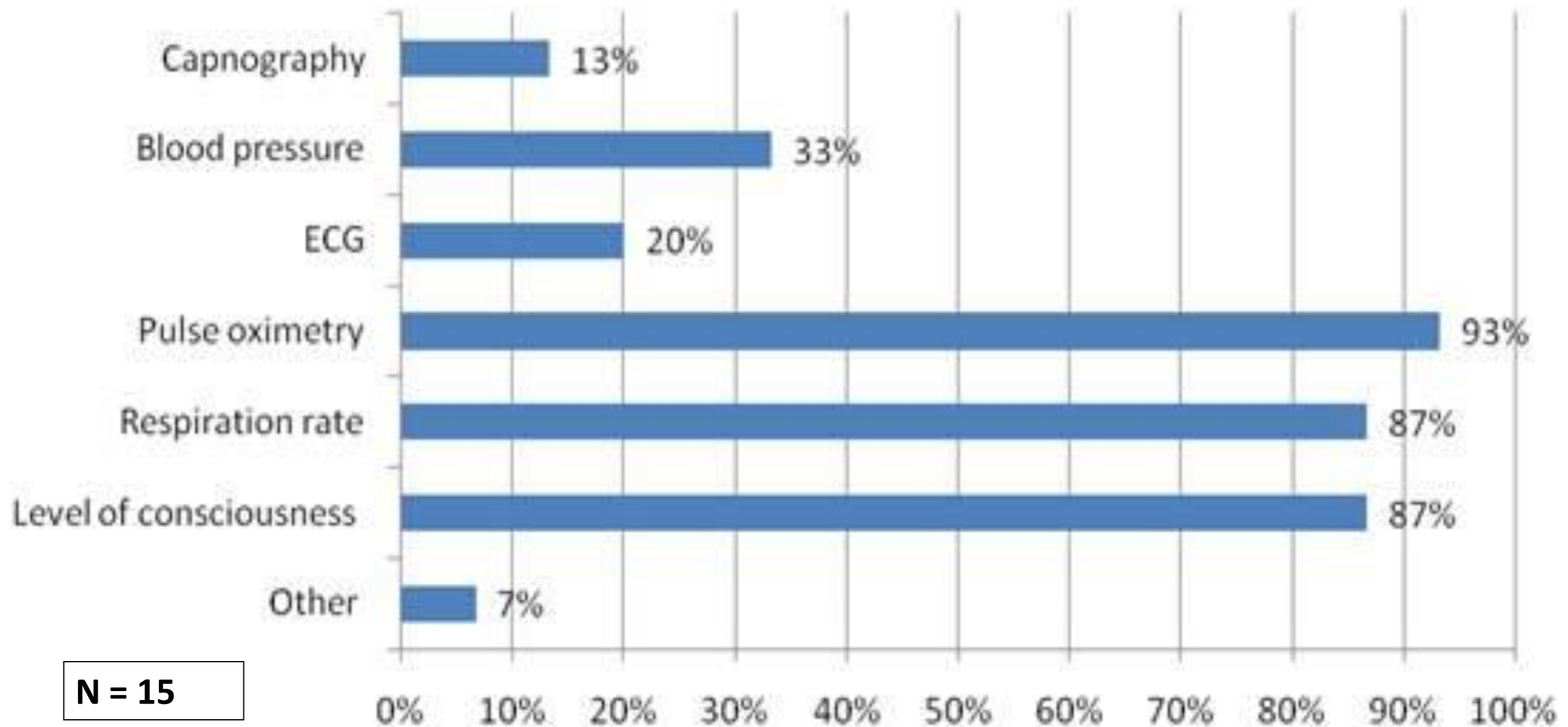
# Facilities and Equipment

In locations where patients are undergoing sedation are the following items of equipment present:



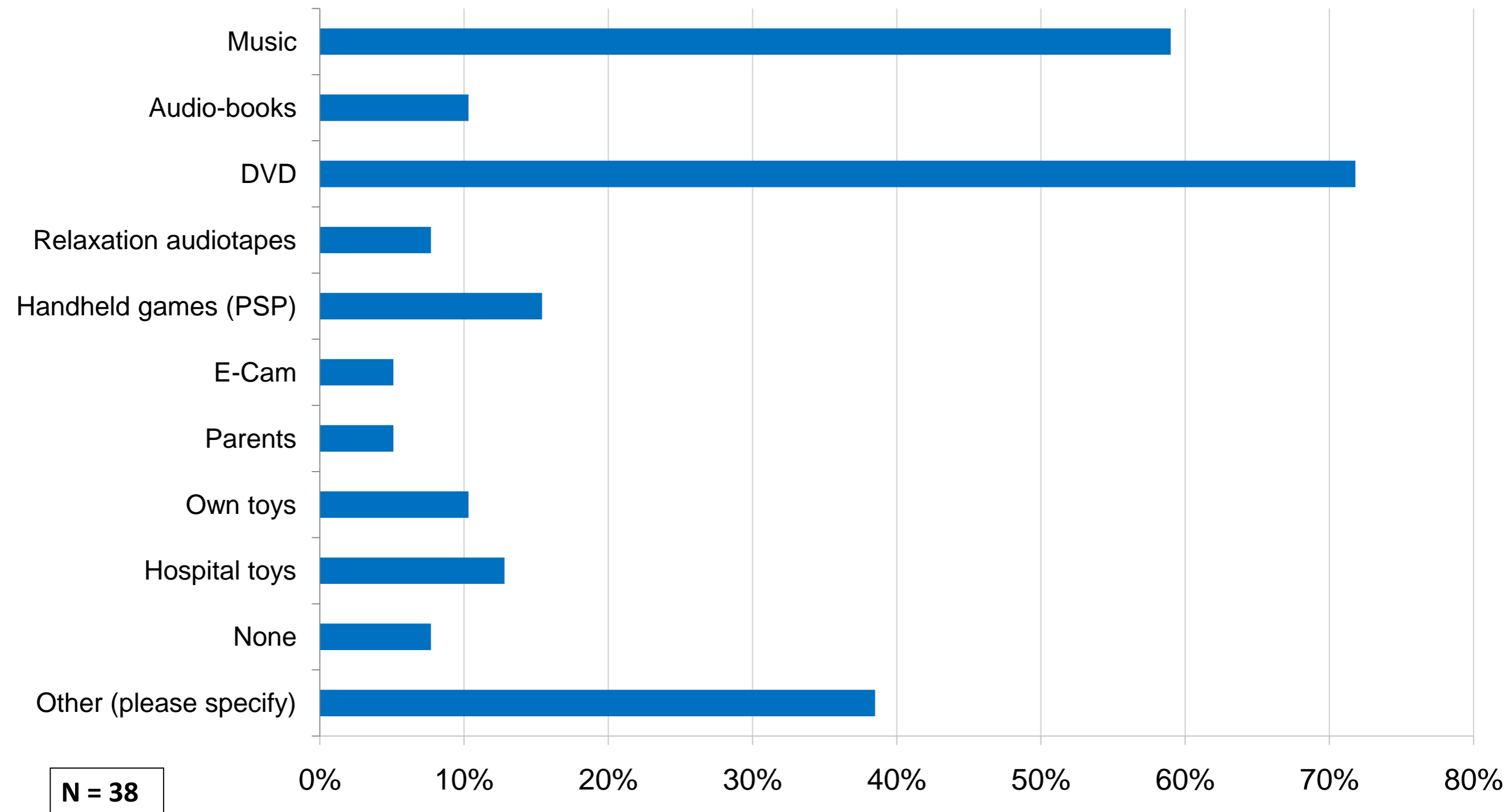
# Monitoring and Documentation

Indicate which observations are documented when monitoring patients who receive sedation:



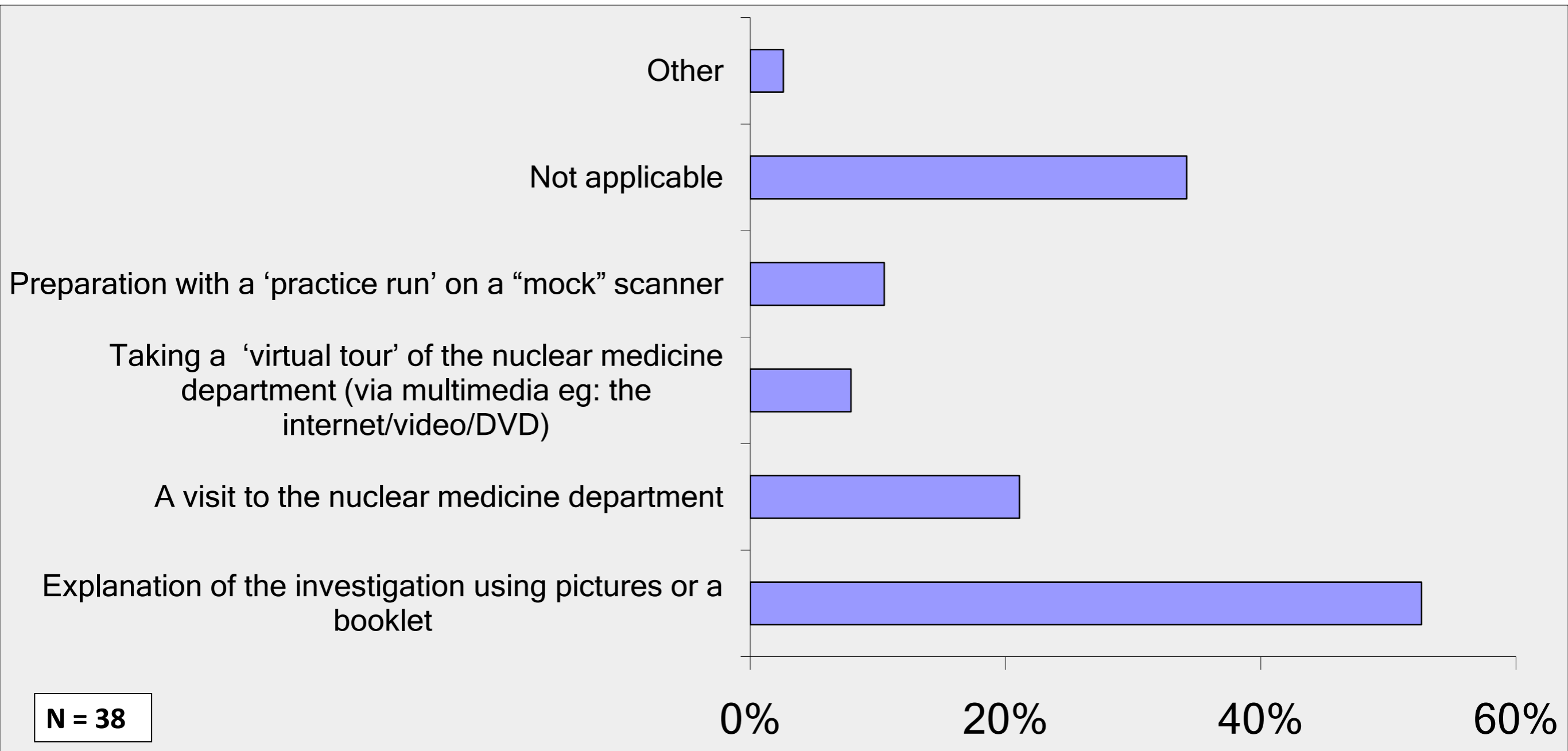
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# Distraction techniques used to assist children during nuclear medicine investigations



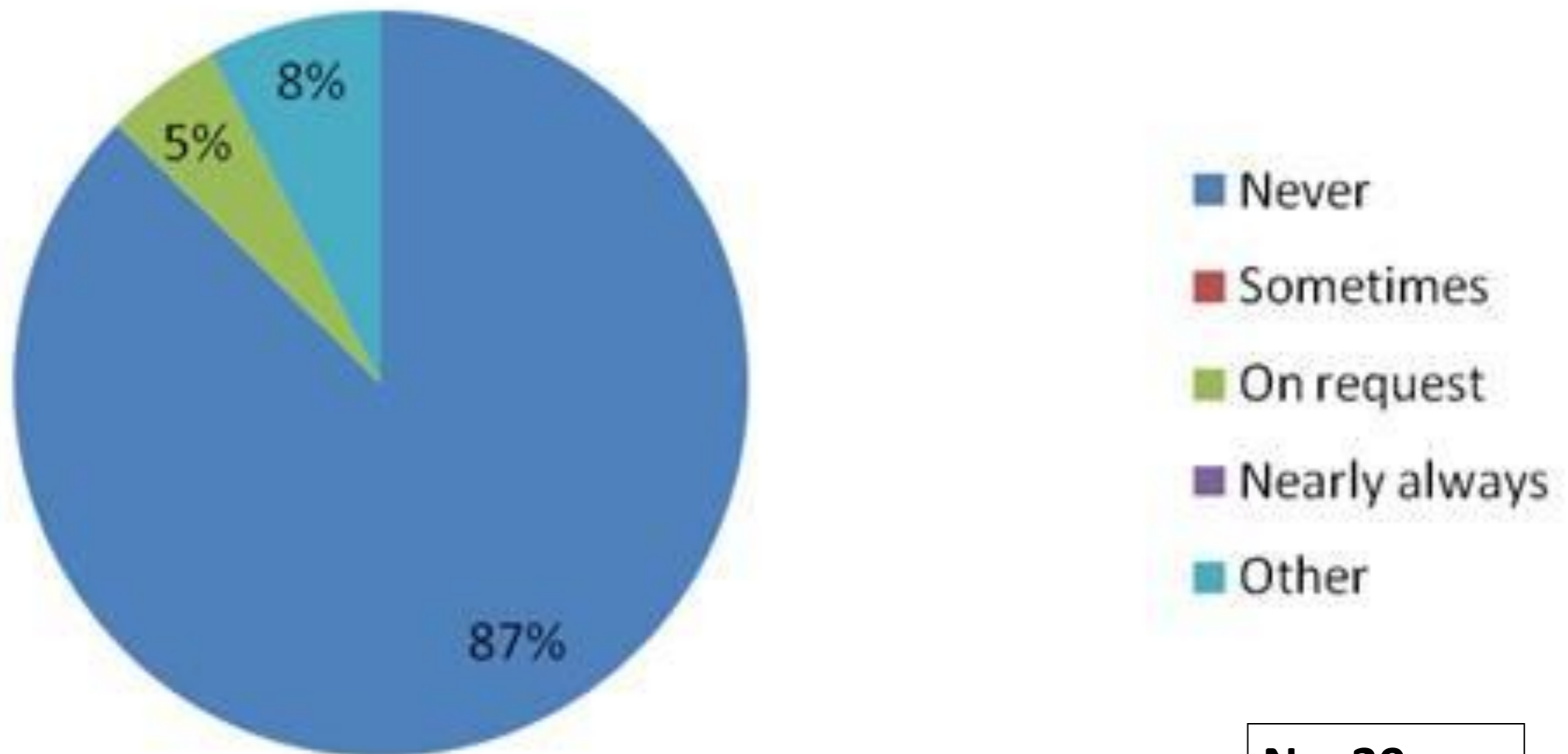
# Preparation

Patients/parents/carers preparation for nuclear medicine investigations includes



# Presence of a play therapist

How often do you have a play therapist available?



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# The story so far....

- **Aug 2010 – Aug 2011: New Sedation Guidelines**
  - **Collaborative Working Group SCH + CHW**
  - **Clinical Practice Improvement Project:  
‘Kids in Control’**
- **Aim:** To reduce the use of deep sedation practices within nuclear medicine at POWH and at SCH by 100% within 18 months
- **Working Group Formation:** Nuclear Medicine Dept. POWH + Ward C2N
- **Stage 1:** Process Mapping of the Patient’s Journey: nuclear medicine investigation with sedation



# Implementation: *What is required*

- An appreciation and awareness of the risks inherent in sedation
- A major cultural shift in the philosophy of how we manage procedures in children
- Innovation, creativity, and collaboration between departments
- Education and training and resources in order to manage sedation appropriately and safely
- Education, training and resources for staff to manage procedures in children ***WITHOUT*** the need for deep sedation



# *Kids in Control?*

- Play therapy support for children and families – medical play and preparation
- Development of an Information booklet
- ‘Virtual tour’ accessible online
- Pre-procedure visit and practice run
- Involvement of paediatric ward for initial preparation and IV canulation for isotope injection pre-investigation
- Providing longer scan sessions for children

# To be continued...



# Thank you

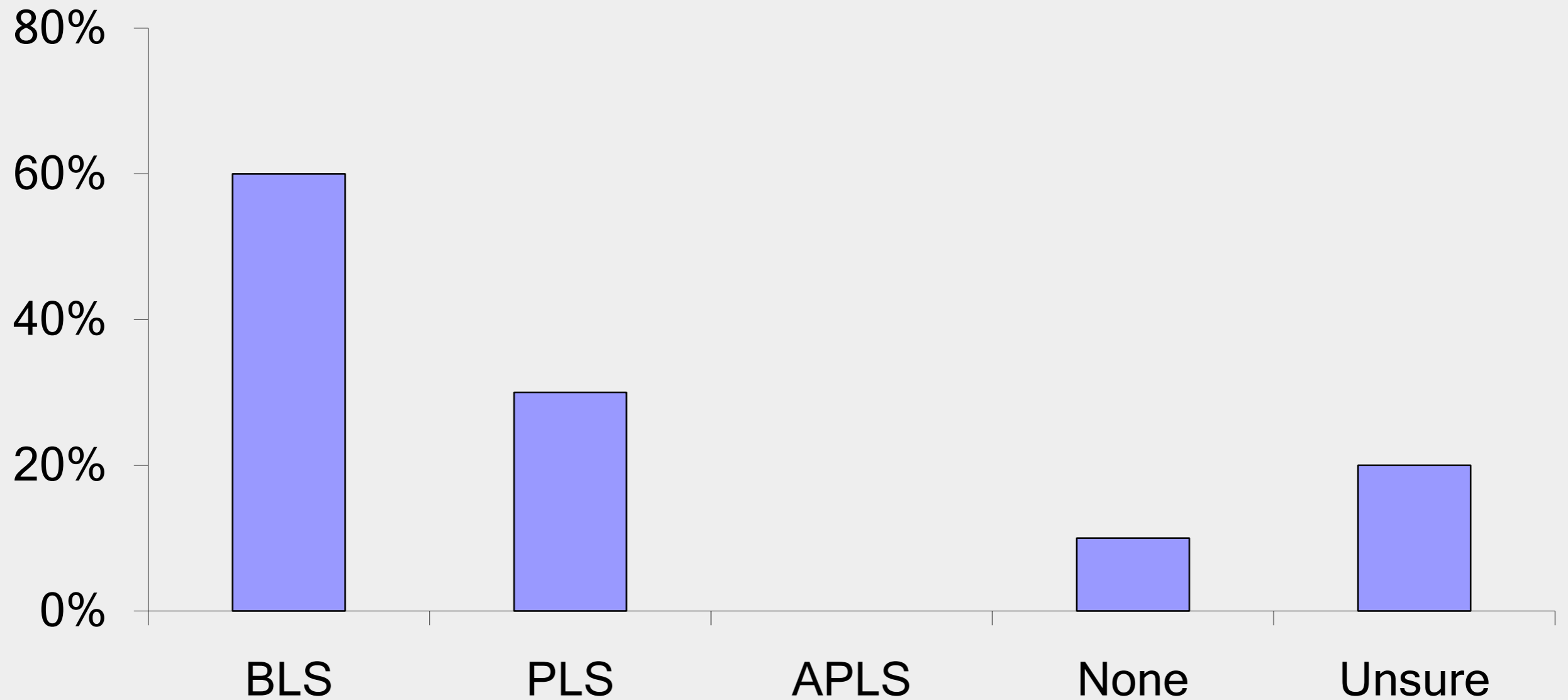


# Current SCH Sedation Guidelines

- General sedation advice and procedure-specific advice:
- Brainstem Evoked Audiometry (BERA's) – now under GA
- Dermatology Procedures
- Echocardiography
- Medical imaging procedures – now GA
- **Lung function testing**
- **Muscle biopsy**
- **Nerve conduction studies**
- **Nuclear medicine**
- **Vision electrophysiological studies**

# Transporters' resuscitation training

What level of resuscitation training does the transporter/s have?



# 2000 Cote CJ et al., *Pediatrics*, Adverse Sedation Events in Pediatrics

- **Serious associated risks:**
  - Hypoventilation
  - Apnoea
  - Airway obstruction
  - Laryngospasm
  - Cardiopulmonary impairment
- **Negative outcomes:** drug error and overdose, drug combinations and interactions
- **> 3 sedating medications used** = more potential for adverse outcome

# Staffing

How many staff are present during the investigation of a sedated patient?

