REGIONAL PEDIATRIC PARENTERAL DRUG MONOGRAPH

GENERIC NAME

gentamicin

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

ADMINISTRATION POLICY:

IV intermittent – May be administered by a nurse
IM bolus – May be administered by a nurse
Intraosseus (IO)/UAC: – May be administered by a nurse

RECONSTITUTION/DILUTION/ADMINISTRATION:

Available as: 10 mg/mL, 40mg/mL-2mL vial/amp
(gentamicin 40 mg per mL concentration. This must be diluted with normal saline or compatible IV fluid before given IV)

IV intermittent: Dilute dose in compatible IV fluid to a maximum of 10 mg/mL and administer over 30 to 60 minute.

IM injection: Administer undiluted

IO/UAC injection: No special considerations.

DOSAGE:

Usual Dosing: IM/IV: 2 to 2.5 mg/kg/dose every 8 hours

Extended Interval Dosing: IV: 5 to 7.5 mg/kg/dose every 24 hours

Renal impairment: Dosage adjustment required.
Hepatic impairment: No dosage adjustment required

Maximum concentration: IV 10mg/mL
IM 40mg/mL

STABILITY/COMPATIBILITY:

Stability: 24 hours at room temperature

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

REQUIRED MONITORING:

• Urinalysis, urine output, BUN, serum creatinine periodically
• Pre-dose serum levels: Draw blood sample within 30 minutes prior to third or fourth dose. Exceptions for earlier monitoring may include patients with rapidly changing renal function or patients receiving extended interval dosing (Contact Pharmacy in these cases)
• Post dose serum levels (for selected patients only). Draw blood sample at specific time ordered.
• Serum levels should not be ordered routinely for newborns receiving empiric therapy unless gentamicin will be continued for greater than 48 hours.
• Consider audiology assessment if therapy prolonged or symptoms of hearing impairment develop (dizziness, hearing loss, tinnitus).

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PRECAUTIONS, POTENTIAL ADVERSE REACTIONS:

- NEURO: ototoxicity - dizziness, vertigo, ataxia, tinnitus, potential for hearing loss. fever; peripheral neuropathy; numbness, skin tingling, muscle twitching, headaches, tremor and lethargy
- RENAL: tubular necrosis, increase in urea, decrease in creatinine clearance, proteinuria
- LOCAL: urticaria, rash

CAUTION:

• Avoid once daily dosing in patients with kidney dysfunction, burns, ascites / fluid overload, and when aminoglycoside therapy used for synergy.
• Risk of nephrotoxicity is increased in administered concomitantly with other nephrotoxic drugs (e.g. NSAIDs, Vancomycin, diuretics)
• Risk of ototoxicity increased when furosemide is administered concomitantly.
• Potentiation of neuromuscular blockade when co-administered with neuromuscular blocking agents or general anesthetics
• Do not use gentamicin if history of allergy of hypersensitivity to gentamicin or any other aminoglycoside

ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

• Administer beta-lactam antibiotics, such as penicillins and cephalosporins, at least 1 hour before gentamicin as simultaneous administration may result in reduced antimicrobial efficacy
• Newborn Infants: Hold second dose until patient has voided ≥ 1 mL/kg/hour for at least 4 hours.
• Tobramycin is the preferred aminoglycoside for patients >30 days of age