

Pharmaceutical Care Drug Therapy Problems

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Background

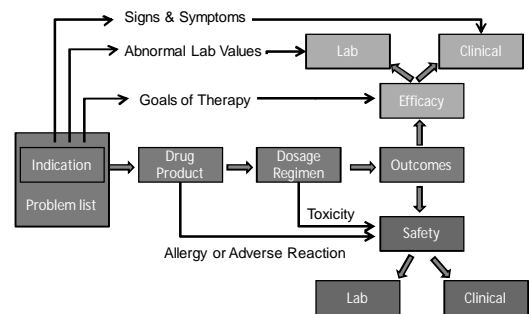
Collection of S & O Information

- Data:
 - CC, HPI, PMH, PSHx, Demographics
 - Medication history including compliance etc.
 - VS, ROS, Lab, other diagnostics
- Sources:
 - Patient, family
 - Other healthcare providers
 - Medical records / computer

Background Assessment

- Is each medication:
 - Indicated?
 - Effective?
 - Safe?
 - One the patient will be compliant with?

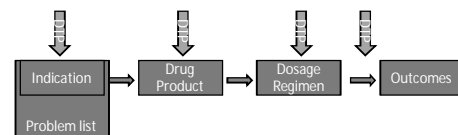
Assessment



Drug Therapy Problems (DTP)

- Undesirable event experienced by the patient which involves, or is suspected to involve, drug therapy, and that interferes with achieving the desired goals of therapy.

DTP Identification



Components of DTP

- Undesirable event or risk of event
- Drug therapy involved
- Relationship between undesirable event & drug

Components of a DTP - details

- Undesirable event:
 - Medical complaint, sign, symptom, diagnosis, disease, illness, impairment, disability, abnormal laboratory value or syndrome.
 - Can be result of physiological, psychological, socio-cultural or economic conditions.

"Mr. M's elbow pain is not being effectively controlled"

"My patient is experiencing orthostatic hypotension with mild to light headaches each morning"

Components of a DTP - details

- Drug therapy involved
- Relationship between undesirable event & drug
 - Consequence of drug therapy (caused?)
 - Need addition or modification of therapy to resolve or prevent undesirable event

Components of a DTP - details

"Mr. M's elbow pain is not being effectively controlled because the dosage of ketoprofen he has been taking for the past 3 days is too low"

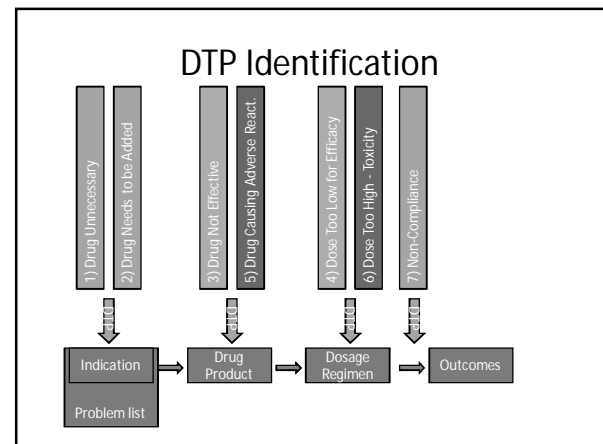
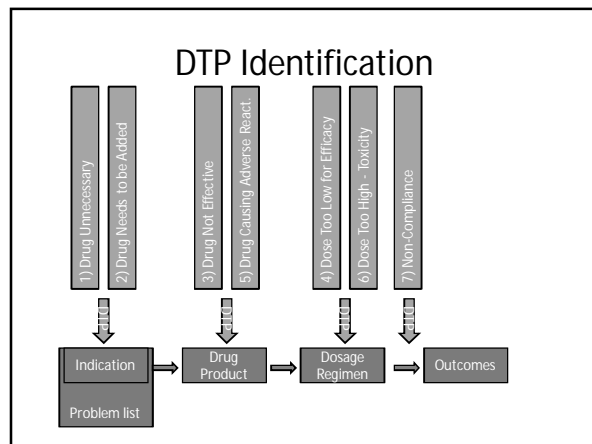
"My patient is experiencing orthostatic hypotension with mild to light headaches each morning because the 2 mg dose of risperidone she takes in the morning is too high"

DTP Categories

1. Drug therapy is unnecessary
2. Drug therapy needs to be added
3. Drug not effective / producing desired response
4. Dosage too low to produce desired response
5. Drug is causing an adverse reaction
6. Dosage is too high resulting in toxicity
7. Patient not able / willing to take drug therapy

DTP ≠ Medication Error

- Medication Errors: the 5 rights
 - Correct drug, dose, route, frequency & duration
 - Focuses on prescribing & dispensing accuracy



1) Drug Unnecessary

- No valid indication
- Multiple drugs when single drug would work
- Non-drug therapy would be better (life-style)
- Treating an adverse effect of another drug (including OTC's or Herbals)
- Drug, tobacco or alcohol use is causing the problem

2) Drug Needs to be Added

- Medical condition requiring treatment
- Preventative drug therapy due to risk of disease
 - Aspirin for heart attach &/or stroke
 - Calcium for osteoporosis
- Medical condition requires addition for synergy, additive or protective effects

3) Drug Not Effective

- Not the most effective drug
- Medical condition is refractory
 - Treating high triglycerides without controlling blood glucoses first
- Wrong dosage form
 - Immediate release morphine for chronic pain
- Drug not effective
 - Antibiotic resistance

4) Dose is Too Low

- Dose too low
- Interval too infrequent
 - Once daily regular human insulin?!
- Drug interaction is reducing blood levels
 - Rifampin and oral contraceptives
- Duration of therapy too short

5) Adverse Drug Reaction

- Causes ADR (not dose related)
- Safer drug product available
- Drug interaction (not dose related)
- Drug regimen changed too quickly
- Allergic reaction
- Contraindicated (e.g. pregnancy)

6) Dose Too High

- Dose too high
- Dosing frequency too short
- Duration of therapy too long
- Drug interactions resulting in toxic levels
- Dose given or increased too quickly

7) Non-Compliance

- Patient
 - Doesn't understand instructions
 - Prefers not to (why?)
 - Forgets
 - Can't afford
 - Cannot swallow or self-administer
 - Can't obtain / find product

Stating DTP

- Condition
- Drug Therapy
- Association between condition & drug therapy

Examples

- 61 year old male experiencing gastrointestinal bleeding caused by aspirin therapy.
 - Vs same patient taking low dose aspirin for prophylaxis to prevent a second MI, has a history of GI bleeding due to a peptic ulcer.
- 29 year old patient having breakthrough seizures due to subtherapeutic phenytoin levels.
 - Vs same patient who is non-compliant due to forgetting doses
- 43 year old female being treated with ceftriaxone and gentamicin for a UTI has poor renal function
 - Vs same patient who's renal function gets worse while on gentamicin

Prioritizing

- What needs to be fixed immediately?
 - Contraindications or potential harm
 - Problems addressing a chief complaint
- What problems can be fixed directly
 - By you / the practitioner working with patient & family
- What problems will require consultation / help