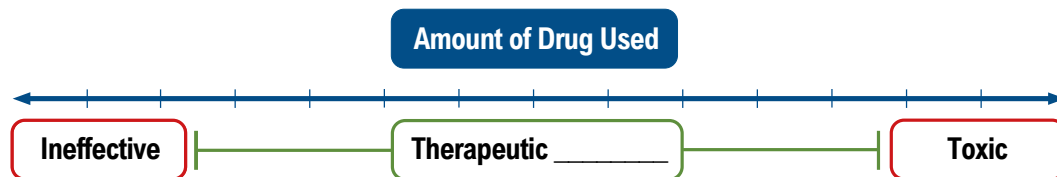


## TOPIC: THERAPEUTIC WINDOW & THERAPEUTIC INDEX

### Therapeutic Window & Therapeutic Index

- ◆ Most drugs function within a \_\_\_\_\_: not enough \_\_\_\_\_; too much \_\_\_\_\_.
  - Antimicrobials are most likely toxic to the \_\_\_\_\_ (hepatotoxic) or \_\_\_\_\_ (nephrotoxic).
- ◆ Ways to describe toxicity vs safety:
  - **Therapeutic Window:** range of actual dosages that are both effective and \_\_\_\_-toxic.



- **Therapeutic Index:** ratio used to convey drug \_\_\_\_\_:

$$\text{Therapeutic Index} = \frac{\text{Lowest Toxic Dosage}}{\text{Lowest Effective Dosage}}$$

**Therapeutic Index = 100:**

It takes \_\_\_\_\_ the effective dose to be toxic.

- For both index and window: \_\_\_\_\_ = generally safer and easier to administer.

## PRACTICE

Colistin is an antibiotic drug that is almost always prescribed in hospitals under the close supervision of medical staff.

Based on this information, which of the following statements is likely INCORRECT?

- a) Colistin has a narrow therapeutic window, there is a small range of dosages that is both safe and effective.
- b) Colistin can cause nephrotoxicity, leading to acute kidney damage.
- c) Colistin has a high therapeutic index, indicating it is easy to administer a toxic dose of the drug.
- d) The form of colistin that is given orally has a much lower therapeutic index than the form that is given intravenously.