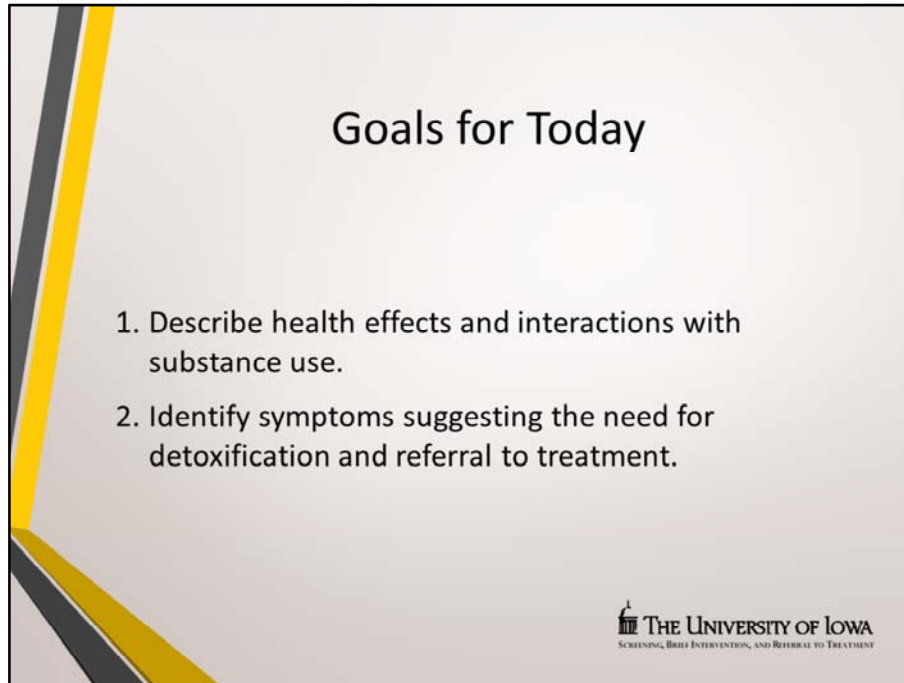


Welcome! Today we'll discuss some of the important relationships between physical health and substance use that clinicians may encounter as they apply the SBIRT process in practice.



The slide features a light gray background with a decorative border on the left side consisting of diagonal stripes in yellow, gray, and black. The title 'Goals for Today' is centered at the top in a large, black, sans-serif font. Below the title, there is a numbered list of two items. In the bottom right corner, there is a logo for 'THE UNIVERSITY OF IOWA' with the text 'SCREENING, BRIEF INTERVENTION, AND REFERRAL TO TREATMENT' underneath it.

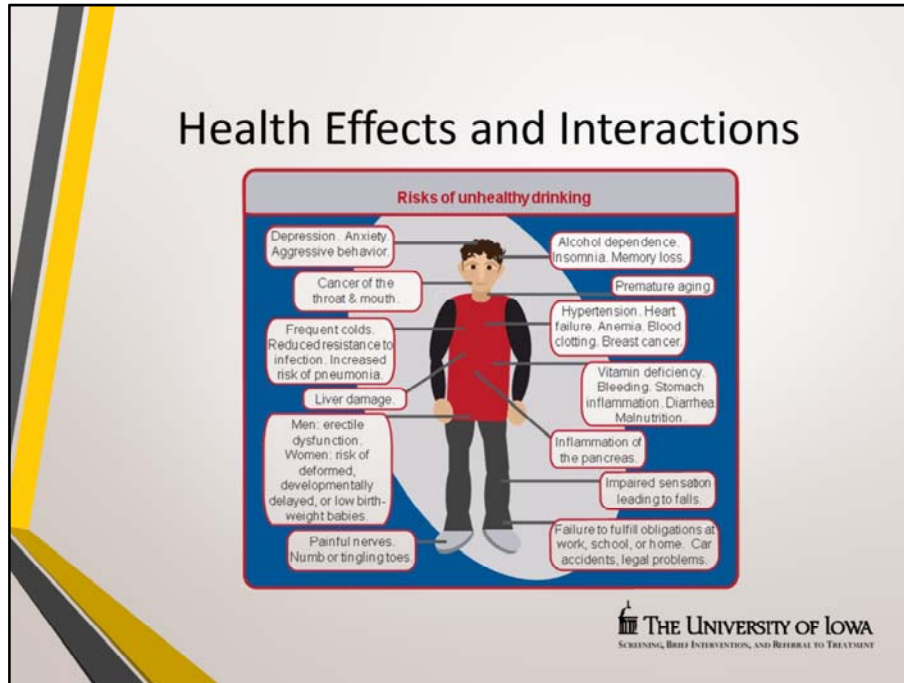
Goals for Today

1. Describe health effects and interactions with substance use.
2. Identify symptoms suggesting the need for detoxification and referral to treatment.

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We'll start by considering substance-related health effects that occur concurrently with substance use – both “risky” drinking that is the focus of the SBIRT process, and also substance use disorders.

We'll also review the health effects of alcohol and think about substance intoxication that may require medical attention and specialized treatment.



As we briefly reviewed in our introductory SBIRT program, substance use can have an impact on many parts of our bodies. For individuals with pre-existing health problems – and particularly for those with complex medical problems that are treated with a variety of different medications – substance use can really complicate the person’s health AND treatment of their medical problems.

Reference: Beyond Hangovers – understanding alcohol’s impact on your health

Lower risk drinking limits

	Daily	Weekly
Anyone over 65 years old	3	7
Men (≤ 65)	4	14
Women	3	7

Standard drink amount
Any drink containing about 14 grams of alcohol

Alcohol: One drink =
12 oz. beer, 5 oz. wine, 1.5 oz. liquor (fortified)

AVOID alcohol if you:

- Have a health condition made worse by drinking.
- Plan to drive a vehicle or operate machinery.
- Take medications that interact with alcohol.

Risks of unhealthy drinking

Depression, Anxiety, Aggressive behavior
Alcohol dependence, Insomnia, Memory loss
Cancer of the throat and mouth
Premature aging
Frequent colds, frequent resistance to infection, increased risk of pneumonia
Hypertension, heart failure, Anemia, Blood clotting
Liver damage
Vitamin deficiency, Bleeding, Stomach inflammation, Diarrhea, Malnutrition
Men: Erectile dysfunction
Women: Breast cancer
Inflammation of the pancreas
Painful nerves, Numb or tingling toes
Impaired sensation leading to falls
Failure to fulfill obligations at work, school, or home; Car accidents, legal problems

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- ← UI Branded Education Sheet for older adults
- Anyone who is given the AUDIT should also be provided a copy of the Education Sheet

In the earlier training module, *SBIRT for the Special Needs of Older Adults*, we briefly reviewed some of the common health challenges older adults face, and how drinking – in particular – can complicate the course and outcome of treatment. Today we’ll take a little deeper look at some of those problems.

Many Great Resources!!!

Beyond Hangovers: Understanding Alcohol's Impact on Your Health
<https://pubs.niaaa.nih.gov/publications/hangovers/beyondHangovers.pdf>

Alcohol's Effects on the Body
<https://www.niaaa.nih.gov/alcohol-health/alphols-effects-body>

Alcohol Facts and Statistics
<https://pubs.niaaa.nih.gov/publications/alcoholfacts&stats/AlcoholFacts&Stats.pdf>

Health Consequences of Drug Misuse
<https://www.drugabuse.gov/related-topics/health-consequences-drug-misuse>

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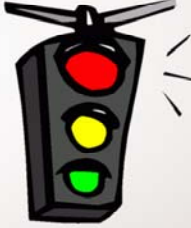
Most of what is known today about health risks relates to excessive alcohol use. However, there is also a growing body of evidence about both illicit drugs and misuse of opioids. As listed on the slide, there are some great educational materials available at no cost, which can help with educating peers in health care settings and clients alike. We encourage you to take time to review these to supplement the content provided in this module.

Health Assessment Data

Keep substance use in mind →

- Presenting problems/observations
- Physical assessment findings
- Lab results
- Collateral interviews: What are others saying?
Concerned about?

Health conditions may be the “signal” to explore substance use!



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While it's beyond the scope of this module to review common physical findings, lab values, or other data that may relate to substance use, we urge you to think carefully about health-related complications of alcohol and drug use as antecedents to discussion. The SBIRT annual screen is just one way that health care providers may detect substance use.


Brain

- **Alcohol and drugs** interrupt communication pathways and change brain structure and chemistry
 - ✓ Disruptions in mood, behavior, cognition
 - ✓ Motor coordination, sleep, temperature regulation

Two special risks →

- **Prenatal** alcohol exposure; fetal alcohol syndrome
- **Adolescent** substance use; affects the brain while it is still in development





Alcohol-related disruptions to neurotransmitters can trigger mood and behavioral changes, including depression, agitation, memory loss, and even seizures. With long-term and heavy use, alterations in neurons lead to brain mass and structure changes that may affect a wide range of abilities.

And as we reviewed in the program for youth, there are special risks associated with substance use early in life, from pregnancy through adolescence.

References:

Beyond Hangovers – understanding alcohol’s impact on your health

The Affects of Long Term Drug Use On The Brain


(<http://www.narconon.org/blog/drug-use/the-affects-of-long-term-drug-use-on-the-brain/>)

The Influence of Substance Use on Adolescent Brain Development

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2827693/>)

Heart/Vascular

- **Cardiomyopathy:** Long-term heavy drinking (anatomic function)
- **Arrhythmias** (physiologic function)
 - ✓ Atrial fibrillation
 - ✓ Ventricular tachycardia
- **Strokes**
- **Hypertension**
- **Additional risks with illicit drugs; varies by drug type**



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Researchers now understand that drinking moderate amounts of alcohol can protect some individuals from the risks of coronary artery disease. However, they also know that binge or long-term drinking and drug use cause a wide variety of cardiovascular risks. Evidence also indicates that drug use has considerable implications for cardiac health – from risks of myocardial infarction to arrhythmias.

References:

Beyond Hangovers – understanding alcohol’s impact on your health

Addiction, Heart Disease, and Stroke

(<https://www.recoveryconnection.com/addiction-resources/addiction-health-issues/addiction-heart-disease-stroke/>)



The more a person drinks, the higher the risk for a variety of cancers.

The National Cancer Institute identifies alcohol as a risk factor for mouth, esophagus, pharynx, larynx, liver, and breast cancers. Heavy drinking can also increase the risk of developing other types of cancer, such as colon or rectal cancer.

References:


Beyond Hangovers – understanding alcohol’s impact on your health

Medical Consequences of Drug Abuse – Cancer


(<https://www.drugabuse.gov/publications/medical-consequences-drug-abuse/cancer>)

Immune System

- Chronic diseases are associated with impaired bone marrow function
- Weakens the immune system
- Impacts defense systems
 - ✓ Innate
 - ✓ Adaptive/acquired
- Increases susceptibility to infections and disease
 - ✓ Pneumonia
 - ✓ Tuberculosis



A cartoon illustration of a person with brown hair, wearing a green shirt and black shorts, sneezing. Red lines radiate from their head, and the word 'Aaaa...' is written above them. A red 'Choo!' is written near their mouth, indicating the sound of a sneeze.

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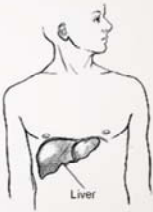
Drinking too much alcohol can weaken the immune system, which makes it easier for diseases to overtake the body. It can suppress both the innate and acquired immune systems, creating vulnerability to illness and disease that the person would otherwise resist.


References:

Beyond Hangovers – understanding alcohol’s impact on your health

Liver

- Alcohol consumption increases the risk of liver damage; *the amount of alcohol doesn't correlate well with the amount of damage to the liver*
 - ✓ Alcoholic hepatitis – inflammation due to excessive fat in the liver
 - ✓ Fibrosis – scar tissue
 - ✓ Cirrhosis – deterioration of the liver
- Heroin, inhalants, steroids, and opioids → liver damage



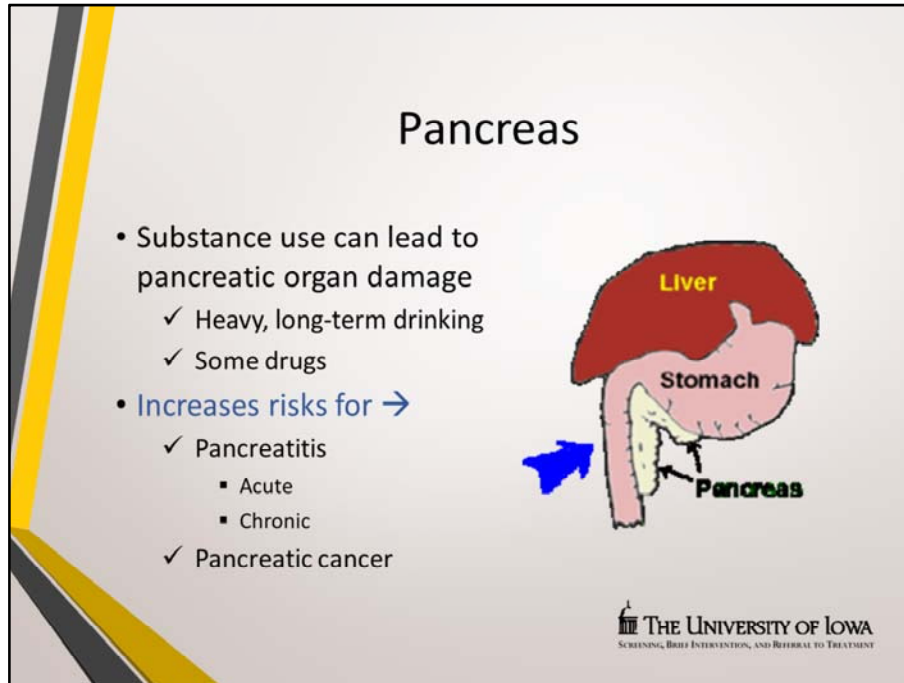
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Heavy drinking causes fat to build up in the liver, which can lead to dangerous inflammations and also development of scar tissue. Excessive scar tissue can lead to cirrhosis of the liver. Complications of cirrhosis may include jaundice, insulin resistance and type 2 diabetes, and liver cancer. Chronic use of some drugs – such as heroin, inhalants, steroids, and opioids – can also lead to significant liver damage.

References:

Beyond Hangovers – understanding alcohol's impact on your health

Liver Damage (<https://www.drugabuse.gov/publications/medical-consequences-drug-abuse/liver-damage>)



Long-time excessive alcohol consumption can lead to pancreatitis. Damage can also be caused by heroin, cocaine, and non-medical use of prescription drugs. Pancreatitis is a risk factor for the development of pancreatic cancer.


References:

Beyond Hangovers – understanding alcohol’s impact on your health


The Effects of Drug Abuse on Your Pancreas (<http://www.drugrehabfl.net/the-effects-of-drug-abuse-on-your-pancreas/>)

Kidney Function

- Alcohol can worsen kidney disease
- Binge drinking can lead to acute kidney failure
- Drugs are also associated with damage or failure
 - ✓ Heroin
 - ✓ Inhalants
 - ✓ MDMA (ecstasy)
 - ✓ PCP



Of WATER, not alcohol!!!

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Certain drugs and the excessive use of alcohol can cause kidney damage or lead to kidney failure.

References:

Alcohol and Your Kidneys (<https://www.kidney.org/atoz/content/alcohol>)


Medical Consequences of Drug Abuse – Kidney Damage

(<https://www.drugabuse.gov/publications/medical-consequences-drug-abuse/kidney-damage>)

Smoking, Tobacco, Nicotine

Alcohol and tobacco are often used together

- Roughly 70% of people with an alcohol-related substance use disorder use tobacco products
- Alcohol and substance use is associated with higher rates of tobacco use
- Nearly 60 percent of new smokers were under the age of 18 (in 2010)



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Another important consideration is the relationship between tobacco use and substance use. As outlined on the slide, there's a strong relationship between smoking and both alcohol and drug use. In turn, we urge thoughtful consideration of possible substance use among clients who may smoke, particularly youth.

References:

Smoking and Adolescence

(<https://www.drugabuse.gov/publications/research-reports/tobacco/smoking-adolescence>)

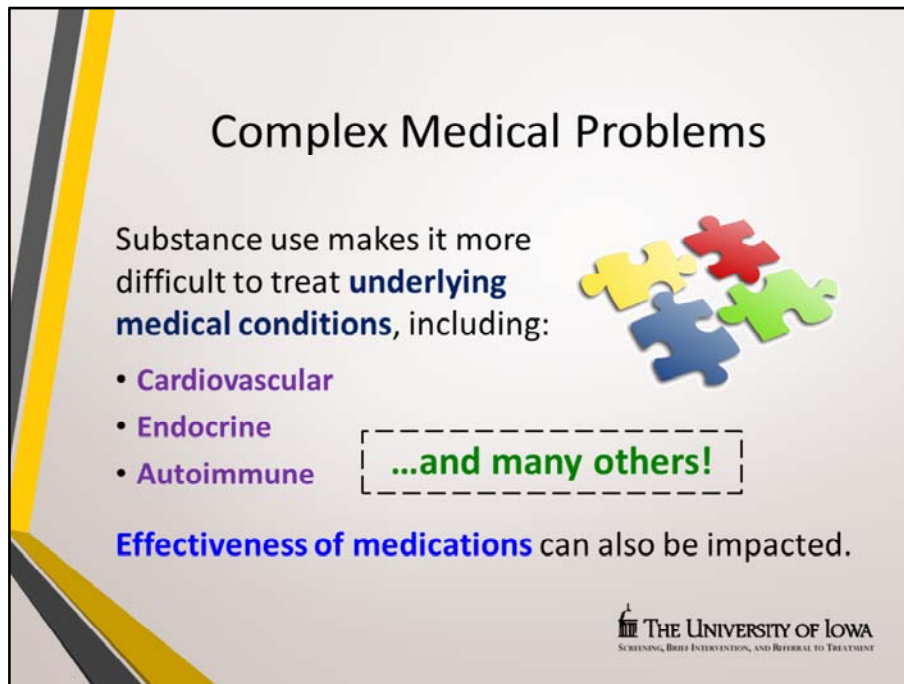
Alcohol and Tobacco

(<https://pubs.niaaa.nih.gov/publications/AA71/AA71.htm>)

Substance Use and Tobacco

(<http://www.publichealth.va.gov/smoking/substance-use-tobacco.asp>)

The association between cigarette smoking and drug abuse in the United States (<https://www.ncbi.nlm.nih.gov/pubmed/11110061>)



Complex Medical Problems

Substance use makes it more difficult to treat **underlying medical conditions**, including:

- **Cardiovascular**
- **Endocrine**
- **Autoimmune**

...and many others!

Effectiveness of medications can also be impacted.

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The slide features a title 'Complex Medical Problems' at the top. Below it, a text block states 'Substance use makes it more difficult to treat underlying medical conditions, including:'. To the right of this text is an illustration of four interlocking puzzle pieces in yellow, red, blue, and green. Below the puzzle pieces is a dashed box containing the text '...and many others!'. Further down, another text block says 'Effectiveness of medications can also be impacted.'. At the bottom right, there is a logo for 'THE UNIVERSITY OF IOWA' with the subtitle 'SCREENING, BRIEF INTERVENTION, AND REFERRAL TO TREATMENT'. The slide has a decorative yellow and grey border on the left side.

This is just a brief list of medical conditions that may become more complex when substance use is involved. Alcohol and drug use can make the medical condition worse, or more difficult to manage. For those who use multiple drugs to treat their health conditions, alcohol use can interact with those medications and cause problems, particularly in older adults who have multiple medical conditions. In short, this is another important sub-population to carefully monitor for substance use!

References:

Psychotropic drug use and alcohol consumption among older adults in Germany (<http://bmjopen.bmj.com/content/6/10/e012182.reviewer-comments.pdf>)

Alcohol, drugs and much more in later life
(http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-44462002000500008)

Medical Detoxification

SBIRT focuses on identification of risky behaviors, but . . .

- Clinicians also need to recognize intoxication that warrants medical attention
 - ✓ Recognize warning symptoms
 - ✓ Understand detoxification methods
 - ✓ Be PREPARED
 - ✓ Know who/what your resources are!




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You are not expected to use detoxification methods with your clients. However, it's important to understand warning signs that a client may be using alcohol or drugs at a level where they need help to safely stop. Being prepared is really the main issue.

Signs and Symptoms of Withdrawal

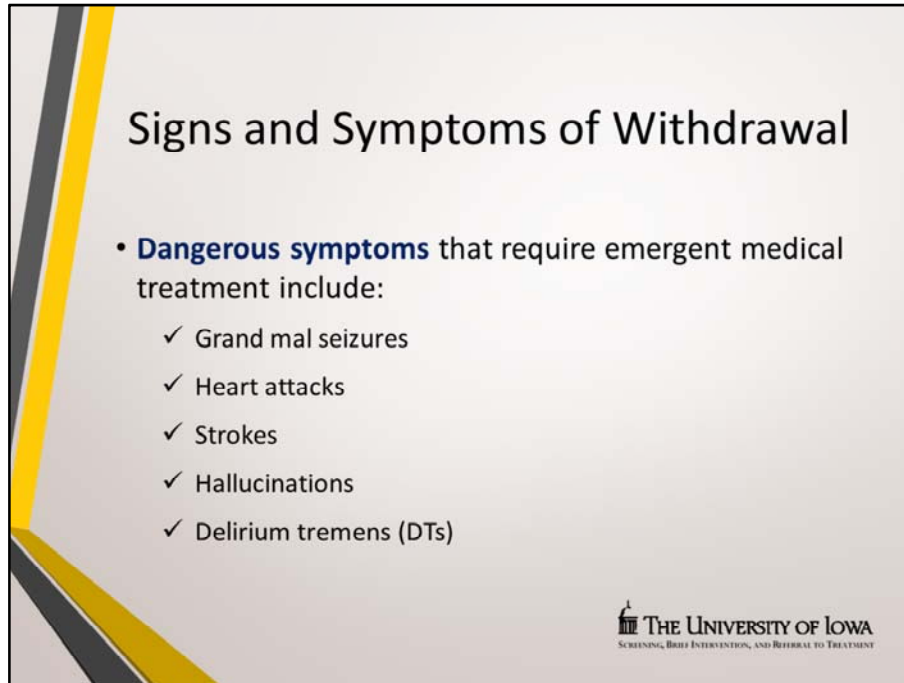
- Emotional symptoms
 - ✓ Anxiety
 - ✓ Restlessness
 - ✓ Irritability
 - ✓ Insomnia
 - ✓ Headaches
 - ✓ Poor concentration
 - ✓ Depression
 - ✓ Social isolation
- Physical symptoms
 - ✓ Sweating
 - ✓ Racing heart
 - ✓ Palpitations
 - ✓ Muscle tension
 - ✓ Tightness in the chest
 - ✓ Difficulty breathing
 - ✓ Tremor
 - ✓ Nausea, vomiting, or diarrhea

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The signs and symptoms of withdrawal from alcohol and drug use cover a wide range of both emotional and physical symptoms. Of equal importance, withdrawal symptoms vary from person to person.

References: Withdrawal

(<http://www.addictionsandrecovery.org/withdrawal.htm>)



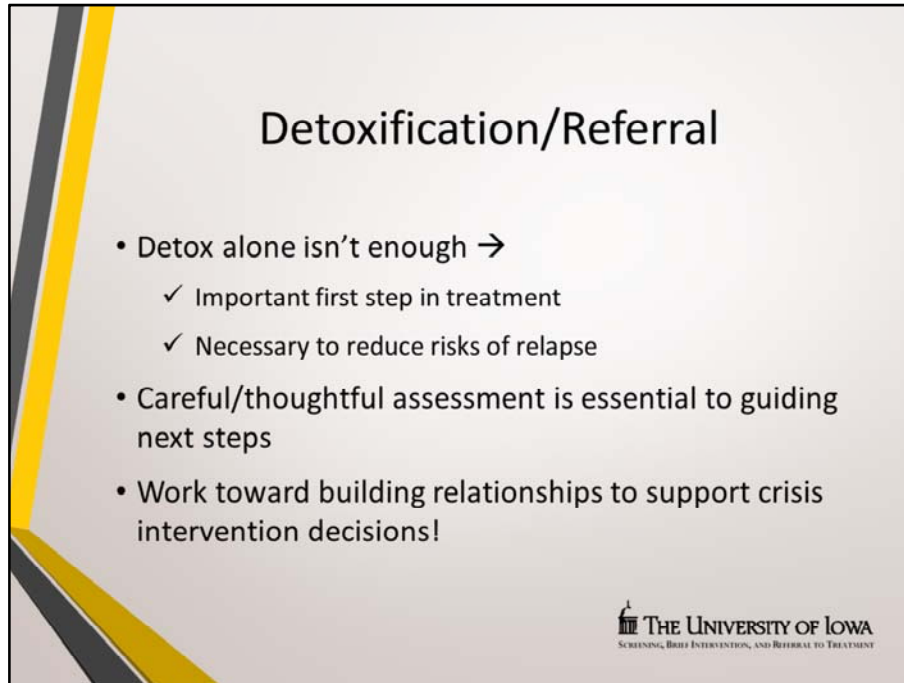
Signs and Symptoms of Withdrawal

- **Dangerous symptoms** that require emergent medical treatment include:
 - ✓ Grand mal seizures
 - ✓ Heart attacks
 - ✓ Strokes
 - ✓ Hallucinations
 - ✓ Delirium tremens (DTs)

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The most dangerous physical withdrawal symptoms come from suddenly stopping the use of alcohol and tranquilizers. The risk of having withdrawal symptoms that require hospitalization increases with each sudden withdrawal.

Reference: Withdrawal
(<http://www.addictionsandrecovery.org/withdrawal.htm>)



Detoxification/Referral

- Detox alone isn't enough →
 - ✓ Important first step in treatment
 - ✓ Necessary to reduce risks of relapse
- Careful/thoughtful assessment is essential to guiding next steps
- Work toward building relationships to support crisis intervention decisions!

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Some individuals may present to you asking for help with detoxification from alcohol or drugs. Decisions about next steps should be guided by thorough evaluation AND also what options are readily available.

For example, you may attempt to refer the patient for specialty treatment, but the service is already full and wait-listed. Having a working relationship with specialty services ahead of time will help in the decision-making process needed to keep the person safe. As discussed in the SBIRT Core curriculum, a “warm handoff” that supports the person as they get to treatment is essential. Individuals with strong support systems are more likely to succeed.


In some cases, emergency services may be indicated, and clearly any dangerous symptoms of withdrawal will require immediate emergency care.

Reference: Detox: Summary & Key Issues to Remember
(<http://iusbirt.org/course2/detox-summary-key-issues-to-remember/>)



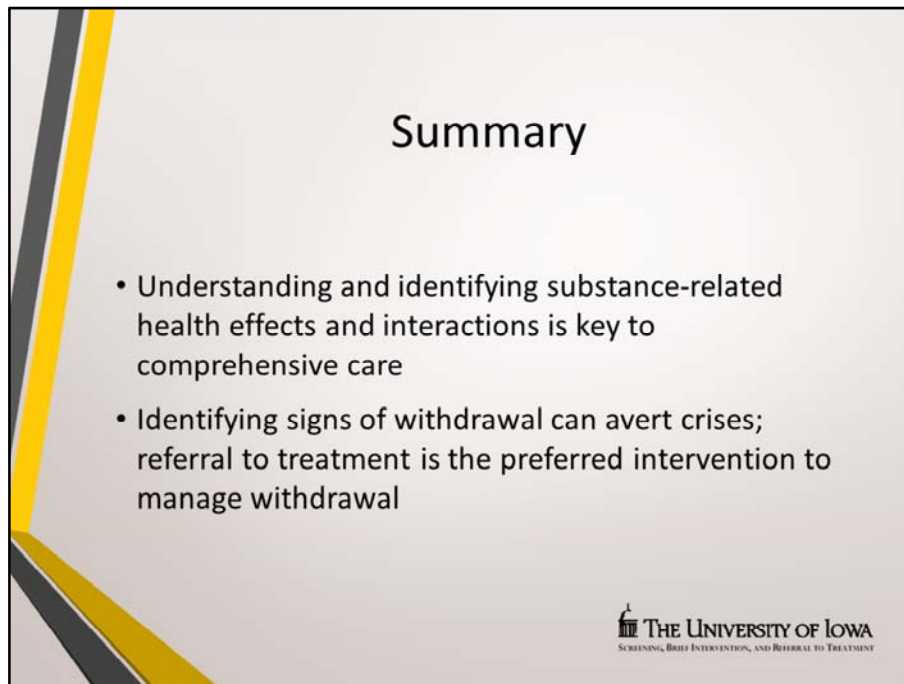
How Detox Works

- Close supervision/continuous monitoring is necessary over the course of days to prevent delirium tremens (DTs)
- “Cold turkey” is never recommended without medical supervision
- Benzodiazepines are commonly used in withdrawal protocols
- Good resource → ***Alcohol Withdrawal Treatment, Symptoms, and Timeline***
<http://americanaddictioncenters.org/withdrawal-timelines-treatments/alcohol>

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While every individual’s experience with detox will be different, there are guidelines to assist in clinical decision-making. The one provided by the American Addiction Centers is a good example, but there are others that may provide better guidance based on your clinical setting and the primary population that you serve. As before, collaborating with substance use specialty care providers in advance of a crisis can ease the tension of knowing what is best for individual clients in your practice.

Reference: Alcohol Withdrawal Treatment, Symptoms, and Timeline
(<http://americanaddictioncenters.org/withdrawal-timelines-treatments/alcohol/>)



The slide features a light gray background with a decorative graphic on the left side consisting of several overlapping diagonal stripes in shades of gray and yellow. The word "Summary" is centered at the top in a large, black, sans-serif font. Below it, there are two bullet points. In the bottom right corner, there is a logo for The University of Iowa, which includes a small icon of a building and the text "THE UNIVERSITY OF IOWA" and "SCREENING, BRIEF INTERVENTION, AND REFERRAL TO TREATMENT" in smaller font.

Summary

- Understanding and identifying substance-related health effects and interactions is key to comprehensive care
- Identifying signs of withdrawal can avert crises; referral to treatment is the preferred intervention to manage withdrawal

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In summary, concurrent medical and substance use disorders demand thoughtful assessment and treatment. Using standardized scales and physical findings based on assessments helps clinicians better gauge therapeutic next steps. While treatment can be challenging for those with dual diagnoses or co-occurring conditions, understanding the complexity of issues is an important first step in the provisions of comprehensive, competent care and treatment.

