Cocaine
(crack, snow, flake, C, coke, blow, dream, devil’s dandruff, white dragon)

Ally Cappiello
• Made from **coca** leaves.
  – Coca is grown most in South America, specifically Colombia.
In the Past...
... And Now

- Cocaine is a **Schedule II** drug under the US Controlled Substances Act
  - Has a high potential for abuse
  - Causes dependence
  - Has some medical uses
  - Other: morphine, oxycodone, PCP
Short-Term Effects

• Cocaine is a stimulant.
  – Increase physical activity
  – Increase heart rate, body temperature, and blood pressure
  – More alert
  – Elevated mood
  – Decrease hunger and sleep
• Other stimulants: caffeine, nicotine, meth, Adderall
Withdrawal

• After someone uses cocaine, they can experience withdrawal
  – Vivid, unpleasant dreams
  – Depression
  – Disturbed sleep cycle
  – Tiredness
  – Increased appetite
  – Agitation

• People will sometimes take the drug again to avoid these withdrawal effects
Long-Term Effects

- Addiction
- Tolerance
  - Need more cocaine to get the same high
- Unhealthy weight
- Nose bleeds and decay
- Can lead to seizures, heart attack, stroke, coma, or death
John Belushi – Speedball (Heroin & Cocaine)

Chris Farley – Morphine and Cocaine Overdose

Billy Mays – Heart Disease, complicated by cocaine use

Whitney Houston – Drowning, complications of cocaine and heart disease
The Brain And Reward

• The brain is pre-wired with a “pleasure center” to give feelings of reward.
• Behaviors like eating and sex activate this area since they are important for survival.
• Drugs hijack this area to cause extreme feelings of reward.
• This causes cravings and addiction.
Neurons

- Neurons are the cells that make up the brain and spinal cord.
- They talk to each other across synapses using chemicals called neurotransmitters.
- Neurons use **DOPAMINE** to communicate reward.
The Synapse

- The first neuron releases **neurotransmitters** into the **synapse**.
- Neurotransmitters bind like a lock and key to **receptors** on the second cell.
- This changes the second cell and it can send the message to other cells.
Neurotransmitter Recycling

1. Release of neurotransmitter from Cell 1
2. Binding of neurotransmitter to Cell 2
3. Recycling of neurotransmitter back into Cell 1
4. Repeat
Now with Cocaine...
Dopamine = Reward

- If dopamine can’t get recycled back into cell 1, it can bind again and again to cell 2.
- A lot of dopamine means a lot of pleasurable and rewarding feelings.
Why is this Bad?

• When the brain feels rewarded from drugs, it says “that was good for me, do it again.”
• But the brain has been tricked by the drugs; the drugs are actually harming the brain and body.
• This causes drug-seeking behavior and more harm to the brain and body.
Why Is This Bad?
Treatment

• There is no “cure” for cocaine addiction.
• Relapse is common.
• Treatment plans are made specifically for the individual and include many aspects.
• Therapy, rehab, and support groups are helpful.
• Addiction is a chronic disease and must be treated continually.