Midazolam

FORM Vials containing midazolam 50mg in 50ml

INDICATION
1. Sedation
2. Seizure control

DOSE RANGE

1. Sedation

AGE	DOSE	FREQUENCY	ROUTE
Neonate – 6months	100micrograms/kg	Single dose	I.V.
	30 - 60micrograms/kg/hour*	Continuous Infusion	I.V.

***** Lower maintenance doses may be required in preterm neonates and any patient already receiving opiates. Adjust dose according to response.

2. Seizure control

AGE	DOSE	FREQUENCY	ROUTE
Neonate – 6months	150 micrograms /kg	Single loading dose	I.V.
	Then 60micrograms/kg/hour Increase dose by 60micrograms/kg/hour every 15minutes until seizures controlled **Maximum 300micrograms/kg/hour**	Continuous Infusion	I.V.

Caution in renal, liver impairment and hypothermia as accumulation may occur. A reduced dose may be required

PRESCRIPTION OF CONTINUOUS INFUSION

SINGLE STRENGTH = 6mg/kg in 50ml infusion fluid
This gives:-
- 60micrograms/kg/hour at 0.5ml/hr
- 120micrograms/kg/hour at 1ml/hr

DOUBLE STRENGTH = 12mg/kg in 50ml infusion fluid
This gives:-
- 60micrograms/kg/hour at 0.25ml/hr
- 120micrograms/kg/hour at 0.5ml/hr

RECONSTITUTION Already in solution

DILUTION

For continuous Infusion

SINGLE STRENGTH
Using 50mg/50ml (1mg/ml) injection
6 x wt (kg) is the number of ml of 50mg/50ml to be diluted up to 50ml total with infusion fluid (equivalent to **6mg/kg in 50ml**)

DOUBLE STRENGTH
Using 50mg/50ml (1mg/ml) injection
12 x wt (kg) is the number of ml of 50mg/50ml to be diluted up to 50ml total with infusion fluid (equivalent to **12mg/kg in 50ml**)

For slow IV injection

Midazolam 1mg/ml inj.	1ml
0.9% Sodium Chloride Inj.	Up to 10ml total

Gives a 100 microgram in 1ml solution. Use the required volume.

METHOD OF ADMINISTRATION

For continuous Infusion
By continuous intravenous infusion, flow rate adjusted according to the baby's response (see prescription section for details).

For slow IV injection
By slow IV injection over 5 minutes.
Note rapid IV injection (less than 2minutes) may cause seizure-like myoclonus in preterm neonates.

Slow IV injection while on continuous infusion
As above for slow IV injection **OR** given from the continuous infusion syringe (see above) as:
0.8ml over 5 minutes(100micrograms/kg) - **SINGLE strength**
Or
0.4ml over 5 minutes (100micrograms/kg) - **DOUBLE strength**

Hands free bolus from infusion
SINGLE strength infusion - 10ml/hr over 5 minutes= 100mcg/kg

COMPATIBILITY

Solution compatibility	sodium chloride 0.45%, sodium chloride 0.9%, Glucose 5%, Glucose 10%
Solution incompatibility	No Information
IV Line compatibility	Adrenaline, Dobutamine, Dopamine, Heparin, Insulin, Metronidazole, Morphine, Ranitidine, Vancomycin, Vecuronium
IV Line incompatibility	Aciclovir, Amphotericin, Dexamethasone, Furosemide, Hydrocortisone, Sodium bicarbonate, Phenytoin, Phenobarbital, TPN

THIS LIST IS NOT EXHAUSTIVE PLEASE CONTACT PHARMACY FOR FURTHER INFORMATION ON COMPATIBILITY WITH ANY MEDICINES NOT INCLUDED

CAUTIONS, CONTRA-INDICATIONS AND SIDE EFFECTS
See Summary of Product Characteristics and most recent edition of BNF for Children (links below)

FURTHER INFORMATION

- Time to onset is 2-3 minutes.
- **Flumazenil** is the specific antidote for midazolam induced respiratory depression.
- Erythromycin, other macrolides and possibly fluconazole inhibit the metabolism of midazolam, resulting in profound sedation.
- Injection is painful and may cause thrombophlebitis.

PH 2.9-3.7

LICENSED STATUS Unlicensed in children <6months old

LINKS BNF for Children / Electronic Medicines Compendium:

APPLICABLE POLICIES West of Scotland Neonatal Guidelines:
Consult local policy if applicable

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Administer reconstituted solutions immediately.
All vials, ampoules and infusion bags are for single use only unless otherwise stated.
Dose may vary depending on indication, age, renal function, hepatic function, and concomitant medications.
This monograph should be used in conjunction with the package insert, BNF for Children, and Summary of Product Characteristics. For further advice contact your clinical pharmacist or pharmacy department.