REGIONAL ADULT PARENTERAL DRUG MONOGRAPH

GENERIC NAME
gentamicin

Effective Date: Dec 2012 Revised Date: November 2024	CLASSIFICATION Antibiotic	OTHER NAMES Garamycin	PAGE 1 of 2

ADMINISTRATION POLICY:
IV Intermittent – May be administered by a nurse
IV Bolus - May be administered by a nurse
IM Injection – May be administered by a nurse
Subcut - *Not recommended*

RECONSTITUTION/DILUTION/ADMINISTRATION:

Available as: 40mg/mL - 2mL vial/amp, 80 mg in 50 mL premixed bag, 100 mg in 100 mL premixed bag

IV Intermittent: Administer over 30 to 60 minutes.

Dose	Preferred Diluent Volumes Bag size NaCl 0.9% or D5W	Alternate Diluent Volumes Bag Size NaCl 0.9% or D5W
40 and 50 mg	50 mL	25 to 250 mL
60 mg	100 mL	25 to 250 mL
80 mg	Use premixed bag if not available: 50 mL	25 to 250 mL
100 mg	Use premixed bag If not available: 100 mL	25 to 250 mL
120 to 340 mg	250 mL	25 to 100 mL
360 mg or greater	500 mL	50 to 250 mL

IV Bolus (dialysis only): May administer undiluted but preferably diluted to a concentration of 10 mg/mL.
Administer slowly over 2 or 3 minutes after hemodialysis.
Maximum IV bolus dose is 150 mg.
Doses greater than 150 mg must be given by IV intermittent method.

IM Injection: Administer undiluted

DOSAGE:

Usual Dose:
Traditional Dose: 3 to 5 mg/kg/day IV/IM divided every 8 hours
Single High Dose: 5 to 7 mg/kg/day IV every 24 hours

Maximum "Traditional" Single Dose: 240 mg

Maximum Single High Dose: 750 mg

Maximum Rate:
IV intermittent: over 20 minutes
IV bolus (dialysis only): over 2 to 3 minutes (maximum dose 150 mg)

Maximum concentration:
IV intermittent: 10mg/mL
IV bolus (dialysis only): 40 mg/mL

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STABILITY/COMPATIBILITY:

Stability: 24 hours at room temperature

Compatibility: Compatible in D5W, normal saline, combination dextrose-saline solutions, Lactated Ringer

PRECAUTIONS, POTENTIAL ADVERSE REACTIONS:

- Cardiovascular: edema, hypertension, hypotension
- Central Nervous System: abnormal gait, ataxia, confusion, dizziness, drowsiness, headache, lethargy, myasthenia, paresthesia, peripheral neuropathy, vertigo, seizure
- Endocrine: hypocalcemia, hypokalemia, hypomagnesemia, hyponatremia
- Hepatic: increased liver enzymes
- Neurologic: neuromuscular blockade
- Ophthalmic: visual disturbance
- Otic: auditory toxicity (e.g. decreased hearing, tinnitus) and/or vestibular toxicity (e.g. dizziness, vertigo). Vestibular toxicity has been associated with prolonged treatment courses (greater than 7 days).
- Renal: nephrotoxicity, risk increases when administered concurrently with other nephrotoxins

ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- Vestibular toxicity has been associated with prolonged treatment courses (greater than 7 days)
- Use with caution when given with other nephrotoxic drugs (e.g. vancomycin, amphotericin B).
- Single high dose is NOT recommended in patients with renal dysfunction (CrCl less than 60mL/min) except cystic fibrosis, endocarditis, ascites, meningitis, and burn patients.
- Monitor renal function and intake/output and maintain good hydration.
- Prescriber must order serum creatinine prior to therapy and every 3 days during therapy.
- Monitor concentrations as required:
  - <u>Trough Concentrations:</u>
    - Draw within 45 minutes of next dose. Drawn pre 4th dose and every 3 days if therapy continues.
    - Should be 0.5-2mg/L for usual dose. Greater than 2mg/L is considered toxic.
  - <u>Peak Concentrations:</u>
    - Blood sample collected 20-40 minutes post completion of IV infusion.
    - Should be between 6-10mg/L for usual dose. Greater than 10mg/L is considered toxic.
    - NOT usually drawn for single daily high dose.
- Elderly patients are more likely to have renal dysfunction and thus more susceptible to gentamicin toxicity. Individualized dosing recommended for all patients. Auditory toxicity is associated with advanced age.