

## Pediatric Dosage Calculations

### Technical Math

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### Pediatric Dosage

- 1) Calculate the single dose for a child weighing 18 kg. The C.P.S. states that Theophylline can be administered 5 mg/kg q.8h.
- 2) The C.P.S. states that a child's dose of Acetaminophen(Tylenol) elixir is 10 mg/kg q6h. The child weighs 8 kg. Calculate a safe single dose.
- 3) The C.P.S states that Phenytoin( Dilantin) can be administered 5 mg/kg/day. The child weighs 15 kg. What would be a safe daily dose of Phenytoin?
- 4) Mary is 11 years old and weighs 34.5kg. The doctor has ordered Erythromycin 345 mg po q6h for respiratory infection. The C.P.S states that the recommended dose is 20-50 mg/kg/day in 4 divided doses.
  - (a) Calculate the minimum and maximum total daily dose for Mary.
  - (b) Is Mary's dose of Erythromycin 345 mg po q6h within the recommended range?
- 5) Tylenol elixir is ordered po q4h prn for pain. The recommended dose for a child < 10 years old is 10 -15 mg /kg/dose not to exceed 65 mg/kg/day and for an adult or a child > 10 years old is 325-650 mg q4h prn, not to exceed 4g/day.
  - (a) What is the safe single minimum and maximum dose for Mary, age 7 years and weighing 22.5 kg?
  - (b) James, age 3 years weighs 12.6 kg and is ordered Tylenol 100 mg. Is this dose acceptable?
  - (c) Julie age 11, is ordered 480 mg of Tylenol po q4h. She weighs 34.5 kg. Is this dose within the recommended range?
- 6) What would be the recommended single dose of Amoxicillin for a child weighing 16 kg? Usual pediatric dose is 40 mg/kg/day in 4 divided doses.
- 7) The suggested dosage of tobramycin (Nebcin) is 4 mg/kg/day for a neonate who weighs 3 kg. If the dosage must be divided and given every 12 hours, how many milligrams will the child receive in each dose?
- 8) A doctor prescribes 7.5 mg/kg of amikacin(Amikin) every 12 hours for a 4 kg infant. How many milligrams of the drug will be the infant receive each day?



- 9) If the suggested dosage of chloramphenicol(Chloromycetin) is 50 mg/kg/day in divided doses every 6 hours, how many milligrams should the nurse give at each dose to a 17 kg child?
- 10) If the suggested dosage of thioridazine(Mellari) is 1.5mg/kg/day, how many milligrams would the nurse administer daily to a 16 kg child?
- 11) A child who weighs 28 kg needs to receive demeclocycline hydrochloride (Declomycin) 280 mg PO daily in two divided doses. How many milligrams should be patient receive with each dose? If the recommended daily dosage range is 6 to 12 mg/kg, does the prescribed dose fall within the range?
- 12) The doctor orders carbamazepine(Tegretol) 900 mg PO daily in four divided doses for a pediatric patient with seizures who weighs 30 kg. How many milligrams of the drug should the patient receive with each dose? The recommended dosage range is 10 to 20 mg/kg PO daily. Does the prescribed dose fall within this range?
- 13) An infant who weighs 4 kg must receive penicillin V potassium, 35 mg IV every 4 hours. According to the package insert the recommended dosage range is 15 to 56 mg/kg daily in six divided doses. Does the prescribed dosage fall within them recommended range?
- 14) A child who weighs 75 lb needs to receive a loading dose of phenytoin (Dilantin), 15 mg/kg IV. How many milligrams of the drug should the child receive?
- 15) The doctor's order reads administer erythromycin stearate 30 mg/kg PO daily in divided doses q6h. How many milligrams should an 18-kg pediatric patient receive with each dose?
- 16) A child who weighs 30 kg is to receive ampicillin 50 mg/kg/day. What is total daily dosage for this patient?



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## Answers/Solutions

- 1) 90 mg
- 2) 80 mg
- 3) 75 mg
- 4) (a) min = 690 mg, max = 1725 mg  
(b)  $172.5 \text{ mg} - 431.25 \text{ mg} = \text{YES}$
- 5) (a) min = 225 mg, max = 337.5 mg  
(b) dose is 126 = NO, it is too low  
(c) YES
- 6) 160 mg
- 7) 6 mg
- 8) 60 mg
- 9) 212.5 or 213 mg
- 10) 24 mg
- 11) 140 mg; yes, because the recommended daily dosage range is 168 to 336 mg, and the recommended range per dose is 84 to 168 mg.
- 12) 225 mg; no, because the recommended daily dosage range is 300 to 600 mg, and the recommended range per dose is 75 to 150 mg. The nurse should notify the doctor.
- 13) Yes. The recommended dosage range is 60 to 224 mg/day, and the recommended range per dose is 10 to 37 mg every 4 hours.
- 14) 511.5 mg
- 15) 135 mg
- 16) 1,500 mg

