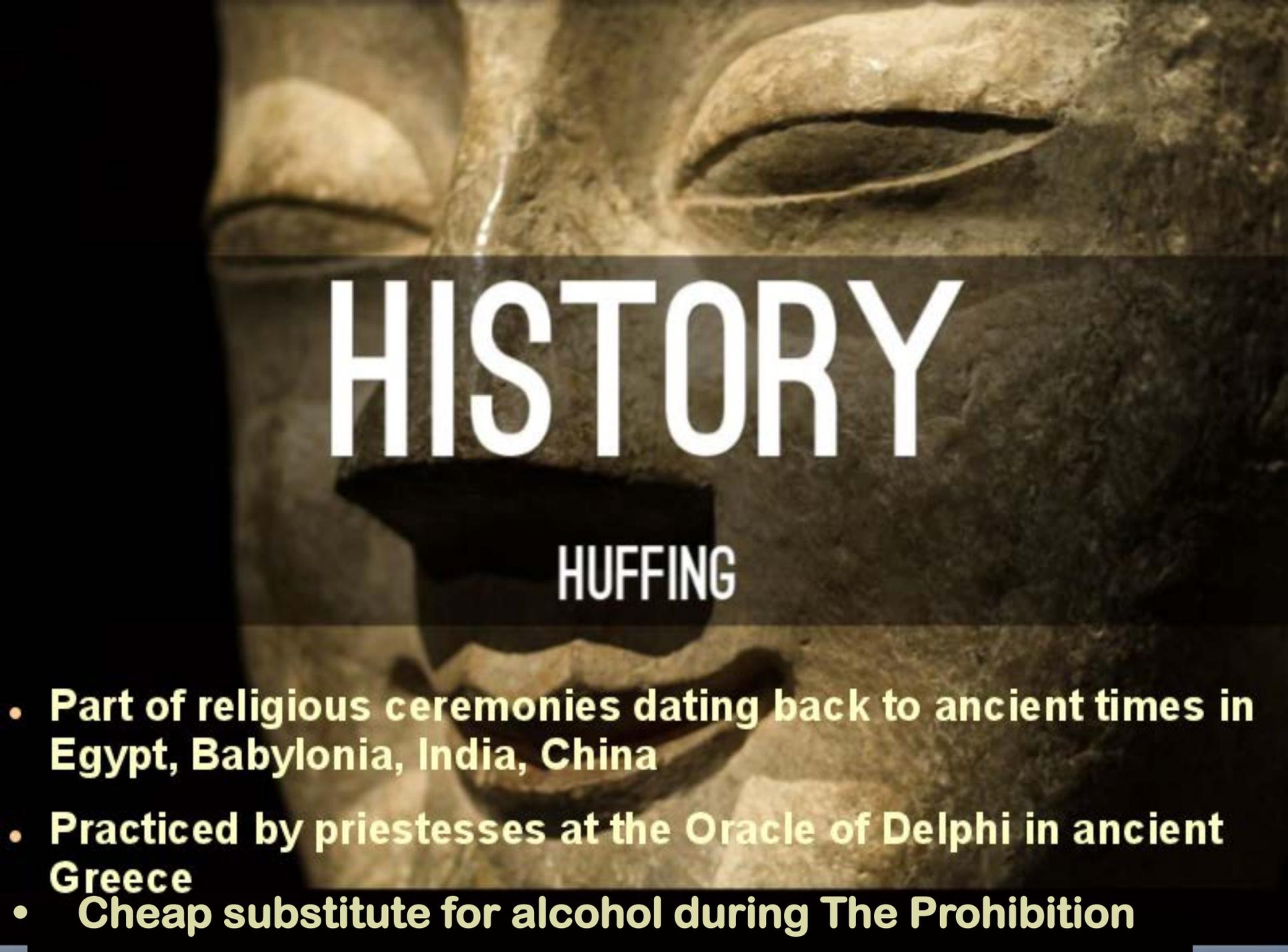




Inhalants

UCLA 2014 Presentation

A close-up photograph of an ancient stone face, possibly a mask or a sculpture. The face has a serene expression with closed eyes. A dark, rectangular object is placed over the mouth area. The background is dark and textured.

HISTORY

HUFFING

- **Part of religious ceremonies dating back to ancient times in Egypt, Babylonia, India, China**
- **Practiced by priestesses at the Oracle of Delphi in ancient Greece**
- **Cheap substitute for alcohol during The Prohibition**

DIFFERENT TYPES OF INHALANTS

Liquids: paint thinners, gasoline, glue

Sprays: spray paint, deoderant, hair spray, vegetable oil

Gases: medical anesthetics (chloroform, nitrous oxide), whipped cream

Nitrites: found in food preservatives, room deoderizers



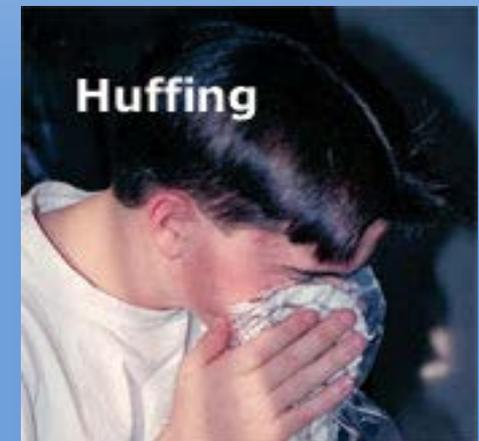


He used 3-M electronics cleaner



Routes of Administration

- **“Sniffing”**: Inhaling vapors from an open container.
- **“Bagging”**: Inhaling more concentrated vapors from a closed container.
- **“Huffing”**: Breathing through a solvent-soaked cloth.
- ***Quick onset: seconds.
- ***Last: Short, usually 1-5 minutes, leading to repeated use.

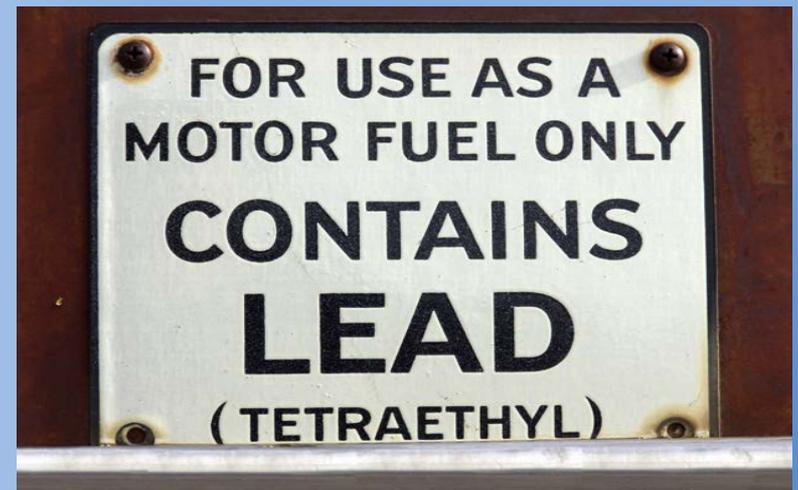




**Petrol
(Gasoline)**

What is Petrol?

- **Gasoline!!**
- Mixture of toxic substances (hydrocarbons, lead) found in crude oil
- Depressant (like alcohol, other sedatives)



Chemicals In Petrol

- **Hydrocarbons:**

- Very toxic, quickly absorbed through the lungs
- Can contribute to brain damage

- **Lead:**

- Metal that is taken into the body and deposited in different organs (including the brain)
- Causes *irreversible* brain damage



Petrol sniffing History

- Documented by researchers for more than a century!
- Serious problem in remote Australian communities: Northern, Western Australia and Native Americans



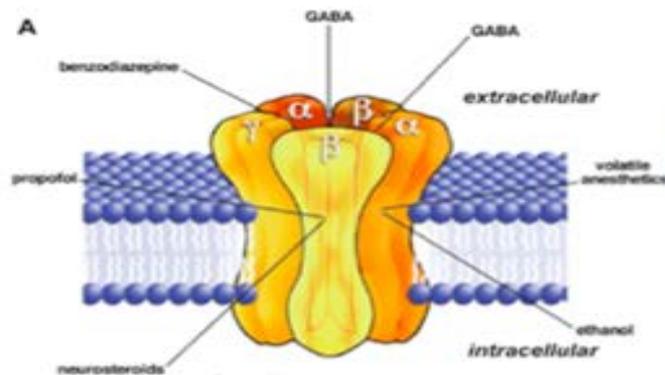
Native American mother holding a photo of her 14 year old son who died after huffing glue



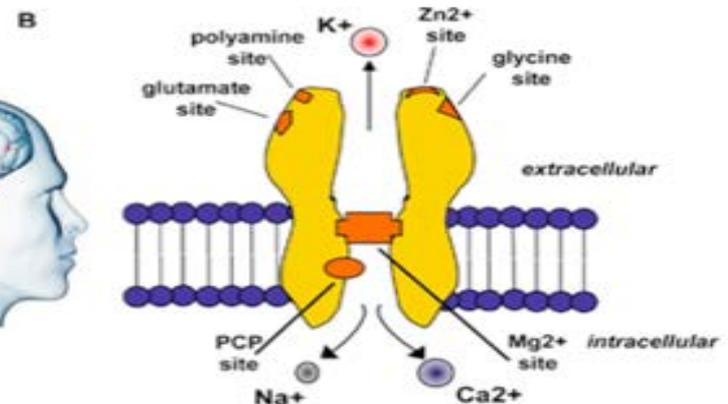
How It Works

- Enhances GABA (neurotransmitter) receptor function
- Decreases Glutamate (neurotransmitter) receptor function
 - Slows brain communication

GABA_A Receptors (inhibiting brain cell firing)



NMDA Receptors (causing brain cell firing)



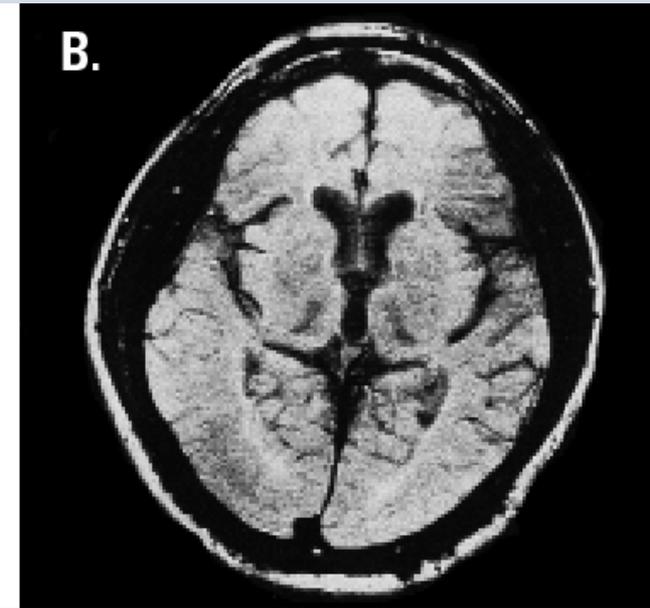
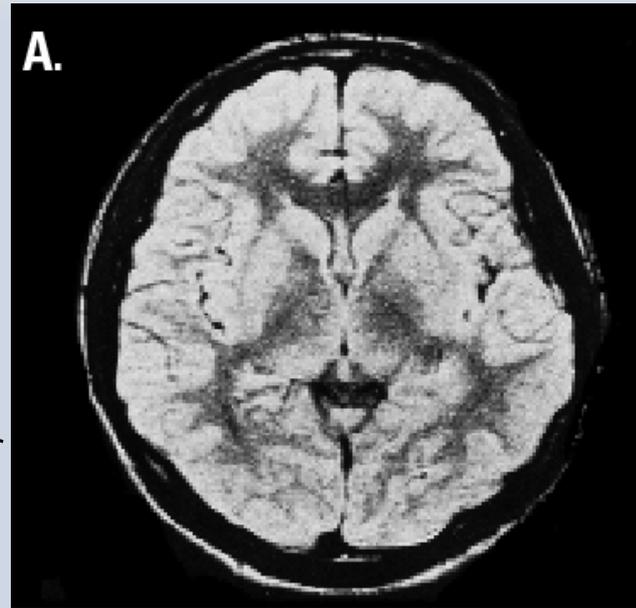
Drug Effects

Short Term:

- Euphoria
- Dizziness
- Numbness
- Nausea

Long Term:

- Muscle tremor
- Seizures
- Pneumonia
- Permanent brain damage
- Death



Withdrawal

A black and white photograph of a person sitting on the ground with their head buried in their arms, suggesting a state of withdrawal or depression. The person is wearing a light-colored long-sleeved shirt and dark pants. The background is a textured, light-colored surface, possibly concrete or stone.

- Symptoms:
 - Irritability
 - Mood swings
 - Anxiety
 - Depression

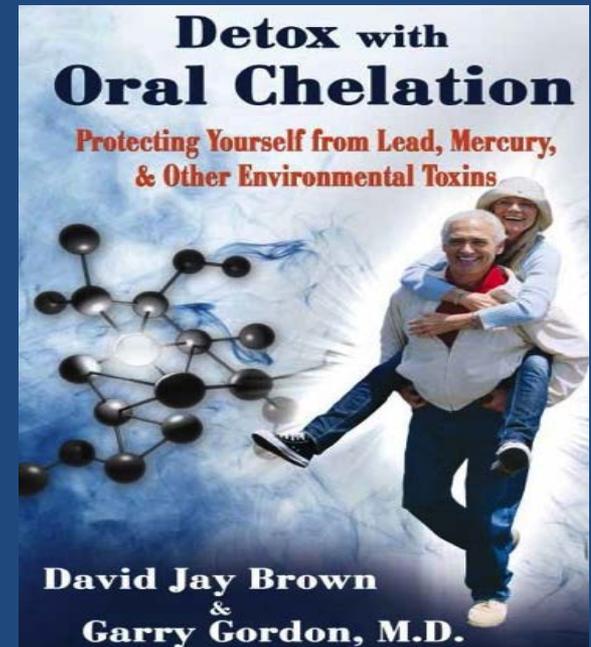
Treatment



- In hospital:
 - Hydration
 - Seizure management
 - Chelation therapy: lowers blood lead levels (clinical trials)
- Rehab
- Counseling/therapy

Chelation Therapy

- Chelating agents can be given by mouth or injection
- Bind to the metal (i.e lead) so it can't bind to anything else and is excreted



Why may this NOT be the best treatment?

1. Removes essential minerals (i.e zinc)

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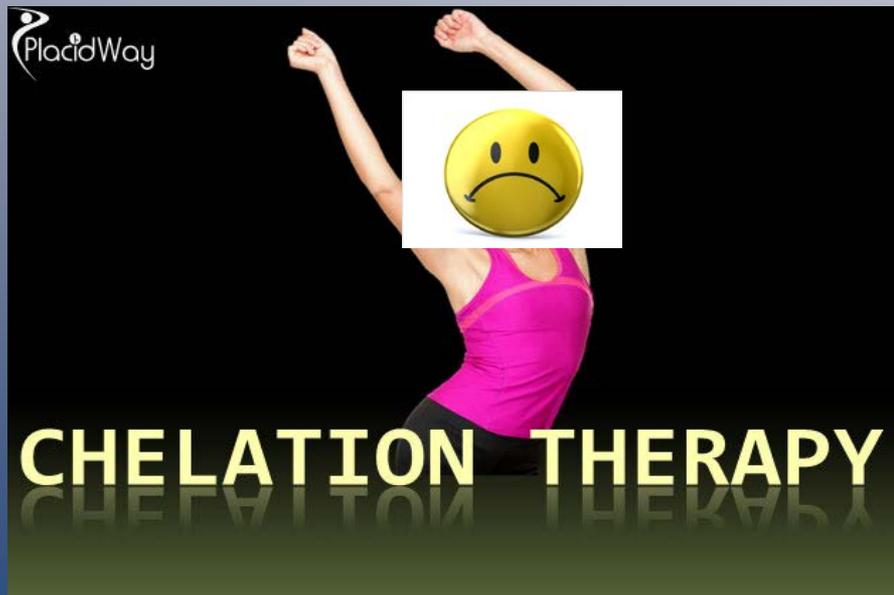
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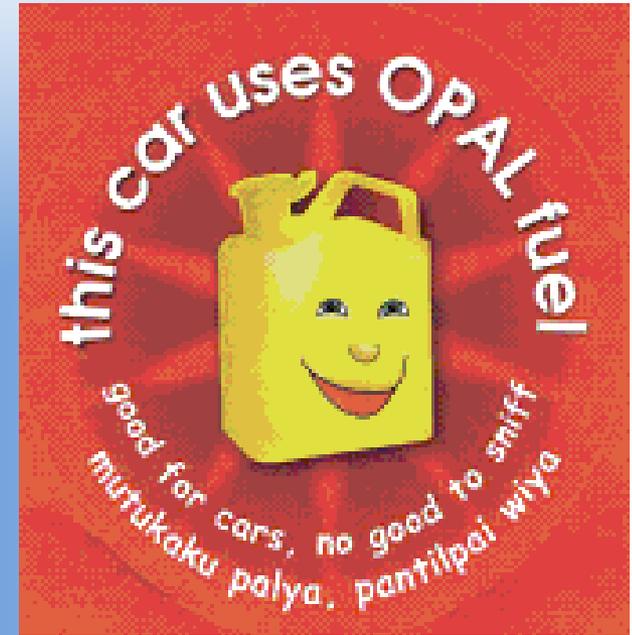


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Opal



- Policy:
 - Introduce non-sniffable fuel
 - Opal introduced in 2005
- Contains 1/5 the toxic chemicals as ordinary petrol

***70% decline in petrol sniffing in some remote Australian communities

Legality



- Gasoline is not regulated!
- Under the Australian *Misuse of Drugs Act 1993*, it is illegal to sell/supply gasoline to anyone when it is known the person will use/sell it as a drug



WHIPPETS

What is in a “Whippet”

- Whippets are canisters full of Nitrous Oxide (“laughing gas”) – Ex: Whipped Cream



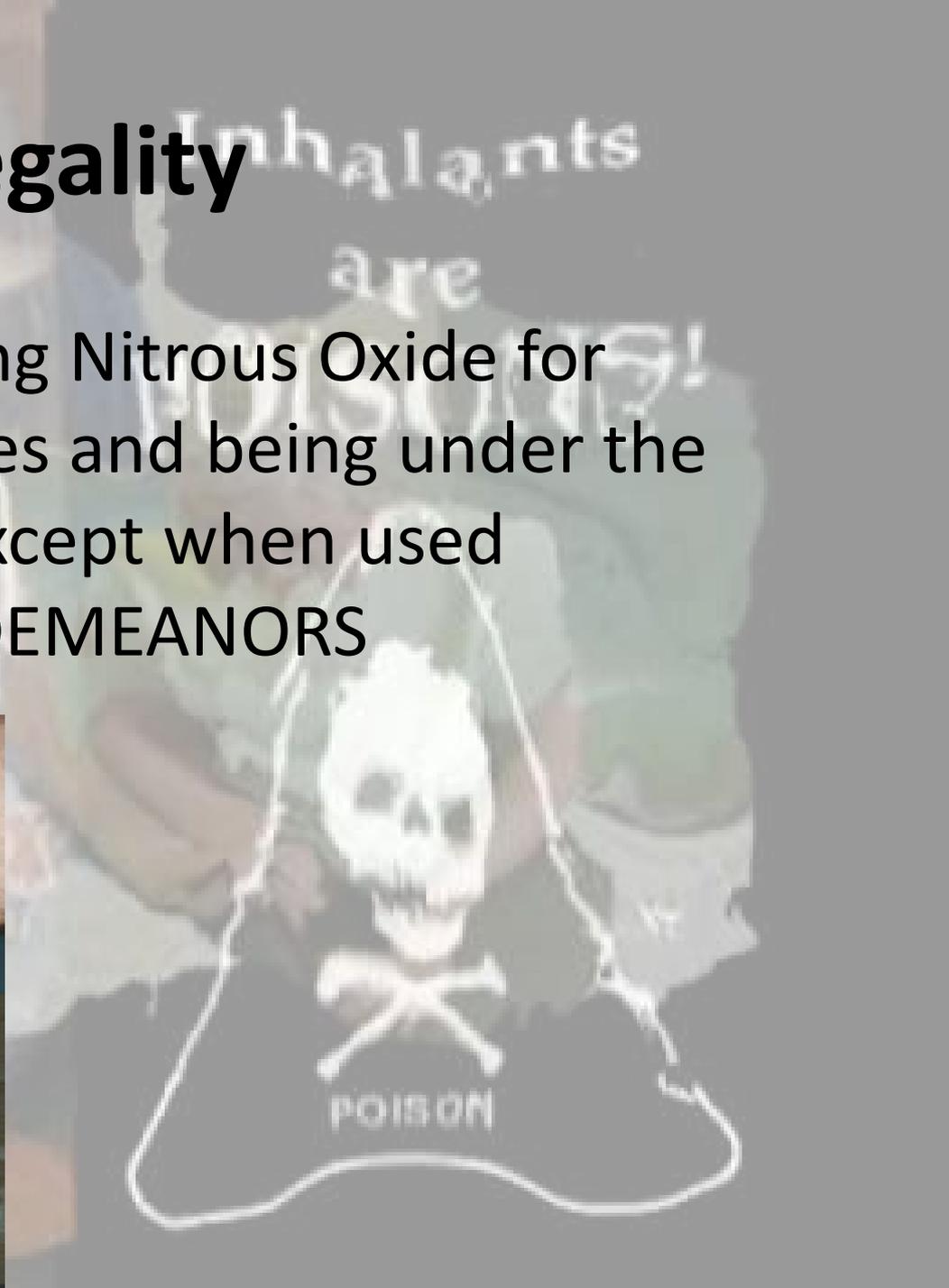
History of Nitrous Oxide

- Discovered in 1772, experimented in 1799 to discover effects
- Used in dentistry since 1863



Legality

- California: possessing Nitrous Oxide for intoxication purposes and being under the influence of N_2O (except when used medically) are MISDEMEANORS



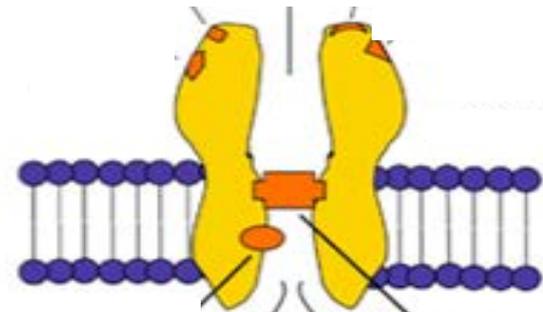
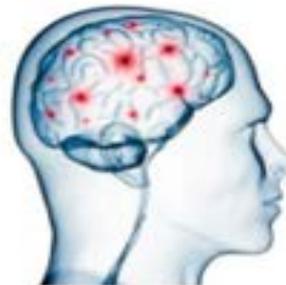
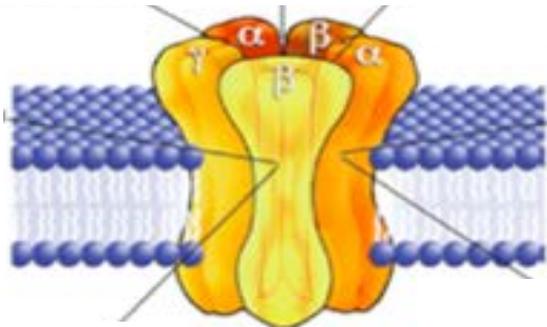
How Whippets Work

- Inhale balloons full of N₂O or snort from canisters (takes seconds)
- Slow your body (depressive)
 - Increasing effect of GABA
 - Decreasing effect of NMDA

GABA_A Receptors
(inhibiting brain cell firing)

NMDA Receptors
(causing brain cell firing)

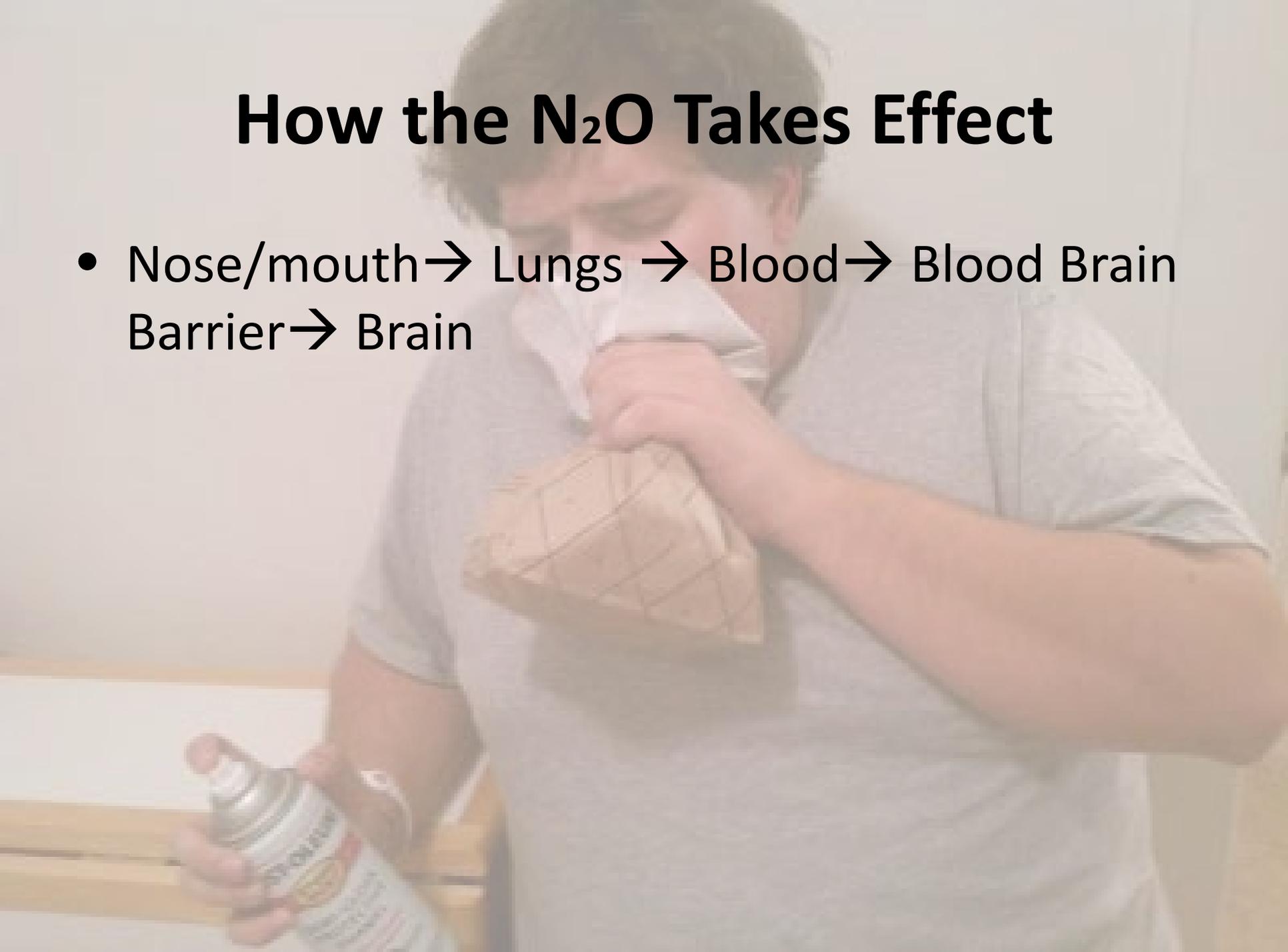
GABA



Uses Glutamate

How the N₂O Takes Effect

- Nose/mouth → Lungs → Blood → Blood Brain Barrier → Brain

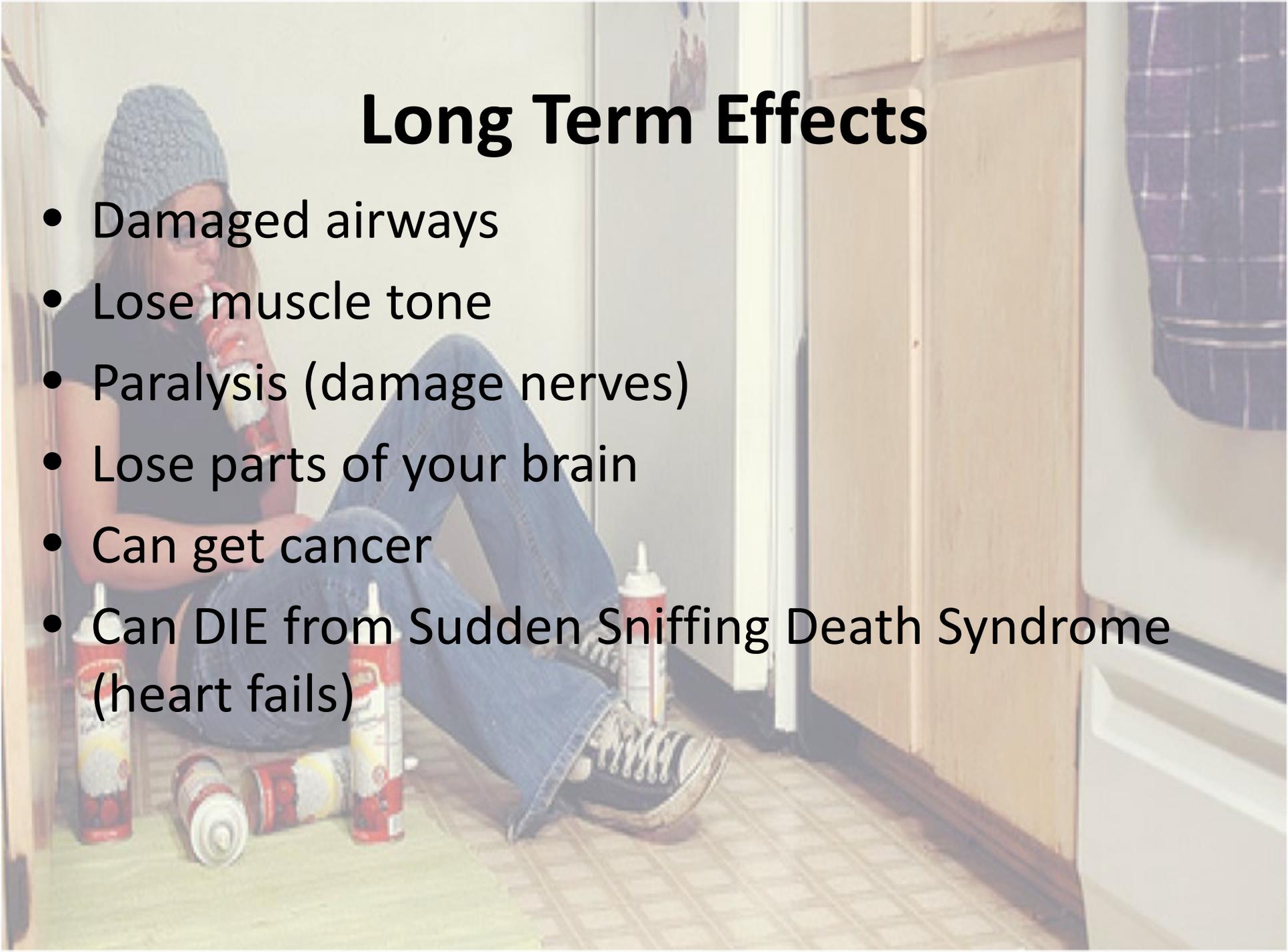


Short Term Effects

- Laughter
 - Relaxation
 - Excitement → Drowsiness → Light Headed → Upset
 - Weakness
 - Slow Reflexes
- 
- A person wearing a red t-shirt is holding a large, white, cylindrical container (possibly a cup or a small barrel) with both hands. The person is looking upwards and to the right. The background is a clear blue sky with some light clouds. The overall scene suggests a moment of surprise or excitement.

Long Term Effects

- Damaged airways
- Lose muscle tone
- Paralysis (damage nerves)
- Lose parts of your brain
- Can get cancer
- Can DIE from Sudden Sniffing Death Syndrome (heart fails)



Withdrawal

- N₂O is addictive and there is withdrawal
- Nausea
- Headache
- Anxiety
- Depression
- Dizziness
- Craving



Treatment

- Withdrawal effects last for weeks, DETOX
- Individual or Family or Group Therapy
- Cognitive Behavioral Therapy

