SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

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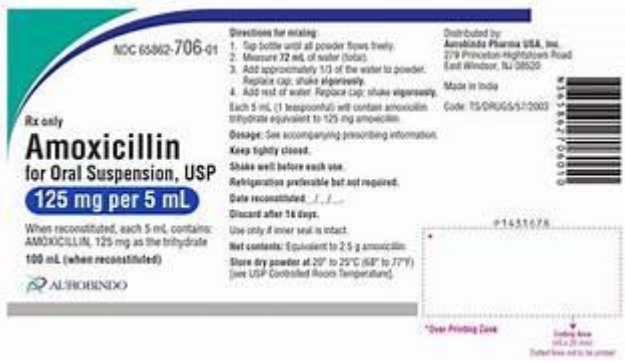
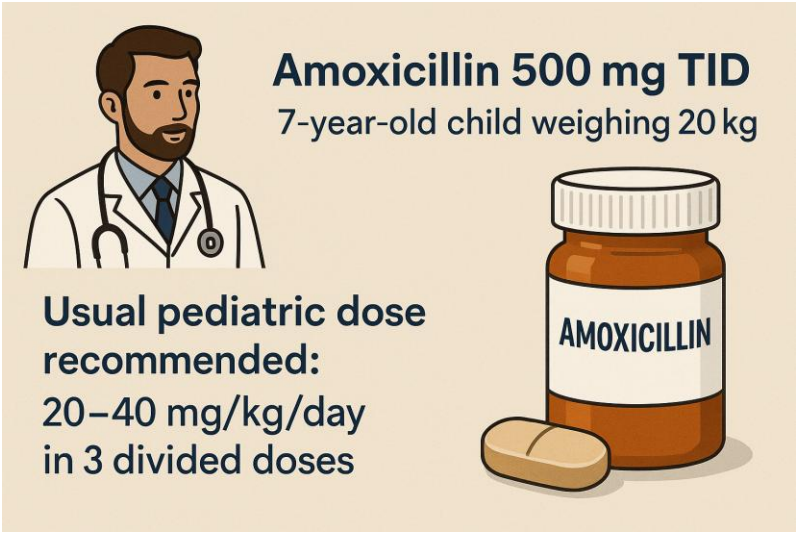
PHARMACEUTICS (BP103T)

POSOLOGY

CASE STUDY PUZZLES

Case Study Puzzle 1: Wrong Dose for the Wrong Weight





Puzzle Question:

Is the prescribed dose appropriate?

Calculate the correct dose using the **weight-based formula**.

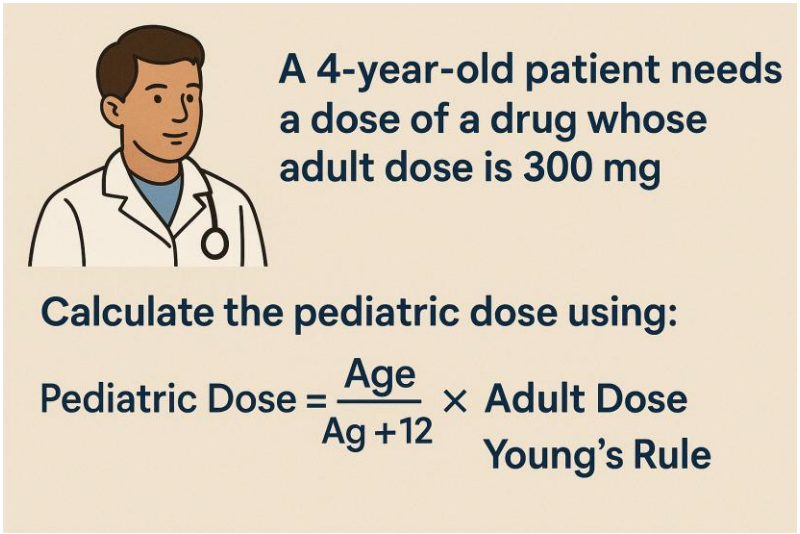
What could be the consequences of giving this prescribed adult dose to the child?

Case Study Puzzle 2: Geriatric Overdose Risk

An 80-year-old patient with **reduced kidney function** is prescribed the **standard adult dose** of a water-soluble antibiotic. After 48 hours, the patient develops toxicity.

Puzzle Question:
Which **posological factors** were ignored by the prescriber?
How should the dose be modified for geriatric patients?
Explain how **renal impairment** affects dosing.

Case Study Puzzle 3: Pediatric Dose Calculation Confusion



- **Young's Rule**

- **Clark's Rule** (child's weight = 15 kg, average adult weight = 70 kg)

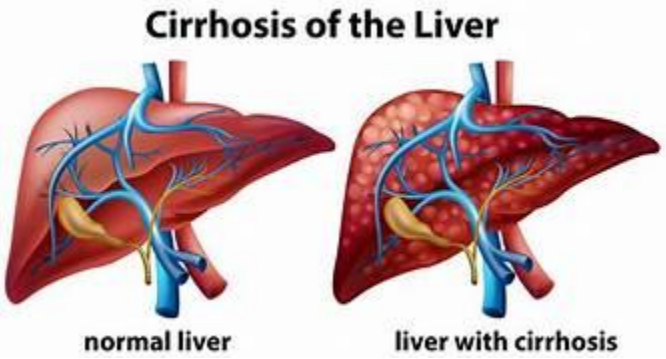
Puzzle Question:
Why do the two rules give different results?
Which rule is more accurate in modern practice and why?

Case Study Puzzle 4: Drug Interaction Altering Dose

A patient taking Warfarin is prescribed Metronidazole. Within days, the INR increases dangerously.

Puzzle Question:
How do **drug–drug interactions** affect posology?
Why should the dose of Warfarin be reduced in this case?
Which posology principle explains the need to monitor and adjust therapy?

Case Study Puzzle 5: Dose Adjustment in Liver Disease



A patient with **liver cirrhosis** is prescribed a hepatically metabolized drug at a normal adult dose.
Soon, the patient develops adverse effects even at low plasma concentrations.

Puzzle Question:
Which **physiological factors** affect the dose in hepatic impairment?
How should the dose be adjusted?
What precautions should the prescriber take during therapy?