

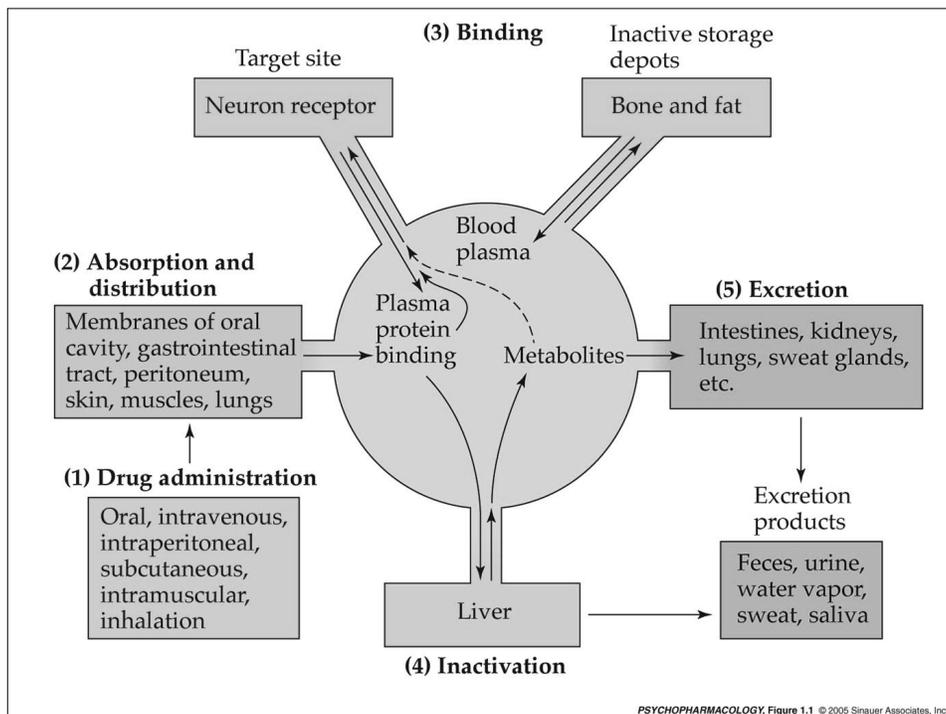
I'm fine, but I'm bipolar.
I'm on SEVEN medications,
and I take medication THREE times a day.

This constantly puts me in touch with
the illness I have.

I'm never quite allowed to be free of that
for a day.

It's like being a diabetic.

Carrie Fisher



Pharmacokinetics

○ Effects that the body has on a drug:

1. Absorption:

- Getting drug into bloodstream

2. Distribution:

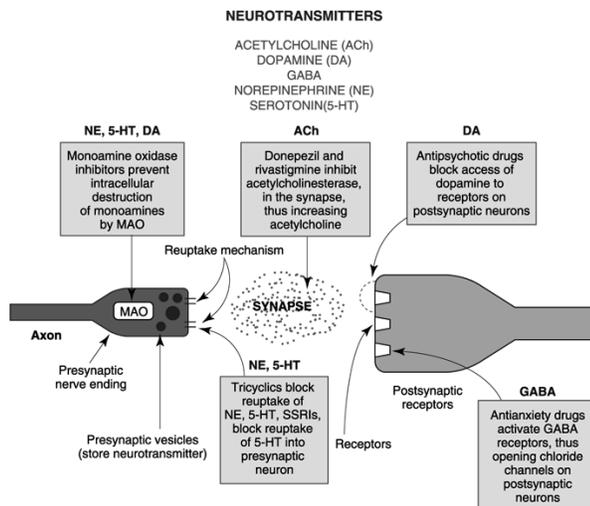
- Getting drug from bloodstream to tissues & organs

3. Metabolism

- Breaking drug down in preparation for excretion
- MAO enzyme system and cytochrome P-450 enzyme system
- Drug half-life

4. Excretion: Removal of drug from body

Neurotransmitters of Mental Health



<http://www.wisc-online.com/objects/ViewObject.aspx?ID=NUR3503>

Antipsychotic Drugs: Summary

- Pharmacologic effects:
 - Treat schizophrenia, bipolar, and psychoses
 - Reduce symptoms of alterations of perception, thought, activity, consciousness, relationships, affect.
- NT imbalance: increased DA
 - Dopamine blocker activity, more selective (atypical) is better, less SE
- Pharmacokinetics:
 - Ex: Haldol (1st gen), olanzapine (Zyprexa) (Atypical), Abilify (3rd gen)
 - Dependant on medication; highly bound to plasma protein, metab by CYP450
- Side effects:
 - Anticholinergic PNS, antidiuretic effects (hypotension), cardiac: QT lengthening - EKG needed; EPSE (see antiparkinsons slide), endocrine - prolactin elevation, sexual, GI, other
 - See BOX 18-5 p. 220, * Neuroleptic malignant syndrome (NMS)
- Drug interactions
 - See TABLE 18-4; barbiturate = resp depression/sedation; smoking = low antipsych levels.
- Nursing implications:
 - Monitoring: risk CNS depression
 - Teaching points: side effects, esp. in elderly



Neuroleptic Malignant Syndrome

- Rare, but fatal complication from all antipsychotic drugs
- High temp up to 107
- See more with 1st gen drugs
- Tachycardia
- Severe muscle rigidity
- Tachypnea
- Stupor
- Coma

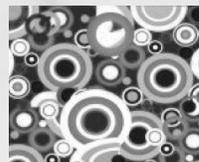


Antidepressant Drugs



- Pharmacologic effects:
 - Treat depression and others
 - Alleviate depressive symptoms, restore mood, prevent recurrence, prevent mania swing.
- NT imbalance: depletion of NT; restore serotonin, NE, or DA
 - Examples: SSRI: fluoxetine (Prozac); TCA: amitriptyline, doxepin; MAOIs: Nardil
- Pharmacokinetics:
 - SSRIs: inhibit serotonin reuptake into neurons; long half-lives (once a day dosing)
 - TCA: block reuptake of NE, DA; metab via P-450 enzyme pathway (p244)
 - MAOIs: block monoamine oxidase (enzyme) thus increase NTs
- Side effects:
 - SSRI: GI, sexual dysfunction
 - TCA: sedation, lethargy, improved appetite, decrease anxiety
 - MAOIs: CNS, CV, anticholinergic, life threatening with irrevers. MAOIs + tyramine rich foods
- Drug interactions
 - SSRI: See TABLE 19-2 p. 238; TCA: PNS, CNS | TCA: warfarin, L-dopa, barbiturates
 - MAOIs: See TABLE 19-4 p. 248, SSRIs...
- Nursing implications:
 - Monitoring: SSRI - low potential for overdose | TCAs: monitor for overdose (p. 245)
 - MAOIs: food-drug interactions! Food examples: cheese, salami, Box 19-10 p. 249
 - Teaching points: side effects, esp. in elderly

Antimanic Drugs



- Pharmacologic effects:
 - Remission; Prevention; Return to premorbid function
- Pharmacokinetics:
 - Lithium: "sodium substitute," regulates Na, K-ATPase pump, second messenger system → regulating intracellular signaling.
 - Anticonvulsants: rapider onset, increase GABA, membrane less irritable.
 - Atypical antipsychotics:
- Side effects:
 - Lithium: N/V/D, polyuria/polydipsia, weight gain, hand tremors
 - Anticonvulsants: weight gain, tremors, GI upset, thrombocytopenia (dose related)
 - Examples: carbamazepine (Tegretol), depakote, Neurontin
 - Atypical antipsychotic:
- Drug interactions
 - Li: NSAIDs & diuretics decrease excretion Li thus risk toxic
 - Anticonvulsants
- Nursing implications:
 - Monitoring:
 - Li: toxicity > 1.5 mEq/L, Cr, TSH,
 - Anticonvulsants
 - Teaching points: Li: See Box p. 258, Box 20-2 p. 259

Antianxiety Drugs

- Pharmacologic effects:
 - Treat generalized anxiety, panic attacks by reducing anxiety, promote sleep, relax muscles, prevent seizures, produce amnesia.
- NT imbalance:
 - Dysregulation B adrenergic receptors, inhibition of GABA, neuroendocrine overactivity, faulty thinking.
- Pharmacokinetics:
 - Benzodiazepines: (ex: Xanax) GABA (cause CNS depression)
 - Non-benzodiazepine: (ex: Buspirone/BuSpar) - agonist at presynaptic serotonin 1A receptor
 - SSRIs: up-regulating inhibitory neurons
- Side effects:
 - Dry mouth, ataxia, dizziness, drowsiness, nausea, withdrawal symptoms
 - Buspar - 1-6 week onset
- Drug interactions
 - Anything that causes CNS depression) alcohol, TCA, opioids
- Nursing implications:
 - Monitoring:
 - Teaching points:

