“Smokeless/Spit Tobacco Does Not Mean Harmless”

Paul Turner
Director
NC Spit Tobacco Education Program
Changing Environment

- Spit/Smokeless Tobacco Sales Are Up
- More Branding (Familiar Names)
- When You Can’t Smoke, Dip
- Smokeless Tobacco Is Safer/Better
- The Suggestion That ST Improves Overall Athletic Ability
What is SPIT/SMOKELESS TOBACCO?

Spit Tobacco
- Snuff - (Moist and Dry)
- Loose Leaf
- Plug
- Twist

Smokeless Tobacco
- Snus (sachet)
- Dissolvable
  - Tobacco Strips, Sticks, Orbs, Pellets
Tobacco Plug
“Chewing Tobacco” = Cut
“Starter” products contain sweet, fruity flavors like apple, peach, vanilla, licorice, cranberry and cherry to cover up tobacco’s bad taste.
Skoal Bandit
“Snuff” = Moist ground tobacco
Emerging and Unique Tobacco Products

Hookah
A single or multi hose water pipe used for smoking flavored hookah tobacco

Bidi
Tobacco wrapped in paper called tendu or temburni leaf

Clove or Kretek
Cigarettes that are infused with cloves

Capsule Crush
Cigarettes with menthol crushable capsules

Cyclones
A cigarette shaped like a funnel

E-Cigarette
A battery powered nicotine delivery system

Smokeless “Snuff” Tobacco
Snuff put in a device and consumed like a cigarette

Nicotine Water
4mg of nicotine suspended in purified water

Nicotine Gel
Gel form of nicotine that is absorbed through the skin

For more information about tobacco products, go to: http://tobaccoproducts.org

For help quitting call:
1-800-QUIT-NOW QuiflineNC.com
Snus (pronounced "snoose")
(Rhymes with "goose")
a moist powder tobacco, a kind of snuff.

- Several tobacco companies are now promoting the use of a form of tobacco known as *snus*. This form of tobacco traces its origins to Sweden, which is the only country in the European Union where its use is legal.
New Spit Tobacco Products

- Reynolds America’s Camel Snus
  - Pouch
  - Pasteurized (Unfermented)
  - Non-expectorant (Less moisture & salt)

- Phillip Morris’ Marlboro Snus
  - Pouch
  - Pasteurized (Unfermented)
  - Non-expectorant
New Spit Tobacco Products

- US Smokeless Tobacco’s Skoal Snus
  - Pouch
  - Non-expectorant
- Swedish Match AB
  - Pouch
  - Non-expectorant
  - Pasteurized (Unfermented)
Kinds of Snus

- Loose-weight
- Portion-packed
  - Pouched
  - White
  - Mini (0.5 mg – 20 pieces per tin)*
  - Large (1 mg – 24 pieces per tin)
  - Maxi (1.7 mg – 17 pieces per tin)

* A favorite of women
Camel Snus

- Camel Snus is sometimes seen in convenience stores in refrigeration units, usually located behind the counter.
- The new FDA warnings are now printed on the front and backs of packaging.
Marlboro Snus
Skoal Snus

- Has changed packaging since 2009, and portion sizes have increased.
Skoal Dry
“Snus” As Being Introduced In U.S. Is Not A New Idea...But A Marketing Idea

Snus being positioned as:

- Discreet
- Spit-free
- Socially acceptable
- Portion pack format
- For adult smokers
Dissolvable Tobacco
Stonewall & Ariva
Dissolvable Products
Same products, different markets

- New test markets will include select markets in Denver and Charlotte and they have updated the packaging.
- According to R.J. Reynolds, they have made a decision to go to new markets to “gain additional feedback and perspective.”

Strategies For Growth

Dissolvables
- Developing new platforms that meet changing consumer preferences
- Strong consumer interest in modern smoke-free concept
- Broader demographic appeal
Camel Strips

- Two styles, Fresh & Mint - 20 strips per package, last 2-3 minutes
- .6 milligrams of nicotine per strip
when i can’t smoke, i strip. its -so nü

You don’t have to drop everything for a smoke anymore. We made these little strips out of real pasteurized tobacco that dissolves on your tongue. So they’re easy to enjoy. And hard to spot.
Camel Orbs

- Camel orbs come in two styles, Mellow and Fresh.
- There are 15 orbs per package, and each one lasts about 10 minutes and contains 1 milligram of nicotine per orb.
Camel Sticks

- One style, Mellow - 10 sticks per package, lasts about 20-30 minutes
- 3.1 milligrams of nicotine per stick
Marlboro Sticks

- Phillip Morris is debuting a new smokeless tobacco “stick” in select markets in Kansas.
Skoal Sticks

- Same type of product as the Marlboro sticks, and will be marketed in Kansas
- Flavors include original, rich, mint, and smooth mint
Major Concerns

- Dangerous for Very Young Children
- Looks Like Candy (Tic Tacs)
- Flavored Products Attract Youth
- Bright Packaging Attracts Youth
Background - Prevalence

- In the U.S., 1991:
  - 5.3 million people regularly used ST

- By the year 2008, among individuals > 12 years of age:
  - 8.7 million regular ST users

[Results from the SAMSHA 2008 National Survey on Drug Use and Health]
Spit Tobacco Usage Rates
High School Boys

- North Carolina – 14.1% *
- Arkansas - 24.8% **
- United States - 10.8%

* 2009 NC YTS
** 2010 AR YTS
NC Spit/Smokeless Use 2003-2009

- 2003: 18
- 2005: 14
- 2007: 16
- 2009: 18

3-D Column 1
SURVEILLANCE UPDATE
North Carolina Tobacco Prevention and Control Program

Current Spit/Chew (Smokeless) Tobacco Use: 2006 N.C. Behavioral Risk Factor Surveillance System

Percentage of current spit/choke (tobacco) use among adults in N.C., by gender 2006

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Male</td>
<td>30.6%</td>
</tr>
<tr>
<td>Female</td>
<td>25.3%</td>
</tr>
</tbody>
</table>

Percentage of current spit/choke (tobacco) use among adults in N.C., by age group 2006

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>18-24</td>
<td>29.0%</td>
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<tr>
<td>25-34</td>
<td>25.2%</td>
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<tr>
<td>35-44</td>
<td>21.6%</td>
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<tr>
<td>45-54</td>
<td>18.1%</td>
</tr>
<tr>
<td>55-64</td>
<td>18.0%</td>
</tr>
<tr>
<td>65+</td>
<td>20.5%</td>
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</tbody>
</table>

The N.C. Behavioral Risk Factor Surveillance System (N.C. BRFSS) provides a critical source of public health data for understanding the scope of the tobacco problem and monitoring progress toward overall goals. N.C. BRFSS is a component of a nationwide survey of adults ages 18 and older. The sample size for the 2006 N.C. BRFSS was nearly 19,000. Every year a new set of tobacco control agencies are added. In addition, tobacco control initiatives such as other tobacco control and consumer protection are added. In 2006, 150 additional questions were added to the survey; these current smokers may be interested in supporting the efforts. The following tobacco use data must be self-reported evidence that more people are using smokeless tobacco. The N.C. BRFSS website offers more information on these important public health issues. www.cdc.gov/brfss/ncbrfss.htm
The year to stop smoking is here

“Giving up the smoke while still enjoying tobacco is a pleasant surprise.”

“A refreshing resolution.”

Dry, discreet packs in unique flavors

No spit. No smoke. No boundaries.

The refreshing alternative to smoking

No smoke – Enjoy tobacco satisfaction without the secondhand smoke.

No spit – Clean. Discreet. So you don’t stand out.

No boundaries – Just tuck a pack and go, on your terms.

Learn more at SkoalDry.com

$2.00 off
Any can of SkoalDry™ Snusluces Tobacco

WARNING
This product may cause mouth cancer.
Plain Folks

IF YOUR TEAM’S SMOKIN’ BUT YOU CAN’T...

ALWAYS THERE IN A PINCH™

SKOAL LONG CUT

PREMIUM SMOKELESS TOBACCO

Another line product from U.S. Tobacco
Places where smoking may be prohibited: hospitals, schools, sports arenas, airports and businesses. Advertising has changed to better accommodate smokers.
Cheat on your old flame

Set a little closer to your special someone this Valentine’s and switch to Camel SNUS — it’s smoke-free, spit-free tobacco pleasure packed in a pouch. In other words, a relationship you see going places.

camelsnus.com®
*WEBSITE RESTRICTED TO AGE 21+ TOBACCO CONSUMERS

WARNING:
This product can cause mouth cancer.
FROST THE FIRE
Smoke-free, Spit-free and Drama-free

Camel SNUS is the tobacco pouch perfected. Simply place one under your lip and enjoy the bold refreshing flavor that's sold cold for ultimate freshness.

camel snus.com
*Website restricted to age 21+ Tobacco consumers

WARNING:
This product can cause mouth cancer.
2011 SMOKE-FREE RESOLUTION

If you've decided to quit tobacco use, we support you. But if you're looking for smoke-free, spit-free, drama-free tobacco pleasure, Camel SNUS is your answer. Logon to the Pleasure Switch Challenge and see how simple switching can be.

Camel SNUS — it might just change the way you enjoy tobacco.

Take the Pleasure Switch Challenge at CamelSNUS.com/2011*

*WEBSITE RESTRICTED TO LEGAL AGE TOBACCO CONSUMERS.

WARNING: Smokeless tobacco is addictive.
Camel Snus Ad

Smokers, this 4th
DEclare YOUR FREEDOM

Smokers, celebrate freedom with a switch to Camel SNUS. It’s smoke-free, spit-free, great-tasting tobacco packed in a pouch to enjoy virtually anytime, anywhere. Camel SNUS – the pleasure’s all yours.

TAKE THE
SNUS Pleasure Switch Challenge
CAMELSNUS.COM/SWITCH

*WEBSITE RESTRICTED TO: AGE 21+ TOBACCO CONSUMERS.
More than half of the adolescent smokeless tobacco users also were current cigarette smokers.

The figure jumped to two-thirds in ages 18 to 25.

U.S. Substance Abuse and Mental Health Services Administration Report - 2007
Positive Image
(Macho)
Baseball games and rodeos promote spit tobacco as well.
Flattery & Symbols
Maybe

Kodiak Gone Fishin' Sweepstakes

Kodiak Island, Alaska

Kodiak is giving away an expense paid fishing trip for four to Kodiak Island, Old Harbor, Alaska. We'll fly one lucky winner (and three even luckier friends) to Kodiak Island, Alaska, for four days and four nights at the all-inclusive Kodiak Sportsman's Lodge, taking in the Alaskan scenery and reeling in trophy-sized King Salmon, world-class Rainbow Trout, red-handed Black Bass and more. And not only is the whole trip on us, we'll even throw in $500 spending money for the winner and each companion.

Look for your entry form in this magazine or pick one up at any participating Kodiak retailer.

25 First Prizes
Whirl-A-Matic® Silver A

58 Second Prizes
Wilden® Baby Q

Enter online at www.kodiaksmokeyless.com.

Works For Me.
UST’s “graduation strategy” in a UST document exhibited in the *Marsee vs US Tobacco Company Lawsuit*, 1986

Sooner or later—it’s Copenhagen.

There are a lot of smokeless tobaccos out there, but for a lot of guys, there’s only one. Copenhagen. For one good reason.

It satisfies.

Show your colors! Send for our color catalog packed with the newest caps, jackets, shirts and more. Send your name and address along with $1.00 which may be applied toward initial purchase of Copenhagen.
P.O. Box 729, Sparta, NC 28675

© 2005 U.S. Tobacco Company
U.S. Advertising Expenditures

- 1985 - $80 million
- 1993 - $120 million
- 2001 - $237 million
- 2006 - $354.1 million
- 2008 - $547.9 million

* Source: Federal Trade Commission
U.S. Revenue from the Sale of Smokeless/Spit Tobacco Products

- 1985 - $730 million
- 1993 - $1.5 billion
- 2001 - $2.1 billion
- 2006 - $2.59 billion
- 2008 - $2.76 billion
- 2010 - $4.8 billion **

* Source: Federal Trade Commission
** Source: Morningstar (Estimate)
What’s in Spit Tobacco?

- 2500 Different Chemicals
  - Arsenic (Used in Rat Poison)
  - Cadmium (Used in Car Batteries)
  - Cyanide (Poison Used in Gas Chambers)
  - Formaldehyde (Embalming Fluid)
  - Polonium 210 (A Nuclear Waste Product)

- 29 Known Carcinogens (Cancer Causing)
Latest Cancer Causing Substance: Polycyclic Aromatic Hydrocarbons

- Chemical Research Society In Toxicology, December 2009
"Reported" Risk: Depends Upon Who You Ask

Rick Bender
Sean Marsee
Bill Tuttle
Harm Reduction Argument

- Swedish Snus vs. US. Moist Snuff
- Unfermented vs. Fermented
- Refrigerated vs. Unrefrigerated
Why Swedish “Snus” May be Safe

Harvest

Air Cure

Add ingredients & Package

Cut/Dry/Grind/Sift

Steam: 24-36 hours @ 100°F

= Sterilize

Foulds et al, Tobacco Control, 2003
American ST

Harvest → Fire Cure → Fermentation → Packaging

TSNA’s:
Increase significantly after 4 weeks at room temperature

Foulds et al, Tobacco Control, 2003
Other Differences

- Sweden has a rigorous system of controls
  - Manufacture
  - Shipping
  - Storage

- Sweden does not permit marketing and advertising of snus or any other tobacco product.
Tobacco Use
Harm Reduction, Elimination, and Escalation in a Large Military Cohort

- Harm escalation was 5.4 times more likely than harm reduction
- In other words, Air Force airmen were more likely to go from smokeless tobacco to smoking or dual use as opposed to going from smoking to smokeless tobacco use.

- American Journal of Public Health December 2010
The oral use of smokeless tobacco represents a significant health risk.

It is not a safe substitute for smoking cigarettes.

It can cause cancer and a number of noncancerous oral conditions.

It can lead to nicotine addiction and dependence.

Surgeon General C. Everett Koop On Smokeless Tobacco (1986)
• “... I cannot conclude that the use of any tobacco product is a safer alternative to smoking.”
• “There is no significant scientific evidence that suggests smokeless tobacco is a safer alternative to cigarettes.”
• “Smokeless tobacco does cause cancer.”
• “As Surgeon General I cannot recommend use of a product that causes disease and death as a ‘lesser evil’ to smoking.”
• “… any public health recommendation that positions smokeless tobacco as a safer substitute for cigarettes or as a quitting aid would be premature and dangerous.”

Smokeless Tobacco Increases Esophageal and Pancreatic Cancer by 60%
Smokeless Tobacco Increases Oral Cancer Risk by 80%
Swedish ‘Snus’ Has Double the Risk of Pancreatic Cancer

* May, 2007 Lancet
Results indicate that Swedish snus (moist snuff) use is associated with an increase risk of fatal myocardial infarction.

* Journal of Internal Medicine, September 2007
Researchers found that compared with cigarette smokers, adults who used chewing tobacco had greater exposure to the substance NNK, one of the prime carcinogens in tobacco.

In laboratory animals NNK has been found to cause cancer of the lung, pancreas, liver, and nasal mucosa.

* Cancer Epidemiology, Biomarkers and Prevention, August 2007
Tobacco Use and Risk of Myocardial Infarction

- The INTERHEART case control study found that tobacco use is one of the most important causes of AMI globally, especially in men.
- All forms of tobacco use, including different types of smoking and chewing tobacco and inhalation of SHS, should be discouraged to prevent cardiovascular diseases.

* Lancet, August 2006
Health Effects

- Caries lesions (Cavities)
- Gingivitis
- Periodontal Disease
- Leukoplakia
- Oral Cancer

- Heart Disease
- Hypertension
- Stroke
- Stomach Disorders
- Nicotine Dependence
- Death
That Can Lead To: ADDICTION

Some researchers indicate that spit tobacco can be as addictive as morphine and cocaine.

“There are a lot of guys in that clubhouse who wish they hadn’t started, guys who are trying to stop at this time. It’s really a big problem and these guys take it very seriously.”

– Dan Wilson (All-Star Catcher - Seattle Mariners) (KING 5 NBC affiliate Seattle, Washington)
Smokeless tobacco users show symptoms of nicotine dependence at least as frequently as cigarette smokers. Symptoms of nicotine dependence and of withdrawal during quit attempts are particularly frequent in the subgroup of users who combine smokeless tobacco with smoking.

October 2009
ST Characteristics Affecting Nicotine Blood Levels

- Concentration of nicotine in ST product
- Size of the tobacco cuttings
  - Long cut
  - Fine cut (higher)
- Ammonium bicarbonate (additive)
  - Lower acid level of product = higher free nicotine
- Acetic acid (additive)
  - Increases salivation – enhances absorption

Figure 1. The chemical structures and Henderson-Hasselbalch curves for singly charged and un-ionized nicotine are shown below. The pK_a for the pyrrolic nitrogen (marked with arrow) is 8.02. Singly charged (protonated) nicotine is slowly absorbed through oral mucosal membranes, whereas un-ionized (unprotonated) nicotine is more rapidly absorbed. As pH level rises, the percentage of nicotine in the un-ionized form increases. The pH level in U.S. moist snuff products generally range from pH 5.5 to 8.5.
Spit Tobacco Nicotine

- A pinch of the strongest stuff contains the same amount of nicotine as 2-5 cigarettes

- Individuals who dip or chew 8 to 10 times a day may receive the nicotine equivalent as smoking 30-40 cigarettes
Smokeless Tobacco Pharmacology

4.8 mg nicotine/gm of moist snuff x 30 gm/can = 144 mg

144 mg nicotine/(1.8 mg nicotine/cigarette) = 80 cigarettes

80 cigarettes/(20 cigarettes/pack) = 4 packs

1 can snuff = 4 packs of cigarettes

3 cans/week = As much nicotine as 12 packs of cigarettes
Miscellaneous Tobacco-related Oral Effects

- **Caries**
  - Pediatric association with ETS
  - Increase in chewing tobacco users due to sugar

- **Staining of teeth & dental restorations**
  - Tar products
  - Removable by prophylaxis

- **Halitosis**
  - Multiple factors: deposits on teeth & tongue, poor hygiene

- **Decreased taste & smell acuity**
Impact of Smokeless Tobacco on Teeth

- Chewing tobacco associated with tooth wear
  - Flat occlusal (biting) surfaces of the teeth
  - Related to by-products in the chew (‘grit’)
  - Correction quite costly

- Sugar content of ‘chew’ increases caries risk

Tomar SL, JADA 1999
Gingivitis
Gingival Recession
Periodontal Disease

- Recession: 25-30% of users
Leukoplakia
Leukoplakia

- 1,094 professional baseball players
  - 46% had lesions characteristic of leukoplakia
- 1,109 professional baseball players
  - OR = 60.0; CI: 40.5-88.0
  - Factors a/w increased risk for leukoplakia
    - Hours/d of use
    - Recency of ST use
    - Type of ST (snuff > chew)
    - Brand (Copenhagen the highest)

Robertson et al., 1990 Grady et al., 1990
Leukoplakia

- Silverman et al., 1984
  - Followed 257 patients w/ leukoplakia
  - 7.2 years on average
  - 45 (17.5%) developed SCC

- Conservative estimates: 3-6%
And Possibly ORAL CANCER

The United States Department of Health and Human Services has determined that spit tobacco increases the risk of cancer in the mouth.
3-6% of leukoplakia progress to oral cancer

Oral cancer can begin within three years of using spit tobacco

Spit tobacco users are 4–7 times more likely to develop oral cancer than non-users
Oral Cancer
May increase the risk for cancer of the:

- Esophagus
- Larynx
- Stomach
- Pancreas [Connolly, 1986; Mattson, 1989]
At the age of 12, Sean Marsee started using spit tobacco. By the time he was 18, Sean was diagnosed with tongue cancer. At age 19, Sean...
Oral Cancer From Spit/Smokeless Tobacco Use

As Many As 9000 Deaths Per Year

- Oregon Research Institute
Behavioral

Pharmacologic
Tobacco Dependence – a 2-Part Problem

Treatment should address the physiological and the behavioral aspects of dependence.
Oral Exam

1) Lips
2) Labial Mucosa
3) Buccal Mucosa

5) Tongue & Tongue Margin
6) Floor
Snuff Substitutes

- Smokey Mountain®
- Golden Eagle®
- Oregon Mint®
- KIK IT®
- Jerky®
- Bacc-Off®
Some Web Sites For Substitutes

- Kik IT (coconut): [www.kitit.net](http://www.kitit.net)
- Bacc-Off: [www.dips.com](http://www.dips.com)
- Oregon Mint: [www.mintstuff.com](http://www.mintstuff.com)
- Golden Eagle Herbal Chew
- Smokey Mountain Chew: [www.smokeysnuff.com](http://www.smokeysnuff.com)
Pharmacology
• Slower absorption than with smoking
• Peak concentration at 30 minutes
• Persistent absorption for up to 60 minutes after tobacco removed
  • slow release from mucous membranes
  • absorption of swallowed nicotine
Smokeless Tobacco Pharmacology

- Potential available nicotine is twice that obtained from smoking a cigarette (per unit dose):

  - chewing tobacco: 4.5 mg
  - moist snuff: 3.6 mg
  - 4 mg nicotine gum: 1.9 mg
  - cigarette: 1.8 mg
Nicotine Gum for ST Use

- Should not be used as monotherapy
- 4 mg
- Frequent use initially (10-15/day)
Nicotine Lozenge for ST Use

- Nicotine Polacrilex
  - 2 mg
  - 4 mg
- 1-2 lozenges every 1-2 hours
- Minimum of 9/day
- Taper over 12 weeks
Nicotine Patch Percentage Replacement
<table>
<thead>
<tr>
<th>NRT for ST Users</th>
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<tbody>
<tr>
<td><strong>Peak serum nicotine concentrations (ng/mL)</strong></td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Intermediate</td>
</tr>
<tr>
<td>High</td>
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</tbody>
</table>
NCSTEP
North Carolina Spit Tobacco Education Program
“Smokeless Does Not Mean Harmless”

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