

# TAY TIPS

TRANSITIONING TODAY'S YOUTH INTO ADULTHOOD



County of Orange Health Care Agency Behavioral Health Services, Funded by Proposition 63 / MHSAs Funds



## Common Drugs of Abuse

## IN THIS ISSUE...

Individuals who have a mental illness are at a much higher risk for also abusing substances, particularly during late adolescence and young adulthood. Factors such as availability, peer pressure, and attempts to self-medicate symptoms all contribute to the risk of developing a substance use problem.

This issue of TAY Tips is dedicated to helping you understand the different substances that are commonly used and abused by many young adults. Recognizing when a substance use problem is occurring is an essential part of treatment.

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# Monitoring the Future Study

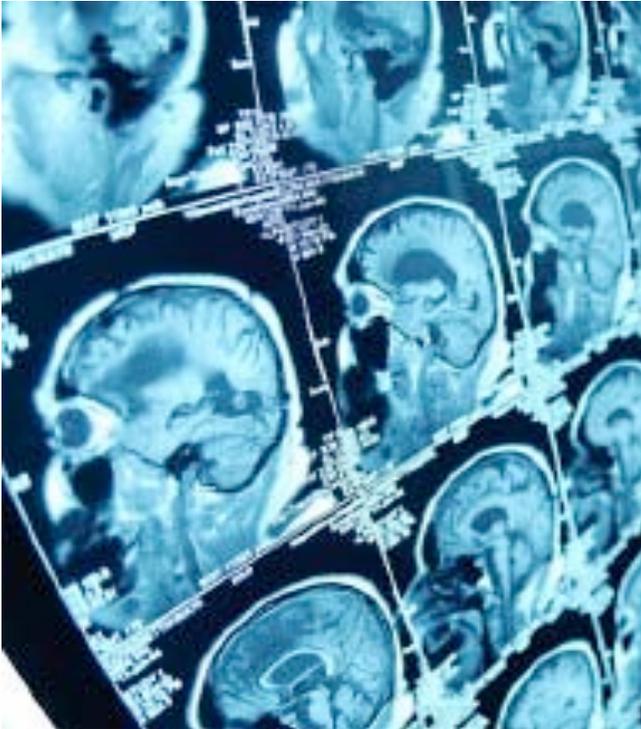
The data represents prevalence of substance use in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students in the US. Rates among those suffering from mental health issues are much higher. An article in the Journal of the Medical Association (Drake, 2006) indicated that up to 50% of individuals with mental illness also suffer from a substance abuse problem.

www.monitoringthefuture.org

\*data presented in %

		8th-Graders				10th-Graders				12th-Graders			
		2005	2006	2007	2008	2005	2006	2007	2008	2005	2006	2007	2008
<b>Marijuana/Hashish</b>	Lifetime	16.5	15.7	14.2	14.6	34.1	31.8	31.0	29.9	44.8	42.3	41.8	42.6
	Past Year	12.2	11.7	[10.3]	10.9	26.6	25.2	24.6	23.9	33.6	31.5	31.7	32.4
	Past Month	6.6	6.5	5.7	5.8	15.2	14.2	14.2	13.8	19.8	18.3	18.8	19.4
	Daily	1.0	1.0	0.8	0.9	3.1	2.8	2.8	2.7	5.0	5.0	5.1	5.4
<b>Inhalants</b>	Lifetime	17.1	16.1	15.6	15.7	13.1	13.3	13.6	12.8	11.4	11.1	10.5	9.9
	Past Year	9.5	9.1	8.3	8.9	6.0	6.5	6.6	5.9	5.0	4.5	3.7	3.8
	Past Month	4.2	4.1	3.9	4.1	2.2	2.3	2.5	2.1	2.0	1.5	1.2	1.4
<b>Hallucinogens</b>	Lifetime	3.8	3.4	3.1	3.3	5.8	6.1	6.4	5.5	8.8	8.3	8.4	8.7
	Past Year	2.4	2.1	1.9	2.1	4.0	4.1	4.4	3.9	5.5	4.9	5.4	5.9
	Past Month	1.1	0.9	1.0	0.9	1.5	1.5	1.7	1.3	1.9	1.5	1.7	[2.2]
<b>LSD</b>	Lifetime	1.9	1.6	1.6	1.9	2.5	2.7	3.0	2.6	3.5	3.3	3.4	4.0
	Past Year	1.2	0.9	1.1	1.3	1.5	1.7	1.9	1.8	1.8	1.7	2.1	2.7
	Past Month	0.5	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.7	0.6	0.6	[1.1]
<b>Cocaine</b>	Lifetime	3.7	3.4	3.1	3.0	5.2	4.8	5.3	4.5	8.0	8.5	7.8	7.2
	Past Year	2.2	2.0	2.0	1.8	3.5	3.2	3.4	3.0	5.1	5.7	5.2	4.4
	Past Month	1.0	1.0	0.9	0.8	1.5	1.5	1.3	1.2	2.3	2.5	[2.0]	1.9
<b>Crack Cocaine</b>	Lifetime	2.4	2.3	2.1	2.0	2.5	2.2	2.3	2.0	3.5	3.5	3.2	2.8
	Past Year	1.4	1.3	1.3	1.1	1.7	1.3	1.3	1.3	1.9	2.1	1.9	[1.6]
	Past Month	0.6	0.6	0.6	0.5	0.7	0.7	[0.5]	0.5	1.0	0.9	0.9	0.8
<b>Heroin</b>	Lifetime	1.5	1.4	1.3	1.4	1.5	1.4	1.5	[1.2]	1.5	1.4	1.5	1.3
	Past Year	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.9	0.7
	Past Month	0.5	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4
<b>Tranquilizers</b>	Lifetime	4.1	4.3	3.9	3.9	7.1	7.2	7.4	6.8	9.9	10.3	9.5	8.9
	Past Year	2.8	2.6	2.4	2.4	4.8	5.2	5.3	4.6	6.8	6.6	6.2	6.2
	Past Month	1.3	1.3	1.1	1.2	2.3	2.4	2.6	[1.9]	2.9	2.7	2.6	2.6
<b>Alcohol</b>	Lifetime	41.0	40.5	38.9	38.9	63.2	61.5	61.7	[58.3]	75.1	72.7	72.2	71.9
	Past Year	33.9	33.6	31.8	32.1	56.7	55.8	56.3	[52.5]	68.6	66.5	66.4	65.5
	Past Month	17.1	17.2	15.9	15.9	33.2	33.8	33.4	[28.8]	47.0	45.3	44.4	43.1
	Daily	0.5	0.5	0.6	0.7	1.3	1.4	1.4	[1.0]	3.1	3.0	3.1	2.8
<b>Cigarettes (any use)</b>	Lifetime	25.9	24.6	[22.1]	20.5	38.9	36.1	34.6	[31.7]	50.0	47.1	46.2	44.7
	Past Month	9.3	8.7	[7.1]	6.8	14.9	14.5	14.0	[12.3]	23.2	21.6	21.6	20.4
	Daily	4.0	4.0	[3.0]	3.1	7.5	7.6	7.2	[5.9]	13.6	12.2	12.3	11.4
	1/2-pack+/day	1.7	1.5	1.1	1.2	3.1	3.3	2.7	[2.0]	6.9	5.9	5.7	5.4
<b>Steroids</b>	Lifetime	1.7	1.6	1.5	1.4	2.0	1.8	1.8	1.4	2.6	2.7	2.2	2.2
	Past Year	1.1	0.9	0.8	0.9	1.3	1.2	1.1	0.9	1.5	1.8	1.4	1.5
	Past Month	0.5	0.5	0.4	0.5	0.6	0.6	0.5	0.5	0.9	1.1	1.0	1.0
<b>MDMA</b>	Lifetime	2.8	2.5	2.3	2.4	4.0	4.5	5.2	4.3	5.4	6.5	6.5	6.2
	Past Year	1.7	1.4	1.5	1.7	2.6	2.8	3.5	2.9	3.0	4.1	4.5	4.3
	Past Month	0.6	0.7	0.6	0.8	1.0	1.2	1.2	1.1	1.0	1.3	1.6	1.8
<b>Methamphetamine</b>	Lifetime	3.1	2.7	[1.8]	2.3	4.1	3.2	2.8	2.4	4.5	4.4	[3.0]	2.8
	Past Year	1.8	1.8	[1.1]	1.2	2.9	1.8	1.6	1.5	2.5	2.5	[1.7]	1.2
	Past Month	0.7	0.6	0.6	0.7	1.1	0.7	0.4	[0.7]	0.9	0.9	0.6	0.6
<b>Vicodin</b>	Past Year	2.6	3.0	2.7	2.9	5.9	7.0	7.2	6.7	9.5	9.7	9.6	9.7
<b>OxyContin</b>	Past Year	1.8	2.6	1.8	2.1	3.2	3.8	3.9	3.6	5.5	4.3	5.2	4.7
<b>Cough Medicine (non-prescription)</b>	Past Year	--	4.2	4.0	3.6	--	5.3	5.4	5.3	--	6.9	5.8	5.5

# The Brain and Drugs



The brain is the most complex organ in the human body, and it is needed for everything one does: thinking, doing, and living. The brain is made of billions of neurons, or nerve cells that work together, coordinating each and every thought, action, and sustaining one's basic existence.

Neurons in the brain communicate with each other through electrical and chemical messages. Drugs interfere with the communication process, by either causing a flood of messages, a deprivation of messages, or simply cause incorrect messages to be sent. Such malfunction in communication can alter the basic functioning of the brain, sometimes in permanent and uncorrectable ways.

There are three basic areas of the brain that are affected by recreational drugs:

**Brain Stem:** Regulates basic life-sustaining functions such as breathing, heartbeat, sleeping, arousal, and blood pressure.

**Limbic System:** Houses the brain's "reward" center and regulates the ability to experience pleasure, drive, and motivation, and is responsible for a wide range of emotions. This system motivates one to eat, drink, and have sex. Unfortunately, once drugs have been introduced into the brain, this area also motivates one to engage in continued substance use. Within this system, some drugs can release 2-10 times the amount of dopamine (a primary neurotransmitter involved in producing pleasure) than a natural reward, causing a huge potential for addiction.

**Cerebral Cortex:** Controls executive functions, such as thinking, planning, decision-making, and problem solving. This area is also responsible for integrating sensory input.

When an individual takes recreational drugs, the brain adjusts for the changes caused by the drug. It becomes less sensitive to pleasure and requires higher doses of the drug to feel good. It can also become dependent on the drug to maintain its function. When the drug is unavailable, an individual has increase difficulty experiencing pleasure and experiences symptoms of withdrawal as the brain struggles to re-adapt to not having the drug.

Long-term or heavy use of a substance can lead to profound changes in the brain's chemical make-up and structure, including the loss of neurons through cell death.

# Alcohol

Alcohol is one of the most commonly abused substances among adolescents and young adults. Many individuals who abuse alcohol are attempting to self-medicate symptoms of anxiety or depression. Other factors that play into alcohol abuse are peer pressure and availability.

**What is it?** Any beverage that contains Ethanol: beers, wines, liquor, distilled spirits. Alcohol works as a depressant to the central nervous system, interfering with communication between neurons.

## Alcohol affects these areas of the brain:

**Limbic System:** Controls memory and emotions.

**Cerebral Cortex:** Responsible for processing sensory information, thoughts and initiating motor movements.

**Cerebellum:** Coordinates muscle movements.

**Hypothalamus and Pituitary Gland:** Control automatic functions and the release of hormones.

**Medulla:** Manages heart rate, breathing, and temperature.

**Immediate Effects:** At low doses: relaxation, increased socialization, lowered inhibition, reduced anxiety, dizziness, slurred speech, blurred vision, difficulties with balance and coordination, impaired judgment, and aggression. At higher doses the symptoms are increased and can include vomiting, nausea, memory loss, and unconsciousness. The effects usually last into the next day as a hangover, usually consisting of a headache, dizziness, fatigue, and dehydration. Too much alcohol can lead to alcohol poisoning which can be fatal.

**Long-term Effects:** Prolonged, heavy use of alcohol can lead to dependence, sudden decreased in alcohol consumption can lead to withdrawal symptoms.

**Symptoms of Withdrawal:** Severe anxiety, tremors, hallucinations, and convulsions. Severe withdrawal symptoms can be lethal. Long-term exposure can also lead to the damage of vital organs such as the liver and brain.

**Miscellaneous:** When consumed during pregnancy, alcohol can cause physical abnormalities and cognitive delays in the fetus. Mixing Alcohol with other substances can increase risk factors associated with each substance.

Source: National Institute on Drug Abuse



Marijuana is another one of the most commonly abused substances among adolescents and young adults. Many individuals who abuse marijuana are attempting to self-medicate symptoms of anxiety or depression, or simply trying to escape stresses of life or fit in with peers.

# Marijuana

**What is it?** A mixture of dried leaves, stems, seeds, and flowers from the cannabis sativa plant. The mixture can be gray, green, or brown. The psychoactive chemical in marijuana is tetrahydrocannabinol or THC. It can be rolled into marijuana cigarettes, smoked in a bong or pipe, or consumed orally, usually in baked goods.



**Common Names:** Pot, weed, grass, herb, Mary Jane, reefer, gangster, bud, chronic, hash, hashish.

## **Marijuana affects these areas of the brain:**

**Basal Ganglia:** Controls unconscious muscle movements.

**Hippocampus:** Important for short-term memory.

**Cerebellum:** Coordinates muscle movements and coordination.

**Immediate Effects:** Euphoria, relaxation, pain relief, increased appetite, decreased motor activity, impaired memory, hallucinations, dizziness, nausea, paranoia, and decreased coordination, coughing and respiratory irritation.

**Long-term Effects:** The effects of long-term marijuana use can include impairments in memory, concentration, and motivation. Damage can also occur to the heart and lungs. Increased risk of developing symptoms of anxiety, depression, and suicidal ideation.

**Symptoms of Withdrawal:** Irritability, sleepiness, decreased appetite, and anxiety.

**Miscellaneous:** Marijuana use can exacerbate existing physical and mental health problems.

# Club Drugs

Ecstasy | GHB | Rohypnol | Ketamine

Club drugs are a group of drugs that are common among adolescents and young adults at raves, parties, nightclubs, bars, and other places where dancing and socializing is occurring.

**Ecstasy:** 3,4-methylenedioxymethamphetamine (MDMA), commonly known as E, X, XTC, or beans. Users commonly refer to the high as “rolling”. MDMA has effects similar to hallucinogenics and stimulants, and is taken orally as a pill or capsule. The high of MDMA lasts from 3-6 hours, but the side effects of use can last for several days.



**Immediate Effects:** Increased alertness and energy, decreased need for sleep, a variety of enhanced sensory experiences, distortions in time and memory, muscle tension, clenching of the jaw, dilated pupils, blurred vision, nausea, increased heart-rate, blood pressure, and body temperature. Some individuals feel anxious, agitated, faint, or dizzy.

**Long-term Effects:** Anxiety, depression, confusion, sleep problems, memory problems, and the potential for permanent brain damage.

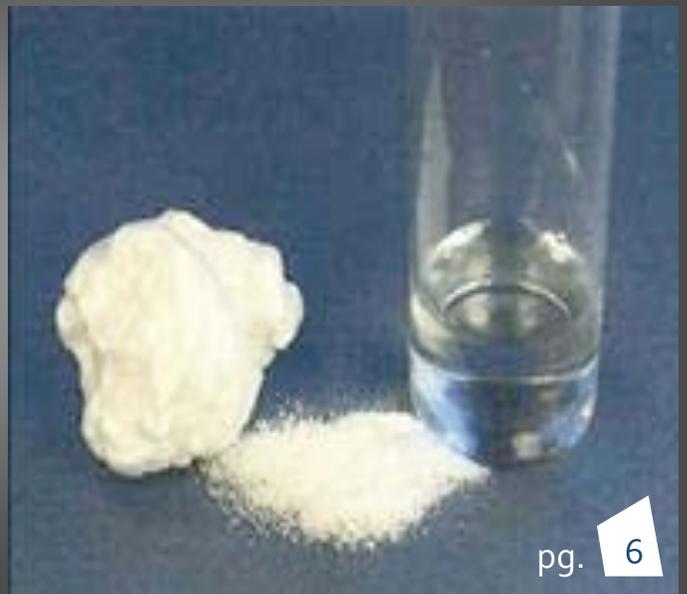
**Dangers:** Increases in body temperature (hyperthermia) can lead to dehydration, seizure, organ failure, permanent brain damage, or death.

**GHB:** Gamma hydroxy butyrate is a central nervous system depressant that is used to treat narcolepsy. It can be a white powder, tablet, or clear liquid that is taken orally. Some users take GHB voluntarily, but it is also commonly slipped into the drinks of unknowing individuals, as a “date rape” drug. It is inexpensive and known as Gamma, liquid ecstasy, liquid X, or liquid E. Effects can last up to 24 hours.

**Immediate Effects:** Similar to alcohol, such as relaxation, increased socialization, slurred speech, decreased motor coordination and balance, grogginess, vomiting and unconsciousness.

**Long-term Effects:** Long-term effects are unknown.

**Dangers:** Serious threat of overdose which can lead to coma or death.



# Club Drugs continued...



**Rohypnol:** The brand name for flunitrazepam, is a central nervous system depressant that is 10 times stronger than Valium or Xanax. It is sold as a sleep aid abroad, but is illegal in the US. Commonly known as roofies, roche (roe-shay), or La Rocha. It is taken orally or dissolved in a drink, and is fairly inexpensive. It is also used as a "date rape" drug, and slipped

into the drinks of unsuspecting individuals.

**Immediate Effects:** Similar to alcohol and GHB, including relaxation, increased socialization, slurred speech, decreased motor coordination and balance, grogginess, physical weakness, vomiting and unconsciousness. Blackouts are common.

**Long-term Effects:** Physically and psychologically addictive, and long-term heavy use could lead to accidental coma or death.

**Withdrawal:** Symptoms of withdrawal peak 3-5 days after use and include anxiety, muscle pain, headache, hallucinations, seizures, and cardiovascular collapse that can be fatal.

**Dangers:** Serious threat of overdose which can lead to coma or death.

**Ketamine (Special K):** A dissociative anesthetic primarily for veterinary use. It is a white powder that is snorted or injected intramuscularly. It is commonly known as K, cat Valium, Vitamin K. Due to its dissociative effects, ketamine can be used as a "date rape" drug.

**Immediate Effects:** Euphoria, increased energy, perceptual distortions, numbness, feeling of floating, hallucinations, dissociation, analgesia, increased heart-rate, slurred speech, confusion, disorientation, paranoia, high blood pressure, and potentially fatal respiratory depression.

**Long-term Effects:** Physically and psychologically addictive, and long-term heavy use could lead disorganized thinking, memory loss, difficulties with attention, delirium, psychosis, and amnesia.

**Dangers:** Ketamine has the potential for fatal overdose.

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# Stimulants

Cocaine | Methamphetamine  
Methylphenidate (Ritalin)

Stimulants are drugs that elevate mood, and increase energy and alertness, and produce feelings of euphoria. They have a very high potential for dependence and tolerance.



**Methylphenidate (Ritalin):** A commonly prescribed medication to treat symptoms of ADHD. It comes in pill form, but is frequently crushed and snorted intranasally by abusers.

**Immediate Effects:** Increased focus and attention, decreased appetite, increased blood pressure and heart rate.

**Long-term Effects:** Addiction, fatigue, depression, disturbed sleep, and the potential for hostility and paranoia.

**Cocaine:** A hydrochloric salt made from the leaf of the coca plant that comes in the form of a white powder and is taken intranasally, intravenously, or rubbed into the gums or other mucous tissue. Commonly known as blow, coke, and bump. It can be processed with ammonia or baking soda to produce a smokeable form known as **Crack Cocaine**.

**Immediate Effects:** Increased energy, hear-rate, blood pressure, body temperature, metabolism, and euphoria.

**Long-term effects:** Addiction, anxiety, panic attacks, and the potential for paranoia and psychosis.

**Dangers:** Hyperthermia can cause everlasting damage to the brain and other organs. Overdose can lead to cardiac and respiratory arrest or seizures that can be fatal. Using Cocaine in combination with Alcohol compounds the dangers of each drug exponentially.

**Methamphetamine:** Similar to amphetamines, but more toxic and longer lasting. It is a white powder that dissolves in water, and can be taken orally, intranasally, by smoking, or by injection. Common names include speed, meth, crank, crystal, and ice.

**Immediate Effects:** Increased energy, decreased appetite, rapid heart rate, increased blood pressure, and hyperthermia. Altered judgment and decreases in inhibition.

**Long-term effects:** Addiction, anxiety, panic attacks, and the potential for paranoia and psychosis. Dental problems, skin lesions, confusion, mood disturbances, insomnia, and violent behavior.

**Dangers:** Users have an increased risk of the transmission of infection diseases including HIV and Hepatitis B and C through contaminated needles or risky sexual behaviors.

Inhalants are breathable chemical vapors that can produce psychoactive effects. Younger children more commonly abuse inhalants.

# Inhalants

**What are they?** Household products that include nail polish remover, paint thinner, gasoline, degreaser, rubber cement, felt-tip markers, aerosol sprays, butane lighters, propane, and whipped cream cans. They are commonly referred to as snappers, poppers, and whippets, and the act of inhaling substances is referred to as “bagging”, “huffing”, or “sniffing”. The effects are felt within seconds or minutes and last for up to several minutes.

**Immediate effects:** Lightheadedness, slurred speech, lack of coordination, dizziness, euphoria, and the potential for hallucinations or delusions, unconsciousness and the potential for death.

**Long-term effects:** Addiction, and permanent brain damage that can result in muscle spasms, motor impairments, memory loss, difficulty planning and organizing thoughts, and balance deficits. Vital damage can occur to the heart, liver, kidneys, muscles, and peripheral nerves.

**Danger:** High potential for lethal effects that include suffocation, sudden heart failure, and the potential to choke while unconscious.

## Over the Counter Medications

**Cold Medications:** Cold medications are commonly abused by teens and young adults due to their availability. They are commonly called Robo, Skittles, Triple C’s, Vitamin D, and Tussin. Information is readily available on the Internet about dosage and preparation. The effects can include a mild depressant and euphoric feeling that can include hallucinations. Risks include impaired judgment, dependence, nausea, loss of coordination and decreased mental performance.

**Diet aides:** Young who are looking to lose or maintain weight commonly abuse diet aides such as weight loss pills and laxatives.

**Weight loss pills** can cause nervousness, restlessness, irregular heart-beat, irritability, insomnia, and headaches. Excessive use can lead to tremors, cardiovascular and respiratory problems. An overdose can be fatal.

**Laxatives** can cause cramping, dehydration, electrolyte disturbances, irregular heartbeat, mood swings, fatigue, and nausea. Excessive or long-term use can include abdominal cramping, bloating, and dependence requiring medical assistance.

# Getting Help!

**Alcoholics Anonymous  
Of Orange County**  
(714) 556-7231 (24 hrs)  
www.aanoc.com  
Information and meeting  
directory available online

**Narcotics Anonymous  
Orange County**  
(714) 590-2388 (24 hrs.)  
www.orangecountyana.org  
Information and meeting  
directory available online

**Cocaine Anonymous  
Orange County**  
(949) 650-1011 (24 hrs.)  
www.ca.org  
Information and meeting  
directory available online

**Crystal Meth Anonymous  
Orange County**  
www.crystalmeth.org  
Information and meeting  
directory available online

## Stages of Change

Adapted from Prochaska and DiClemente



The *Stages of Change* model was conceived within the Transtheoretical Model, a theory for behavior change. Behavior change plays a very central role in treating a substance use problem. The model describes how ready one is to work toward change, and assists clinicians in assessing a client's readiness to work on changing behaviors and providing them guidance on appropriate interventions based on the stage that the client is in.

The change process is cyclical by nature, and individuals typically move back and forth between the stages several times before stable change is achieved. For most substance-using individuals, progress through the stages of change is circular or spiral, not linear, and relapse is common. In addition, an individual may move between the stages at different rates for different behaviors; for example, one may be in *pre-contemplation* stage for cigarette smoking, but in *action* stage for marijuana smoking.

Stage	Characteristics	Goal for Treatment
Pre-contemplation	<ul style="list-style-type: none"> <li>* Not yet considering change</li> <li>* May not believe the behavior is a problem</li> </ul>	<ul style="list-style-type: none"> <li>* Increase motivation to change</li> <li>* Raise awareness of the seriousness of the problem behavior</li> </ul>
Contemplation	<ul style="list-style-type: none"> <li>* Intention to change soon</li> <li>* Weighing the pros and cons of change</li> </ul>	<ul style="list-style-type: none"> <li>* Emphasize benefits of change</li> <li>* Continue to increase motivation to change</li> </ul>
Preparation	<ul style="list-style-type: none"> <li>* Experimenting with small changes</li> <li>* Formulating a plan to change</li> </ul>	<ul style="list-style-type: none"> <li>* Discuss options and formulate plan</li> <li>* Provide appropriate support and encouragement</li> </ul>
Action	<ul style="list-style-type: none"> <li>* Behavior changes are occurring</li> <li>* Modifications to lifestyle to incorporate changes</li> </ul>	<ul style="list-style-type: none"> <li>* Provide reinforcement for changes</li> <li>* Review plan</li> <li>* Plan for obstacles</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>* Working to prevent relapse</li> <li>* Maintaining new behavior</li> <li>* Estimated to last 6 mon. – 5 yrs.</li> </ul>	<ul style="list-style-type: none"> <li>* Continue reinforcing change</li> <li>* Plan for obstacles</li> <li>* Provide appropriate support</li> </ul>
Relapse	<ul style="list-style-type: none"> <li>* Regressing back to a previous stage</li> <li>* VERY common part of change</li> </ul>	<ul style="list-style-type: none"> <li>* Refer to specific stage that the individual relapsed to</li> </ul>