

GENERIC GUIDELINE FOR CHILDREN IN INTENSIVE CARE ON ADULT ICU

VENTILATION

ETT size: (age/4) + 4

Newborn size 3.0

One-year-old size 4.0

Pressure control mode

Insp. time at least 0.75

PEEP at least 5cm H₂O

Starting **PIP** 20 cm H₂O

Starting **rate** 20 bpm

Tolerate PCO₂ up to 10KPa

Accept pH above 7.25

Accept saturation above 90%

SEDATION

Morphine – start at 20 micrograms/kg/hour (upper end usually 60 micrograms/kg/hour)

Midazolam – start at 1 microgram/kg/minute (upper end usually 4 micrograms/kg/minute)

Clonidine – enteral route. Start with 1 microgram/kg test dose, followed an hour later by 2 micrograms/kg if tolerated (no severe hypotension). Thereafter 3 micrograms/kg every 8 hours (may increase to 5 micrograms/kg/dose). **NB Clonidine must be weaned over a few days.**

PTO for infusion instructions

FLUIDS

Will usually be intravenous initially but children may be fully enterally fed (NG) as tolerated.

Estimated weight: (Age + 4) x 2

'Maintenance' fluid is generally restricted, i.e. 70% of calculated

Fluid: 0.9% saline / 5% dextrose *or* 0.9% saline alone if enterally fed (accept BM > 3.5)

Bolus: 0.9% saline *or* colloid *or* blood products as indicated

Example for a 5-year-old: NGT 10Fr

MONITORING

Suggested minimum requirement: ECG, pulse oximeter, NIBP

Desirable:
Capnography
Invasive temperature
Invasive arterial BP
CVP, urinary catheter

Example for a 5-year-old:

CVL: 5Fr triple lumen 8cm – femoral vein

IABP: 22G cannula radial *or* 20G cannula / *Leadercath* femoral

Catheter: 10Fr Foley

Please note that this guideline is intended for use at times of severe PICU bed pressure, when children may need to be cared for on a general (adult) ICU. It should not be used at other times and its use should be supported by the regional PICU

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NHS Executive Guidelines for the Intubation and Stabilization of Critically Ill Children*

Endotracheal tube:

Internal diameter (mm) = (age/4) + 4

Length for **oral** tube (cm) = (age/2) + 12 - for ages over 1 year

Length for **nasal** tube (cm) = (age/2) + 15 - for ages over 1 year

Suggested sizes: Newborn baby: 3.0mm One-year-old: 4mm

Inotropes (all can be made up in 0.9% saline or 5% dextrose)

	Concentration	Dose Range	Rate	1ml / hour =
Dopamine	15mg/kg in 50ml	2 - 20 micrograms/kg/minute	0.4 - 4ml/hour	5 micrograms/kg/minute
Dobutamine	15mg/kg in 50ml	2 - 20 micrograms/kg/minute	0.4 - 4ml/hour	5 micrograms/kg/minute
Adrenaline	0.3mg/kg in 50ml	0.1 - 2.0 micrograms/kg/minute	1 - 20 ml/hour	0.1 micrograms/kg/minute
Noradrenaline	0.3mg/kg in 50ml	0.1 - 2.0 micrograms/kg/minute	1 - 20 ml/hour	0.1 micrograms/kg/minute

Sedatives

	Bolus	Concentration	Dose Range	Rate	1ml / hour =
Morphine	0.05 - 0.1mg/kg	1mg/kg in 50ml	20 - 80 micrograms/kg/hour	1 - 4ml/hour	20 micrograms/kg/hour
Midazolam	0.1mg/kg	6mg/kg in 50ml	1 - 8 micrograms/kg/minute	0.5 - 4ml/hour	2 micrograms/kg/minute

Muscle Relaxants

	Bolus	Infusion (made up in 0.9% saline or 5% dextrose)
Atracurium	0.5mg/kg	0.5 - 1.5 mg/kg/hour
Vecuronium	0.1mg/kg	0.1 - 0.2 mg/kg/hour

Antibiotics

Cefotaxime	50mg/kg 6 hourly
Ceftriaxone	80mg/kg/day in one dose

*Department of Health, 1st January 2000. Please note that there is no electronic version of this document.

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4005228