

Eastern Association for the Surgery of Trauma

27th Annual Scientific Assembly

Sunrise Session 10 Games Children Play: What Starts as Fun Leads to Tragedy

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GAMES CHILDREN PLAY: WHAT STARTS AS FUN LEADS TO TRAGEDY

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Child Development



Cry, eat, sleep, poop oddlers

- Exploring their surroundingsDeveloping their
- independence School aged
- Developing opinions
- Teenagers

 Invincible



Some Kids are at a HUGE risk for abuse

- Child Abuse Definition

Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which presents an imminent risk of serious harm The Child Acuse Prevention and Treatment Act (CAPTA). (42 U.S.C. \$5101) as amended by the CAPTA



Magnets





Usually not a big problem with the ingestion of 1 magnet

- Multiple magnets, especially at different times, is a HUGE issue
- Cause perforation and necrosis and can lead to death



ake Piercing





Swallowing the magnets



Case Study



- I can make this disappear
- Foreign body in ear
- Complained of severe pain all night
- Presented to EC morning after
- Blood in ear canal
- Operative intervention

Consequences

- 3rd degree burn to ear canal
 Tympanic membrane burned off
 65% perforation
- Multiple ear infections/concern for meningitis



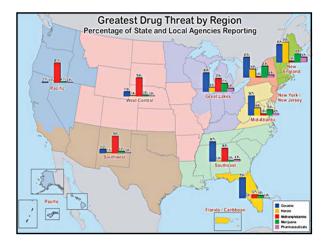
- Surgical repair of tympanic membrane
 Tympanoplasty x3 with repair from 65% to 5% perforation
 - . Tympanoplasty with graft at tertiary care facility

History of Drug Abuse

- Throughout history man has used plants to become intoxicated
- Today, advances in science allow man to custom design drugs
- Illicit drug chemists manipulate the basic molecular structure of intoxicating compounds to make new drug analogs

Future of Drug Abuse

- Avoid Police Detection and Prosecution: It often takes years for the govt. to detect, classify, and make drugs illegal. Example: MDMA: sell derivatives not listed as a controlled substance
- Improve an existing drug: Fentanyl: 3 Methyl Fentanyl...500 times more potent than heroin
- Remove unwanted side-effects from drugs: Meth...remove the "speed"





Our Perception of Drug Abuser



Typical Club Drug User... Nicole Hansen Miss Teen Utah



Why Teens Like Club Drugs

- Easy to Obtain
- Pills, Capsules...don't have to inject
- Come from a society where taking pills is the "norm" ...pill for pain, pill for decongestant...
- Teens who don't fit in elsewhere can fit in with a rave society...drugs make everyone love each other

What Are Club Drugs?

Club drugs include a variety of drugs used at bars and dance parties, especially by high school and college students.

Many people wrongly believe club drugs are safe.





MDMA (Ecstasy)

- Ecstasy
- XT(
- X
- Adam
- Clarity
- Lover's Speed



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And Now...Molly

A purer, powdered form of Ecstasy chemically known as methylenedioxymethamphetamine, has been around for decades, it has lately surged in popularity with college students, and is being name-checked by mainstream artists ranging from Kanye West and Rick Ross to Miley Cyrus and Madonna.

Molly

- Over the past year, Molly has been attributed to numerous deaths from overdose...many in NYC, Boston, Philadelphia
- Difficult for people to know if they are "overdosing"
- High HR, High BP...can't tell in a club/ concert setting

Molly

 Today, the drug is currently in clinical trials as a potential aid to treat posttraumatic stress disorder as well as anxiety in terminal cancer patients, according to DrugAbuse.gov



MDMA

- Originally developed in 1913 as an anorexiant
- Re-surfaced in 1970 when it was used by psychiatrists to facilitate patient insight by decreasing inhibitions and freeing emotions
- Schedule I drug in 1988



MDMA

- Ecstacy is a hallucinogen
- Produces stimulant effects like amphetamine
- Marketed as a "feel good drug": feelings of well being, elimination of anxiety, extreme relaxation
- Supresses need to eat, drink, sleep
- Distributed in pill or capsule form

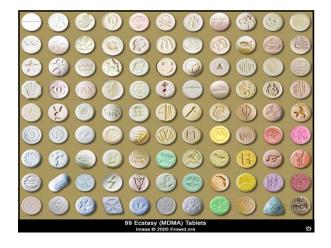
MDMA

- Very appealing to young people
- Comes in a pill, so you don't have to inject it, snort it, or smoke it
- Designer pills: Christmas trees, Shamrocks, Nike, Mitsubishi, etc.
- Effects begin within 1hr and last up to 6hrs
- Some people take multiple pills to extend the effects: up to 10 a night
- Cost: \$7-\$30 per dose

MDMA: Not pure

- Amphetamines, valium, caffeine, dextromethorphan
- Common for ketamine, ephedrine, and other substances to be sold as ecstasy









Physical Effects

- In high doses, MDMA can interfere with the body's ability to regulate temperature
- On rare, but unpredictable occasions this can lead to hyperthermia, causing kidney failure, liver failure, cardiovascular collapse, and death



MDMA ACUTE EFFECTS

- TEETH CLENCHING
- NAUSEA
- HALLUCINATION
- CHILLS
- SWEATING
- TREMORS
- BLURRED VISION
- MUSCLE CRAMPING



Coricidin: Dextromethorphan and Chlorpheniramine Maleate

- "Triple C": LSD like hallucinations Coricidin is NOT a safe source of DXM for tripping
- In addition to the 30mg of DXM contained per pill there is also 4mg of chlorpheniramine maleate, an anti-cholinergic drug, which is very dangerous to take in large doses with DXM
- It is also metabolized by the same liver enzyme, CYP-2D6, as DXM, making it a dangerous combination

- hospitalizations and deaths attributed to people taking coricidin as a source of DXM
- Typically, a user will buy a 16 tablet box and use the whole box at once. At \$5 to \$6 a box, it's a cheap high
- Some pharmacies now have it behind the counter and limit sales to one or two boxes

Dextromethorphan (DXM)

Orange Crush Triple C's C-C-C Red Devils

- Robo-Trippin
- Robo-Dosing





DXM

- Cough-suppressing ingredient in OTC cough and cold medications
- Semi synthetic narcotic, found in any cold medicine with a DM or Tuss in the title name. There are approx. 70 different products on the market that have DXM in them



DXM Effects

- Euphoria, enhanced awareness, impaired judgment, loss of coordination, dizziness, nausea, seizures, panic attacks, psychosis, brain damage and addiction
- Coma and death may result from taking cold medicines with DXM
- Tolerance and physical dependence may result with prolonged use

Availability

- Powdered form of DXM is available on the internet
- Internet sites also inform young users to drink cough syrup expeditiously in order to absorb enough DXM from the drink prior to the impending incidence of vomiting which will occur as a result of the ingestion of the large volume of syrup required for intoxication

DXN

 Teens have been reported to drink 3-4 bottles of cough syrup in one day and take up to 20-30 tablets of Coricidin at once.



Bath Salts

- AKA: Ivory Wave, Vanilla Sky
- "Bath Salts" is the most common term referring to a set of synthetic drugs also sold as "Plant Food." Labeled "not for human consumption," the active ingredient may be one of several synthetic drugs similar to natural cathinone psychostimulants found in the khat plant:

Bath Salts

- Methylenedioxypyrovalerone (MDPV)
- Fluoromethcathinone Methylenedioxymethcathinone (methylone)
- Methoxymethcathinone Methylmethcathinone (Mephedrone)
- Dimethlyamylamine (DMAA)
 Diphenylmethylpiperidine (2DPMP)

Bath Salts

- The crystals or capsules may contain the anesthetic lidocaine
- Bath salts are known by various brand names: Ivory Wave, Vanilla Sky, Zoom2, Pixie Dust, Sextacy, Ocean Burst, Purple Rain, Hurricane Charlie and many more

Bath Salts

- The products were rumored to be legal substitutes for amphetamine or cocaine
- Until recently, the ingredients were legal and could be purchased at smoke shops or convenience stores
- In Florida: Schedule I
- DEA to make illegal



Bath Salts

- Throughout the US, Poison Centers3 have been tracking calls about users hospitalized
- In 2010, there were 291 calls
- In January 2011 alone, there were 373 cases.



Bath Salts

- The nervous system is stimulated; creating a burst of energy along with high blood pressure, fast heart rate, increased alertness, anxiety and muscle cramps.
- There are frightening delusions, hallucinations, psychosis and paranoia.
- There are multiple accounts of people thinking that monsters, policemen or helicopters are chasing them

Bath Salts

- This has resulted in combativeness, assaults and suicide attempts
- Deaths potentially related to these products are being invest



Death is Just a Breath Away

- A 16-year-old boy is found dead after inhaling fumes from an aerosol air freshener
- A teen dies from sniffing nitrous oxide
- A group of Central Florida pre-teens recently became ill after obtaining freon from a school air conditioning unit.

young as 10 years old have abused

nitrous oxide

deodorants & air

- spot removers
- glue
- disposable lighters
- hair spray
- paint thinners
- whipped cream
- polish removers



Inhalants Effects on the Body

- After inhaling the product for a short time, inhalants may create a feeling of excitation followed by drowsiness, headache, dizziness or respiratory irritation
- Long-term abuse causes brain/kidney/liver damage
- In some cases, instant death occurs because the heart begins beating

Signs of Regular Use

- Paint or stains on the face or clothes
- Red or runny eyes or nose
- Spots or sores around the nose or mouth
- Chemical breath odor
- Anxiety, irritability, excitability



POPPERS

AMYL NITRATE/BUTYL NITRATE

- RELAX SMOOTH MUSCLE
- PRODUCE FEELING OF "RUSH
- FLUSHING
- DIZZINESS
- HEADACHE
- PROGRESSIVE LOSS OF CONSCIOUSNESS



DANGERS

- COLD GAS BURNS LIPS, THROAT, LUNGS
- HYPOXIA
- LONG-LASTING NUMBNESS IN EXTREMITIES



The Cinnamon Challenge

- Teens attempt to swallow a spoonful of Cinnamon without any water
- They choke, they sneeze, they gag, they vomit, and they just can't breathe.
- Can cause throat and lung injuries
- It is just impossible to swallow that much cinnamon at one time because we don't have enough saliva to absorb the cinnamon

The Cinnamon Challenge

The dry, loose cinnamon triggers a violent coughing effect and also a burning sensation that actually can lead to breathing and choking hazards

The Marshmallow Challenge

- Person tries to fit as many marshmallows in their mouths as possible
- While it does make for some oddly funny videos of puffed up cheeks, it's not exactly something we should all be doing
- Two children have already died attempting to stuff marshmallows in their mouth

Nutmeg Snorting

 Snorting large amounts of nutmeg creates a hallucinogenic reaction, sort of like a homemade high

Awareness/ Prevention

- Parents can observe their children for the signs of abuse and changes in their child's routines and behavior
- Studies have shown that a high percentage of children have abused inhalants, but a low percentage of parents think children actually abuse these substances
- Efforts such as family discussions, education and prompt treatment will help

Teenage Driving

- Motor vehicle crashes are the leading cause of death for U.S. teens
- In 2010, seven teens ages 16 to 19 died every day from motor vehicle injuries.
- Per mile driven, teen drivers ages 16 to 19 are three times more likely than drivers aged 20 and older to be in a fatal crash Fortunately, teen motor vehicle crashes are preventable, and proven strategies can improve the safety of young drivers on the road.

Teenage Driving

In 2010, about 2,700 teens in the United States aged 16–19 were killed and almost 282,000 were treated and released from emergency departments for injuries suffered in motor-vehicle crashes

Who's Most at Risk?

- Males: In 2010, the motor vehicle death rate for male drivers and passengers ages 16 to 19 was almost two times that of their female counterparts
- Teens driving with teen passengers: The presence of teen passengers increases the crash risk of unsupervised teen drivers. This risk increases with the number of teen passengers
- Newly licensed teens: Crash risk is particularly high during the first months of licensure

What Puts Teens at Risk?

- Teens are more likely than older drivers to underestimate dangerous situations or not be able to recognize hazardous situations
- Teens are more likely than older drivers to speed and allow shorter headways (the distance from the front of one vehicle to the front of the next). The presence of male teenage passengers increases the likelihood of this risky driving behavior

What Puts Teens at Risk?

- Among male drivers between 15 and 20 years of age who were involved in fatal crashes in 2010, 39% were speeding at the time of the crash and 25% had been drinking
- Compared with other age groups, teens have the lowest rate of seat belt use. In 2011, only 54% of high school students reported they always wear seat belts when riding with someone else

What Puts Teens at Risk?

 In 2010, half of teen deaths from motor vehicle crashes occurred between 3 p.m. and midnight and 55% occurred on Friday, Saturday, or Sunday

Prevention

- Research suggests that the most comprehensive graduated drivers licensing (GDL) programs are associated with reductions of 38% and 40% in fatal and injury crashes, respectively, among 16year-old drivers
- Graduated driver licensing (GDL) systems are designed to delay full licensure while allowing teens to get their initial driving experience under low-risk conditions

New Jersey GDL

- For drivers ages 16 and up, MVC offers a three-phase process: <u>Student learner's</u> <u>permit</u> (minimum six months of supervised driving)
- <u>Probationary license</u> (minimum one year of restricted but unsupervised driving)
- Basic driver license (must be 18 years old)

New Jersey GDL

- May not drive between 11:01 and 5:00am.
- May not have more than one passenger (besides his or her dependents or is accompanied by a parent or guardian)
- May not use a cell phone (including hands free) or any other hand-held electronic device (Note: GPS systems - portable or built in - and iPods connected to a vehicle's sound system are permitted, but a teen should not make any adjustments to these devices while driving)
- May not plea-bargain any point carrying offense

Teen Violence

- In 2000, about 1,561 youth under the age of 18 were arrested for homicide.
- In 2000, nine percent of the murders in the United States were committed by persons under the age of 18.
- One in ten teens arrested has been engaging in a violent activity that could have resulted in the serious injury or the death of another person.

Suicide/ Self Violence

- The third leading cause of death among teens is suicide
- Over the past year, one in 11 high school students admit to having made a suicide attempt.
- These statistics do not even take into account the number of students that think about violence against themselves on a regular basis. Additionally, these statistics do not take into account the rising instances of self-injury

Teen Violence

- National estimates indicate that 30 percent of youth in grade six through 10 are involved in bullying, either as a target or as the bully. Some even experience both.
- A national CDC survey indicates that 33 percent of high school students were in at least one physical fight within a 12 month period.
- In 30 days preceding the CDC survey, 17 percent of high school students reported that they carried a weapon at least once. The weapon could be a gun, knife or club.

Teen Violence

- Total direct and indirect costs of teen violence is more than \$158 billion per year.
- Nationwide, six percent of teens missed school due to feelings of insecurity regarding being at school, or traveling to and from school.
- Healthcare costs increase in communities with teen violence.
- Costs arise from injury and death, such as medical care and funeral expenses.
- Decreasing property values affect areas with high incidents of teen violence, impacting both long time residents and new residents.

Summary

- Children are creative
- Children get into all kinds of trouble
- A high index of suspicion is required to ensure that what appears as so is actually so



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