Logical Thinking to Answer Drug Information Questions

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Outline

- How to accept requests
- How to classify requests
- How to clarify the question
- How to start the literature searching
- How to answer question
- How to follow up the outcomes

Systematic approach to answer questions

Request→→→→→Classification→→→→→Clarification

a. requestor's   **11 classes**   ↓
demographics   ↓
b. background Q's   ↓

Follow-up←←←←←←Response←←←←← ←Systematic
                                                   search

a. Tertiary references
b. Secondary resources
c. Primary resources
d. Alternative resources

1. Requestor demographics and background questions:

- Who is requesting the information?
- Where is the inquirer located? Which phone number can he/she be reached?
- When does the inquirer need the information?
- What information is requested?
- Why is the inquirer seeking the information?
- What background information is pertinent and available for the information requested?

2. Categorization of question

Administration
Adverse effect
Compatibility or stability
Contraindications
Dosage
Drug interactions
	Drug interference with
	    laboratory tests
	Product content
	Pharmacokinetic calculation or
	    TDM
	Teratogenicity, excretion in
	    breast milk
	Drug identification

Administration

- (Background information required):
  - Medication
  - Indication
  - Patient's disease states, including bowel function and hemostats

Adverse effect

- (Background information required):
    - Dose and length of therapy with suspected drug
    - Patient's other drug therapy
    - Patient's age and diseases including kidney and liver function

Compatibility or stability

- (Background information required):
  - Identify all drugs and concentrations in the formulation.
  - Are the drugs to be mixed in an I.V. line or I.V. container?
  - Time limits for infusing the drugs.
  - Volume limits for infusing the drugs.

Contraindications

- (Background information required):
  - Patient's age, disease states (liver, kidney disease, pregnancy or lactation)
  - Other drug therapy

Dosage

- (Types of questions):
    - Dosing in renal failure, or dialysis patients
    - Dosing in liver failure
    - Dosing in pediatric/geriatric patients
- (Background information required):
    - Therapeutic Use
    - Patient's age, weight, kidney and liver function

Drug interactions

- (Background information required)
  - Patient's age, disease states, kidney and liver function
  - Intended length of therapy with each drug

Drug identification

- (Background information required):
  - Source of drug name or dosage form
  - Correct spelling
  - Imprint code if tablet or capsule
  - Therapeutic use and dose

Drug interference with laboratory tests

- (Background information required):
  - Medication
  - Dosage
  - Duration of therapy
  - Time to draw the specimen
  - Other medications
  - Disease states

Pharmacokinetic calculation or TDM (1)

- (Background information required):
  - Drug current dosing
  - Patient's age, wt, ht, liver and kidney functions
  - Therapeutic use
  - Route of administration

Pharmacokinetic calculation or TDM (2)

- (Types of questions):
  - Dosage or dosing interval adjustment according to disease states
  - Dosage conversion for different routes of administration
  - Achievement therapeutic blood level
  - Determination the optimal sampling time for blood level
  - Time to reach a steady-state level
  - Duration of drug effects
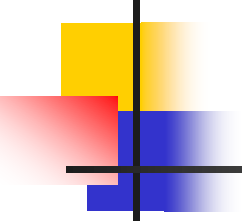
Teratogenicity, excretion in breast milk

- When to initiate drug therapy (gestational age or weeks after delivery)
- Route of administration
- Duration of therapy
- Dosage (Total dose)

3. Search strategy and evaluate:
step-wise approach to using drug information resources (1)

- Tertiary literature(Textbooks, drug compendia or review article)
- Secondary literature- computerized data-
- Primary literature (suggested important journals in Internal Medicine and Pharmacotherapy)
- Alternative resources
  - Newletters
  - Internet

- Data evaluation, analysis, and synthesis
  - to evaluate the quality of the information found
  - to determine if the information closely fits the question.

3. Search strategy and evaluate:
step-wise approach to using drug information resources (2)

- Data evaluation, analysis, and synthesis
  - to evaluate the quality of the information found
  - to determine if the information closely fits the question.

4. Formulation and provision of response verbally or in writing (1)

- Steps in presenting the information
  - Present the competing viewpoints or considerations
  - State the assessment of the literature or information reviewed and claim the superior viewpoint
  - Succinctly refute the major strengths and present the weaknesses of the inferior viewpoint
  - Defend the major weaknesses and promote the strengths of the superior viewpoint
  - Reiterate the final assessment in support of the superior viewpoint

4. Formulation and provision of response verbally or in writing (2)

- Hints
  - The communication skills
  - The foresight to anticipate additional questions.
  - Support the answer with references

5. Follow up the outcome

- Follow-up,

- Follow-through,

- Documentation