

Teen Misuse and Abuse of Alcohol and Prescription Drugs

Information for Parents

Terminology

- **Misuse:** Using a drug in a way in which it was not intended
 - Example: Using a higher dose of medication than was prescribed to get high
- **Abuse:** Substance use which results in negative consequences
 - Example: Missing school due to hangover
- **Addiction:** Loss of control over use despite negative consequences (legal, medical, or social)
 - Example: Continuing to drink alcohol despite a DUI arrest
- **Dependence:** Medical term for addiction

Alcohol

Scope of the Problem

- 37% of WI high school seniors report binge drinking (5 or more drinks at one time) in past month
- 1/3 of Oneida County high school students report drinking at least one drink in past month
- 31% of teen traffic fatalities involve alcohol
- WI fatalities due to underage drinkers and drivers in 2010: 24



Why and How Teens Use



McLovin. Superbad (film). 2007.

- Relaxation, increased sociability at low to moderate doses
- 2/3 teens obtain alcohol via parents or other adult
 - 2/3 of these said it was “easy”
 - Most often by stealing or sneaking
 - Legal for teens to drink if accompanied by own parent – **not** other adults
- Other sources of alcohol
 - Cooking wine, mouthwash, hand sanitizers
 - More commonly accidentally ingested by toddlers than deliberately abused by teens

Risk Factors & Warning Signs



- Presence of alcohol in home
 - Most commonly obtained illicitly from parent or other adult
- Comorbid mood disorder
 - Depression, social anxiety
- Signs of use or addiction
 - Bloodshot eyes, unexplained bruising, weight loss, vomiting
 - Decreased school grades, many absences
 - Decreased self-care, hygiene
- Effects generally weight-based
 - Smaller teens more affected by less
- Withdrawal can be lethal
 - Seizures, cardiac arrhythmias, hallucinations, sweating

Long-term risks

- Brain development continues throughout teenage years into 20s
- Adults who admit to heavy drinking as teens demonstrate decreased attention, memory, and overall intelligence compared to peers
- Those who drink before age 14 have 41% chance of alcoholism throughout lifetime
 - Over half of Wisconsin teens report trying alcohol before age 14

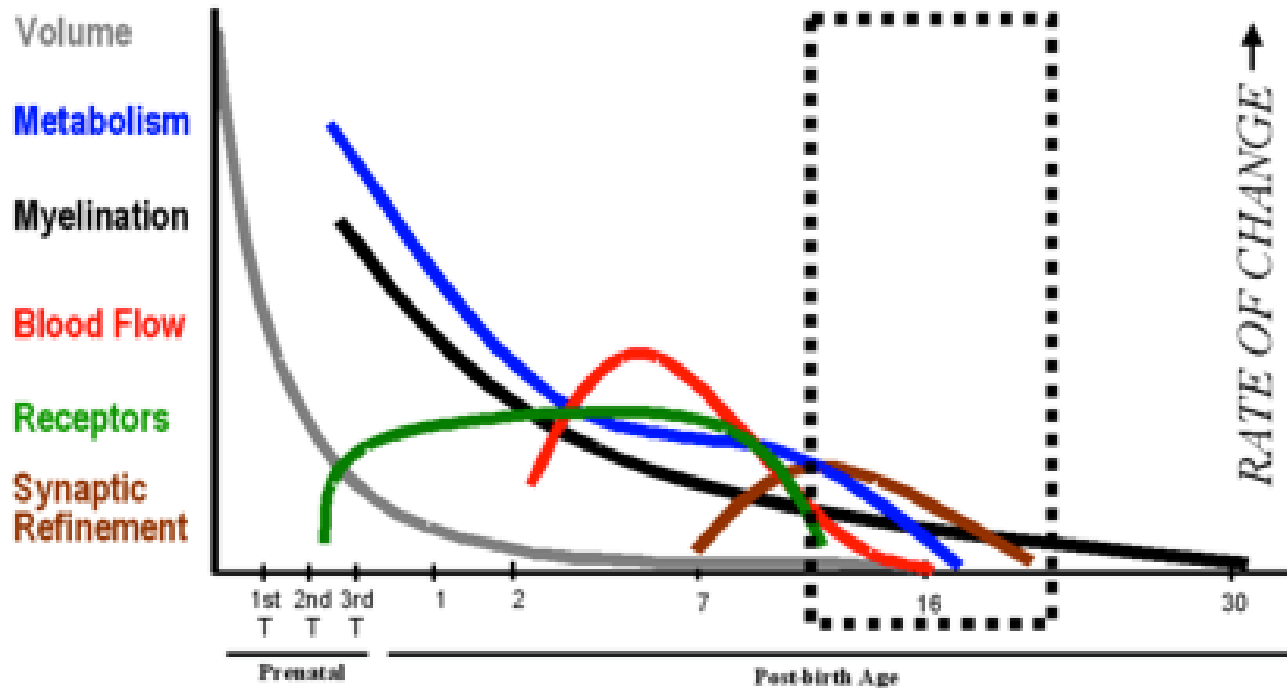
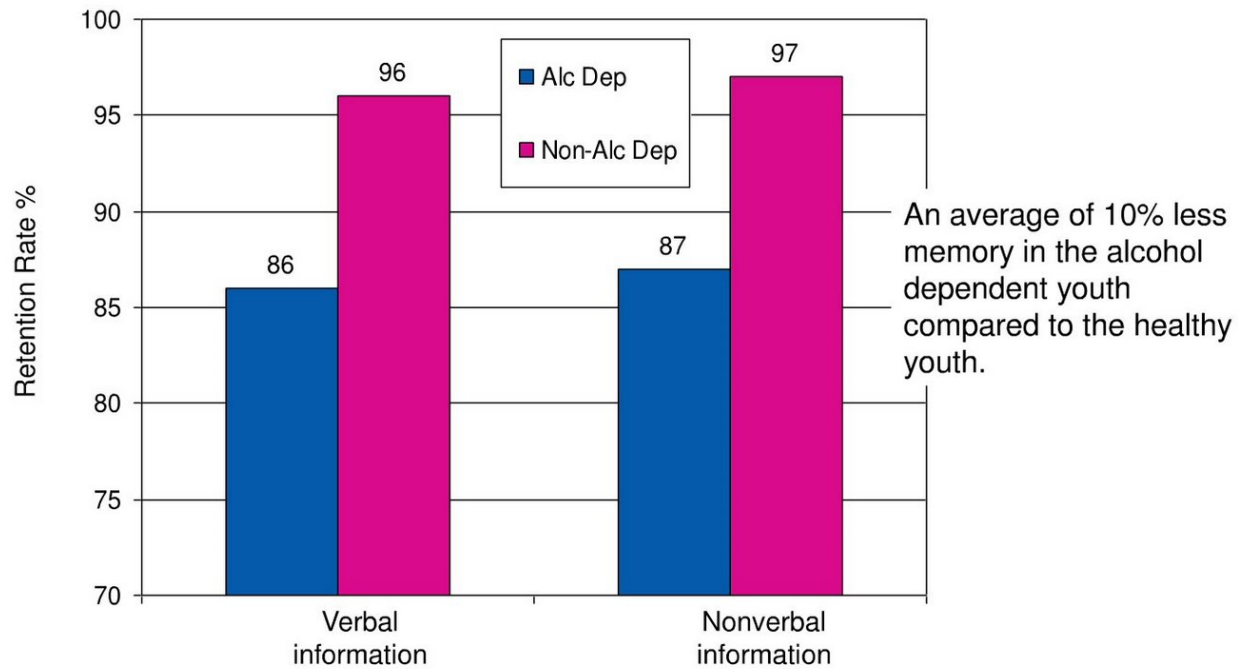


FIGURE 1. Human brain development patterns across development. (Adapted from Tapert & Schweinsburg.³⁰ Reproduced by permission.)

Rate of brain development. Critical developmental processes continue well into or even past teenage years.

Human Data: Alcohol's Effects



Source: Brown et al., 2000

Persistent effects of alcohol on adolescent brain. Memory testing was performed after three weeks of abstinence.

Prescription Drugs: Narcotics

Scope of the Problem

- Class of prescription medication most commonly misused by adolescents
- 1 in 7 high school seniors report non-medical use of Vicodin
 - No difference between boys and girls
 - Higher use among white students
- ER visits for opioid overdose by people <21 years old doubled between 2004 and 2008

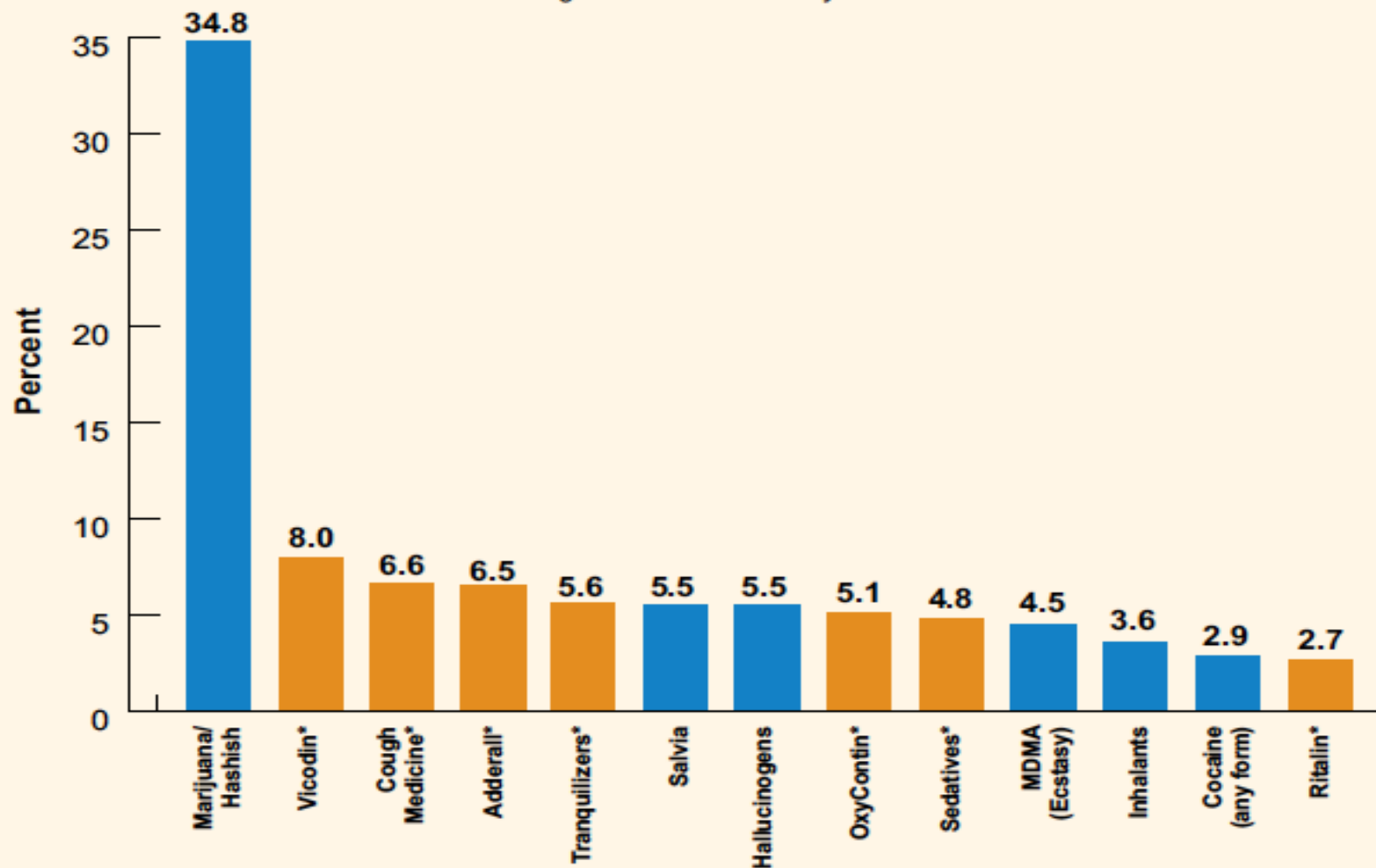


Vicodin

After Marijuana, Prescription and Over-the-Counter Medications* Account for Most of the Commonly Abused Drugs

Prevalence of Past-Year Drug Use Among 12th Graders

Categories are not mutually exclusive

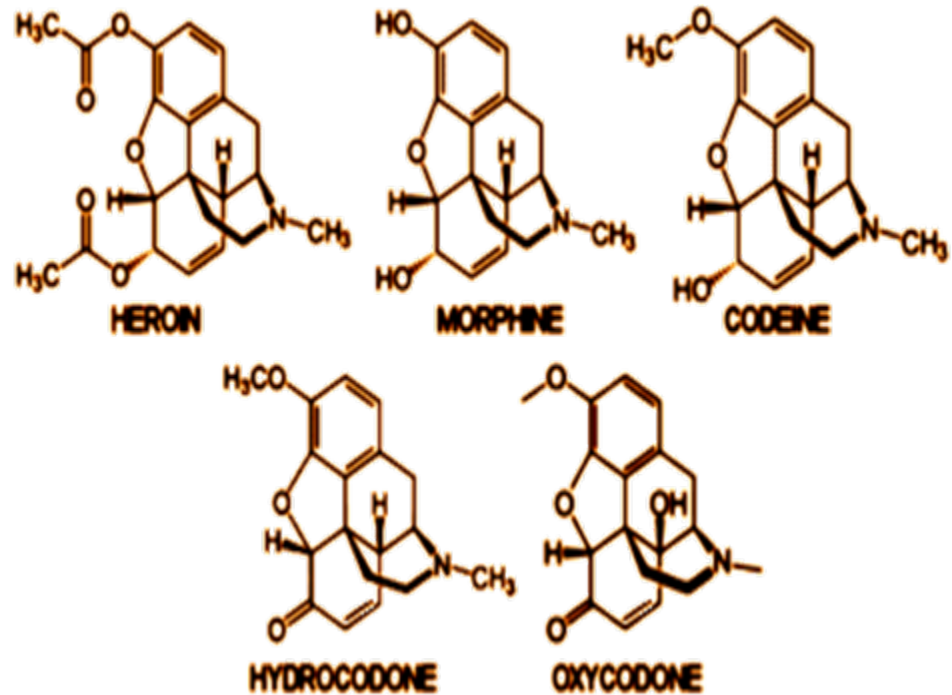


SOURCE: University of Michigan, 2010 Monitoring the Future Study

* Nonmedical Use

Why and How Teens Use

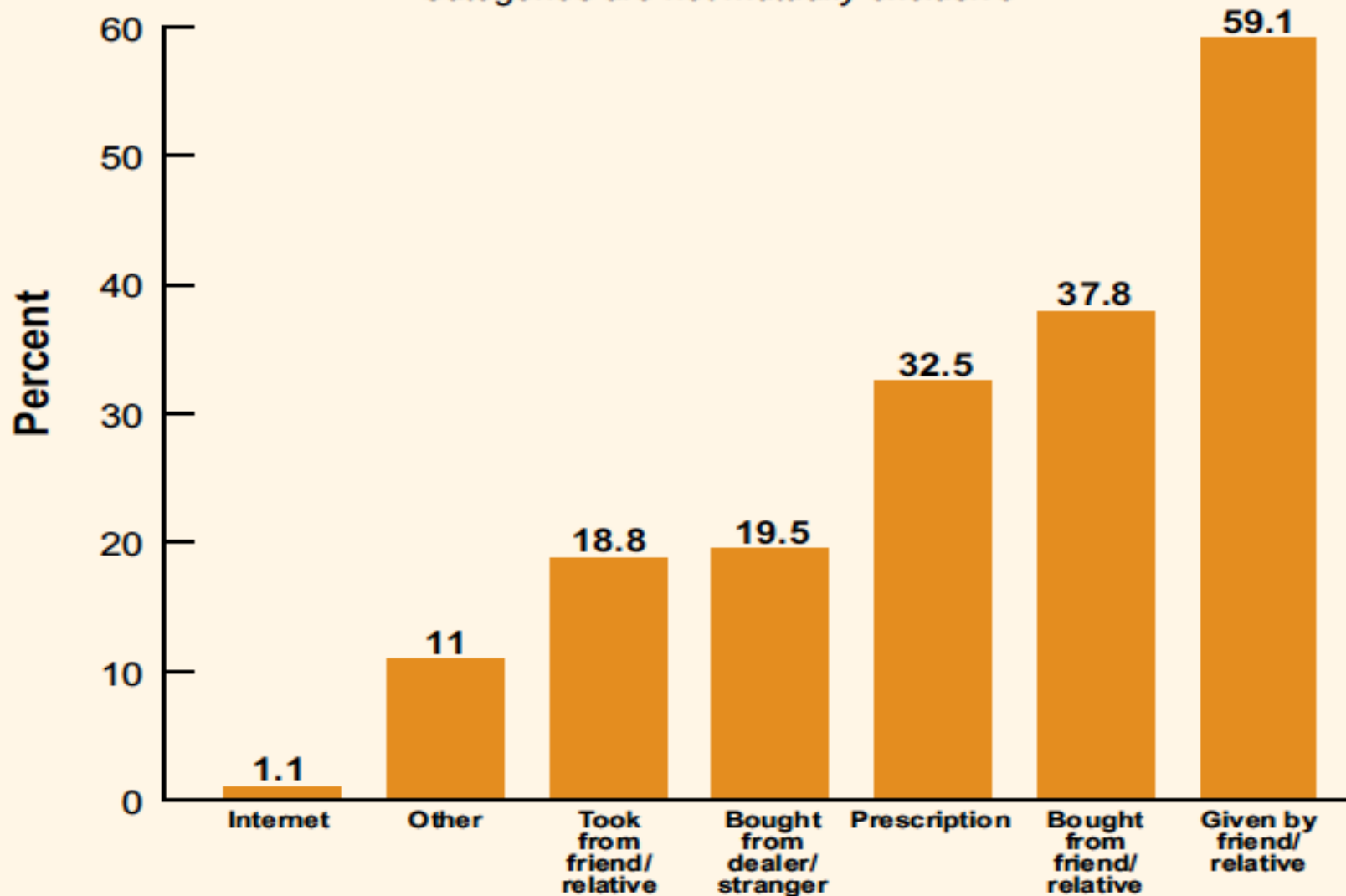
- Opioid medications work by reducing perception of pain
- Same mechanism of action as heroin
- When abused, drugs can produce feelings of extreme calm or euphoria
- Effect often intensified by alternative methods of drug delivery
 - Injecting or snorting crushed pills



Various opioid drugs

Source of Prescription Narcotics among Those Who Used in the Past-Year, 12th Grade*

* Categories are not mutually exclusive



SOURCE: University of Michigan, 2010 Monitoring the Future Study

Risk Factors & Warning Signs

- Prior medical use
 - Between 1/3 and 2/3 of teen users use leftovers from own prior prescription
- Other substance abuse
 - Teen smokers 8.6 times likelier to have used opioids to get high
- Signs of use: pinpoint pupils, constipation, flushed skin, slow or shallow breathing
- Withdrawal symptoms: sweating, diarrhea, tremors, enlarged pupils



Pinpoint pupils

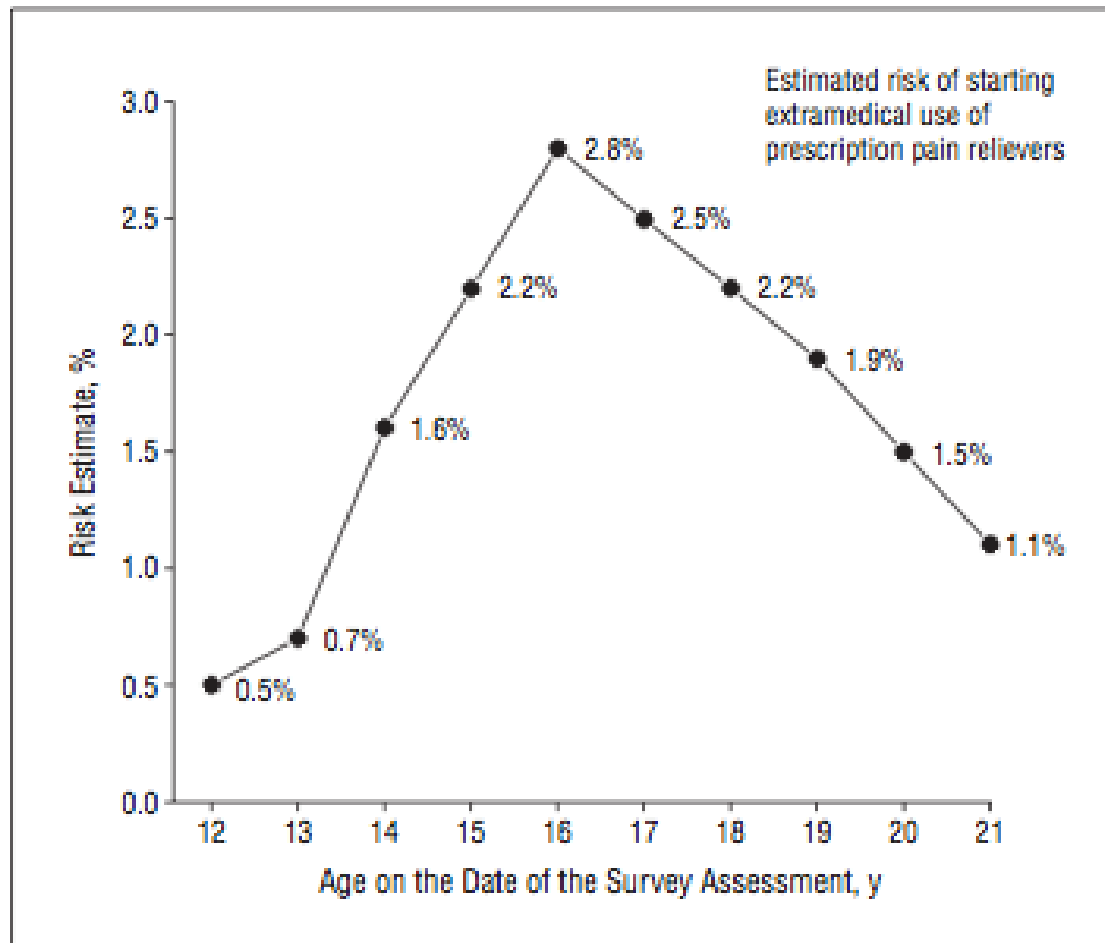
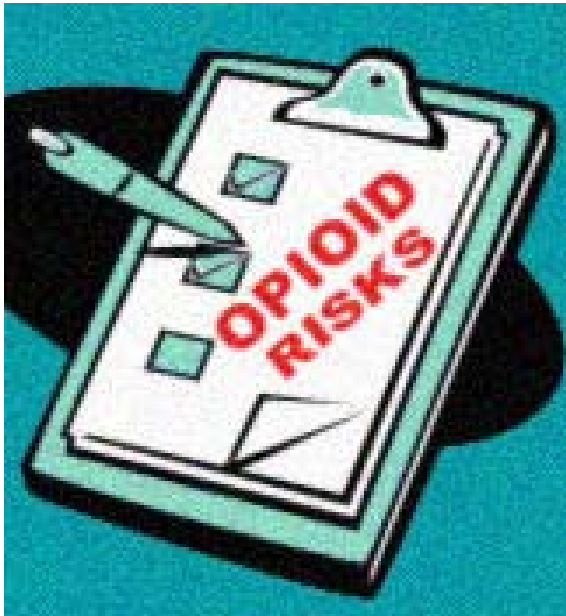


Figure. Meta-analysis summary estimates for age-specific risk of newly incident extramedical use of prescription pain relievers. Data are from the 2004 through 2008 National Survey on Drug Use and Health (n = 119 877).

Long-term risks



- Continued use of opioid medications results in tolerance—requiring more drug to achieve same effect
- Subsequent medical use of drug (*i.e.* for pain control) may be less effective
- Teens may be more at risk for addiction after fewer uses
 - Parts of brain involved in impulse control are immature
- Long-term risks may include blunted social and emotional perception; full range of effects not yet studied

Prescription Drugs: Stimulants

Scope of the Problem

- 4.9% of teens 13-18 have a prescription for ADHD medication (2008 data)
- 23% of middle- and high-schoolers report being approached to sell their ADHD medications; 11% admit to doing so
 - Additional teenagers report having given medications away (15%) or having had them stolen (4%)
- 22% of teenagers admit misusing their own prescribed stimulants
- Up to 9% of high school students admit using stimulants not prescribed to them; up to 35% of college students admit to doing so
- Data specific to Wisconsin teens' abuse of stimulants not available

Why & How Teens Abuse

- Increased alertness and focus
 - Desired side effect; why these medicines work in the first place
 - Teens may seek academic “edge”
- Rapid-onset euphoria in high doses
- Weight loss
 - Many stimulants decrease appetite
- Most teens who use illicitly obtain medications from other students



This medication must be dispensed to no person other than the patient for whom it is prescribed.

Risk Factors & Warning Signs

- Use of immediate-release drug; results in faster drug delivery when misused
- White males more likely to report illicit use vs. females, Latinos, or African-Americans
- Unlike with opioids, risk for stimulant abuse increases with age (especially in college)
- Warning signs
 - Missing medication (if teen has own prescription)
 - Erratic or manic behavior
 - Weight loss, loss of appetite



Things are unlikely to be this transparent.

Long-term effects

- At doses used for ADHD treatment, no long-term effects shown
 - Long-term abuse of drugs not well-studied
- Short-term effects can be dangerous, especially at high doses
 - Mania, psychosis
 - Heart damage, including heart attack
 - Dangerously high blood pressure
 - Sudden cardiac death

Prescription Drugs: Benzodiazepines

Scope of the Problem

- Nationally, use had been decreasing through 1990s; steady increases since early 2000s
- 7.2% of 12th graders have tried sedatives not prescribed to them in last year
- 3% of Wisconsin high school students report having tried alprazolam (Xanax) without a prescription

Why and How Teens Use

- Benzodiazepines are used to relieve anxiety
 - Produce feeling of calm, sense of well-being
- Not typically prescribed as “sleeping pills,” but may be used by teens as such
- Like with other prescription drugs, most teens get them from home, relative, or friend
 - Internet or street dealers uncommon sources



Risk Factors & Warning Signs

Biology test
tomorrow.

LATE for
SCHOOL
again.

*I don't think
the girls at
my lunch
table
like me.*

**Soccer
team
tryouts
this
week.**



- Higher risk with comorbid mood disorder, especially depression with anxiety
- Short-acting drug (Xanax) more likely to be abused
- Combined with alcohol, benzodiazepines may cause fatal respiratory depression
- Can paradoxically cause irritability, jitteriness, aggression (especially in high doses)
- Abrupt discontinuation can cause life-threatening withdrawal
 - Seizures
 - Tremors
 - Hallucinations

Long-term effects



- Long-term effects in adolescents have not been studied
- Some adult studies have shown impaired cognitive performance across several domains (“brain fog”)
 - Memory
 - Reaction time
 - Fine motor skills
 - Deficits generally seen after >10 years of consistent use, can be seen as early as 1 year

References & Further Reading

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