

Psychology 110
Dr. Gordon

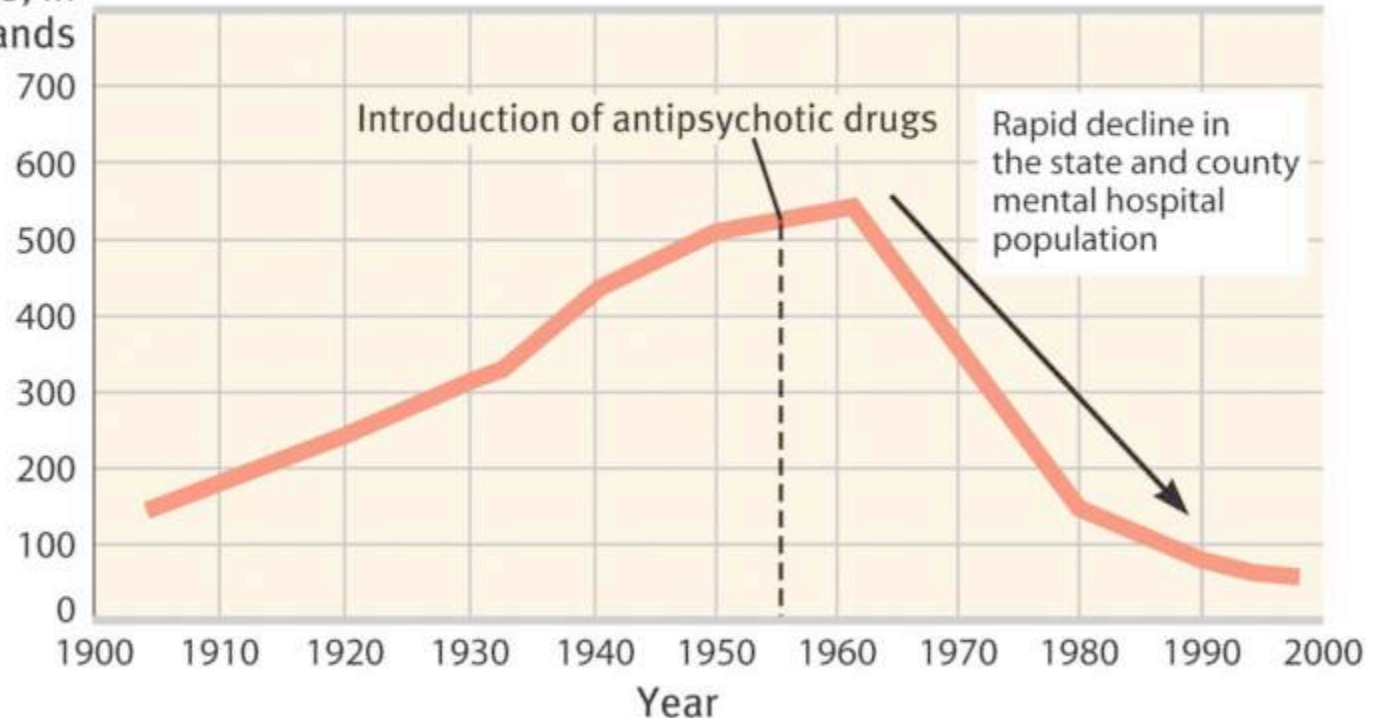
Module #52
Biomedical Treatments

A. Drug therapies

- *1. Introduction to drug therapy*
- *2. Antipsychotic drugs*
- *3. Antianxiety drugs*
- *4. Antidepressant drugs*

1. Introduction to drug therapy

State and county
mental hospital
residents, in
thousands



- *Psychopharmacology revolutionized psychological treatment. The impact was so significant in the 1950's that hospitalization of the mentally ill decreased from 500 million in 1960 to about 50 million at the turn of the century.*

2. Antipsychotic drugs



- *In the 1950's, antipsychotic medications were introduced to the treatment scene. These medications were originally used for the treatment of allergies. By accident, clinical researchers discovered that psychotic symptoms decreased significantly when medications like Thorazine were given. As one can see the patient above has responded well to antipsychotic medication. However, these typical antipsychotic medications did have long term side effects.*

2. Antipsychotic drugs

PHARMACOLOGICAL TREATMENTS OF SCHIZOPHRENIA				
	Conventional Typical Antipsychotics ¹	Atypical Antipsychotics ¹	Antipsychotics and Lithium or Anticonvulsants ²	Antipsychotics and Antidepressants
Improvement	50–60% at least moderately improved.	about 50–60% of patients who do not respond to conventional antipsychotics are at least moderately improved	moderate improvement for subpopulation of aggressive, agitated patients	significant improvement for patients with both psychotic and depressive symptoms
Relapse ³	high	high	high	high
Side Effects	severe	moderate	moderate to severe	moderate to severe
Cost	moderately expensive	expensive	expensive	expensive
Time Scale ⁴	months	months	months	months
Overall	good	good	useful	good

¹ Typical antipsychotics are chlorpromazine and haloperidol.
² Atypical antipsychotics are clozapine, olanzapine, risperidone, sertindole, and quetiapine.
³ Anticonvulsants are carbamazepine and valproic acid.
⁴ Relapse after discontinuation of treatment.
⁵ Time to achieve maximal effect.

SOURCE: Based on Buchanan, 1995; Dixon, Lehman, and Levine, 1995; revised with Buckley, 1997; Carpenter and Buchanan, 1994; Lam, Peters, Sladen-Dew, and Altman, 1998; Pickar, 1995; Sheitman, Kinon, Ridgway, and Liberman, 1998; Stip, 2000; Tollefson, Sanger, Lu, and Thieme, 1998; Wahlbeck, Cheine, Essali, and Adams, 1999.

- *Side effects primarily included motor tremors and tardive dyskinesia or the uncontrollable movements often observed in Parkinson's disease patients. As a result, atypical antipsychotics were introduced. The slide above lists present day antipsychotic drugs given to those diagnosed with schizophrenia.*

2. Antipsychotic drugs



Daphne Moss (above), a paranoid schizophrenic used an atypical antipsychotic medication known as Clozapine to relieve symptoms.

- Myers briefly discusses the costs of taking typical antipsychotic medications. The most devastating costs of typical antipsychotic medications are the physical side effects. This explains why pharmacologists developed “atypical” antipsychotic medications to counter these side effects as shown above.*

3. Antianxiety drugs

- Antianxiety drugs are short-term solutions for those suffering from anxiety disorders. The most often used antianxiety medications include Xanax and Valium. The disadvantage of these medications is that they are addictive. Some antianxiety medications that have a more long term benefit without being addictive include drugs like Buspar. This medication is often used with patients diagnosed with panic disorder.*



*Does she
Need a
Valium?*

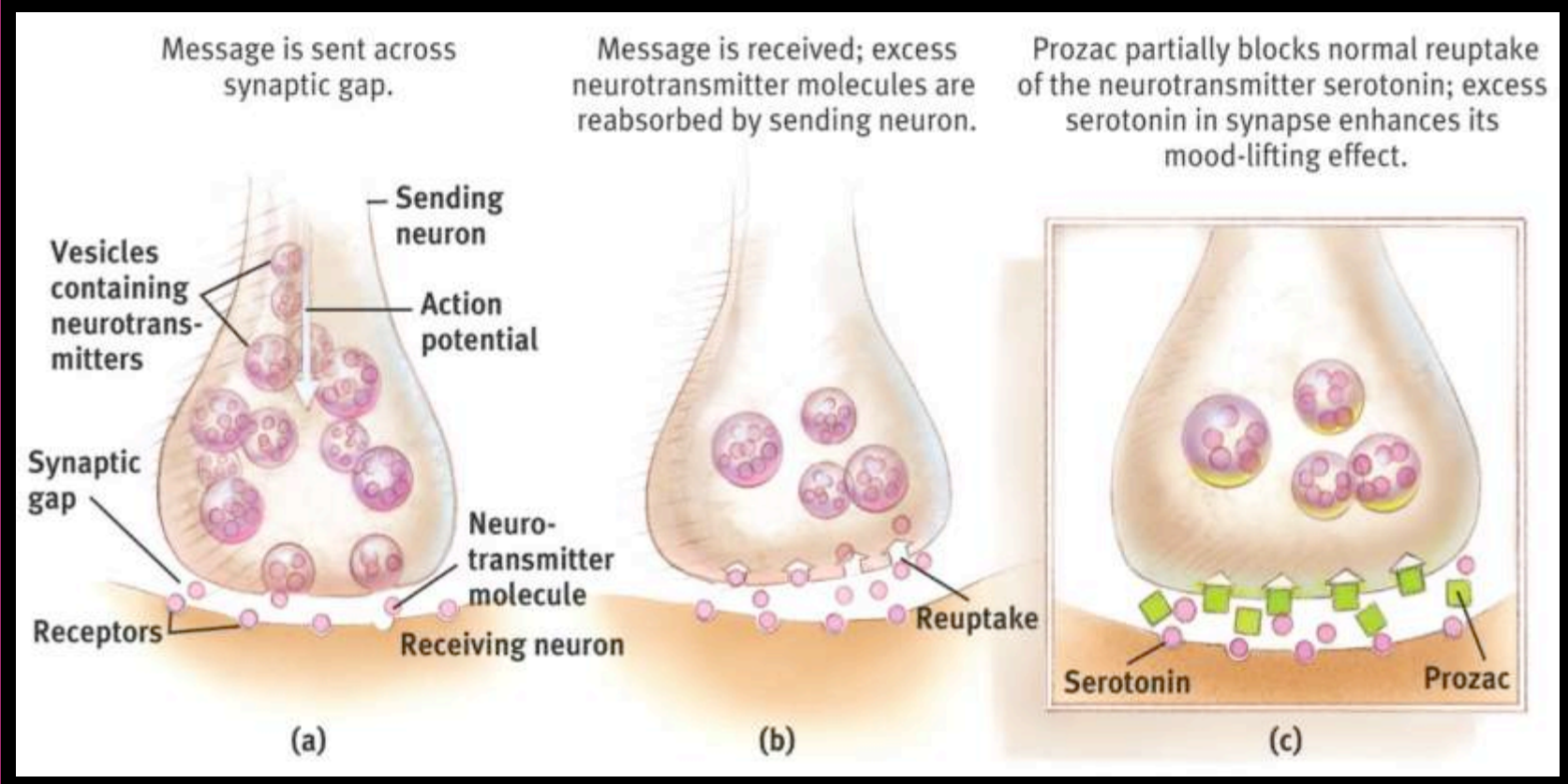
4. Antidepressant drugs



Prozac (above) was one of the first SRRI or Selective Serotonin Reuptake Inhibitors used to treat depressive and anxiety symptoms

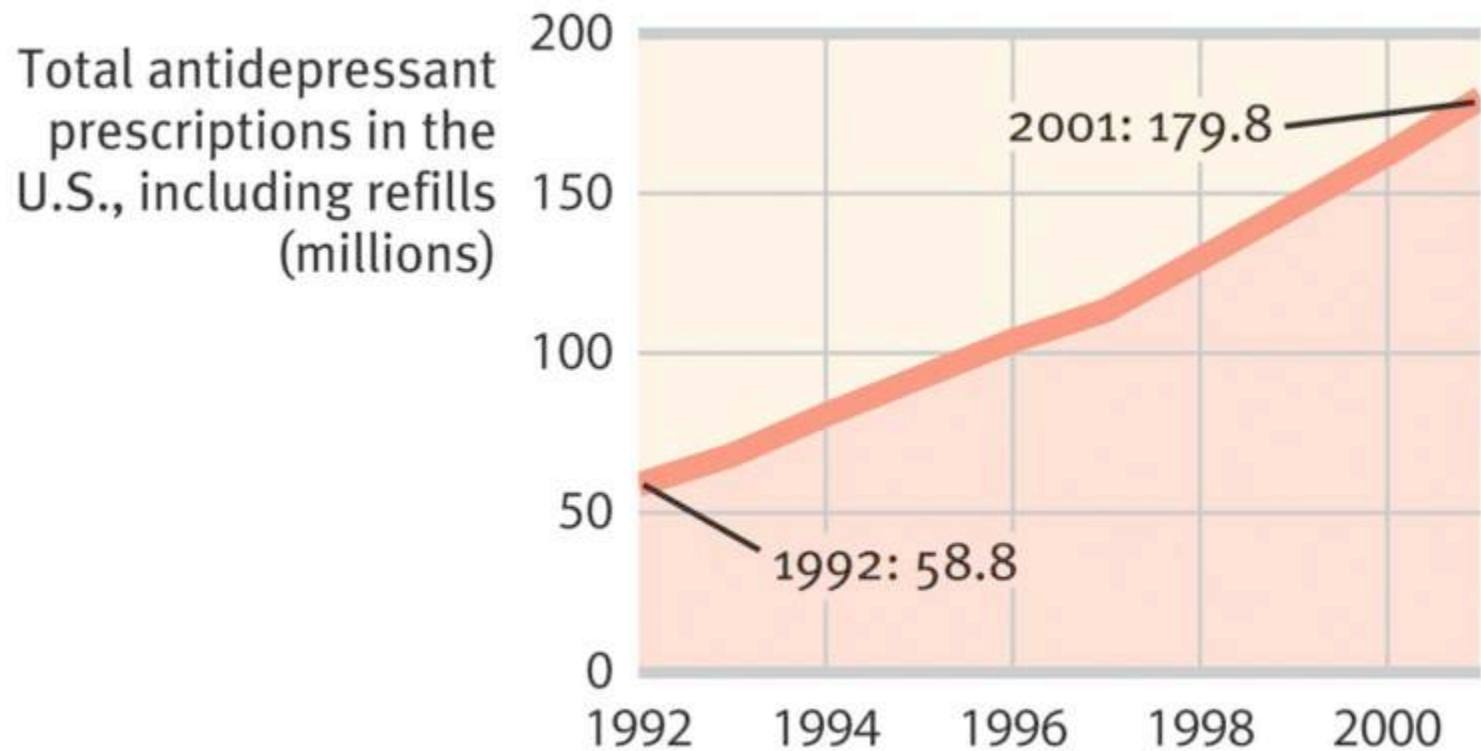
- *Antidepressant medications are used to increase the activity of norepinephrine and serotonin neurotransmitters. SRRI's are used to slow down the reabsorption and/or removal of serotonin from the synapse. As one might remember serotonin acts to inhibit actions potentials or the neural impulses that intensify depressive symptoms (e.g., negative thinking. The benefits of SRRI's are not experienced until 4 to 10 weeks into treatment.*

4. Antidepressant drugs



- The slide above illustrates synaptic transmission and the effects of SRRI's like prozac. Prozac and other SRRI's like Paxile, Zoloft, Luvox, etc... block the reuptake of serotonin. In doing so, serotonin remains active and inhibits action potentials that underlie depressive and anxiety symptoms.*

4. Antidepressant drugs



- The slide above illustrates the increase in antidepressant prescriptions in an eight year period. Drug companies have enjoyed an economic surplus during that period. Studies have recently shown that benefits of SRRI's have been observed. Nevertheless, other studies cannot rule out possible placebo effects.*

4. Antidepressant drugs



The "New Yorker" cartoon above is a poke humor at the placebo!

- In these studies, the rate of improvement among placebo groups is comparable to that of treatment groups. Even though placebo effects are powerful, mental health experts agree that antidepressants have played a critical role in successful outcomes. Furthermore, they answer their critics by stating that the expectations of medications are beyond what they are capable of doing.*

B. Electroconvulsive Therapy

- *1. What is it?*

. What is it?



Patient receiving ECT

- *Electroconvulsive therapy or ECT is a biomedical treatment in which electric shock is used to produce a cortical seizure that causes convulsions and memory loss. ECT is usually recommended when the patient's depression does not respond to medication. Overall, the effectiveness of ECT is mixed. It appears most effective with mood disorders. The risks of ECT center on loss of cognitive functioning with chronic use.*

C. Psychosurgery

- *1. A last resort?*