5.5: Rounding

Follow agency policy according to rounding. When performing calculations, do not round until calculating the final answer. Dosages of oral liquid medications for adults are typically rounded to the tenth for doses over 1 mL, with 0.05 and above rounding up and 0.04 and lower rounding down. For example, 17.276 rounds to 17.3, and 17.248 rounds to 17.2. For doses less than 1 mL, the dosage is rounded to the hundredth. For example, 0.0467 rounds to 0.05.

For pediatric patients, it is important to be as precise as possible to avoid medication errors. Oral liquid medications less than 1 mL should be rounded to the hundredth. For example, 0.276 rounds to 0.28, and 0.243 rounds to 0.24.

When rounding, it is also important to use critical thinking to evaluate your final answer. For example, a drop cannot be administered as a fraction of a drop, so drops are rounded to the nearest whole number.

Avoiding Medication Errors with Decimals

There are two very important standards of practice for documenting decimals to avoid medication errors:[1]

- Use leading zeros for decimals (i.e., use 0.6 mg)
- Do not use trailing zeros (i.e., do not use 6.0 mg)

Practice Problems: Rounding

Practice rounding using the following problems. The answers are found in the Answer Key (Math Calculations Chapter) at the end of the book.

1. Round the liquid dose for an adult that is calculated as 6.5349.
2. Round the liquid dose for a child that is calculated as 6.5349.
3. Round the liquid dose for an adult that is calculated as 5.479.
4. Round the liquid dose for a child that is calculated as 5.479.
5. Round the liquid dose for an adult that is calculated as 0.1947.
6. Round the liquid dose for a child that is calculated as 0.1947.
7. Round the liquid dose for an adult that is calculated as 0.1968.
8. Round the liquid dose for a child that is calculated as 0.1968.