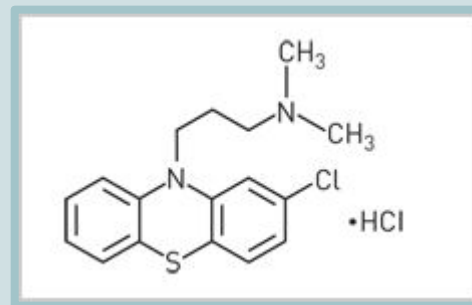


THORAZINE: AN ANTIPSYCHOTIC DRUG

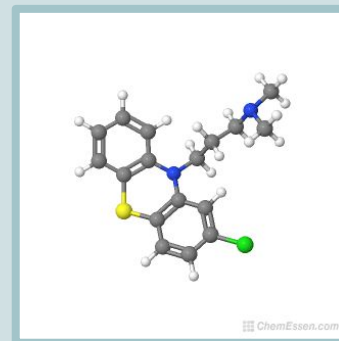
BY GUADALUPE GARCIA-CHAPA

WELL, WHAT EXACTLY IS THORAZINE?

- IT'S REAL NAME IS CHLORPROMAZINE BUT WAS LATER MARKETED AS THORAZINE BY SMITH-KLINE & FRENCH
- IT WAS THE FIRST RECOGNIZED ANTIPSYCHOTIC DRUG
- APPROVED BY THE FOOD AND DRUG ADMINISTRATION IN 1954
- IT IS USED TO TREAT VARIOUS MENTAL ILLNESSES SUCH AS SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS
- IT IS SUPPOSED TO HELP YOU THINK MORE CLEARLY, MAKE YOU FEEL MORE CALM AND LESS NERVOUS IN ORDER FOR YOU TO PARTICIPATE IN EVERYDAY LIFE



CHEMICAL STRUCTURE OF THORAZINE: 2D



CHEMICAL STRUCTURE OF THORAZINE: 3D

SO, WHAT DOES IT DO? WHAT ARE ITS PROPERTIES?

ANTIHISTAMINES PROPERTIES

- HISTAMINES ARE THE BODY'S RESPONSE TO ALLERGENS IN ORDER TO PROTECT THE IMMUNE SYSTEM
- THEY MAKE YOU SNEEZE, TEAR UP, COMMON ALLERGY SYMPTOMS IN ORDER TO EXPEL THE ALLERGENS
- WHEN YOU HAVE SEVERE ALLERGIES IT'S DUE TO AN OVERREACTION OF HISTAMINES IN WHICH CASE YOU WOULD TAKE AN ANTIHISTAMINE DRUG TO ALLEVIATE ALLERGIES BY

ANTIEMETIC PROPERTIES

- THEY HELP TO PREVENT VOMITING AND ALLEVIATE NAUSEA

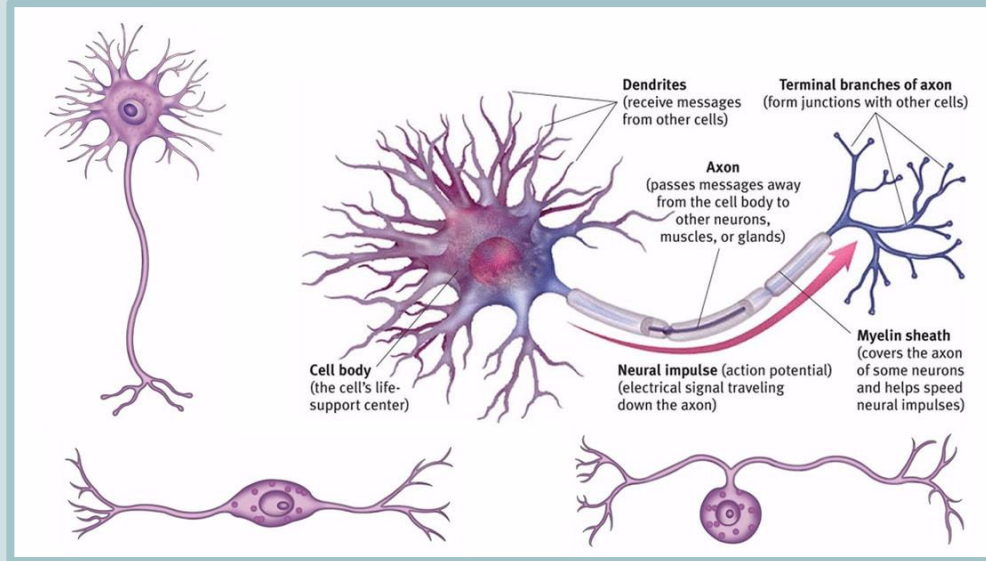
BARBITURATES

- THEY ARE CENTRAL NERVOUS DEPRESSANTS
- THEY REDUCE NERVE ACTIVITY RESULTING IN MUSCLE RELAXATION, REDUCE HEART RATE, BLOOD PRESSURE, AND BREATHING
- ALL BARBITURATES AFFECT GABA A NEUROTRANSMITTER THAT NERVES USE TO COMMUNICATE WITH EACH OTHER

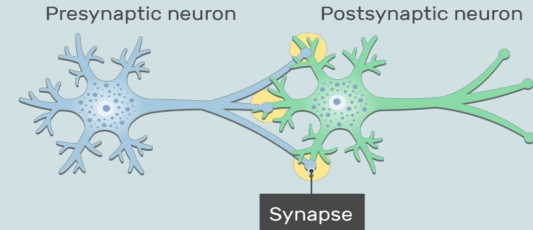


HOW DOES IT WORK ON A MOLECULAR LEVEL?

FIRST, SOME BACKGROUND INFORMATION



NEURON AND ITS STRUCTURE

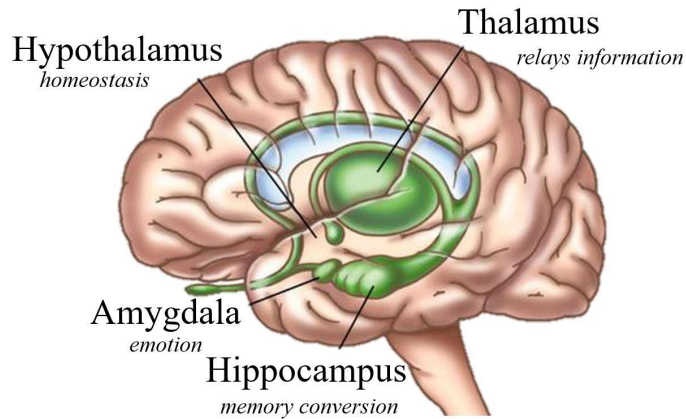


PRESYNAPTIC- SENDS MESSAGE
POSTSYNAPTIC- RECEIVES MESSAGE

- NEURONS- BRAIN CELLS
- THE TERMINAL BRANCHES OF THE NEURON HAVE ORGANELLES CALLED VESICLES THAT CONTAIN NEUROTRANSMITTERS TO SEND TO POSTSYNAPTIC NEURON.
- THE NEUROTRANSMITTERS BIND TO RECEPTORS ON THE DENDRITES OF THE POSTSYNAPTIC NEURON
- THE POSTSYNAPTIC NEURON RECEIVES THE SIGNAL AND RESULTS IN AN ACTION/RESPONSE

MORE BACKGROUND INFORMATION

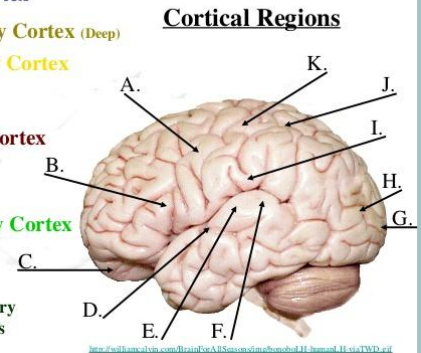
The Limbic System



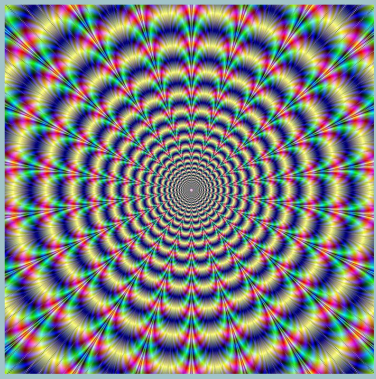
- THE LIMBIC SYSTEM ARE THE STRUCTURE IN OUR BRAINS THAT ARE RESPONSIBLE FOR OUR EMOTIONS AND MEMORIES.

- THE CORTICAL REGIONS OF CORTICAL ARE REFERRED TO AS THE CEREBRAL CORTEX WHICH IS A THIN LAYER THAT COVERS THE OUTER PART OF THE BRAIN

- A. Primary Motor Cortex/ Precentral Gyrus**
- B. Broca's Area**
- C. Orbitofrontal Cortex**
- D. Primary Olfactory Cortex (Deep)**
- E. Primary Auditory Cortex**
- F. Wernike's Area**
- G. Primary Visual Cortex**
- H. Visual Association Area**
- I. Primary Gustatory Cortex**
- J. Somatosensory Association Cortex**
- K. Primary Somatosensory Cortex/ Postcentral Gyrus**



NOW, HOW DOES THORAZINE FUNCTION?



- THORAZINE BLOCKS DOPAMINE RECEPTORS ALONG POSTSYNAPTIC NEURONS IN THE LIMBIC SYSTEM AND CEREBRAL CORTEX.
- IT'S ANTIEMETIC PROPERTY IS WHAT HELPS IT TO BLOCK DOPAMINE RECEPTORS
- WITHOUT THORAZINE DOPAMINE RECEPTORS WOULD BE ABLE TO BIND TO THE DENDRITES OF THE POSTSYNAPTIC NEURON AND CAUSE IT TO EMIT MORE DOPAMINE
- EXCESSIVE DOPAMINE IS PART OF WHAT CAUSES PSYCHOTIC SYMPTOMS
- BY PREVENTING NEURONS FROM RELEASING EXCESS DOPAMINE THORAZINE IS ABLE TO REDUCE PSYCHOTIC SYMPTOMS SUCH AS HALLUCINATIONS



SIDE EFFECTS

- DIZZINESS

- DROWSINESS

- ANXIETY

- INSOMNIA

- BREAST SWELLING OR DISCHARGE

- WEIGHT GAIN

- CHANGES IN MENSTRUAL CYCLE

- TARDIVE DYSKINESIA, WHICH CAUSES INVOLUNTARY MOVEMENTS; SIMILAR TO PARKINSON'S DISEASE



- FEET OR HAND SWELLING

- DRY MOUTH

- STUFFY NOSE

- BLURRED VISION

- CONSTIPATION

- IMPOTENCE

- TROUBLE HAVING ORGASM



THE DEINSTITUTIONALIZATION MOVEMENT

COURTESY OF THORAZINE

BEFORE THORAZINE

- BEFORE THORAZINE WAS AVAILABLE TREATMENTS FOR PSYCHOTIC DISORDERS WERE INVASIVE AND MANY CAUSED IRREVERSIBLE DAMAGE
- MENTAL HOSPITALS WERE HIGHLY POPULATED AT A HIGH OF 560,000 PATIENTS
- MOST MENTAL PATIENTS WOULD HAVE TO SPEND THEIR LIVES IN MENTAL INSTITUTIONS WITH NO HOPE OF RETURNING OR BEING REINTRODUCED TO SOCIETY
- SOME MENTAL PATIENTS WERE PUT INTO PRISONS

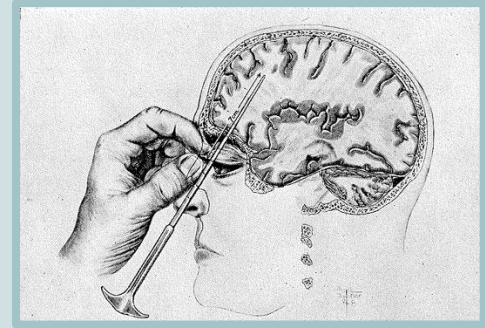


MENTAL INSTITUTIONS IN 1950S

LOBOTOMY

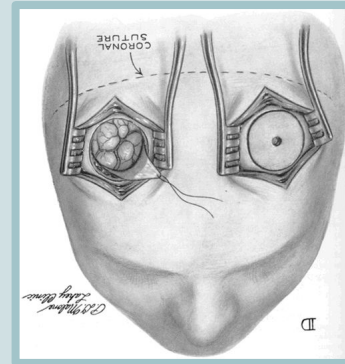
PSYCHOTIC DISORDER TREATMENTS BEFORE THORAZINE

- A LOBOTOMY IS AN INVASIVE PROCEDURE
- AN INCISION IS MADE THROUGH THE SKIN AND SKULL TO ACCESS THE BRAIN
- MOST OF THE CONNECTION IN THE PREFRONTAL CORTEX ARE THEN SEVERED
- USED TO TREAT MENTAL ILLNESSES SUCH AS SCHIZOPHRENIA AND MANIC DEPRESSION



DAMAGES

- MENTAL DULLNESS- MEANING PEOPLE COULD NO LONGER LIVE INDEPENDENTLY
- LOST PERSONALITY
- NEGATIVELY AFFECTED EMPATHY, INITIATIVE, INHIBITION ETC.
- ABILITY TO FUNCTION



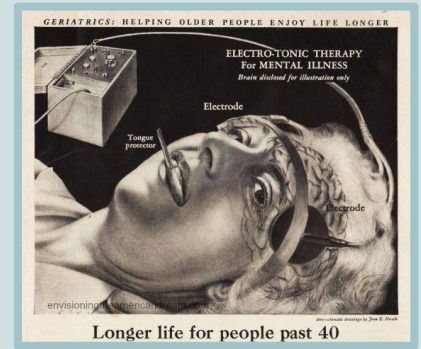
ELECTROSHOCK THERAPY(ECT)

PSYCHOTIC DISORDER TREATMENTS BEFORE THORAZINE

- WOULD USE ELECTRICITY AS A WAY TO CAUSE SEIZURES
- THE SEIZURES WOULD HELP CALM PATIENTS PSYCHOTIC SYMPTOMS
- HOW EVER BEFORE ECT WAS AVAILABLE PSYCHIATRISTS WOULD MAKE PATIENTS INDUCE SEIZURES BY USING CHEMICALS
- MOST COMMONLY USED CHEMICAL INCLUDED METRAZOL PATIENTS COMPLAINED THAT THEY EXPERIENCED A FEELING OF TERROR AFTER TAKING METRAZOL

DAMAGES

- WHILE SEIZURES MAY HAVE HELPED QUELL PSYCHOTIC SYMPTOMS THE ISSUE WAS THAT SEIZURE COULD CAUSE IRREVERSIBLE BRAIN DAMAGE
- IN THE BEGINNING IT WAS ESPECIALLY DANGEROUS BECAUSE MUSCLE RELAXANTS WEREN'T USED TO PREVENT THE PHYSICAL DAMAGE OF SEIZURES
- IN THE 1950S MENTAL HOSPITALS USED ECT AS A THREAT TO CONTROL DIFFICULT PATIENTS



AFTER THORAZINE

- ONCE IT WAS INTRODUCED IN THE U.S IN 1954 IT BECAME A STAPLE OF ASYLUM MEDICINE
- IT BROUGHT HOPE AND WAS BEGINNING TO BE USED AS A WAY OF RETURNING MENTAL PATIENTS TO SOCIETY
- POPULATIONS OF METAL HOSPITALS DROPPED FROM A HIGH OF 560,000 IN 1953 TO 193,00 BY 1975
- THE DEINSTITUTIONALIZATION MOVEMENT WAS A FEDERAL POLICY THAT RELEASED THOUSANDS OF MENTALLY ILL PATIENTS FROM U.S. ASYLUMS DURING THE 1960S AND 1970S.
- HOWEVER, THOUGH IT SOUNDS LIKE A GOOD THING, THE SUCCESSFUL TREATMENT AND REHABILITATION OF SCHIZOPHRENIC PATIENTS WASN'T VERY HIGH

A teal-colored starburst shape with a white outline, centered on a light teal background. Inside the starburst, the words "The end" are written in a white, italicized serif font.

The end

SOURCES

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