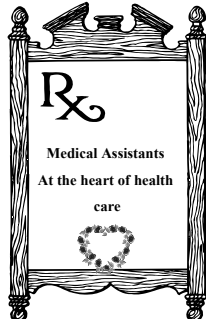


PRINCIPLES OF PHARMACOLOGY




MEDICAL ASSISTANT'S ROLE

- **History:**
 - prescription
 - over the counter (OTC)
 - alcohol (ETOH), recreational, smoking, herbal remedies
- **Education:**
 - indication, instructions, side effects
- **Administration:** oral, sublingual, parenteral
- **Refills:** medical abbreviations, scope of practice



Drug Legislation & Regulation

- **Food & Drug Administration (FDA)** 
 - Prescription Drug User Fee Act requires:
 - Testing for harmful effects
 - Accurate labels
 - Packaging with information explaining adverse effects
 - New drug manufacturers provide evidence of safety & effectiveness:
 - Standard application for new drugs must be acted on within 10 months
 - Priority given to drugs used to treat serious diseases within 6 months



Amendments & Acts

- **Durkham-Humphrey Amendment: (1952)**
 - Classification of drugs into 2 categories
 - Legend drugs – prescription only
 - OTC drugs
 - Narcotic, hypnotics, & tranquilizers require new prescription to be refilled
- **Kefauver-Harris Amendment: (1962)**
- **thalidomide**
- **Drug safety, especially experimental drugs**
- **Labeling of adverse reactions & contraindications**
- **Orphan Drug Act: (1983)**
 - Those that would benefit < 200,000 patients
 - Approximately 100 approved orphan drugs

Drug Enforcement Administration (DEA)

- **Controlled Substances Act:**
 - Any physician who:
 - Administers
 - Dispenses
 - Prescribes
 - Drugs in Schedules II – V must be registered with DEA using Form 224
 - Physician with multiple offices must register for each office
 - Renew every 3 years



DEA Form 224

Figure 23.1
DEA Form 224

This form is used to register the physician to administer, dispense, and prescribe Schedule II through Schedule V controlled substance drugs.



DEA Requirements for the Medical Office

- **Ordering**
 - Schedule II drugs require DEA Form 222
- **Recording:**
 - Physician prescribes, but does not dispense or administer – no records required
 - If dispenses or administers daily dispensing & inventory records retained for minimum of 2 years
- **Storing:**
 - Controlled substances in locked cabinet
 - State may require double locks
- **Disposing:**
 - DEA form 41 signed by physician & filed with DEA
 - Disposal guidelines from DEA

SCHEDULES OF CONTROLLED SUBSTANCES

- **Schedule I – legal for research only**
 - abuse potential high – LSD, marijuana, heroin
- **Schedule II – No phone Rx except in emergency**
 - abuse potential high, narcotics - Demoral
- **Schedule III – Rx written, refill phoned or written**
 - lower abuse potential than II, Tylenol with codeine
- **Schedule IV – Rx written or phoned**
 - lower abuse potential than III - tranquilizers, analgesics, barbiturates
- **Schedule V – State regulated, many OTC**
 - lower abuse potential than IV - Lomotil



TERMINOLOGY

- **Pharmacology**
 - study of drugs
- **Pharmacognosy**
 - natural drugs & their sources
- **Pharmacodynamics**
 - what drugs do to the body
- **Pharmacokinetics**
 - what the body does to drugs
- **Pharmacotherapeutics**
 - how drugs are used to treat disease



PHARMACOKINETICS

- **Absorption**
 - converting drug to form body can utilize
 - rate dependent upon route of administration
- **Metabolism**
 - molecular transformation, usually in liver
- **Distribution**
 - transporting from administration site to target site & availability in bloodstream
- **Excretion - elimination, usually in urine**



TERMINOLOGY

- **Prescribe**
 - patient receives prescription
- **Administer**
 - to give by any route
- **Dispense**
 - distribute drug
- **Toxicology**
 - study of poisons / poisonous effects




DRUG NAMES

- **Chemical name:**
 - Describes chemical make-up
 - Long & difficult to pronounce
- **Generic name**
 - Official name
 - Simple form of chemical name
 - Nonproprietary - does not belong to any one manufacturer
- **Trade name / Brand name**
 - Patented name of drug
 - Selected by & property of manufacturer
 - Protected by copyright ©




DRUG CATEGORIES

- Analgesic
 - Anticoagulant
 - Antihypertensive
 - Antipyretic
 - Cathartic
 - Emetic
 - Vasoconstrictor
- 
- Antiarrhythmic
 - Antiemetic
 - Antineoplastic
 - Antitussive
 - Diuretic
 - Hypnotic
 - Vasodilator

TERMINOLOGY

- Indication
 - Efficacy
 - Kinds of Therapy:
 - therapeutic
 - curative
 - prophylactic
 - empiric
 - palliative
 - supplemental
- 
- diagnostic
 - replacement
 - acute
 - maintenance
 - supportive

SOURCES OF DRUG INFORMATION

- *Physicians' Desk Reference (PDR)*
 - *United States Pharmacopia / National Formulary (USP/NF)*
 - *American Hospital Formulary Service (AHFS)*
- 

PRESCRIPTIONS

- **Superscription**
 - Rx, date, pt.'s name, address,
- **Inscription**
 - name of drug & quantity
- **Subscription**
 - directions, dosage, total number dispensed
- **Signature, Transcription**
 - patient instructions



PATIENT EDUCATION

- **Age specific**
- **Condition specific:**
 - Pregnancy
 - Categories A - X
- **Obtain complete medication history**
- **Review:**
 - Side effects / untoward reaction – not detrimental
 - Adverse reaction – harmful
 - Interactions with other drugs / foods
 - Contraindications



Medical Assistants can make a difference in patient compliance!

