Guidelines for the Use of Ampicillin

Recommended Neonatal Dose, Route, and Interval

50 mg/kg/dose by IV over 30 minutes
Meningitic doses: 100 mg/kg/dose
UTI Prophylaxis: 25 mg/kg/day divided q12 hours

Dosing Intervals:

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<tr>
<th>Postnatal Age (Days)</th>
<th>Weight (kg)</th>
<th>Interval (Hours)</th>
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<tr>
<td>&lt; 7</td>
<td>&lt; 2</td>
<td>12</td>
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Chief Indications

1. Broad spectrum antibiotic useful against group B streptococcus, Listeria monocytogenes, and susceptible E. coli species
2. Most commonly used in combination with aminoglycosides for sepsis and meningitis
3. UTI Prophylaxis

Possible Adverse Reactions:

1. Oral or diaper rash candidiasis
2. GI upset - vomiting, diarrhea
3. Hepatic impairment with long term use
4. Hypersensitivity reaction - maculopapular rash, urticaria rash, hemolytic anemia, thrombocytopenia, or fever (not commonly seen in the neonatal period)
5. Very large doses may cause CNS excitation or convulsions
6. Pseudomembranous enterocolitis

Contraindications & Precautions

1. Dosage adjustment may be necessary in patients with severe renal impairment
2. Hypersensitivity to penicillin derivatives

Nursing Implications

1. Give only after blood culture drawn
2. Observe for signs of adverse reactions - "ampicillin rash" usually seen after 5 - 14 days of treatment, and incidence is higher in patients with other viral infections
3. Monitor renal, hepatic, hematopoietic functions
4. Administer IV over a minimum of 15 minutes to avoid the possibility of seizures. Standard NICU administration time is 30 minutes.

**Special Considerations and Calculations**

1. **NOT** to be mixed with any other drug
2. Adjust dose as indicated for renal dysfunction
3. Peak: 30-60 min.; half-life: 2-4 hrs.
4. Reconstituted solution must be used within 1 hour of mixing due to increased risk of microbial contamination and loss of potency of ampicillin due to the higher concentration used when compounded at bedside.
5. Administer aminoglycosides at least 1 hour after the start of ampicillin due to the concern of blunting the peak concentration of aminoglycosides due to a drug interaction.
6. Not compatible with any dextrose containing solution, including parenteral nutrition solutions
7. Reconstitute with sterile water for IM or IV use. Follow manufacturer’s instructions for reconstitution and further dilute to a standard concentration of 50mg/mL per the NICU guidelines.

References:
1. Neofax 2009

Reviewed/Revised: 6/2010 by

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