

# Heads Up: Real News About Drugs and Your Body

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For the accompanying Student Edition, refer to NCADI HURN07-05SC.

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## The Science of Addiction

### Dear Teacher:

The National Institute on Drug Abuse and Scholastic realize that teachers can have a major impact on protecting children from becoming addicted to drugs of abuse. That is why we continually strive to provide you and your students with science-based facts about drugs and their dangers.

Over the course of the next few months, we will bring you a series of articles about addiction that will help students understand

the effect of addiction on teen brains and bodies.

We appreciate all your efforts in helping your students get the real facts about addiction and how it can affect them.

Sincerely,



Nora D. Volkow, M.D.  
Director of NIDA

## Lesson Plan & Reproducible

**Preparation:** Before displaying the lesson, make two photocopies of the Student Activity Reproducible for a pre- and post-lesson quiz.

### LESSON 1: Heads Up: What Do You Know About the Science of Addiction?

**OBJECTIVE** To test students' self-knowledge about drug addiction before and after reading the article.

**NATIONAL SCIENCE EDUCATION STANDARDS**

Life Science; Science in Personal and Social Perspective

**WHAT YOU WILL DO**

- Ask students, *What do you think addiction is? and How do drugs affect the brain to cause addiction?* Give students time for discussion.
- Distribute copies of the Student Activity Reproducible. Tell students to write their name on the paper, and answer the questions.

- Have students silently read the article "The Science of Addiction" in their magazine. When they have finished, begin a discussion by asking: *Why is the teen brain especially susceptible to the effects of drug abuse? What are some of the risk factors that lead to drug abuse and addiction? How can prescription drugs be just as dangerous as street drugs?*
- After students read the article and discuss their answers, have them complete the Student Activity Reproducible again. When they have finished, reveal the correct answers.
- Wrap up the lesson by asking students: *Why are drugs addictive? What can you do to prevent drug addiction?*

**ANSWERS TO REPRODUCIBLE:**

1. c & d; 2. d; 3. b & c; 4. a, b, & c; 5. a; 6. a; 7. a, b, & c; 8. true; 9. true; 10. true

For printable past and current articles in the HEADS UP series, as well as activities and teaching support, go to [www.drugabuse.gov/parent-teacher.html](http://www.drugabuse.gov/parent-teacher.html) or [www.scholastic.com/HEADSUP](http://www.scholastic.com/HEADSUP).

## What Do You Know About the Science of Addiction?

Answer the questions below to find out what you know about drugs and drug addiction. For multiple choice questions, there may be more than one answer.

- 1. Drug addiction can be defined as**
  - a. a bad habit.
  - b. the use of illegal drugs.
  - c. a chronic, relapsing disease.
  - d. a complex and developmental disease.
- 2. Which of the following are characteristics of the disease of drug addiction?**
  - a. compulsive drug seeking
  - b. neurochemical changes in the brain
  - c. molecular changes in the brain
  - d. all of the above
- 3. The brain recognizes the prescription drug OxyContin in the same way that it recognizes**
  - a. caffeine.
  - b. heroin.
  - c. Vicodin.
  - d. water.
- 4. The disease of drug addiction is associated with**
  - a. HIV/AIDS.
  - b. viral hepatitis.
  - c. mental disorders.
  - d. none of the above.
- 5. The prefrontal cortex—located just behind the forehead—is the part of the brain that governs**
  - a. judgment and decision-making.
  - b. speech.
  - c. vision.
  - d. movement.
- 6. The PET in “PET scans” stands for**
  - a. positron emission tomography.
  - b. proton emulsion tomography.
  - c. positron emission temperature.
  - d. proton-electron temperature.
- 7. Which of the following is a factor in whether someone becomes addicted to drugs?**
  - a. genes
  - b. environment
  - c. age of first use
  - d. none of the above
- 8. Exposure to drugs during the teen years may affect the likelihood of someone becoming an addict in the future.**
  - a. true
  - b. false
- 9. Anyone who sells medications prescribed to them could be called a drug dealer and is subject to criminal prosecution.**
  - a. true
  - b. false
- 10. People, places, and things related to a particular drug experience can, at a later time, trigger another drug experience.**
  - a. true
  - b. false



# Tobacco Addiction and Secondhand Smoke



— A message from Dr. Nora Volkow,  
Director of NIDA

## In This Installment

- What causes tobacco addiction
- Why secondhand smoke is harmful to nonsmokers
- The latest research on tobacco addiction and teens

## Assessment Tools

Use the Activity Reproducible on the back of this page as an Assessment Quiz to determine what your students have learned about tobacco addiction and secondhand smoke.

## More Information

For access to more information for teens on tobacco addiction research, visit [www.teens.drugabuse.gov](http://www.teens.drugabuse.gov).

For information on tobacco abuse and addiction, go to [www.smoking.drugabuse.gov](http://www.smoking.drugabuse.gov).

Find information on how to quit smoking at [www.smokefree.gov](http://www.smokefree.gov).

## Dear Teacher:

This month's *Heads Up* article from the National Institute on Drug Abuse and Scholastic provides your students with science-based facts about tobacco addiction and secondhand smoke. The article summarizes scientific information and describes current research on the effects of nicotine on adolescents.



Your students will benefit greatly from science-based information about the effects of tobacco addiction, the dangers of secondhand smoke, and how tobacco addiction is treated. The Lesson Plan below is designed to enhance students' understanding of the article.

We appreciate your ongoing efforts in providing young people with facts about addiction and how it affects them.

Sincerely,

Nora D. Volkow, M.D.  
Director of NIDA

## Lesson Plan & Reproducible

**Preparation:** Before conducting the lesson, make two photocopies of the Student Activity Reproducible for a pre- and post-lesson quiz.

### Lesson 1: Heads Up: What Do You Know About Tobacco Addiction and Secondhand Smoke?

**OBJECTIVE** To test students' self-knowledge about tobacco addiction and secondhand smoke before and after reading the article.

#### NATIONAL SCIENCE EDUCATION STANDARDS

Life Science; Science in Personal and Social Perspective

#### WHAT YOU WILL DO

- Ask students, *What makes tobacco addictive?* and *What is secondhand smoke and why is it harmful?* Give students time for discussion.
- Distribute copies of the Student Activity Reproducible. Tell students to write their name on the paper and answer the questions. Explain that they will answer the questions again after they read the article.
- Next, provide students with three questions to consider as they read the article "The

Deadly Effects of Tobacco Addiction" in their magazine. *Why is tobacco addiction a problem for adolescents? What health problems are caused by smoking? What are the dangers of secondhand smoke?*

- After students read the article and discuss their answers, have them complete the Student Activity Reproducible again. When they have finished, reveal the correct answers.
- Wrap up the lesson by asking students: *How would you respond to a teen smoker who says, "I can quit whenever I want"?* *What would you say to someone you know who regularly smokes around children?*

#### ANSWERS TO REPRODUCIBLE:

1. a; 2. b; 3. c; 4. d; 5. d; 6. a & b; 7. d; 8. true; 9. true; 10. true

## What Do You Know About Tobacco Addiction and Secondhand Smoke?

Answer the questions below to find out what you know about tobacco addiction and secondhand smoke. For multiple-choice questions, there may be more than one correct answer.

- 1. The addictive ingredient in tobacco is**
  - a. nicotine.
  - b. tar.
  - c. smoke.
  - d. unknown.
- 2. Cigarette smoking accounts for how many of all cancer deaths:**
  - a. one-third
  - b. one-fourth
  - c. one-fifth
  - d. one-half
- 3. The pleasurable effects of nicotine**
  - a. are long-lasting.
  - b. last an hour.
  - c. last a few minutes.
  - d. last 10 seconds.
- 4. Smoking harms**
  - a. only the lungs.
  - b. only the brain.
  - c. only the liver.
  - d. every organ in the body.
- 5. In infants and children, secondhand smoke is a known cause of**
  - a. sudden infant death syndrome (SIDS).
  - b. respiratory problems and ear infections.
  - c. asthma attacks.
  - d. all of the above.
- 6. A 2005 survey of 8th, 10th, and 12th graders shows that compared with students in previous years**
  - a. more students disapprove of smoking.
  - b. fewer students are smoking.
  - c. more students are smoking.
  - d. fewer students disapprove of smoking.
- 7. The following can fully protect you against secondhand smoke:**
  - a. opening a window
  - b. sitting in a separate area
  - c. using ventilation or air conditioning
  - d. none of the above
- 8. An ingredient in tobacco, acetaldehyde, probably works with nicotine in addicting adolescents, in particular, to tobacco.**
  - a. true
  - b. false
- 9. Adolescents are more likely to become addicted to tobacco than adults.**
  - a. true
  - b. false
- 10. People trying to quit smoking have withdrawal symptoms.**
  - a. true
  - b. false



# Stress and Drug Abuse



— A message from Dr. Nora Volkow,  
Director of NIDA

## In This Installment

- What is *stress* and how can teens better handle it?
- How does the body react to stress and drugs?
- What are some of the connections between stress and drug abuse?

## Assessment Tools

Use the Student Activity Reproducible on the back of this page as an assessment quiz to determine what your students have learned about the connections between stress and drug abuse.

## More Information

For more information about stress and drug abuse, read the NIDA Community Drug Alert Bulletin “Stress & Substance Abuse”  
[www.drugabuse.gov/StressAlert/StressAlert.html](http://www.drugabuse.gov/StressAlert/StressAlert.html)

and visit  
[www.nida.nih.gov/DrugPages/Stress.html](http://www.nida.nih.gov/DrugPages/Stress.html).

For information about helping teens handle stress, read:

“Family Guide: Coping Skills for the ‘Little Things’”  
[www.family.samhsa.gov/get/copingskills.aspx](http://www.family.samhsa.gov/get/copingskills.aspx).

White House Council on Youth Violence, “Helping Your Children Navigate Their Teenage Years: A Guide for Parents,” December 2000.  
<http://download.ncadi.samhsa.gov/ken/pdf/SVP-0013/SVP-0013.pdf>.

## Dear Teacher:

As a teacher, you see students under stress every day—from pressures of over-scheduling to worries about how to fit in. This month’s *Heads Up* article from the National Institute on Drug Abuse and Scholastic provides students with information to help them make smart choices when they feel overwhelmed. In the article they’ll find science-based facts about stress, information about the connections between stress and drug abuse, and practical suggestions for handling stress.

The Lesson Plan and Activity Reproducible that follow are designed to help students understand this important information.

Thank you for working with NIDA to bring the facts about stress and drug abuse to your students.

Sincerely,

Nora D. Volkow, M.D.  
Director of NIDA



## Lesson Plan & Reproducible

**Preparation:** Before the lesson, make two photocopies of the Student Activity Reproducible for a pre- and post-lesson quiz.

### OBJECTIVE

Students will understand and reinforce their knowledge of how stress affects the body, how drugs impact the body’s response to stress, and how stress and drug abuse are related.

### NATIONAL SCIENCE EDUCATION STANDARDS

Life Science; Science in Personal and Social Perspectives

### WHAT YOU WILL DO

- Introduce the topic of *stress* by asking students about stress they experience in their daily lives. Briefly discuss their responses. What are some ways (positive and negative) that teens respond to stress? Record student responses.
- Distribute copies of the Student Activity Reproducible. Tell students to write their name on the paper and answer the questions.
- Have students read the article “Stress and Drug Abuse” in their magazine. When they have finished, begin a discussion by asking,

*What are some ways that the body reacts to stress? What are some connections between drugs of abuse and stress? What has some of the latest scientific research revealed about stress and drugs?*

- After the discussion, have students complete the Student Activity Reproducible again. When they have finished, reveal the correct answers to the reproducible.
- Wrap up the lesson by asking students, *How would you respond to a friend who says, “I know that using drugs reduces stress”? What are some healthy ways that you can reduce stress?*
- For further student reading, visit [www.scholastic.com/headsup](http://www.scholastic.com/headsup) for: “Drug Addiction and Stress: The Brain Connection” and “Scientists Find a Connection between 9/11 and Substance Abuse.”

### ANSWERS TO REPRODUCIBLE:

1. e; 2. e; 3. c; 4. e; 5. c; 6. d; 7. a; 8. true; 9. false; 10. true

## What Do You Know About Stress and Drug Abuse?

Answer the questions below to find out what you know about stress and its connection to drug abuse.

- Short-term physical responses to stress include:**
  - a faster heart rate.
  - sweaty palms.
  - a pounding head.
  - tense muscles.
  - all of the above.
- Long-term physical responses to stress include:**
  - back pain.
  - high blood pressure.
  - sleeplessness.
  - an inability to make decisions.
  - all of the above.
- Drugs of abuse increase levels of the hormone CRF in the brain. The function of CRF is to:**
  - control breathing.
  - control movement of arms and legs.
  - initiate the body's response to stress.
  - stimulate digestion.
- Stress affects which of these body systems?**
  - central nervous
  - endocrine
  - immune
  - cardiovascular
  - all of the above
- Which of the following statements is true?**
  - All stress is bad for you.
  - Using illicit drugs reduces stress.
  - Anyone can learn to manage stress.
  - Everyone deals with stress in the same way.
- If a friend is stressed out, a good suggestion you might offer would be to:**
  - eat healthy foods, exercise, and get enough sleep.
  - talk openly to an understanding listener who will remain calm.
  - focus on one problem at a time.
  - all of the above.
- The "stress hormone cycle" involves the release of hormones from:**
  - the brain, the pituitary gland, and the adrenal glands.
  - only the adrenal glands.
  - only the brain and the pituitary gland.
  - only the brain.
- Stress can cause brain changes similar to those caused by drug addiction.**
  - true
  - false
- Drug abuse is harmful, but it does relieve stress.**
  - true
  - false
- Stress is thought to be a cause of relapse to drug addiction.**
  - true
  - false



# Health Literacy and Drug Abuse



— A message from Dr. Nora Volkow,  
Director of NIDA

## In This Installment

- Important facts about how drug abuse and addiction affect health.
- Tips for students on how to take action to stay healthy.

## Assessment Tools

Use the Student Activity Reproducible on the back of this page as an assessment quiz to determine what your students have learned about the health effects of drug abuse.

## More Information

For more information about the connection between general health and drug abuse and addiction, read NIDA Notes, “Beyond the Brain: The Medical Consequences of Abuse and Addiction,” at [www.nida.nih.gov/NIDA/Notes/NNVol18N6/DirRepVol18N6.html](http://www.nida.nih.gov/NIDA/Notes/NNVol18N6/DirRepVol18N6.html).

## Dear Teacher:

As an educator, you know how important it is for your students to make informed choices. When it comes to drug abuse, knowing the facts is crucial to helping students make decisions that can impact their health and safety.

In this latest installment of *Heads Up*, students will find out how drug abuse and addiction affect one’s overall health. Although at its core a brain disease, drug addiction produces harmful consequences throughout the body.

We thank you for sharing the important facts in this article with your students. By doing so, you are not only helping them be more health-literate, but are also helping them keep safe.

Sincerely,

Nora D. Volkow, M.D.  
Director of NIDA



## Lesson Plan & Reproducible

**Preparation:** Before the lesson, make two photocopies of the Student Activity Reproducible for a pre- and post-lesson quiz.

**OBJECTIVE** Students will understand some of the serious health consequences of drug abuse and addiction.

**NATIONAL SCIENCE EDUCATION STANDARDS**  
Life Science; Science in Personal and Social Perspectives

### WHAT YOU WILL DO

- Introduce the topic of drug abuse and health by asking students what they consider the most important health issues facing teens today. Give students time for discussion.
- Distribute copies of the Student Activity Reproducible. Tell students to write their name on the paper and answer the questions. Explain that they will answer the questions again after they read the article.
- Have students read “Get the Facts: Drug Abuse Puts Your Whole Body at Risk” in their magazines. When they have finished,

begin a discussion: *What are some of the ways in which drug abuse and addiction affect the health issues you identified earlier? What are some ways you can protect your health with regard to drugs? Why is it important to get the facts about your health?*

- After the discussion, have students complete the reproducible again. When they have finished, reveal the correct answers.
- Wrap up the lesson by asking students: *How would you respond to someone who says, “Drugs mess with your head a bit; what’s the big deal?” or, “I’m healthy; what’s there to worry about with drugs?”*

For further facts about the health effects of drugs on the body, visit [www.scholastic.com/headsup](http://www.scholastic.com/headsup).

### ANSWERS TO REPRODUCIBLE:

1. d; 2. a; 3. b; 4. a; 5. a; 6. d; 7. c; 8. c; 9. true; 10. true

## What Do You Know About the Health Effects of Drug Abuse?

Answer the questions below to find out what you know about the health effects of drug abuse and addiction.

- 1. A prescription medication**
  - a. is always safe because a doctor prescribes it.
  - b. is safe to take, even if prescribed for someone else, as long as you have the same symptoms.
  - c. is safe to take, even if prescribed for someone else, as long as you follow the directions.
  - d. is not safe for you if it has not been prescribed for you.
- 2. Diseased gums and teeth can result from**
  - a. methamphetamine
  - b. cocaine
  - c. Vicodin®
  - d. opioids
- 3. Which of the following can be a harmful effect of opioids like Vicodin® and OxyContin®?**
  - a. “meth mouth”
  - b. severe respiratory depression
  - c. bone-marrow damage
  - d. hearing loss
- 4. Blackouts, hearing loss, and liver, kidney, and bone-marrow damage are effects of**
  - a. inhalants
  - b. methamphetamine
  - c. cocaine
  - d. nicotine
- 5. Premature aging of the skin can result from use of**
  - a. tobacco
  - b. cocaine
  - c. opioids
  - d. inhalants
- 6. Effects of drug abuse can occur**
  - a. when drugs are used at high doses
  - b. after prolonged use of drugs
  - c. after one use
  - d. any of the above
- 7. The risk of contracting HIV/AIDS, hepatitis, and other infectious diseases is greatly increased by**
  - a. injection drug use
  - b. risky behavior due to drug abuse
  - c. both a and b
  - d. none of the above
- 8. The main chemical found in tobacco that causes addiction is**
  - a. tar
  - b. caffeine
  - c. nicotine
  - d. menthol
- 9. More than half of people addicted to drugs have also had some form of mental illness.**
  - a. true
  - b. false
- 10. Drug abuse is linked to the top medical problems in the United States.**
  - a. true
  - b. false