### Prescription Drug Background

**Science in the Spotlight:**

Using prescription drugs without a prescription can lead to drug addiction.

Both inhalants and prescription drugs activate the brain's reward system. This is the physiological reason behind feelings of pleasure associated with drug use.

Inhalants also alter the frontal lobe, which is important for problem solving.

**Inhalants Inspector**

When taken as prescribed, studies show that Ritalin allows the brain to function normally.

**Long-Term Effects of Inhalants**
- Muscle Weakness
- Weight Loss
- Disorientation
- Inattentiveness
- Lack of Coordination
- Irritability
- Depression

**Short-Term Effects of Inhalants**
- Dizziness
- Improved Judgment
- Mood Swings
- Insomnia
- Increased Heart Rate
- Decreased Sensation

**Drugs In The Cupboard**

- Opioids: morphine, codeine, oxycodone (OxyContin), hydrocodone (Vicodin)
- Central nervous system depressants: benzodiazepines (Valium)
- Stimulants: dextroamphetamine (Dexedrine), methylphenidate (Ritalin)

Drugs can cause negative side effects, such as impaired vision and impaired breathing.

### Addictions, Depressants, Dopamine, GABA, Opioids, Seizures, Withdrawal

Prescription Drug Word Search

Inhalant Inspector

Unscramble the clues below (types of inhalants and long-term affects of use). Then copy the letters in the numbered squares to the cells at the bottom with the same number in order to solve this mystery:

What is the most serious possible side effect of inhalant use?

**Taking stimulants with over-the-counter cold medications can cause dangerous changes in blood pressure and heartbeat.**

**Prescription drug misuse is defined as using prescription drugs without a prescription, at a dose that a doctor did not prescribe, or for a reason a doctor did not give.**

**Prescription drugs are prescribed by doctors, among other reasons, to:**
- lessen the pain of surgery or an illness
- relieve anxiety or sleep disorders
- help with attention deficit hyperactivity disorder (ADHD)

**Commonly abused prescription drugs include:**
- Opioids: morphine, codeine, oxycodone (OxyContin), hydrocodone (Vicodin)
- Central nervous system depressants: benzodiazepines (Valium)
- Stimulants: dextroamphetamine (Dexedrine), methylphenidate (Ritalin)

Drugs can cause "sudden sniffing death," which occurs when chemical fumes replace oxygen in the lungs and brain.
Drugs from Plants

Did you know that many drugs, both illegal and legal, are created from plants? For thousands of years, people have used certain plants for treating illnesses and healing wounds. Today, people use plants for treating everything from colds to cancer. Some people use plants every day, in the form of vitamins or herbs, to feel better and stay healthy. Some 25 percent of all medicines used today come from plants. Scientists work every day to find more useful drugs that are still undiscovered.

Medicines and Drugs
- Aspirin comes from the bark of a willow tree
- Pencillin is made from molds
- The ergot fungus is the base for several medications that fight headaches
- Vincristine, which is used to treat leukemia, a kind of cancer, is made from the Madagascar rosy periwinkle
- Morphine, used for the relief of severe pain, comes from the opium poppy
- Taxol, which comes from the yew plant, has potential for treating breast, ovarian, and lung cancers
- Cocaine comes from coca leaves
- Heroin comes from the seeds of the opium poppy
- Nicotine comes from the leaves of the tobacco plant
- Marijuana comes from a plant whose Latin name is Cannabis sativa
- Alcohol is made from a process called fermentation that involves plants and yeast

Herbal Remedies
- Just because something is labeled “herbal” or “natural” does not mean it is good for you
- Always check with your family doctor
- Echinacea is an herb that activates certain cells that eat bacteria and viruses and help the immune system fight disease
- Garlic contains a chemical that acts like an antibiotic; it can also lower cholesterol and high blood pressure
- Ginger can relieve motion sickness
- Cinnamon flavors in gum keep the breath fresh
- Goldenseal, an herb from the buttercup family, contains chemicals that kill certain bacteria and fungi
- The juice of the aloe plant can be applied to the skin to heal cuts or burns

Which brain would you rather have? white = brain tissue

Did you pick Brain A? It belongs to someone who doesn’t use inhalants. Brain B belongs to an inhalant abuser. As you can see, inhalants can cause brain tissue to shrink. In fact, long-term inhalant use can cause even more damage to the brain than cocaine use. Both drugs can cause serious damage to the brain, but a recent study found that that long-term inhalant abusers are actually more likely to have brain damage, and the damage tends to be more extensive.

Inhalant Inspector Answers:
- FRONTAL LOBE
- CHEMICALS
- GASES
- BRAIN STEM
- WEIGHT LOSS
- MUSCLE WEAKNESS
- IRRITABILITY
- DEPRESSION

Inhalant Inspector Solution:
- SUDDEN SNIFING DEATH

Doctors prescribe stimulant medications, such as methylphenidate (Ritalin) and dextroamphetamine (Dexedrine) for children with ADHD. These medicines increase dopamine levels in the brain.

Taking stimulants without a doctor’s prescription is dangerous. These medications can be very addictive.

People with ADHD have lower amounts of dopamine in their brains.

People should only take stimulants and other prescription drugs if they are prescribed to them by a doctor.