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### Tobacco products may fool some

VICKI ROCK

Daily American Staff Writer

Somerset -

They look like mints, chewing gum, a green marking pen and bottled water. They have healthy sounding flavors including peach and apple, and they smell like fruits. They are tobacco products.

“The Washington County Health Partners Inc. created the backpack of non-tobacco items and their tobacco product look-alikes to show schools and legislators what the very ingenious tobacco people are doing to market to our youth,” said Clara Hinton, Somerset County tobacco educator. She is also on the executive coalition of the Washington County Health Partners Inc.

There is Camel Snus, a spitless tobacco product, that comes in flavors. The package looks like a cell phone or a container of mints. Skoal cut tobacco’s package also looks like mints or beef jerky. Ariva and Stonewall dissolvable tobacco products look like breath mints. White Owl Blunts in flavors including grape and strawberry look like the marking pen. Revved Up, a caffeinated energy dip, looks like mints. NicLite, a nicotine water sold as a homeopathic product, looks like a small bottle of regular water.

“This is one you won’t guess,” Hinton said. “It looks like a single packaged alcohol wipe. It blew me away. It is Nicogel. A kid could sit in class and the teacher would think he’s using a sanitizing gel and he is getting a fix in class.”

The dissolvable tobacco products contain two milligrams of nicotine, which is slightly higher than a cigarette.

“Little kids can overdose on just 10 milligrams,” she said. “This is serious stuff.”

The “What’s in Your Child’s Backpack” educational tool kit was developed as a regional effort across 10 counties.

“Most of these products are under \$3, easy to hide, and look, taste and smell like candy,” Lee Rutledge-Falcione, director of Washington County Health Partners Inc., said in a written statement. “Aggressive marketing and development of these new products is promoting the use of smokeless products and putting our youth at risk. It is very important that tobacco use prevention education continues, even in

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this tight budget year.”

Tobacco companies spend \$534 million to market their products in Pennsylvania, according to the Washington County Health Partners. Each year 18,500 Pennsylvania young people become new daily smokers.

Adults are also using the products, which cost much less than cigarettes, Hinton said. She teaches a smoking cessation class at Somerset Hospital and many of the adults in the class had already seen all the tobacco products.

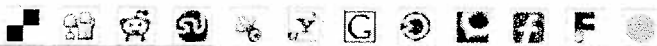
“Pennsylvania is sadly the only state that does not have a tax or user-fee on other tobacco products,” she said. “Thirty percent of all teens who try nicotine products get addicted. It is a drug. It works on the brain. It has a permanent effect on the structure of the brain. We know kids are buying it — it’s affordable and it’s available and more products are coming out. Parents and teachers need to be aware because they may think something’s harmless and it’s not. Young people already know about it.”

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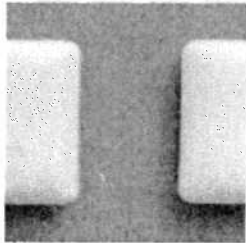




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## **Anti-Smokers Give Nicotine Gum to 14 year old, Child Overdoses**

Posted by vapor in [Buzz](#), [News](#), [Other Topics](#) on 07 21st, 2009 | [no responses](#)

A 14-year-old boy was hospitalised after overdosing on nicotine gum handed out at school, it [Share](#) emerged today.

Aiden Williams is thought to have chewed up to 45 sticks of the gum before collapsing in the playground at Menzies High School Science College in West Bromwich, West Midlands.

Anti-smoking advisers from Sandwell Council's Drug Education, Counselling and Confidential Advice (Decca) gave the gum to another boy after the school raised concerns about that pupil's smoking habit.

But the boy, a friend of Aiden, passed it on and Aiden was taken to Sandwell General Hospital with stomach pains on July 8 after bingeing on the gum.

He was kept in overnight for observation and discharged the following day.

**About the Virginia Foundation for Healthy Youth:**

Established by the Virginia General Assembly, the **Virginia Foundation for Healthy Youth** was formerly known as the Virginia Tobacco Settlement Foundation. The Foundation is responsible for statewide efforts to prevent and reduce youth tobacco use and childhood obesity. Since the Foundation began its work in 2001, teen smoking in Virginia has been almost cut in half.

The Virginia Foundation for Healthy Youth directly reaches more than 141,000 children through classroom-based prevention programs in hundreds of public schools, after-school programs, community centers, daycares and prevention programs statewide. The Foundation's award-winning "Y do u think" marketing campaign delivers prevention messages to 600,000 children annually through TV and radio ads and Internet content.

The Foundation is funded through a portion of Virginia's share of the 1998 Master Settlement Agreement (MSA).

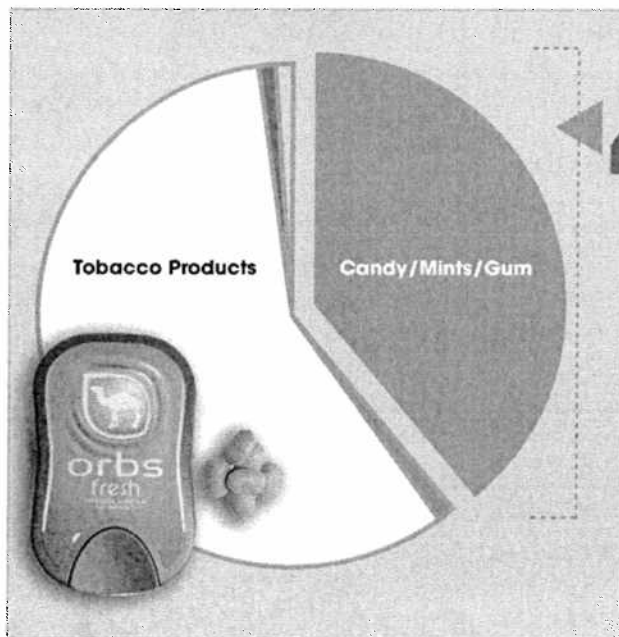
For more information about the Virginia Foundation for Healthy Youth, please see our brochure at [HealthyYouthVA.org/pdf/HealthyYouthBrochure\\_lores.pdf](http://HealthyYouthVA.org/pdf/HealthyYouthBrochure_lores.pdf).

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## Virginia Survey on New Tobacco Products

Virginia youth collected 2,433 surveys from the general public from May 2009 to June 2010. These opinion surveys assessed whether the new smokeless and spitless tobacco products are mistakenly perceived as candy or mints because of their packaging and flavoring. The facts featured below are major findings from the survey. Please visit [meltdownva.com](http://meltdownva.com) for more survey findings.



**42%**

**OF TEENS THOUGHT  
CAMEL ORBS WERE CANDY,  
MINTS OR GUM BASED ON ITS  
PACKAGING.**



**81%**

**OF RESPONDENTS  
BELIEVED THAT  
WINTERGREEN,  
A SMOKELESS  
TOBACCO  
PRODUCT FLAVOR,  
WAS ASSOCIATED WITH  
CANDY, GUM OR MINTS.**

**53%**

**OF RESPONDENTS  
BELIEVED THAT  
FROST, A SMOKELESS TOBACCO  
PRODUCT FLAVOR, WAS ASSOCIATED  
WITH CANDY, GUM OR MINTS.**

Candy/Mints/Gum

Beverages

Other



**28%**

**OF TEENS  
WHO DO NOT  
CURRENTLY USE  
TOBACCO SAID  
THEY WOULD TRY  
CAMEL ORBS FRESH  
BASED ON ITS  
PACKAGING.**



## **Some Recent Media Reports about Camel Orbs:**

**Richmond Times-Dispatch, May 7,** article about Va. Foundation for Healthy Youth survey:

[http://www2.timesdispatch.com/rtd/business/local/article/B-TOBA07\\_20100506-210802/342684/](http://www2.timesdispatch.com/rtd/business/local/article/B-TOBA07_20100506-210802/342684/)

**New York Times, April 19,** article about Camel Orbs controversy:

<http://www.nytimes.com/2010/04/19/business/19smoke.html>

**The Columbus Dispatch, May 2,** article about Sen. Brown wanting Camel Orbs taken off market:

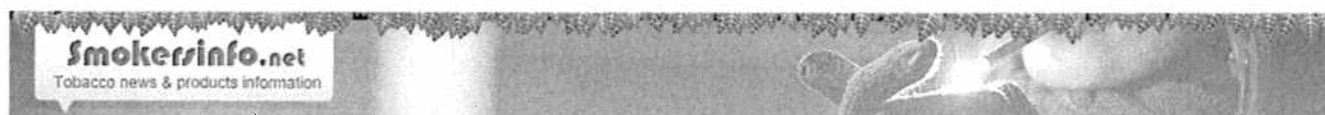
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**Convenience Store News, May 3,** article about RJ Reynolds Tobacco's focus on new smokeless tobacco products

[http://www.csnews.com/csn/cat\\_management/tobacco/article\\_display.jsp?vnu\\_content\\_id=1004088365&imw=Y](http://www.csnews.com/csn/cat_management/tobacco/article_display.jsp?vnu_content_id=1004088365&imw=Y)

**The Colbert Report, April 28,** humorous satire about Camel Orbs:

<http://www.colbertnation.com/the-colbert-report-videos/308747/april-28-2010/cheating-death---tobacco-mints--breast-milk---hallucinogens>



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## **Many teens mistook smokeless tobacco products for candy**

One out of three teenagers younger than 18 mistakenly identified a new type of smokeless tobacco product as candy or gum in a survey conducted by a Virginia tobacco-prevention group.

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Conducted last year by student volunteers with the Virginia Foundation for Healthy Youth, the survey asked about 1,400 people, including 728 younger than 18, to identify package images for several types of novel, smokeless tobacco products, along with package images of conventional mints and gums.

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About 39 percent of survey participants younger than 18 identified Camel Orbs as mints or gum.

About 39 percent of the people younger than 18 identified Camel Orbs as mints or gum.

Camel Orbs are a pelletlike type of oral tobacco that dissolves in the mouth, delivering a dose of nicotine to the user.

Developed by R.J. Reynolds Tobacco Co., the nation's second-largest cigarette maker, Camel Orbs are part a wider trend in the tobacco industry to introduce new smokeless products to the market as cigarette sales have declined and as indoor smoking bans become more common.

The smokeless products have been criticized by health officials and tobacco-control advocates, who say they appear too much like candy and pose a poison risk to young children.

The U.S. Food and Drug Administration is planning to review dissolvable tobacco products, and U.S. Sen. Frank R. Lautenberg, D-N.J., last month urged the agency to pull the products from stores pending more study.

The results of the survey indicate that packaging of the products alone may appeal to youth, said Danny Saggese, director of marketing for the Virginia Foundation for Healthy Youth.

"It poses a significant risk to youth and raises the possibility of them not only using these products, but using them in places where smoking is now prohibited, and potentially becoming nicotine addicts," he said.

Of the teenagers younger than 18 surveyed, 28 percent said they would try Camel Orbs based on packaging alone.

Camel Orbs are not available in Virginia, said David Howard, a spokesman for Winston-Salem, N.C.-based Reynolds. The company is test-marketing the product in Columbus, Ohio; Indianapolis; and Portland, Ore.

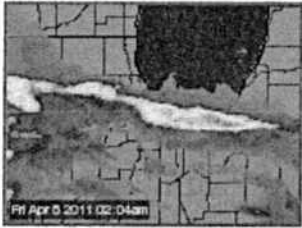
Howard said Camel Orbs are sold behind the shelf along with other tobacco products.

"They are clearly tobacco products," he said. "Their sale is age-restricted. It is illegal to sell them to minors. The packages carry the same warnings as other smokeless tobacco products." Starting late next month, the FDA will require smokeless tobacco products to have warning labels that cover one-third of the front and back of the packages, Howard said.

Christine Hou, a senior at the Maggie L. Walker Governor's School, said she thinks the novel smokeless products are not widely known among teens, "but it is something [tobacco companies] are putting out there, which is scary."



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## **FDA ruling clears tobacco lozenges for sale**

By Associated Press

Posted March 23 at 1:31 p.m.

Tobacco maker Star Scientific Inc. said Wednesday that the Food and Drug Administration has informed it that two of its dissolvable tobacco lozenges aren't covered by the law regulating tobacco, clearing the way for them to be marketed.

The small Virginia company, which has sold tobacco products that dissolve in the user's mouth since 2001, said the FDA's Center for Tobacco Products say that its Ariva-BDL and Stonewall-BDL products aren't subject to regulation.

The news drove Star's stock up 33 cents, or 9 percent, to \$3.95.

Star Scientific had asked the FDA to certify the lozenges as "modified risk" tobacco products under a 2009 law, making itself the test case for a big issue of whether the agency would allow certain products to be marketed as less harmful than cigarettes.

The company says the lozenges contain “below detectable levels” of certain cancer-causing chemicals found in tobacco and its smoke. The tablets contain tobacco’s addictive component, nicotine. Star Scientific has said its method of tobacco cultivation and preparation creates tobacco leaves with low levels of some carcinogens.

How the FDA handles “modified-risk” products is being closely watched by the public health community and bigger tobacco companies, which are looking for new products to sell as they face declining cigarette demand.

But Star Scientific said the agency’s notices from Dr. Lawrence Deyton, the center’s director said, “At this time, only cigarettes, cigarette tobacco, smokeless tobacco and roll-your-own tobacco are subject” to the law and that based on the company’s submissions, the products are not subject to regulation.

In a statement Wednesday, the FDA said it recognizes there are uncertainties whether nicotine-containing products derived from tobacco should be regulated as drugs or tobacco products. The agency added that it is considering its legal and regulatory options regarding these products.

Star Scientific had believed the products fell under the jurisdiction of the Center for Tobacco Products, and the company was somewhat surprised by the agency’s determination, spokeswoman Sara Troy Machir said in an interview with The Associated Press.

However, the distinction may come in how the product is made.

“Yes they are absolutely tobacco products under the definition, but when we get into the manufacturing process that’s where we are hamstrung because it’s absolutely proprietary information,” Machir said.

The FDA still must address the issue of dissolvable tobacco. By next March, its scientific advisory panel must complete a report and recommendations on the products being sold by Star and other tobacco companies. The agency also has expressed concerns that dissolvable products contain a lot of nicotine and could be particularly appealing to kids and young adults.

R.J. Reynolds, which is owned by Reynolds American Inc. in Winston-Salem, N.C., is test-marketing dissolvable, finely milled tobacco tablets, strips and a toothpick shape under the names Camel Orbs, Camel Strips and Camel Sticks. Richmond-based Altria Group Inc., owner of the nation’s largest tobacco company, Philip Morris USA, is test marketing wooden sticks coated with finely milled tobacco under the top-selling Marlboro brand in Kansas.

Read more about the topics in this post: [FDA](#), [Tobacco lozenges](#), [Tobacco products](#)

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## Tobacco Company's New, Dissolvable Nicotine Products Could Lead to Accidental Poisoning in Infants and Youth

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For immediate release: Monday, April 19, 2010

Boston, MA—A tobacco company's new, dissolvable nicotine pellet--which is being sold as a tobacco product, but which in some cases resembles popular candies--could lead to accidental nicotine poisoning in children, according to a new study from the Harvard School of Public Health (HSPH), the Northern Ohio Poison Control Center, the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). The researchers also say the candy-like products could appeal to young people and lead to nicotine addiction as well.

The study appears in an advance online edition of the journal *Pediatrics* on April 19, 2010 and will appear in a later print issue.

In 2009, the R.J. Reynolds Tobacco Company launched a dissolvable nicotine product called Camel Orbs, which according to the company's promotional literature contains 1 mg nicotine per pellet and is flavored with cinnamon or mint. The company also introduced Camel Strips (to contain 0.6 mg nicotine per strip) and Sticks (to contain 3.1 mg nicotine per strip).



It appears that the product is intended as a temporary form of nicotine for smokers in settings where smoking is banned. However, the potential public health effect could be disastrous, particularly for infants and adolescents, said Professor Gregory N. Connolly, lead author of the study and director of the Tobacco Control Research Program at HSPH.

Ingestion of tobacco products by infants and children is a major reason for calls to poison control centers nationwide. In 2007, 6,724 tobacco-related poisoning cases were reported among children five years of age and under. Small children can experience nausea and vomiting from as little as 1 mg of nicotine.

“This product is called a ‘tobacco’ product, but in the eyes of a 4-year-old, the pellets look more like candy than a regular cigarette. Nicotine is a highly addictive drug and to make it look like a piece of candy is recklessly playing with the health of children,” said Connolly.

The researchers computed, based on median body weight, how much nicotine ingestion would lead to symptoms of poisoning in children: A one-year-old infant could suffer mild to moderate symptoms of nicotine poisoning by ingesting 8 to 14 Orbs, 14 Strips or 3 Sticks; ingesting 10 to 17 Orbs, 17 Strips or 3 to 4 Sticks could result in severe toxicity or death. A four-year-old child could have moderate symptoms by ingesting 13 to 21 Orbs, 14 Strips or 4 Sticks and could suffer severe toxicity or death by consuming 16 to 27 Orbs, 27 Strips or 5 Sticks. The researchers report that a poison control center in Portland, Oregon, a test market for Orbs, reported a case in which a three-year old ingested an Orbs pellet.

R.J. Reynolds claims that Orbs packaging is “child resistant,” but the researchers say adults could unknowingly leave the pellets out in the open where children could easily access them. The researchers also say that the candy-like appearance and flavoring and ease-of-use of the product could appeal to children.

“Unintentional Childhood Poisonings Through Ingestion of Conventional and Novel Tobacco Products,” Gregory N. Connolly, Patricia Richter, Alfred Aleguas Jr., Terry F. Pechacek, Stephen B. Stanfill, Hillel R. Alpert, *Pediatrics*, online April 19, 2010.

photo: Andrew Seidenberg

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## R.J. Reynolds Preps Dissolvable Tobacco

Oct 8, 2008

- Mike Beirne



R.J. Reynolds Tobacco will dive deeper into the smokeless category next year by nationally distributing Camel Snus and introducing in test markets dissolvable alternatives to cigarettes called Camel Sticks, Camel Orbs and Camel Strips.

The new products, grouped under the Camel Dissolvables banner, are smokeless and spit-free; they are made from finely milled tobacco and held together with food grade binders. The products will launch in the first quarter in Columbus, Ohio, Portland, Ore., and Indianapolis. The Camel Dissolvables Sticks can be placed in the mouth like a toothpick or broken into a piece that is placed between the upper lip and gum, where it dissolves after 10 minutes. RJR recommends the same usage for Orbs, which is a pellet that lasts about 15 minutes, and Strips, which dissolve after about 3 minutes.

The three forms of smokeless tobacco will be packed in plastic, child-resistant packaging. Strips will come in Fresh mint flavor and Sticks in Mellow; Orbs will be available in both flavors. Camel Dissolvables deliver between 0.6 to 3.1 milligrams of nicotine, while cigarette smokers typically inhale about 1 mg per cigarette.

Advertising is still being developed, but a company rep said print ads, direct marketing, sampling (at bars and nightclubs) and POP will support. The Reynolds American unit currently has a company policy that restricts advertising cigarettes in consumer publications. That self-imposed ban does not apply to other tobacco products and trade publications. Gyro, Philadelphia, and Agent 16, New York, are the lead agencies.

By introducing the products in select test markets, RJR hopes to find out which forms of Camel Dissolvables are the most popular, and how demographics or usage determines preferences. The product concept partly evolved from consumer feedback, following a test of Camel Snus in 2006. Camel Snus is also spitless, but some smokers said they didn't care for loose tobacco or pouched smokeless products, particularly ones they had to remove from their mouth after use.

The smokeless category has been a magnet for cigarette makers with sales averaging 5% to 7% annually, per various estimates. Although there is a growing body of literature contending that smokeless tobacco is less harmful than smoking cigarettes, a 2007 study by the American Cancer Society found that male smokers who switched to smokeless had higher death rates than men who quit or never smoked. Camel Dissolvables will not be positioned as a smoking cessation or reduced risk product, per the company.

"The consumer should be aware of the information available about the potential risks of each tobacco product. There are none that are safe and there are none that are without risks," said RJR rep David Howard.

In addition to introducing the new dissolvable alternatives, RJR will expand distribution for Camel Snus (pronounced snooze) by offering retailers countertop and under the counter refrigerator units to keep the product cold.

In 2006, Reynolds American acquired Corwood, the second largest maker of smokeless products in the U.S. Philip Morris USA's smokeless products include Marlboro Snus and Marlboro Snuff. Altria, Philip Morris' parent company, expects to close by January on its purchase of UST, the holding company for U.S. Smokeless Tobacco, the largest smokeless product company and maker of Skoal and Copenhagen.

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## Early Nicotine Use May Lead To Lasting Addiction, Study Finds

*ScienceDaily* (Sep. 10, 2003) — Durham, N.C. -- People who begin smoking in their teens may be particularly vulnerable to long-term nicotine addiction, according to an animal study conducted by Duke University Medical Center pharmacologists. The study emphasizes that the age at which individuals begin using nicotine can have a major physiological impact to encourage later use of the drug.

## See Also:

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In their study, the researchers compared the amount of nicotine self-administered by adolescent rats to the amount used by animals first exposed during adulthood. Young rats showed nearly double the rate of nicotine use compared with those initially exposed as adults, the study found.

The adolescents' heavier nicotine use persisted into adulthood, the team reports in the September 2003 issue of the journal *Psychopharmacology*.

"The results indicate that early nicotine exposure can leave a lasting imprint on the brain," said Edward Levin, Ph.D., professor in the

psychiatry and behavioral sciences department at Duke University Medical Center and a researcher at Duke's Nicotine Research Center. The study was supported by grants from the National Institute on Drug Abuse and the National Institute of Mental Health.

Most tobacco use begins during adolescence, Levin pointed out. Among smokers in the United States, 88 percent smoked their first cigarette before the age of 18 and 60 percent before age 14. Adolescence is also a crucial period for the brain, he said, in which the final phase of neuron development occurs.

"The great majority of tobacco addiction begins during adolescence, yet little is known about differential effects of nicotine in adolescents versus adults," Levin said.

Other studies have suggested that smokers who take up the habit at a young age are more likely to continue to smoke, Levin said. However, researchers find it difficult to assess the underlying cause of an association between age and addiction in humans, he added, because the same factors that make people prone to nicotine addiction may also encourage them to begin using the drug at a young age.

To clarify the basis of early nicotine addiction, Levin and colleagues tested for a link between the age of initial nicotine use and addiction in female rats in the laboratory. The researchers provided some rats with nicotine at 40 to 46 days of age, while others were provided nicotine only after 70 to 76 days, once they had reached adulthood. Rats could self-administer a dose of nicotine by pressing a lever.

The adolescent rats self-administered significantly more nicotine than did adults, the researchers found. In a test for chronic nicotine use in the rats during a period of four weeks, animals that began using nicotine during adolescence continued to use more of the drug even after they became adults.

The results suggest that people who begin using nicotine during adolescence may be at greater risk for long-lasting addiction, the team reports.

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"The brain continues to develop throughout the teenage years," Levin said. "Early nicotine use may cause the wiring of the brain to proceed inappropriately. In essence, the brains of adolescents who use tobacco may be sculpted around an addiction to nicotine."

Other Duke participants in the study included Amir Rezvani, Ph.D., Daniel Montoya, Jed Rose, Ph.D., and H. Scott Swartzwelder, Ph.D., also of the Durham Veterans Administration Hospital.

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## Early Nicotine Use May Lead To Lasting Addiction, Study Finds

Durham, N.C. -- People who begin smoking in their teens may be particularly vulnerable to long-term nicotine addiction, according to an animal study conducted by Duke University Medical Center pharmacologists. The study emphasizes that the age at which individuals begin using nicotine can have a major physiological impact to encourage later use of the drug.

In their study, the researchers compared the amount of nicotine self-administered by adolescent rats to the amount used by animals first exposed during adulthood. Young rats showed nearly double the rate of nicotine use compared with those initially exposed as adults, the study found.

The adolescents' heavier nicotine use persisted into adulthood, the team reports in the September 2003 issue of the journal *Psychopharmacology*.

"The results indicate that early nicotine exposure can leave a lasting imprint on the brain," said Edward Levin, Ph.D., professor in the psychiatry and behavioral sciences department at Duke University Medical Center and a researcher at Duke's Nicotine Research Center. The study was supported by grants from the National Institute on Drug Abuse and the National Institute of Mental Health.

Most tobacco use begins during adolescence, Levin pointed out. Among smokers in the United States, 88 percent smoked their first cigarette before the age of 18 and 60 percent before age 14. Adolescence is also a crucial period for the brain, he said, in which the final phase of neuron development occurs.

"The great majority of tobacco addiction begins during adolescence, yet little is known about differential effects of nicotine in adolescents versus adults," Levin said.

Other studies have suggested that smokers who take up the habit at a young age are more likely to continue to smoke, Levin said. However, researchers find it difficult to assess the underlying cause of an association between age and addiction in humans, he added, because the same factors that make people prone to nicotine addiction may also encourage them to begin using the drug at a young age.



To clarify the basis of early nicotine addiction, Levin and colleagues tested for a link between the age of initial nicotine use and addiction in female rats in the laboratory. The researchers provided some rats with nicotine at 40 to 46 days of age, while others were provided nicotine only after 70 to 76 days, once they had reached adulthood. Rats could self-administer a dose of nicotine by pressing a lever.

The adolescent rats self-administered significantly more nicotine than did adults, the researchers found. In a test for chronic nicotine use in the rats during a period of four weeks, animals that began using nicotine during adolescence continued to use more of the drug even after they became adults.

The results suggest that people who begin using nicotine during adolescence may be at greater risk for long-lasting addiction, the team reports.

"The brain continues to develop throughout the teenage years," Levin said. "Early nicotine use may cause the wiring of the brain to proceed inappropriately. In essence, the brains of adolescents who use tobacco may be sculpted around an addiction to nicotine."

Other Duke participants in the study included Amir Rezvani, Ph.D., Daniel Montoya, Jed Rose, Ph.D., and H. Scott Swartzwelder, Ph.D., also of the Durham Veterans Administration Hospital.

**Editor's Note:** The original news release can be found [here](#).

*This story has been adapted from a news release issued by [Duke University Medical Center](#).*

## The Earlier You Light Up, the Harder to Quit

*Early nicotine use linked to long-term addiction*

FRIDAY, Sept. 12 (HealthDayNews) -- If you started smoking as a teenager, you may be particularly vulnerable to long-term nicotine addiction.

An animal study by Duke University Medical Center researchers found the age at which rats begin using nicotine can have a major physiological impact to encourage later use of nicotine.

The researchers compared the amount of nicotine self-administered by adolescent rats to the amount used by rats first exposed to nicotine during adulthood. The study found the young rats used nearly double the rate of nicotine compared to the adult rats. The young rats' heavy nicotine use persisted into adulthood.

The study appears in the September issue of *Psychopharmacology*.

"The results indicate that early nicotine exposure can leave a lasting imprint on the brain," researcher Edward Levin, a professor of psychiatry and behavioral sciences, says in a news release.

He notes that among smokers in the United States, 88 percent smoked their first cigarette before the age of 18 and 60 percent took their first puff before age 14.

"The great majority of tobacco addiction begins during adolescence, yet little is known about differential effects of nicotine in adolescents versus adults," Levin says.

"The brain continues to develop through the teenage years. Early nicotine use may cause the wiring of the brain to proceed inappropriately. In essence, the brains of adolescents who use tobacco may be sculpted around an addiction to nicotine," Levin adds.

### **More information**

Here's where you can learn more about [nicotine addiction](#).

--Robert Preidt

SOURCE: Duke University, news release, Sept. 8, 2003

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