

Smoking Cessation for Respiratory Care

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NCSRC

North Carolina Society for Respiratory Care

Objectives

- The health risks associated with smoking
- The benefits of tobacco cessation
- The Tobacco Control Act of 2009
- The physiological and behavioral aspects of tobacco cessation
- How to s

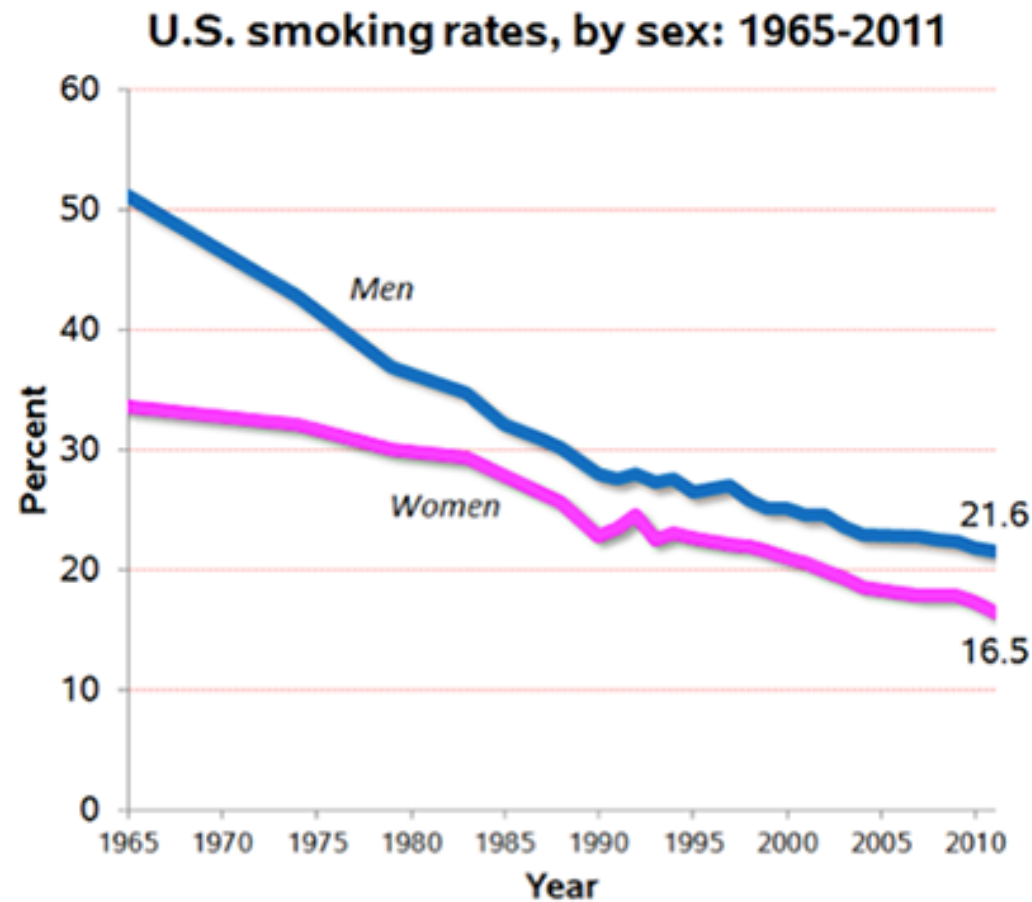


What per cent of the US population smoke?

19%
Approximately 43.8 million people over the age of 18.

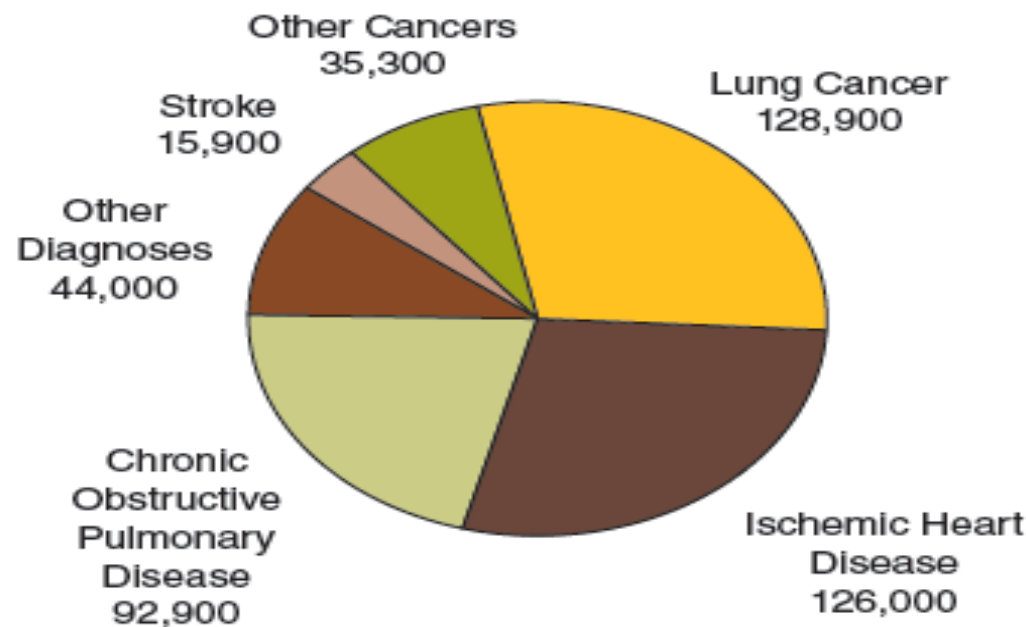
ALA, 2013 National
Health Interview Survey

First Surgeon General's report that smoking causes lung cancer was published in 1964



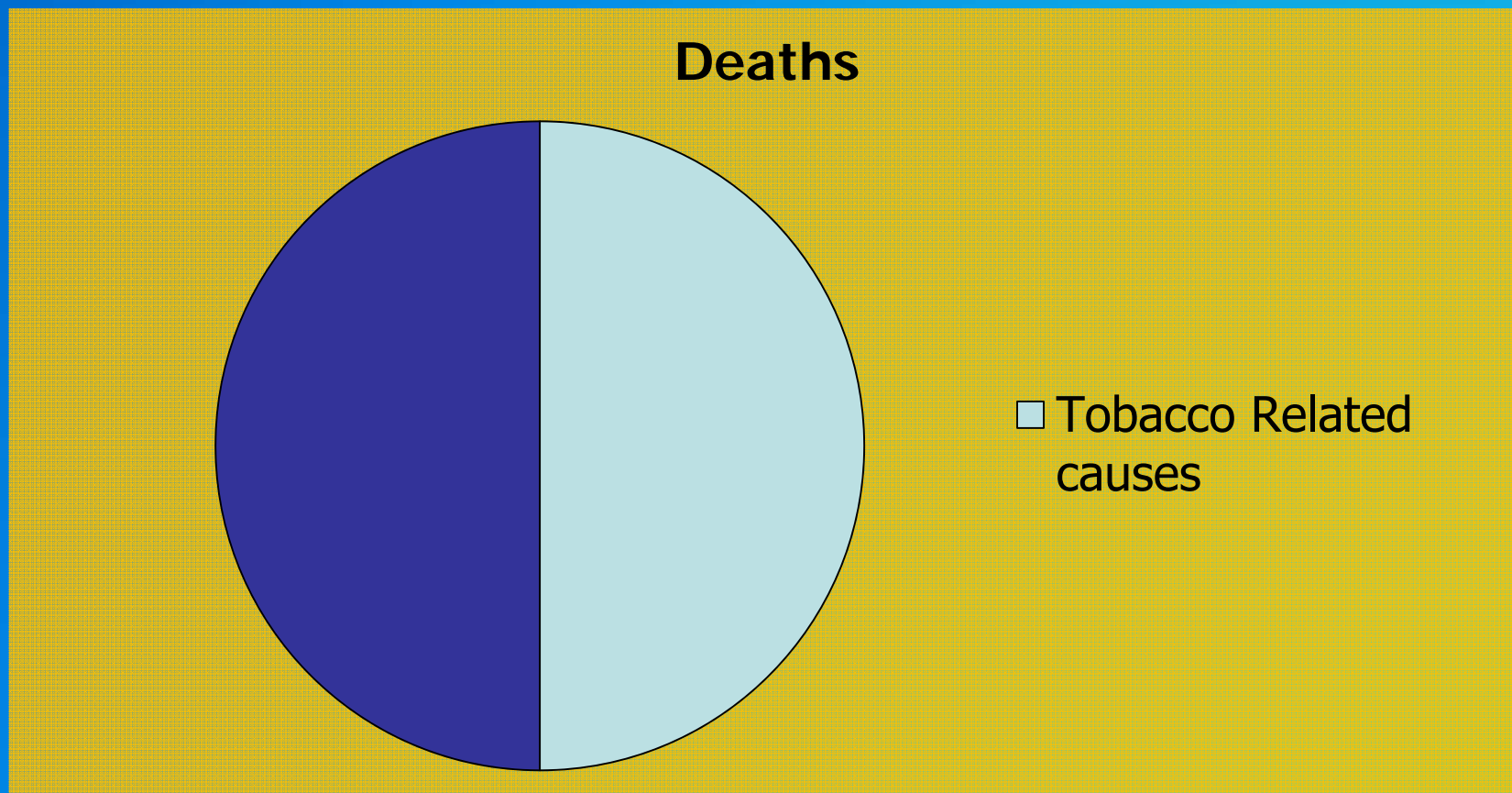
Annual Deaths Attributable to Cigarette Smoking has risen to 500,000—United States

About 443,000 U.S. Deaths Attributable Each Year to Cigarette Smoking*



* Average annual number of deaths, 2000–2004.
Source: *MMWR* 2008;57(45):1226–1228.

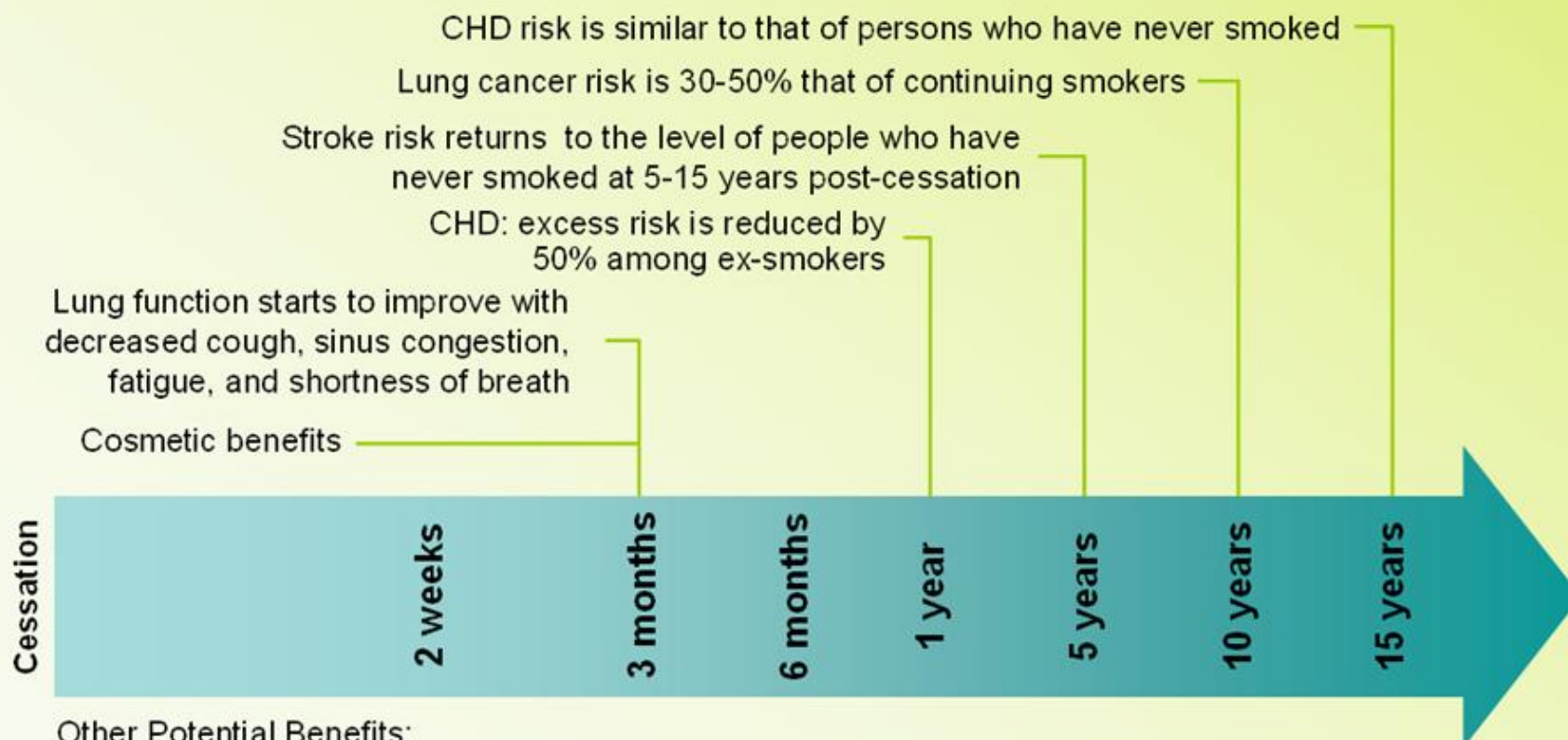
Playing the Odds



In 2010, 19.3% of Americans smoked, 45 million people; half of them will die of a tobacco related disease, losing an average of 10 yrs of life!

Why Quit?

Potential Life Time Health Benefits of Smoking Cessation



Other Potential Benefits:

COPD: rate of lung function decline among former smokers returns to that of never smokers
Decreased risk of developing gastric and duodenal ulcers
Smoking cessation is also known to reduce the risk of cancers of the larynx, oral cavity, esophagus, pancreas, and urinary bladder

GET ON THE PATH TO A HEALTHIER YOU! IF YOU QUIT SMOKING RIGHT NOW:

After 15 years
Your risk of coronary heart disease is the same as a non-smoker's

After 10 years
You are half as likely to die from lung cancer. Your risk of larynx or pancreatic cancer decreases

After 5 years
Your risk of cancer of the mouth, throat, esophagus, and bladder are cut in half

After 1 year
Your risk of coronary heart disease is cut in half

Within 9 months
You will cough less and breathe easier

Within 3 months
Your circulation and lung function improves

Within 12 hours
The carbon monoxide level in your blood drops to normal

Within 20 minutes
Your heart rate and blood pressure drop

- 1 Effect of smoking on arterial stiffness and pulse pressure amplification. Mahmud A, Feely J. Hypertension. 2003;41:183
- 2 US Surgeon General's Report, 1988, p. 202
- 3 US Surgeon General's Report, 1990, pp. 193, 194, 196, 285, 323
- 4 US Surgeon General's Report, 1990, pp. 285-287, 304
- 5 US Surgeon General's Report, 2010, p. 359
- 6 A Report of the Surgeon General: How Tobacco Smoke Causes Disease – The Biology and Behavioral Basis for Smoking-Attributable Disease Fact Sheet, 2010; and Tobacco Control: Reversal of Risk After Quitting Smoking. IARC Handbooks of Cancer Prevention, Vol. 11. 2007, p. 341
- 7 A Report of the Surgeon General: How Tobacco Smoke Causes Disease – The Biology and Behavioral Basis for Smoking-Attributable Disease Fact Sheet, 2010; and US Surgeon General's Report, 1990, pp. vi, 155, 165
- 8 Tobacco Control: Reversal of Risk After Quitting Smoking. IARC Handbooks of Cancer Prevention, Vol. 11. 2007, p. 11



www.BeTobaccoFree.gov

Smoking Facts

- The cigarette is an extremely efficient drug delivery system.
- **Nicotine** dependence is the most common form of chemical dependence in the United States.
- Cigarette **smoke** contains 6,999 different compounds
 - **Carcinogens** **Ethylene oxide**
 - **Toxins** **Formaldehyde**
- Cigarette smoke also contains CO
- *Tobacco is the single greatest preventable cause of disease and premature death in America today.*

Tobacco Dependence: A Two Part Problem

Physiological

The addiction to nicotine



Treatment

Medications for cessation

Behavioral

The habit of using tobacco



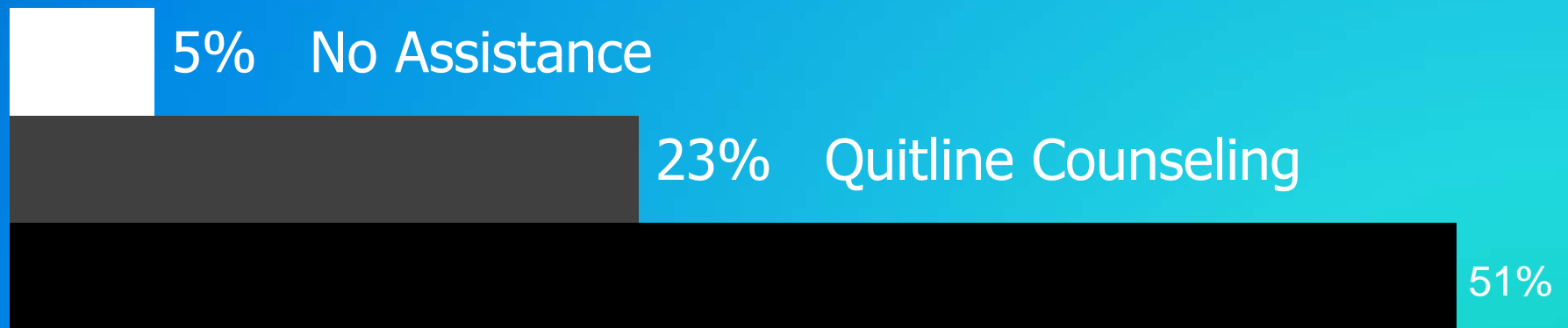
Treatment

Behavior change program



Treatment that combines counseling
with cessation medications works best

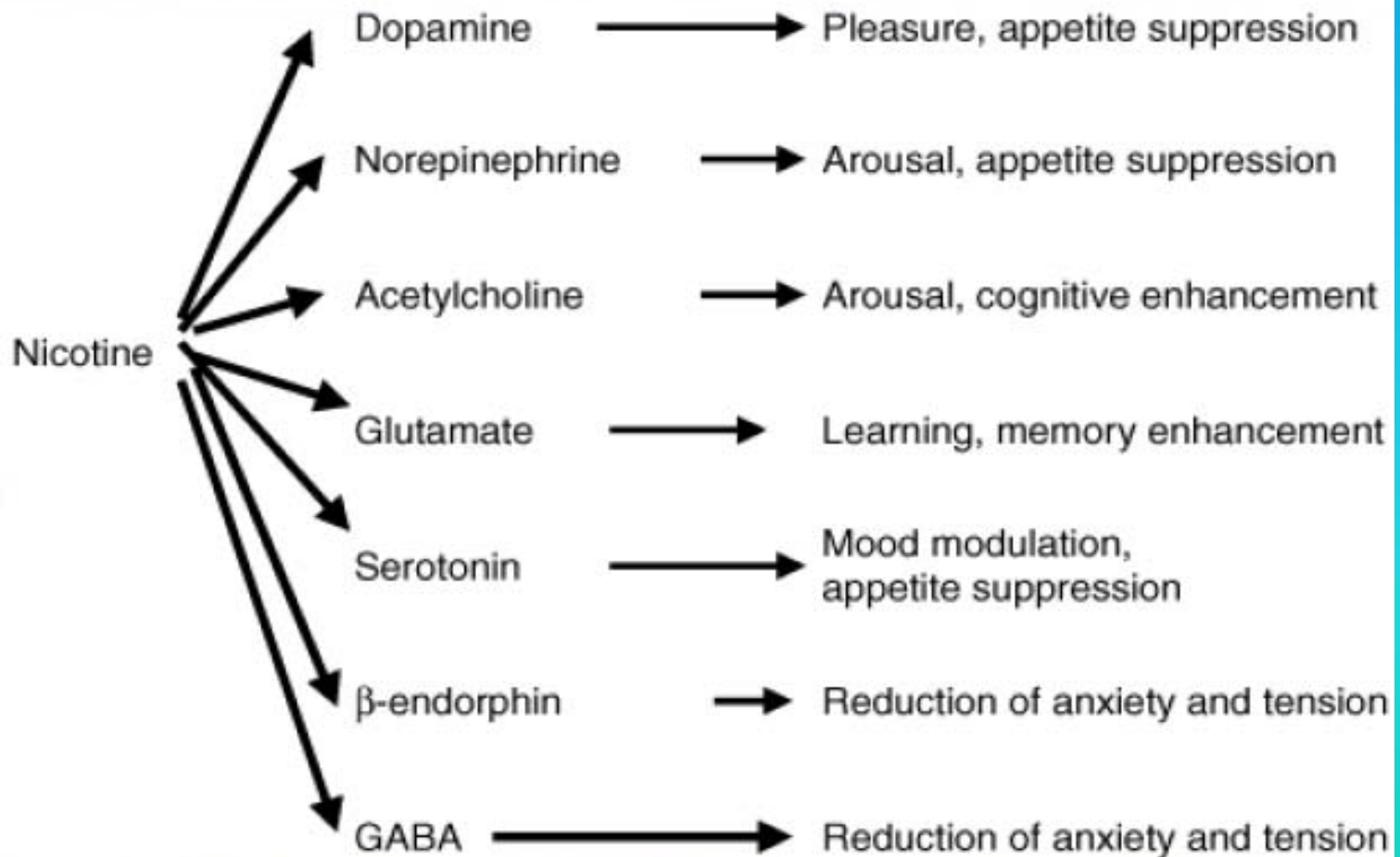
Six Month Quit Rates Using Quitline at a VA Hospital



Quitline Counseling plus 8 weeks Nicotine Patches

* An LC et al. Arch of Intern Med 2006

Nicotine has multiple effects in the brain



Benowitz NL, Clin Pharmacol Ther. 2008 Apr;83(4):531-41.

Nicotine Addiction: Changes the Brain Chemistry

Rapid increase in number of nicotine receptors,
possible addiction within a week



© NEMER



© NEMER

Mayo Clinic

Tobacco Control Act 2009

- Legislation that gave FDA authority to regulate the manufacture, distribution, and marketing of tobacco
 - Established the Center for Tobacco Products
 - Restricts tobacco or smokeless tobacco sales and advertising to youth (<18 yrs)
 - Prohibits claims of “mild” cigarettes
 - No flavoring (except menthol) can be added
 - Requires more visibly evident warnings on tobacco product packages
 - Additional requirements affected ingredients, studies, etc.
 - Cigars and e cigarettes are not regulated but currently there is a proposal do regulate these.

<http://www.fda.gov/TobaccoProducts>



WARNING
TOBACCO USE
CAN MAKE YOU
IMPOTENT

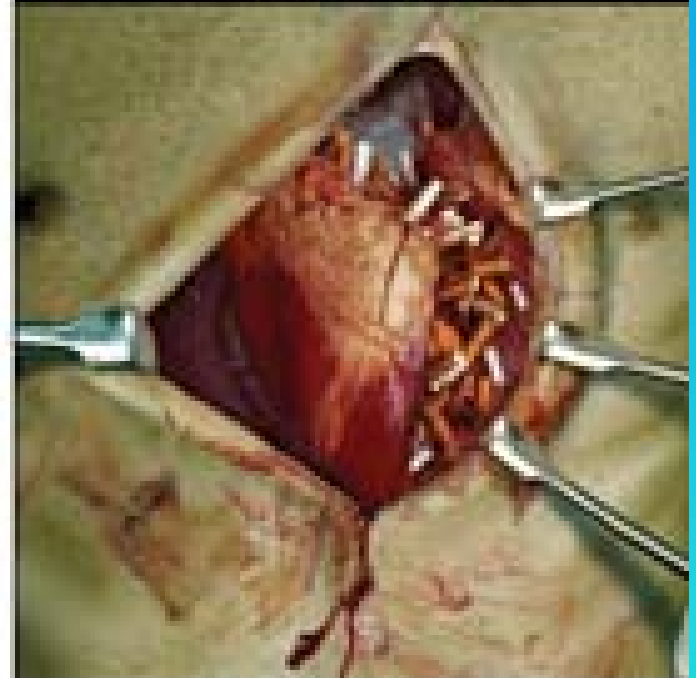
Cigarettes may cause sexual impotence due to decreased blood flow to the penis. This can prevent you from having an erection.

Health Canada

Warning Labels for Consumer Tobacco Products - Tobacco use can make you impotent
pt 4 of 28



INFARTO

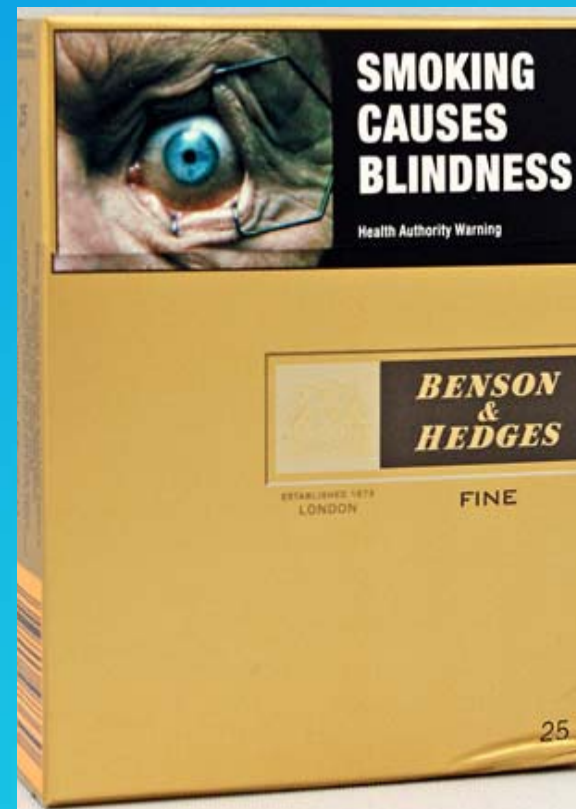


O Ministério da Saúde alerta:
O uso deste produto causa morte por doenças
do coração.



PARA DE FUMAR
DISQUE SAÚDE

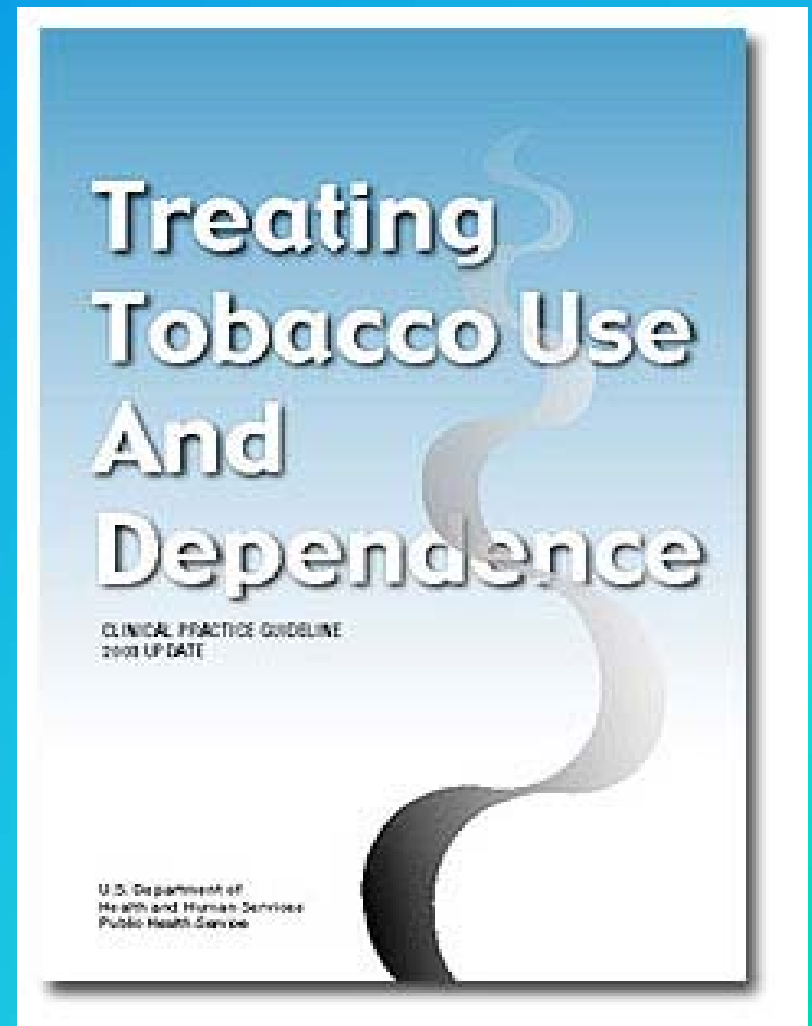
USA Graphic Warnings



2008 U.S. Public Health Service Tobacco Practice Guidelines

Research indicates the most effective tobacco treatment is a combination of:

- ✓ Evidence-based coaching and
- ✓ FDA approved medications



2008 Update -Clinical Practice Guidelines for Tobacco Use and Dependence

- Tobacco dependence is a chronic disease
- Brief tobacco counseling is effective
- Effectiveness of counseling increases with intensity
 - Practical counseling and social support
 - Team approach
- Telephone counseling is effective and has broad outreach

(USPHS 2008)

Helping the Patient Quit

- Remove tobacco products from patient's environment
- Identify reasons for prior failures
- Reinforce need for total abstinence
- Recommend formal counseling program if available
- Recommend appropriate pharmacotherapy
- Identify reasons to quit
 - Health - Family - Cost
- Reinforce changes in habits that are required
i.e. stay away from smokers!



Recommended First Line Pharmacological Agents

- All nicotine products, varenicline, and bupropion are considered first-line agents
- NRT is “clean nicotine”
- No clear order to rank these agents according to guidelines
- Base medication selection on patient history (e.g. Patient preference, cost, patient characteristics (diseases, concern about weight gain), prior therapy

— U.S. Public Health Service Tobacco Practice Guidelines, 2008

Pharmacotherapy

FDA Approved Medications

- Long acting:
 - Patch (NRT)
 - Bupropion (Zyban) Rx
 - Varenicline (Chantix) Rx
- Short acting
 - Gum (NRT)
 - Lozenge (NRT)
 - Inhaler (NRT) Rx
 - Nasal Spray (NRT) Rx



NRT – Nicotine Replacement Therapy
Rx – Requires a prescription

Nicotine Gum

Advantages

- Might satisfy oral cravings.
- Might delay weight gain (4-mg strength).
- Patients can titrate therapy to manage withdrawal symptoms.
- A variety of flavors are available.
- Available in 2mg and 4 mg strengths

Disadvantages

- Need for frequent dosing can compromise compliance.
- Might be problematic for patients with significant dental work.
- Patients must use proper chewing technique to minimize adverse effects.
- Gum chewing might not be socially acceptable.
- Some gastrointestinal effects

Nicotine Lozenge

Advantages

- Might satisfy oral cravings.
- Might delay weight gain (4-mg strength).
- Easy to use and conceal.
- Patients can titrate therapy to manage withdrawal symptoms.
- A variety of flavors are available.

Disadvantages

- Need for frequent dosing can compromise compliance
- Gastrointestinal side effects (nausea, hiccups, and heartburn) may be bothersome.

Transdermal Nicotine Patch

Advantages

- The patch provides consistent nicotine levels.
- Three strengths: 7, 14, 21 mg
- May use more than one patch
- The patch is easy to use and conceal.
- Fewer compliance issues are associated with the patch.

Disadvantages

- Patients cannot titrate the dose.
- Allergic reactions to adhesive may occur.
- Patients with dermatologic conditions should not use.

Combination Therapy

- Combination NRT
 - Long-acting formulation (patch)
 - Produces relatively constant levels of nicotine
 - PLUS
 - Short-acting formulation (gum, lozenge, inhaler, nasal spray)
 - Allows for acute dose titration as needed for withdrawal symptoms
- Bupropion SR + NRT
- The safety and efficacy of combination of varenicline with NRT or bupropion has not been established.

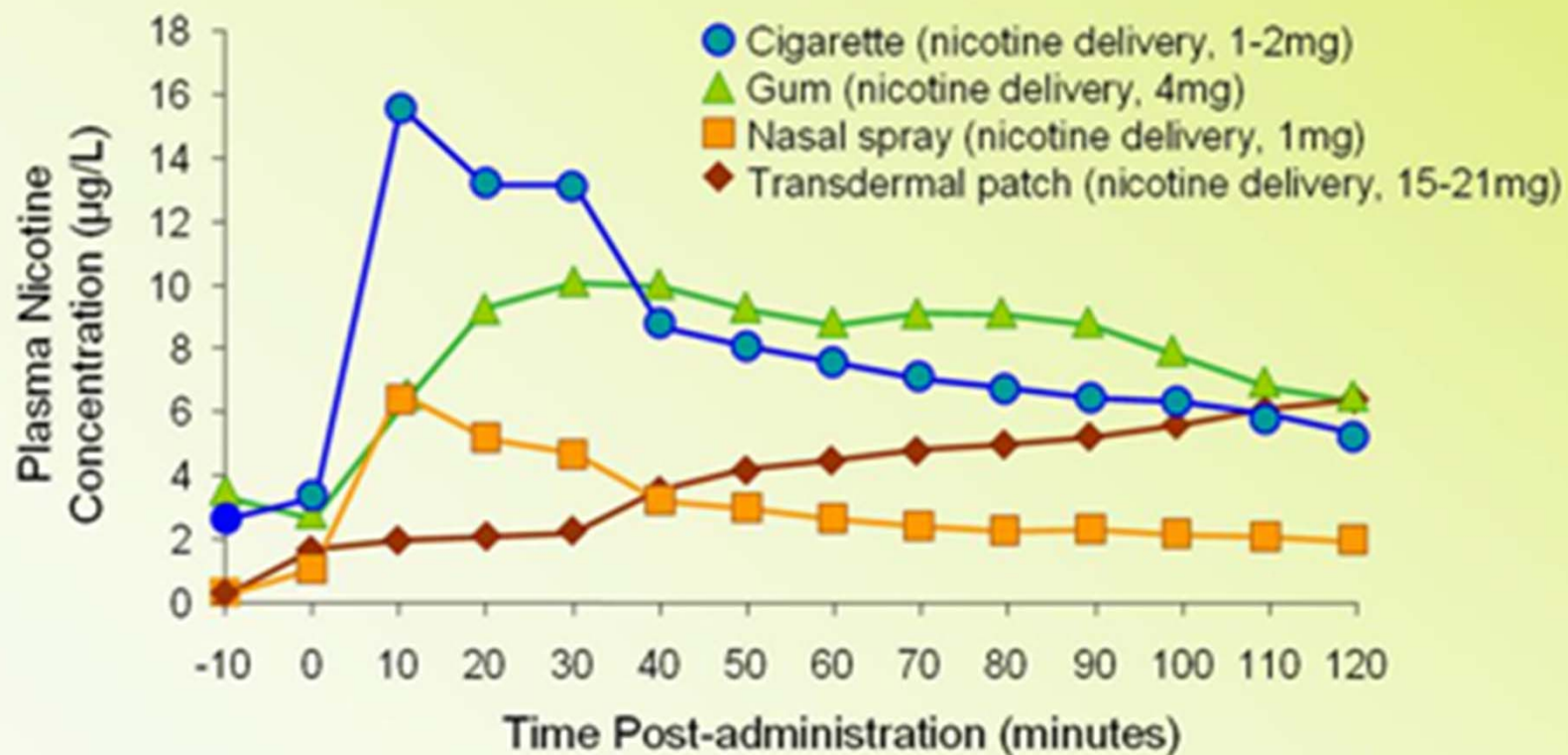
Because many of the remaining smokers are very addicted, use of combination therapies is becoming normalized.

Nicotine Replacement Guidelines

- Mayo Clinic - Medication Guidelines for discussing Nicotine Replacement Therapy (NRT)
- Smoking Cessation Leadership UCSF
http://smokingcessationleadership.ucsf.edu/cp111_tobacco_cessation_handouts_2011.pdf
- ACCP- Tobacco Dependence Treatment Tool Kit, 3rd ed., 2010

1 – 3 mg of nicotine per cigarette

Nicotine Delivery by Cigarettes and Nicotine Replacement Therapy (NRT)



- NRT has rates of delivery which are all less than that of cigarette smoking
- NRT acts as an agonist alone, mimicking nicotine in its mechanism of action
- Peak levels achieved by NRT are about 30-50% of those achieved by smoking

Adapted from 1. Benowitz NL et al. *Clin Pharmacol Ther.* 1988;44:23-28; 2. Schneider NG et al. *Clin Pharmacokinet.* 1996;31:65-80; 3. Benowitz NL. *Drugs.* 1993;45:157-170.

The Electronic Cigarette *

- Aerosolizes nicotine in propylene glycol solvent
- Cartridges contain about 20 mg nicotine
- Safety unproven, but >cigarette smoke
- Bridge use or starter product?
- Probably deliver < nicotine than promised
- Not approved by FDA
- My advice: avoid unless patient insists

* Cobb & Abrams. NEJM July 21, 2011

Advertising Like its 1960



**CIGARETTES, YOU'VE
MET YOUR MATCH.**



INTRODUCING THE NJOY KING
ELECTRONIC CIGARETTE.
FINALLY, SMOKERS HAVE A
REAL ALTERNATIVE.
It's the first electronic cigarette with
the look, natural flavor of the real thing.

©2009 NJOY Inc.



THE BETTER SMOKING CHOICE
Make the Switch Today and Live Healthier



Cognitive Strategies for Cessation

- Review commitment to quit, focus on downsides of tobacco use
- Reframe the way a patient thinks about smoking
- Distractive thinking
- Positive self-talks, “pep talks”
- Relaxation through imagery
- Mental rehearsal, visualization



Behavioral Strategies for Cessation (Avoiding Stimuli that Trigger Smoking)

- Stress
 - Anticipate future challenges
 - Develop substitutes for tobacco
- Alcohol
 - Limit or abstain during early stages of quitting
- Other tobacco users
 - Stay away
 - Ask for cooperation from family and friends

Behavioral Strategies for Cessation (Part 2)

- Oral gratification needs
 - Use substitutes: water, sugar-free chewing gum or hard candies
- Automatic smoking routines
 - Anticipate routines and develop alternative plans, e.g., with morning coffee
- Weight gain after cessation
 - Anticipate; use gum or bupropion; exercise
- Cravings
 - Distractive thinking; change activities

Encourage

- Establish a sense of safety, be authentically emphatic
- Assume the patient is **anxious**
- Listen, respond, be appropriately spontaneous
- Communicate confidence that you can help
- Be knowledgeable

Counseling

- Tobacco cravings or urges to smoke can be powerful.
- But you're not at the mercy of these tobacco cravings.
- When an urge to use tobacco strikes, remember that although it may be intense, it will be short-lived- it will pass within a few minutes whether or not you smoke a cigarette.
- Each time you resist a tobacco craving, you're one step closer to stopping smoking or other tobacco use for good.

Some Ways to Resist Tobacco Cravings

- Delay
- Don't just "have one"
- Avoid triggers
- Get physical
- Chew on it
- Call your "peeps" or Quit service
- Nicotine replacement

— Quitting smoking: Ways to ride out tobacco Cravings,
MayoClinic.com/health/nicotine-cravings, 2013

Strong Statements

- You need to break up with your cigarettes because they are making you sick and taking your money. Its time to leave that relationship.
- Quitting smoking is the single most important thing you can do for your health.
- If you quit smoking you will add 10 years to your life expectancy (if smoker is 55 yrs or younger).
- If recent MI – Your chances of having another heart attach are 50% greater if you continue to smoke.

Exhaled carbon monoxide (CO) as a marker for evaluating smoking abstinence in a Brazilian population sample*

- 393 subjects of whom 239 (61%) were smokers
- Exhaled CO of 14.7 +/- 9.4 ppm in **smokers**
- Exhaled CO of 4.3 +/- 2.5 ppm ($p < 0.001$) in **non-smokers**
- Exhaled CO > 11 ppm indicated that the client was still smoking.

— *Prim Care Respir J. 2007 Feb;16(1):36-40.

Carbon Monoxide and Smoking

- A person who smokes a pack of cigarettes per day will commonly have a CO level of about 20 ppm. A two-pack-a-day smoker may have a level of about 40 ppm.
- The good news is that after stopping smoking, the CO level will return to normal within one or two days.
- The link below provides a free booklet on e cigarettes

http://www.carbonmonoxidekills.com/15/carbon_monoxide_cigarettes

Group Sessions for Smoking Cessation

- Eight group sessions
- Examines the smokers personal habit, triggers, reason for quitting
- Sessions 1-3, preparation for quitting,
- The quit date is session 4
- Session 5 is shortly after the quit date
- Sessions 6 – 8 are follow up and reinforcement
- Carbon monoxide levels can be measured at each session, and can serve as a motivator

- <http://www.hants.gov.uk/rh/smokefree/stop-smoking-pack.pdf>
- <http://www.lung.org/stop-smoking>

Our Program Planning

- Checked with our Coding/Finance representatives
- Consulted with our Medical Director and Administrator
- Gathered a small team of RTs to attend training
- Created a informational booklet
- Started in a Pilot area – cardiology/heart center
- Communicated with the nurses and nurse managers
- Posted flyers
- We have expanded our coverage to all areas of the hospital and to the pre-op outpatient clinic

Our RT Lead Program

- Patients are screened by the nurses and providers. It is a team effort.
- RCS provides counseling based on an order, "Smoking Cessation Counseling by Respiratory Care".
- We provide 1 or 2, 20-30 minute sessions
- Motivational interviewing
- Distribute a work book and complete exercises from the book
- Confer with the physician about NRT, if needed for patient comfort
- Chart in the EMR and bill the patient

Counseling Provided

- Rate level of addiction – Fagerstrom Test
- Patient's interest in quitting
- Discuss current comfort level and urges
- Discuss pharmacotherapy and recommend NRT
- Discuss behavior changes needed – change personal habits
- Identify triggers and how to deal with them
- Discuss reasons to quit – motivation is high
- Discuss past attempts to quit- learn from these
- Strongly encourage QuitlineNC



- ❖ An evidence-based telephone tobacco treatment service
- ❖ Facilitation of FREE Nicotine Replacement Therapy (NRT)
- ❖ NRT mailed directly to tobacco user's home
- ❖ Highly trained, professional Quit Coaches
- ❖ Available 24/7
- ❖ English, Spanish and translation service
- ❖ Integrated with an interactive web-based tobacco treatment program

Available in all 50 states

<http://www.doh.wa.gov/YouandYourFamily/IllnessandDisease/TobaccoRelated/QuittingTobacco.aspx>

Follow Up

- Electronic documentation assists in follow up
- Phone follow up is optimal- set up a reminder xx days post discharge
- Electronic follow up is also available
- Keep track of successes.



Summary

- Smoking cessation programs result in a significant quit rate
- Counseling combined with drug therapy results in the highest quit rate.
- Nicotine is highly addictive
- Respiratory Therapists are ideally suited to provide smoking cessation counseling.

THANK YOU!

