



Rational Psychopharmacology – blending of the new with the old

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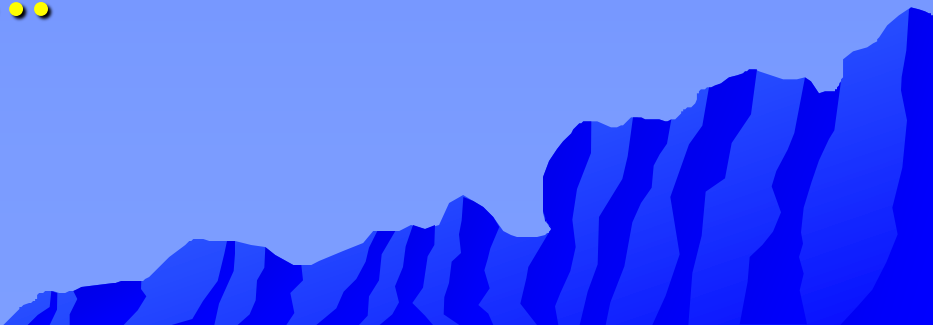
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Continuum of Care Project

U. N. M. Health Sciences Center

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Overview

- ◆ **Purposes of prescribing legal medications**
 - ◆ **Classes of medication and general use guidelines**
 - ◆ **Bioavailability of drugs within the body**
 - ◆ **Strategies for reviewing efficacy**
 - Side effect issues
 - ◆ **Questions, questions....**
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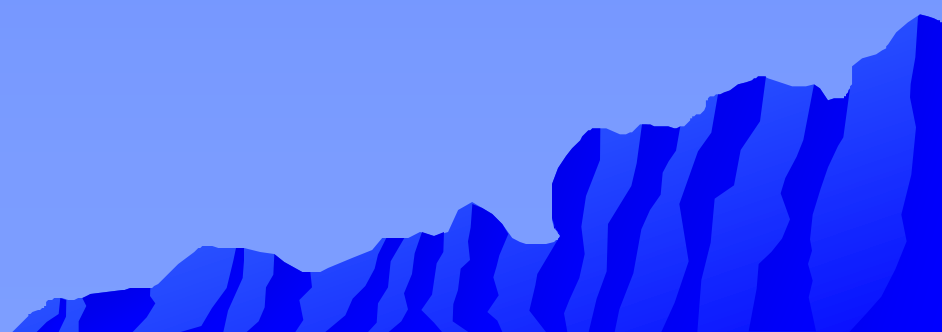
PSYCHOACTIVE MEDICATIONS

Definition:

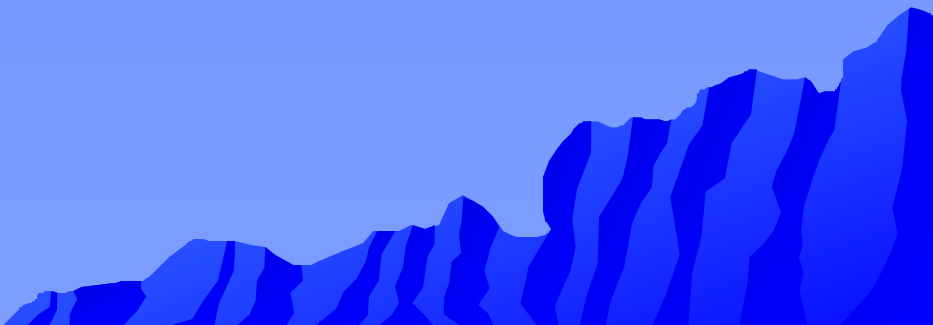
Any medication which has the capability to alter mood, anxiety, behavior or cognitive processes; usually denotes drugs used in the treatment of mental illness

Reasons for Prescribing


Changing One's Internal Experience

- ◆ Improve performance
 - ◆ Pleasure and relaxation
 - ◆ Sleep
 - ◆ To decrease worry
 - ◆ Sadness
 - ◆ Out of control
 - ◆ Pain relief
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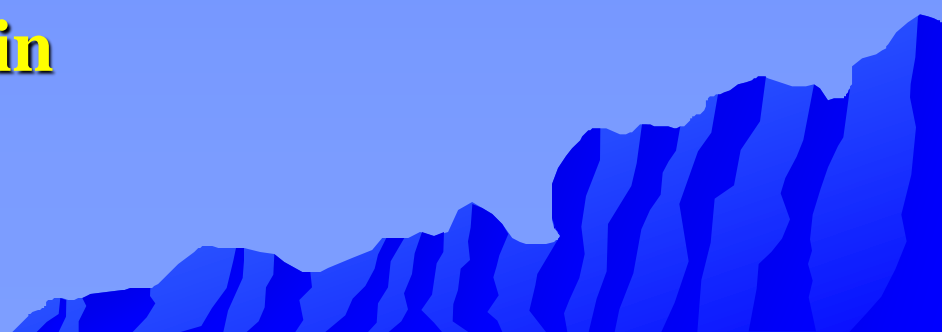
Making Evaluation

- ◆ **Safety and trust**
 - ◆ **Purpose of evaluation**
 - ◆ **What is the distress?**
 - ◆ **What has been tried, has it worked?...**
 - ◆ **Who can consent to treatment.**
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Treatment Approach

- ◆ **Hypothesis driven**
 - Note observations
 - Behavioral changes are markers of medical illness
 - ◆ **Expectations by patient, physician, family, support staff, others**
 - ◆ **Be open to new sources of information**
 - Does the hypothesis need to be revised?
 - Consider side effects
 - Look for metaphors in description of medication effects.
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OTC Psychoactive Medications

- ◆ Alcohol
 - ◆ Nicotine
 - ◆ Caffeine/No Doz/Cocaine
 - ◆ Marijuana
 - ◆ Antihistamines
 - ◆ Cold Medications/Methamphetamine
 - ◆ Diet Pills
 - ◆ Tylenol/NSAIDS/Aspirin
 - ◆ Codeine/Heroin
- 

Neurobiological Effects

- ◆ **Receptors and availability of neurotransmitter**
 - **Neurotransmitter synthesis**
 - **Release**
 - **Reuptake**
 - **Degradation**
 - **Modulation**

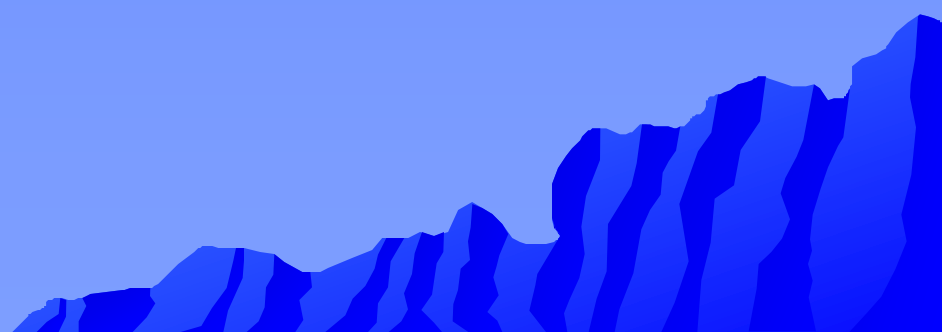
Neurobiological Effects

◆ Pharmacokinetics

- Relationship between drug dose and its plasma level
- Deactivation by liver; excretion by kidneys
 - ◆ Hydroxylation, desmethylation, oxidation (P_{450}), deamination, followed by conjugation and glucuronidation
 - ◆ Clearance dependent on renal function and fluid balance
- Gut absorption determines bioavailability

Neurobiological Effects

◆ Pharmacodynamics

- Relationship between plasma concentration and physiologic effects
 - Receptors: saturability, specificity, reversibility, affinities for compounds
 - Potency of drug is dose or concentration required to produce an effect
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Conditions & Medication classes

◆ Psychosis

- Schizophrenia
- Psychosis due to other (medical) condition; PTSD; Depression; drug interaction...

◆ Potency

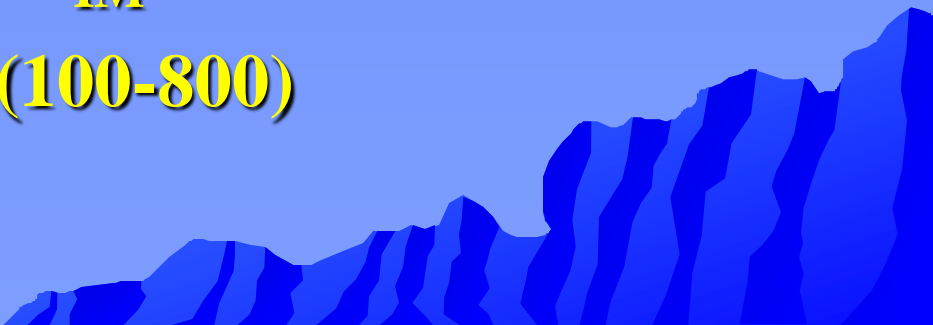
- Amount to have an observed effect (rigidity) in an animal model: range haldol > mellaril.

◆ Efficacy

- How well medication works on clinical problem; most antipsychotics more effective on positive symptoms.

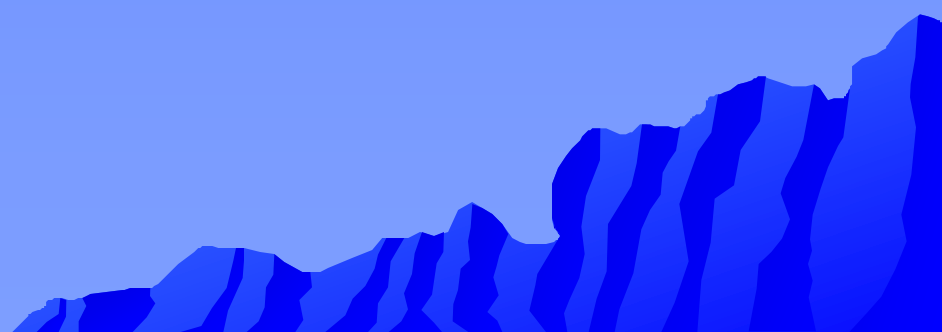
Conditions & Medication classes

Antipsychotics – Typical (mg dose range)

- ◆ Haldol (0.5-40)
 - ◆ Pimozide (0.5-8)
 - ◆ Prolixin (1-40)
 - ◆ Navane (3-60)
 - ◆ Moban (50-250)
 - ◆ Loxitane (5-300)
 - ◆ Droperidol (2.5-10) -- IM
 - ◆ Mellaril/Thorazine (100-800)
- 

Conditions & Medication classes

Antipsychotics – Atypicals (mg dose range)

- ◆ Clozapine (200-600)
 - ◆ Risperidone (0.5-8)
 - ◆ Zyprexa (5-35)
 - ◆ Geodon (20-180)
 - ◆ Seroquel (100-800)
 - ◆ Abilify (5-10)
- 

Conditions & Medication classes

◆ Depressive disorders

– Major Depression

- ◆ Recurrent v. single episode

- ◆ With/without psychosis

– Atypical Depression

- ◆ Increased appetite, weight; similar cognitive sx.

– Dysthymia

- ◆ Chronic, “low-grade”; debilitating

– Schizo-Affective Disorder

- ◆ Mood and psychotic symptoms have occurred separately, as well as overlapping

– Mood disorder due to medical condition

Conditions & Medication classes

Antidepressants

◆ Tricyclic antidepressants (TCA)

[anticholinergic side effect profile]

- ELAVIL (Amitriptyline): 50-300 mg/d
sedation; pain
- NORPRAMINE (Desipramine): 75-300 mg/d
- TOFRANIL (Imipramine): 75-300 mg/d
- PAMELOR (Nortriptyline): 50-200 mg/d
- ANAFRANIL (Clomipramine): 75-300 mg/d
obsessions, compulsions

Conditions & Medication classes

Antidepressants

◆ Selective Serotonin Reuptake Inhibitors (SSRI)

- PROZAC (fluoxetine): 10-80 mg/d
- PAXIL (paroxetine): 10-60 mg/d
- ZOLOFT (sertraline): 50-200 mg/d
- CELEXA (citalopram): 10-40 mg/d
- LEXAPRO (L-form; escitalopram)
- LUVOX (fluvoxamine): 50-300 mg/d

Conditions & Medication classes

◆ Antidepressants

◆ Combined Reuptake Inhibitors (CRI) *or* Serotonin-Noradrenalin Reuptake Inhibitors (SNRI)

- SERZONE (nefazodone): 100-600 mg/d
- EFFEXOR (venlafaxine): 75-225 mg/d
- REMERON (mirtazapine): 15-45 mg/d

Conditions & Medication classes

◆ Antidepressants

◆ Monoamine Oxidase Inhibitors (MAOI)

– MARPLAN (Isocarboxazid): 10-60 mg/d

– NARDIL (Phenylzine): 45-90 mg/d

sxs depress with incr. eating, incr. sleeping

– PARNATE (Tranlycypromine): 20-50 mg/d

Conditions & Medication classes

Antidepressants

◆ Miscellaneous agents

- WELLBUTRIN (Bupropion): 75-400 mg/d
- DESYREL (Trazodone): 100-600 mg/d
[used for sleep]
- LUDIOMIL (Maprotiline): 100-225 mg/d

Conditions & Medication classes

◆ Anxiety

- Necessary to recognize danger/threat.
- Modulated, responsive; has a purpose.

◆ Generalized Anxiety Disorder

◆ Panic Disorder

◆ PTSD

◆ OCD

◆ Anxiety due to medical condition

Conditions & Medication classes

Anti-anxiety

◆ Benzodiazepines

- Alprazolam (Xanax): 0.25 – 4 mg/d
- Lorazepam (Ativan): 0.5 – 8 [16] mg/d
- Diazepam (Valium): 5 – 40 mg/d
- Clonazepam (Klonopin): 0.5 – 4 mg/d

Conditions & Medication classes

◆ Anti-anxiety

- ◆ Buspirone (20 – 80 mg/d)

 - BUSPAR

- ◆ Beta-blockers (>240 mg/d little change BP)

 - INDERAL, INDERAL-LA

- ◆ Tricyclic antidepressants

- ◆ SSRI, SNRI (CRI)

- ◆ Antiepileptic drugs

Conditions & Medication classes

◆ Impulsivity

– Intermittent Explosive Disorder

◆ Reactive, unpredictable, often violent.

◆ May have specific antecedent; may be severe variant of PTSD response.

– Impulse Control Disorder

◆ Generalizes across activities; crossing of boundaries; repetitive; sometimes can be suppressed.

– Addictions...

Conditions & Medication classes

◆ Impulsivity

– Anticonvulsants

◆ Depakote, Topamax, Tegretol, Lamictal

– Antipsychotics

◆ Quetiapine, Risperidone, Olanzapine,
Chlorpromazine, Abilify

– Beta-blockers

◆ Propranolol

– Mood stabilizers

◆ Lithium, Depakote, Lamictal

Conditions & Medication classes

◆ Mania

- Change in activity level; sleep-wake cycle; eating, resting, exercise.
- Thoughts racing, grandiose, beyond possible; in extreme => psychosis.
- Concentration impaired; language derailed.
- May be due to medications; medical condition; medication interactions.

◆ Hypomania

- Remains below level of extreme impairment.

Conditions & Medication classes

◆ Mania – mood stabilizers

◆ Lithium

– LITHOBID, ESKALITH

measure electrolytes, renal fx; levels

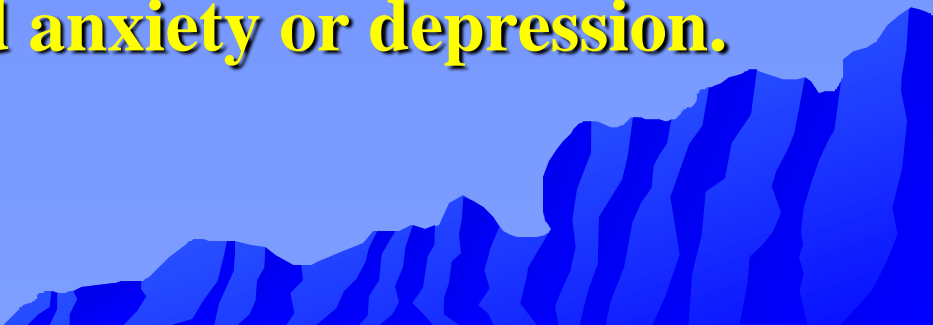
◆ Antiepileptic Drugs

– TEGRETOL, DEPAKOTE, LAMICTAL,
NEURONTIN, TOPAMAX, KLONOPIN,
TRILEPTAL

measure levels; monitor liver fx;
therapeutic range

Conditions & Medication classes

◆ Agitation

- Identify driving force.
 - Restless inability to sit still; usually with a pressure to keep doing something.
 - Drug-drug interaction or side effect.
 - Intense, relentless.
 - Internal and external sources.
 - Evaluate for untreated anxiety or depression.
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Conditions & Medication classes

◆ Anti-agitation -- examples

- Clonidine – alpha blocker
- Inderal – beta blocker
- Ativan - benzodiazepine
- Depakote/Tegretol - anticonvulsant
- Lithium – mood stabilizer
- Tylenol – pain and inflammation
- Zyprexa - antipsychotic

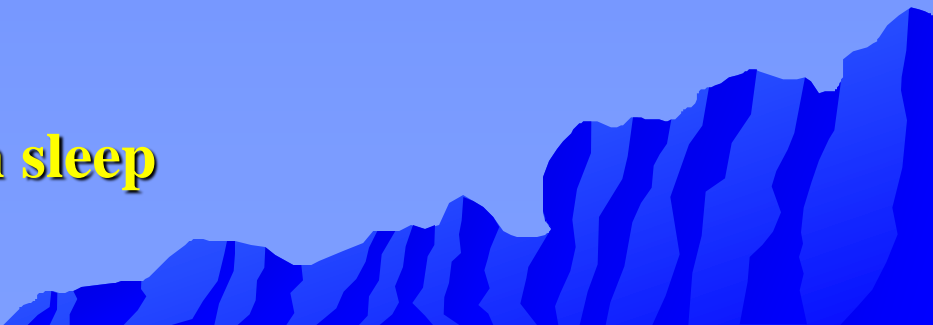
Conditions & Medication classes

◆ Sleep problems

– Disorders of Initiating and Maintaining Sleep (DIMS)

- ◆ Depression
- ◆ Sleep apnea
- ◆ Pain

– Disorders of Excessive (Daytime) Sleepiness

- ◆ Narcolepsy
 - ◆ Catalepsy
 - ◆ Medications
 - ◆ Shift-work; not enough sleep
- 

Conditions & Medication classes

Sedative – Hypnotics

- ◆ Restoril
 - ◆ Ambien
 - ◆ Lunesta
 - ◆ Benadryl
 - ◆ Atarax
 - ◆ Chloral hydrate
 - ◆ Ativan
 - ◆ Trazodone
- 

Side Effects of Medications

- ◆ **Changes in Blood Pressure**
- ◆ **Sedation**
- ◆ **Weight Gain or Loss:**
 - secondary health risks
 - **Metabolic Syndrome monitoring – atypicals**
 - ◆ **Weight, pre-Diabetes, Hypertension**

Side Effects of Medications

- ◆ **Dermatologic**
 - Mild rashes → severe bullous sloughing
- ◆ **Hematologic**
 - Bone marrow suppression [VPA; Cloz]
- ◆ **Cardiac**
 - Blood pressure: increase or decrease
 - Arrhythmias
- ◆ **GastroIntestinal**
 - Diarrhea, nausea, vomiting [AEDs; SSRIs]
- ◆ **Hepatic**
 - Evaluate acute versus chronic
 - Influence of alcohol

Side Effects of Medications

- ◆ **Prolonged Seizure**

- ◆ **CNS Disturbances**

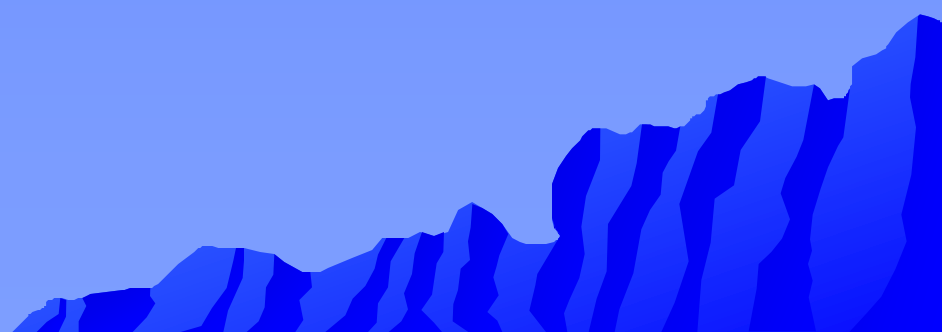
- Confusion, disinhibition [Benzos; toxic levels]

- ◆ **Neuroleptic Malignant Syndrome**

- Fever; Dry as a bone; Mad as a hatter; Hypertension

- Consider particularly during medical crisis (primary symptoms may be blocked)

Side Effects of Medications

- ◆ **Addiction/dependence**
 - ◆ **Water Intoxication**
 - Lithium; psychogenic polydipsia
 - ◆ **Difficulty Urinating [increase or decrease]**
 - ◆ **Dry Mouth**
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Side Effects of Medications

◆ Involuntary movements

- Tardive dyskinesia
- Tardive dystonia
- Akathisia
- Acute EPS

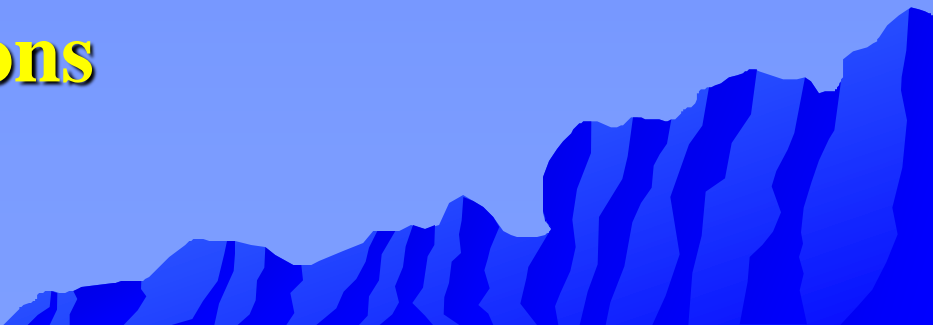
◆ Tremors

- Interference with functioning

Drug-Drug Interactions

- ◆ **Date start any and all medications**
 - Over the counter
 - Food supplements
- ◆ **Change in dose**
 - Increase of decrease
 - Associated symptoms
- ◆ **Onset of symptoms**

Drug-Drug Interactions

- ◆ **Rate of change in symptoms**
 - Better; Worse
 - Time of day
 - ◆ **Changes in environment**
 - New stressors
 - Changes in supports
 - ◆ Did new staff receive full training?
 - ◆ **History of past reactions**
- 

Factors Affecting Dosage and Administration

- ◆ Age
- ◆ Medical conditions
- ◆ Amount of time the body takes to metabolize the drug
- ◆ Route
- ◆ Hydration



Potential Implications of Missed Doses

◆ Compliance Issues

- Patient; team; guardian

◆ Need to maintain therapeutic levels

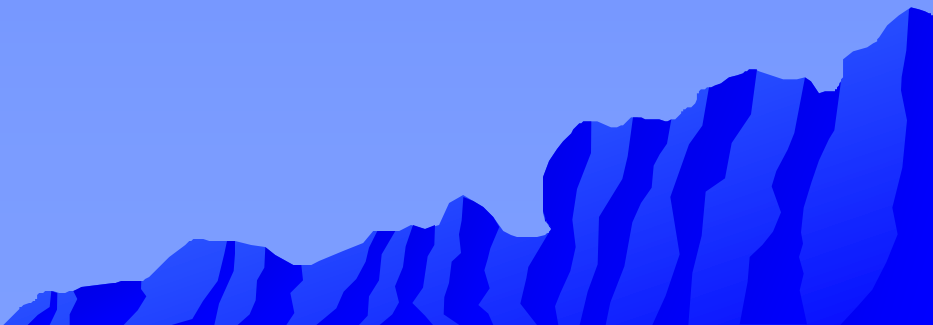
- Check if change in behavior without explanation

◆ Clinical diagnosis made upon the patient's presentation in drug-missing state


- Document need for ongoing use of medicine




Nursing Assessment

- ◆ **Observation.**
 - ◆ **Data collection.**
 - ◆ **Education: patient/staff/caregivers.**
 - ◆ **Accurate transfer of information.**
 - ◆ **Common sense & skills & past experiences.**
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Conclusions

- ◆ **Psychotropic medications should be used to improve an individual's functioning and quality of life.**
 - ◆ **Medications should be used in conjunction with other therapies.**
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Conclusions

- ◆ “Start low and go slow”.
 - ◆ Monitor regularly for side effects and need for usage.
 - ◆ Don’t continue to administer unneeded drugs (“first do no harm”).
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Theoretical Model of Mental Retardation

AAMR 2002*

