

# Tobacco Consumption, Problems and Solutions

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# Outlines

- Magnitude of the problem
- What is in tobacco ? is smoking addictive ?
- Consequences of tobacco use
- Why do we smoke ?
- Prevention and control efforts
- Can we quit ?

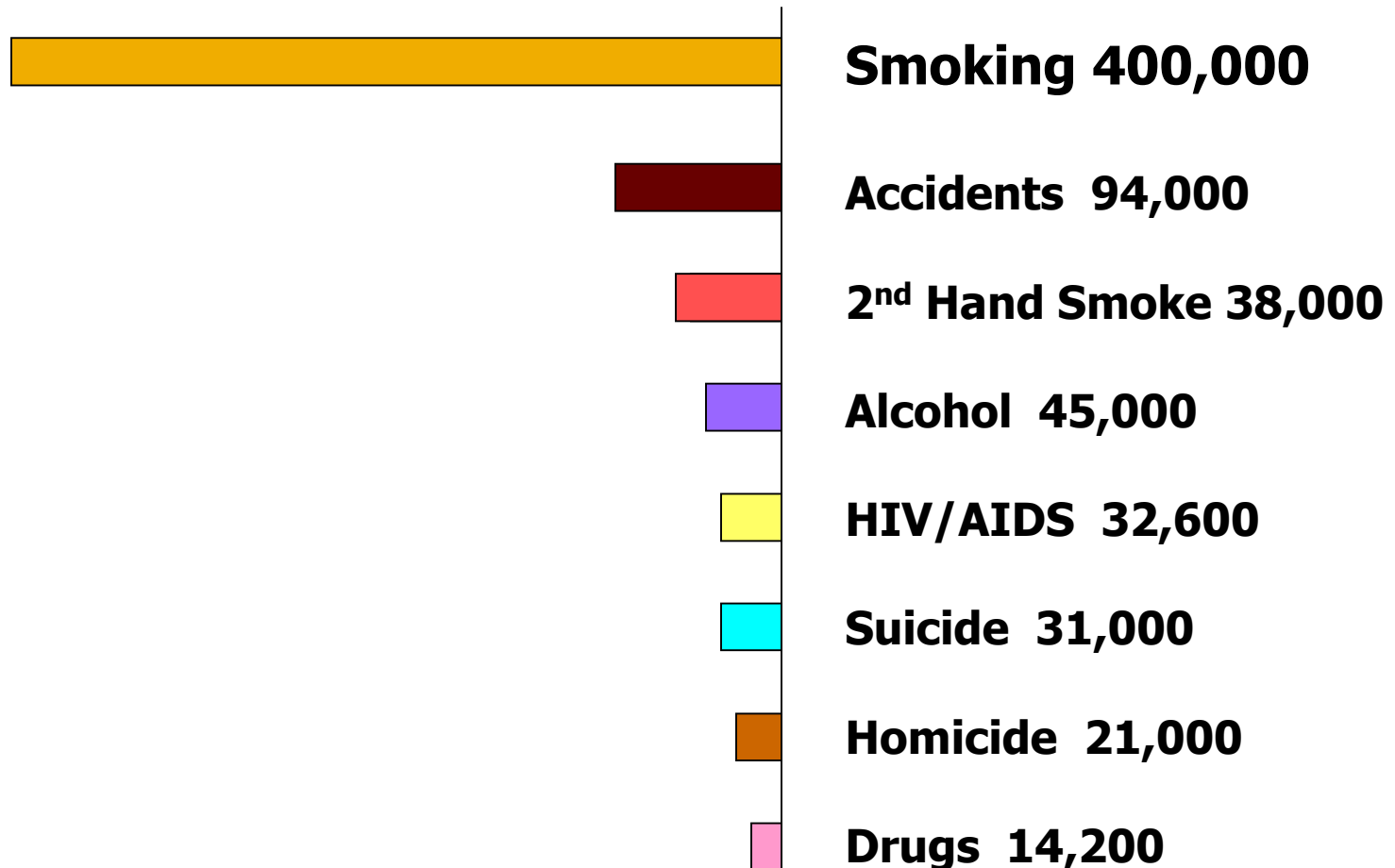
# Magnitude of the Problem

# Tobacco's Deadly Toll

- 5 million deaths world wide each year
- 10 million deaths estimated by year 2030
- WHO estimates, there are approximately 1.1 billion smokers in the world

# Consequences of Tobacco-Use:

## Preventable Causes of Death



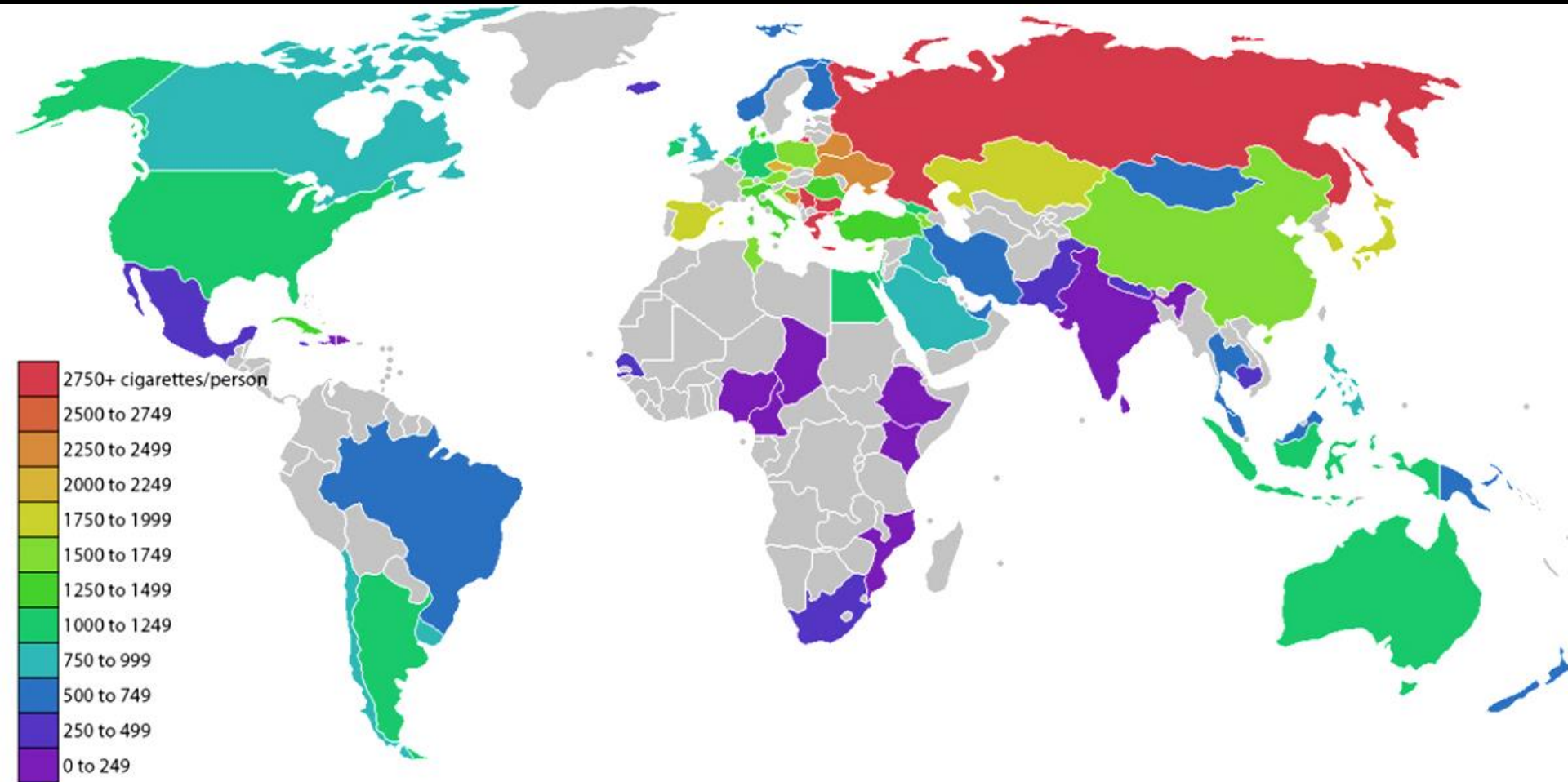
# Global Prevalence

- In 2012, 21% of the global population aged 15 and above smoked tobacco.
- Men smoked at five times the rate of women. the average rates were 36% and 7% respectively.

World Health Organization



# Who Smokes Most! 2012



*The highest rates are all in Eastern Europe : average annual consumption can exceed 2,000 cigarettes per person.*

*The biggest smokers outside of Eastern Europe are South Koreans, Kazakhs, and Japanese*

# Saudi Arabia (WHO, 2010)

- In 2010, **WHO** estimates that about 16% of Saudi Arabia's population smoked (3,092,300 persons).
- If tobacco control efforts continue at the same intensity, WHO projects that in 2025 around 24% of the population (approximately 6,268,400 persons) will be smokers.
- 26% of men and about 3% of women smoked in Saudi Arabia.
- The highest rate of smoking among men was seen in the age-group 25 – 39
- and among women in the age-group 70+.





# Prevalence of smoking among secondary school students in National Guard area of Riyadh (published 2011)

- smokers represented 28.6% of the students.
- The most common reasons for smoking were:
  - having free time (81.6%)
  - relief of stress (63.2%)
  - seeing some of their teachers smoking (61.8%)
- Most of the smokers started the habit before the age of 15 years old (89%).
- 42.2% of students were planning to start smoking in future.



# Tobacco is a leading cause of death!

(published 2015)

- Tobacco use is the leading cause of preventable death in United States, causing more than 440,000 deaths annually
  - Authors. Reducing Tobacco-Related Cancer Incidence and Mortality: Workshop Summary - PubMed – NCBI [Internet]. 2015. Available from <http://www.ncbi.nlm.nih.gov/m/pubmed/24901191/>
- In 1964-2012, an estimated 17.7 million deaths were related to smoking
  - Holford TR. Tobacco control and the reduction in smoking-related premature deaths in the United States, 1964-2012. - PubMed – NCBI [Internet]. 2015. Available from <http://www.ncbi.nlm.nih.gov/m/pubmed/24399555/>



## Smoking in KSA:

- 30% population of Saudi Arabia
- nearly six million people expose themselves to death is inevitable
- <http://www.sha.org.sa>

# Smoking in KSA: Global Health Professions Student Survey (GHPSS)

- The KSA medical students WHO-GHPSS was a school-based survey of 3rd year medical students attending the 13 medical schools conducted in 2006. Student response rate was 62.6 %, n = 481 students
- Results: 11.6% currently smoke cigarettes (Males = 13.1%, Females = 9.6%); 12.8% currently use any form of tobacco other than cigarettes (Males = 13.9%, Females = 11.3%)

# Smoking in KSA: Global Youth Tobacco Survey (GYTS)

- The KSA school-based WHO-GYTS was conducted in **2010**. A two-stage cluster sample design was used to produce representative data. Student response rate was 83.4 % (n = 1,797 school children aged 13-15)
- Results: **14.9 %** currently use any tobacco product (boys = **21.2 %**, girls = **9.1%**) ; 8.9 % currently smoke cigarettes (boys = **13.0 %**, girls = **5.0%**); 9.5 % currently smoke shisha (boys = **13.3 %**, girls = **6.1%**)

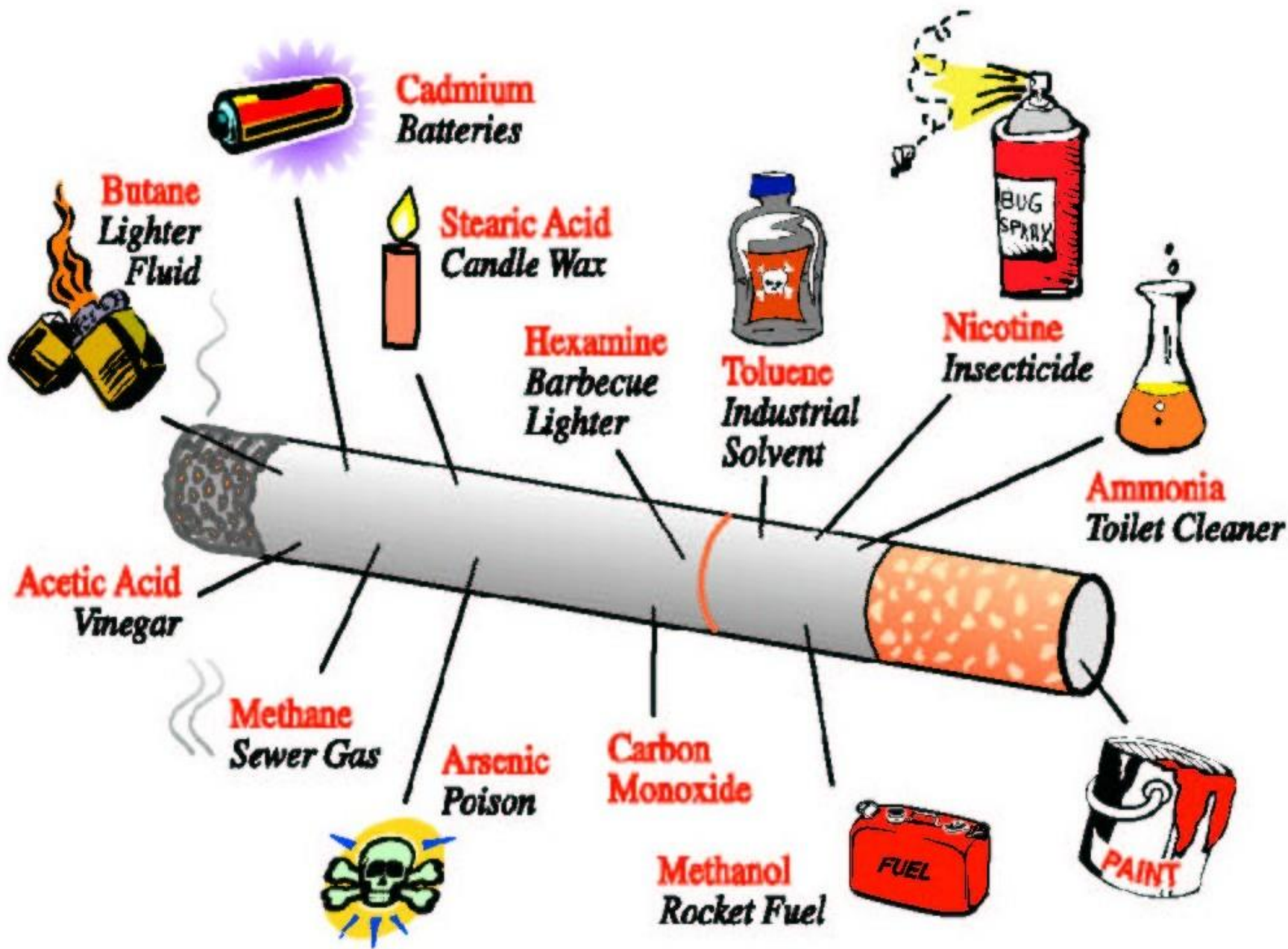
**What is in tobacco ?**

# What is in tobacco



More than 4,000 substances, including:

- ★ **Tar:** black sticky substance used to pave roads
- ★ **Nicotine:** Insecticide
- ★ **Carbon Monoxide:** Car exhaust
- ★  **$^{210}$  Polonium:** radio-active substance
- ★ **Acetone:** Finger nail polish remover
- ★ **Ammonia:** Toilet Cleaner
- ★ **Cadmium:** used batteries
- ★ **Ethanol:** Alcohol
- ★ **Arsenic:** Rat poison
- ★ **Butane:** Lighter Fluid



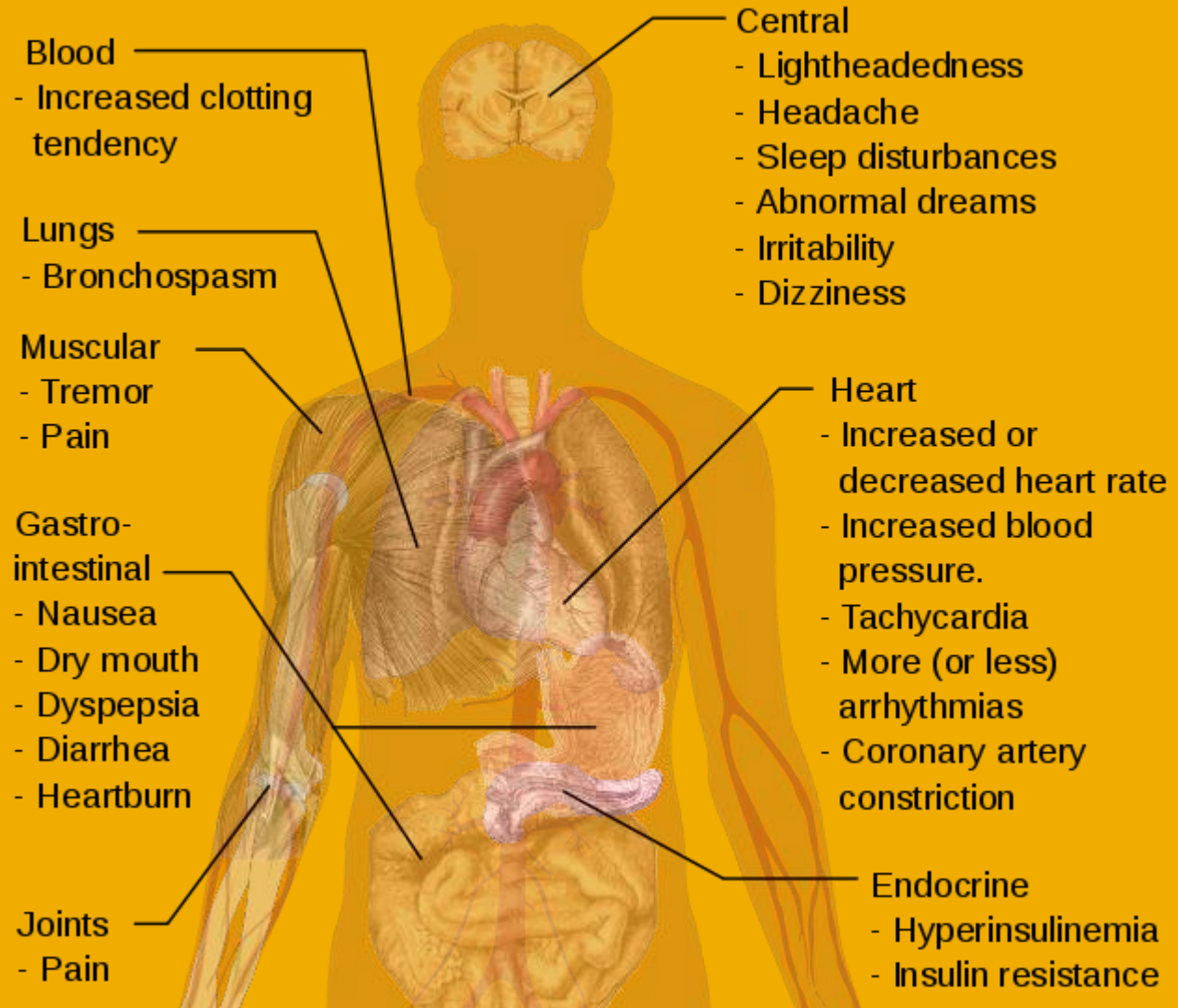


المكون	السيجارة	الشيشة
1- الزفت (Tar)	22mg	802 mg
2- النيكوتين (nicotine)	1.7 mg	3.0 mg
3- اول أكسيد الكربون (co)	17 mg	143mg
4- الزرنيخ (Arsenic)	80 mg	165mg
5- البريليوم (Beryllium)	300 mg	65mg
6- الكروميوم chromium	37mg	1340 mg
7- الكوبالت (Cobalt)	o.17mg	70mg
8- الرصاص (Lead)	60mg	6870mg

# Is smoking addictive (I)

- All tobacco products contain nicotine
- Nicotine has been clearly recognized as a drug of addiction
- tobacco dependence has been classified as a mental and behavioral disorder according to the WHO International Classification of Diseases, ICD-10 (Classification F17.2).

# Side effects of **Nicotine**



# Is smoking addictive (II)

- Smoking typically begins in adolescence
- if a person remains smoke-free throughout adolescence, it is highly unlikely that he or she will ever begin smoking
- intensive efforts be made to help young people stay smoke-free.



# Definition

- Smoking refers to the inhalation and exhalation of fumes from burning tobacco in cigars, cigarettes and pipes



# Types of smoking

- **Cigarettes:** Cigarettes are uniform in size and contain less than 1g of tobacco each. They are made from different blends of tobaccos, and wrapped with paper.
- **Cigars**  
Most cigars are composed primarily of a single type of tobacco (air-cured and fermented), and they have a tobacco wrapper.  
They can vary in size and shape and contain between 1 gram and 20 grams of tobacco.



- **E- cigarette :**

electronic nicotine delivery systems (ENDS). According to the FDA, e-cigarettes are devices that allow users to inhale an aerosol (vapor) containing nicotine or other substances.



- **Hookah (Shisha) :**

A water pipe with a smoke chamber, a bowl, a pipe and a hose. Specially made tobacco is heated, and the smoke passes through water and is then drawn through a rubber hose to a mouthpiece.

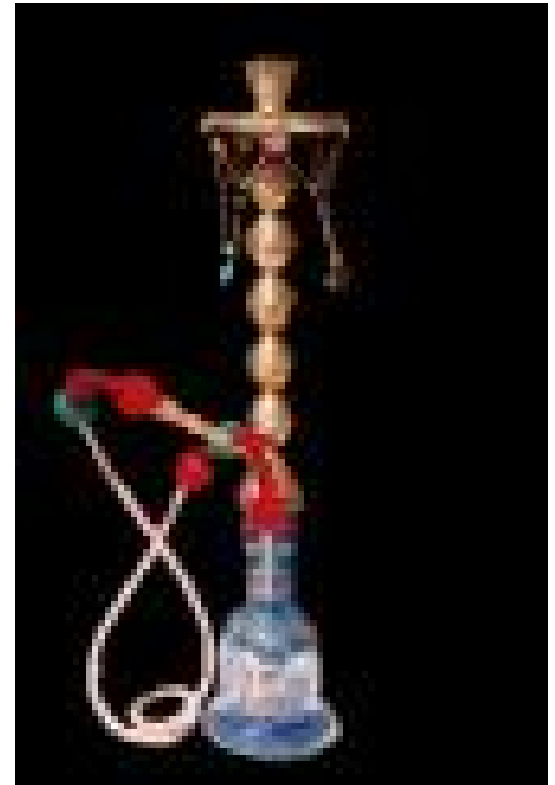


The average shisha-smoking session lasts an hour and research has shown that in this time you can inhale the same amount of smoke as from more than 100 cigarettes.



# Water-Pipe:

- Not safer than regular tobacco smoke.
- Causes the same diseases
- Raises the risk of lip cancer, spreading infections like tuberculosis.
- Users ingest about 100 times more lead from hookah smoke than from a cigarette.





# Consequences of Tobacco Use

# Different Consequences of Smoking

- Health (short term, long term)
- Economic (individual, family, community)
- Social (family, community)
- Development (community)
- Religious (individual, community)
- Premature death

# Health Effects (I)

- Causes more than 25 different diseases
- Affects different body-systems, especially:
  - Gastro-intestinal system
  - Respiratory tract
  - Cardio-vascular system
  - Urinary system
  - Others

# Skin

Wrinkles, capillaries and premature ageing and scarring are few smoking effects on skin



**Current**

**Aged Non-Smoker**

**Aged Smoker**

# Oro-dental Problems:



*Above: Cavities*

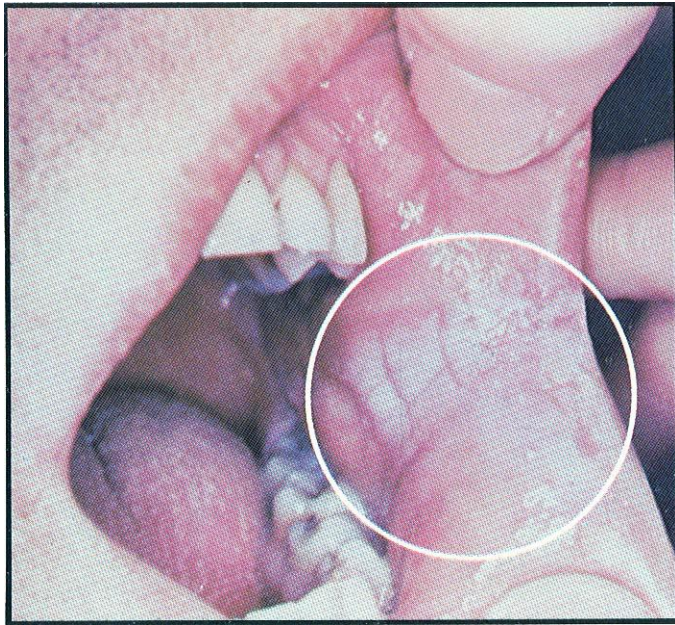
*Below: Gingivitis*



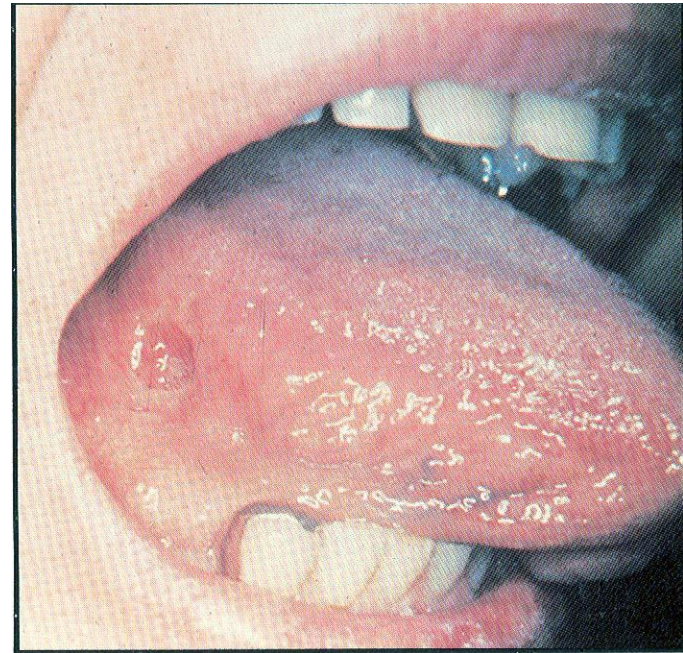
*Overall poor oral health*

- Stained teeth
- Gum inflammation
- Black hairy tongue
- Oral cancer
- Delayed healing of the gums

# Consequences of chewing tobacco:

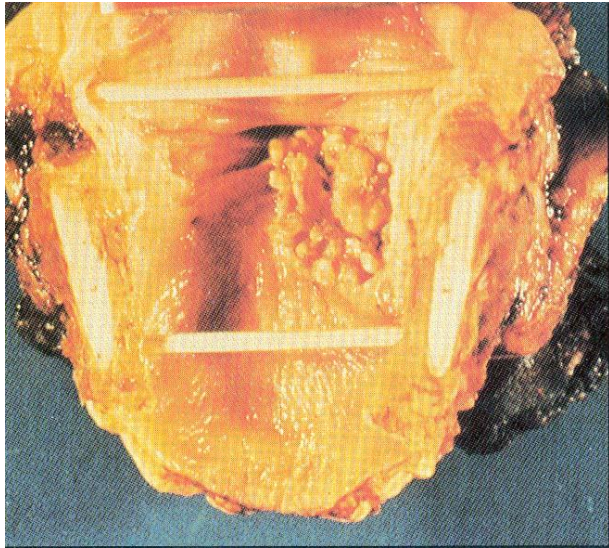


*Leukoplakia*



*Oral cancer*

# Laryngeal Cancer



## Symptoms:

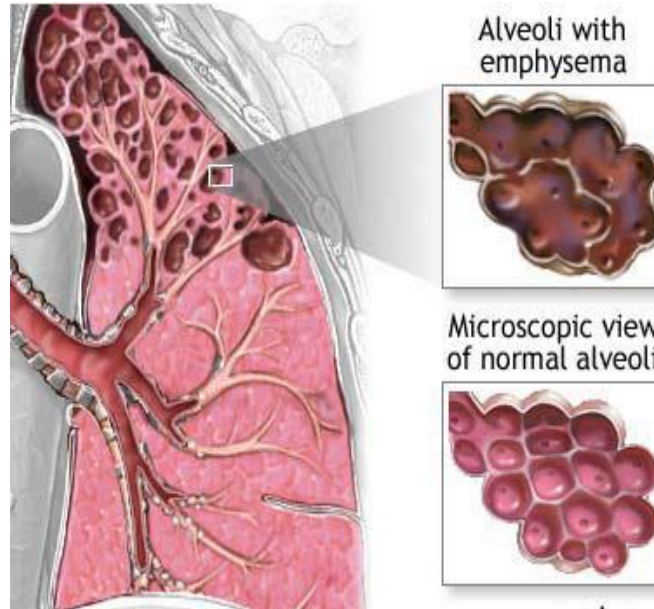
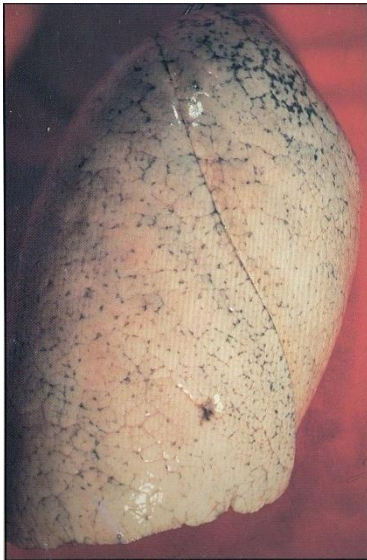
- Persistent hoarseness
- Chronic sore throat
- Painful swallowing
  - Pain in the ear
- Lump in the neck



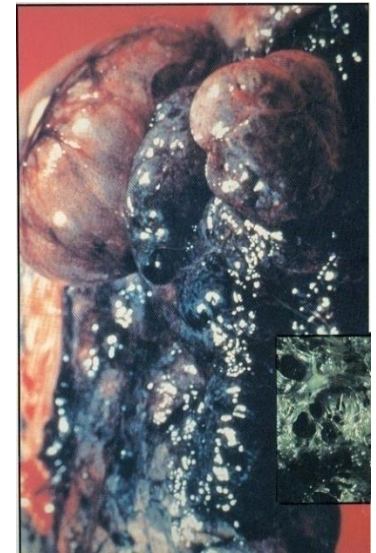
Over 80% of deaths from laryngeal cancer are linked to smoking

# Emphysema:

Healthy lung



Emphysema lung



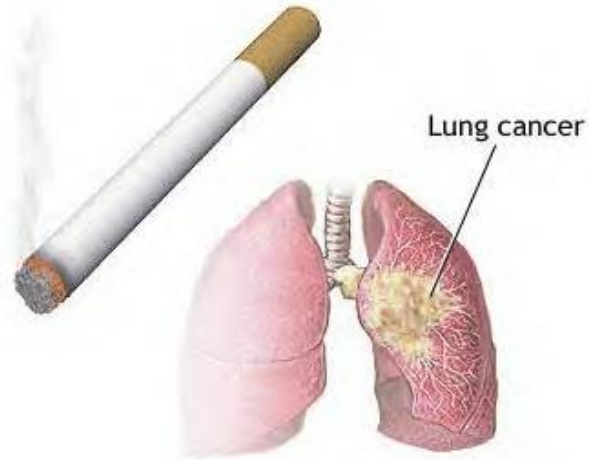
## Symptoms Include

Shortness of breath; chronic cough;  
wheezing; anxiety; weight loss; ankle,  
feet and leg swelling; fatigue, etc



# Lung Cancer:

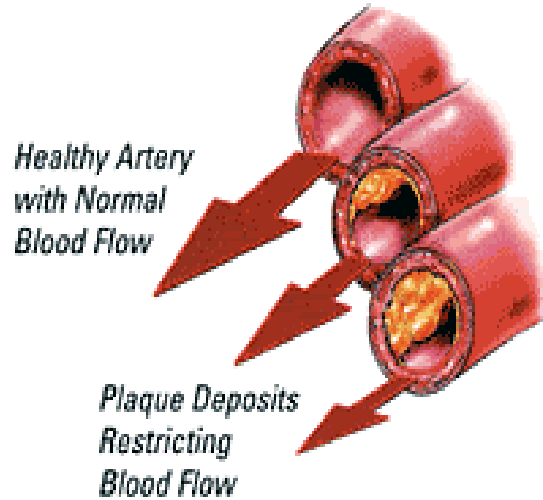
The uncontrolled growth of abnormal cells in one or both lungs



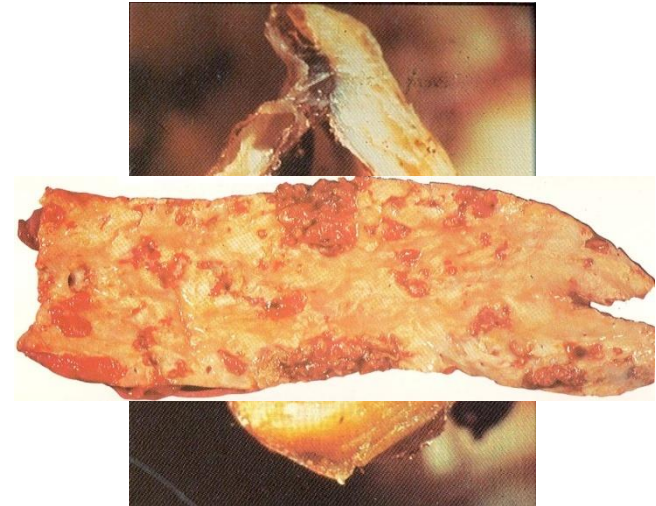
Lung cancer kills more people than any other type of cancer



# Arteriosclerosis & Atherosclerosis:



Healthy artery



Damaged  
artery

# Peripheral Vascular Disease



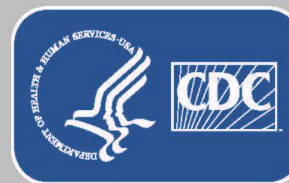
A TIP FROM A  
**FORMER  
SMOKER**

# **ALLOW EXTRA TIME TO PUT ON YOUR LEGS.**

Brandon, Age 31, Diagnosed at 18  
North Dakota

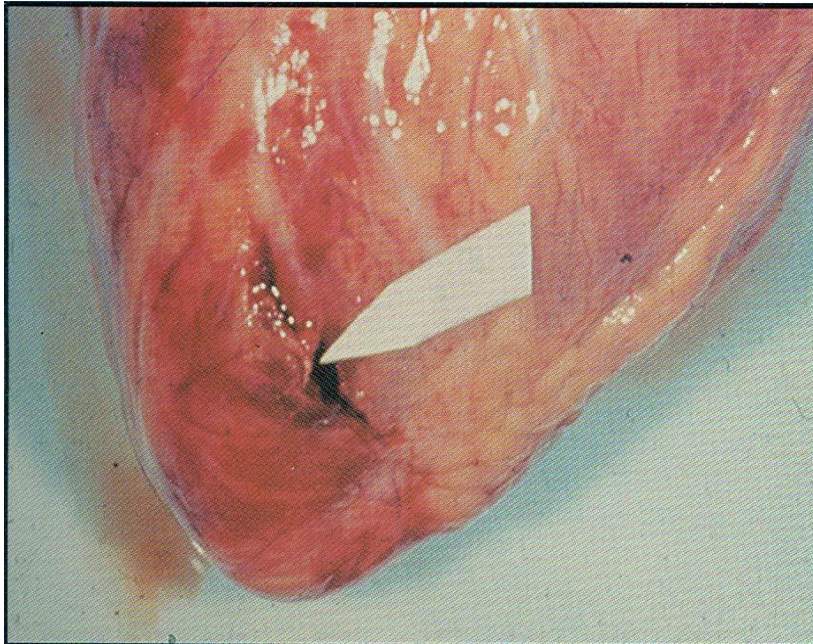


Smoking causes immediate damage to your body. For Brandon, it caused Buerger's disease, which cut off blood flow and led to amputation. You can quit. For free help, call **1-800-QUIT-NOW**.



**U.S. Department of  
Health and Human Services**  
Centers for Disease  
Control and Prevention  
[www.smokefree.gov](http://www.smokefree.gov)

# Heart Attack:

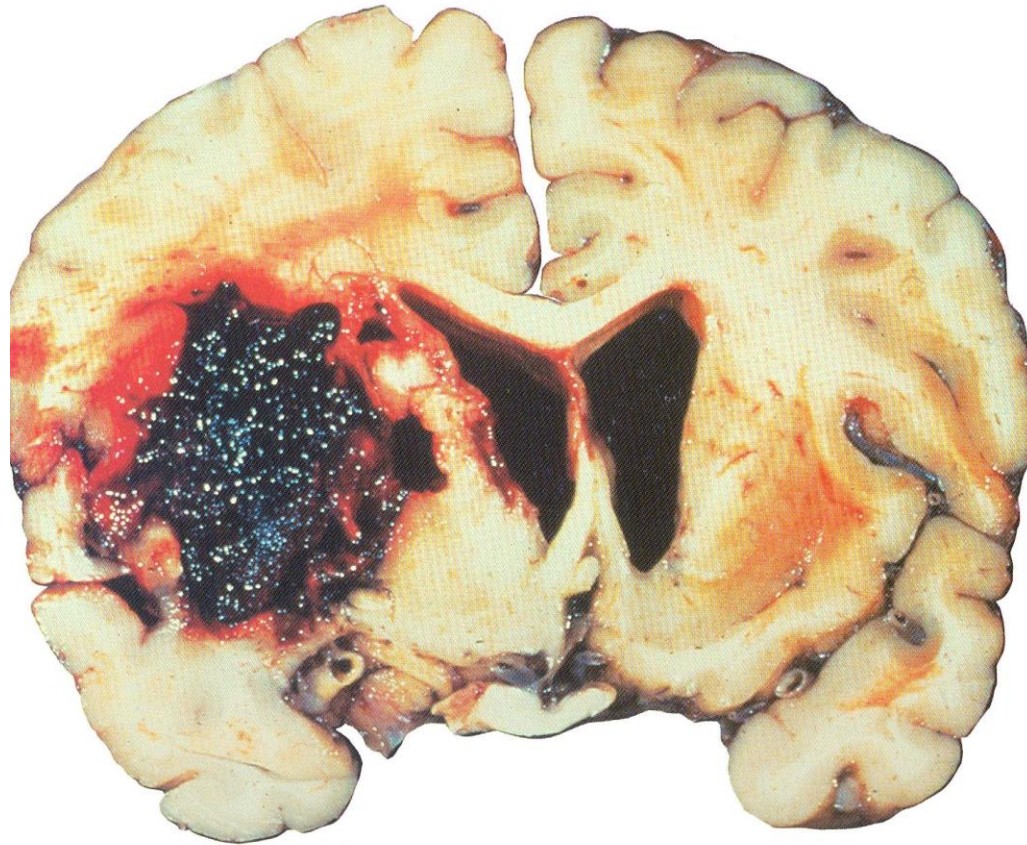


Torn heart wall: Result of over-worked heart muscle

Smokers are twice as likely as Nonsmokers to have a heart attack

Quitting smoking rapidly reduces the risk of coronary heart disease

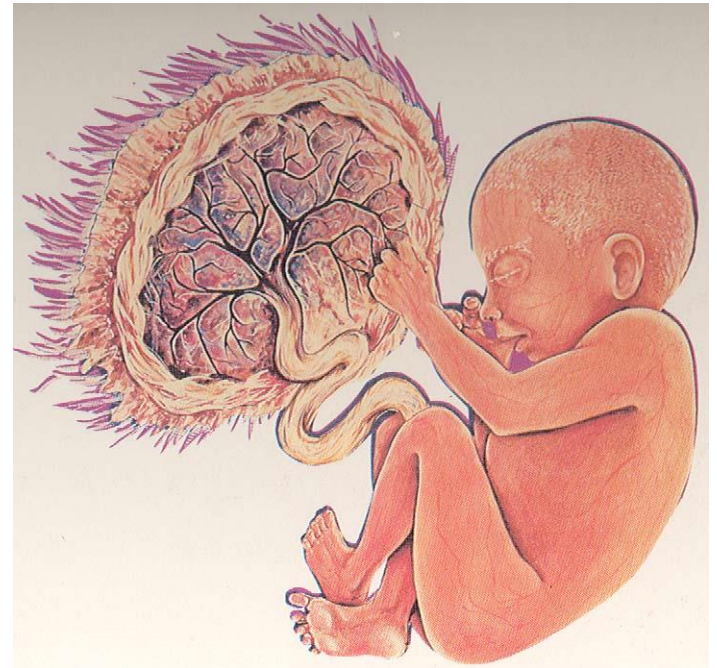
# Stroke:



This brain shows stroke damage, which can cause death or severe mental or physical disability

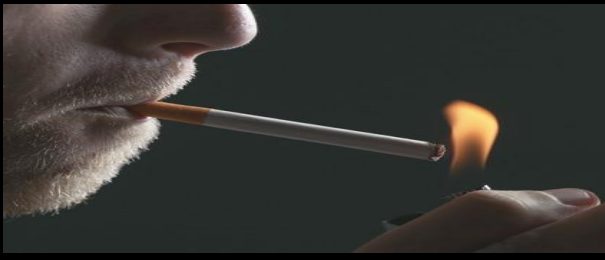
# Fetal Smoking Syndrome:

- Birth defects
- Premature stillbirth
- Low birth weight
- Lowered immune capacity
- Proneness to Sudden Infant Death Syndrome (SIDS)



If smoking is so bad for us,  
why do we start ?





# WHY?

- There's **no single reason** why people begin to smoke.
- It Has been estimated that **80%** of Adult smokers **start smoking as children**, and **30%** of children have tried smoking by the age of 11.

# Social Factors

- Parental influences
- friendship groups
- Influence of peer
- Low socioeconomic status
- The need to fit in.
- It looks cool.

# Why do people smoke?



*Stress reliever*



*Self medication*





## Peer pressure

Despite the knowledge of the damage that results from smoking. The fear of being labeled the “black sheep” of a group often proves strong enough to move us to



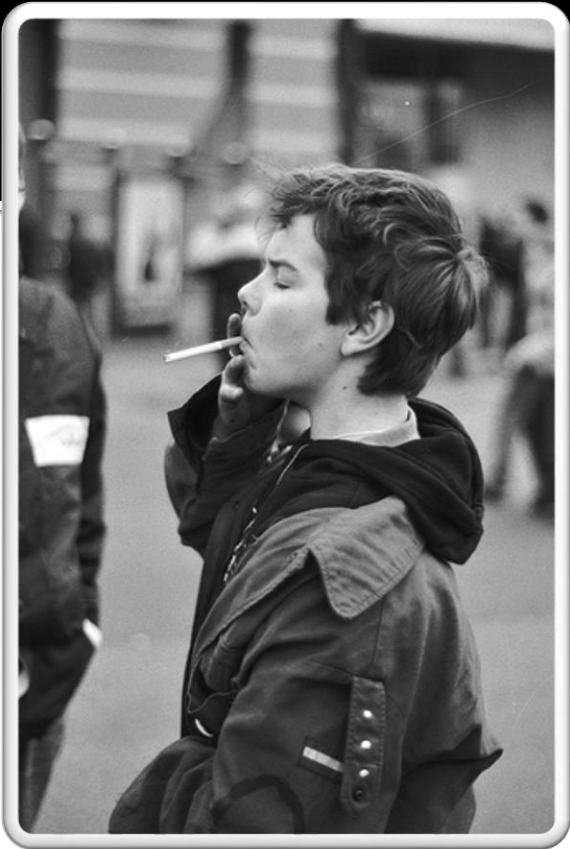
## Social rewards





*Parents as a role model*





# Experimentation & adventure





# Weight control

Young-Hwan Jo, David A. Talmage. Nicotinic receptor-mediated effects on appetite and food intake [internet]. 2002. Available from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2367209/>



# Individual influence

- Wrong personal beliefs and values about smoking
- Self esteem
- Curiosity



# Environmental influence

- Availability
- Accessibility
- Price
- Media
- Tobacco industry intensive advertising

# Media influence

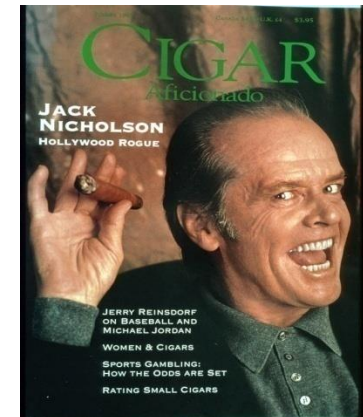


# Why targeting youth ?

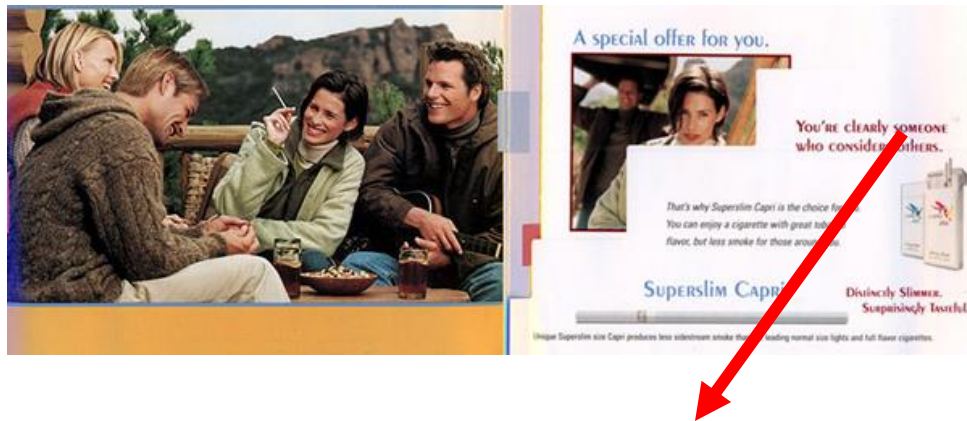
- Philip Morris executive: "hitting the youth can be more efficient even though the cost to reach them is higher, because they are willing to experiment."
- They have more influence over others in their age group than they will later in life, and they are far more loyal to their starting brand."
- The younger the age when smoking begins, the longer the smoking cycle.
- Young persons are also more vulnerable because they are likely to be less aware of the addictive nature of nicotine and the harmful effects of tobacco consumption.

# Targeting youth through activities and media

- These principles also work for:
  - Sports
  - Concerts
  - Parties
  - Movies
  - Other media



# Industry attempts to make more socially acceptable cigarettes



*“You’re clearly someone who considers others. That’s why Superslim Capri is the choice for you...great tobacco flavor, but less smoke for those around you.”*



*Every doctor in private practice was asked:*

*—family physicians, surgeons, specialists...  
doctors in every branch of medicine—*

*“What cigarette do you smoke?”*



*According to a recent Nationwide survey:*

# More Doctors Smoke Camels

*than any other cigarette!*

THE  
“T-ZONE” TEST  
WILL  
TELL YOU



The “T-Zone”—T for taste and T for throat—is your own laboratory, your proving ground, for any cigarette. For only your taste and your throat can decide which cigarette tastes best to you... and how it affects your throat. On the basis of the experience of many, many millions of smokers, we believe Camels will test your “T-Zone” to a “T.”



Not a guess, not just a trend...but an actual fact based on the statements of doctors themselves to 3 nationally known independent research organizations.

Yes, your doctor was asked...along with thousands and thousands of other doctors from Maine to California. And they've named their choice—the brand that more doctors named as their smoke is Camel! Three nationally known independent research organizations found this to be a fact. Nothing unusual about it. Doctors smoke for pleasure just like the rest of us. They appreciate, just as you, a mildness that's cool and easy on the throat. They too enjoy the full, rich flavor of expertly blended cognier tobaccos. And they named Camels...more of them named Camels than any other brand. Next time you buy cigarettes, try Camels.

# Types of smoking





- Active smoking







- **Mainstream smoke:**  
The smoke exhaled by a smoker.

- **Sidestream smoke:**  
Smoke from the lighted end of a cigarette, pipe, or cigar.



- **Sidestream smoke has higher concentrations of cancer-causing agents (carcinogens) and is more toxic than mainstream smoke.**
- **it has smaller particles than mainstream smoke. These smaller particles make their way into the lungs and the body's cells more easily.**



# Secondhand smoke (Passive Smoking)



# Secondhand Smoke Exposure

- I don't smoke. Why should I be concerned about being around someone who does?



- **Secondhand smoke is dangerous.**
  - Secondhand smoke is a mixture of gases and fine particles that includes
    - Smoke from a burning cigarette, cigar, or pipe tip
    - Smoke that has been exhaled or breathed out by the person or people smoking

## ■ **Third-hand smoke exposure** — Third hand

- smoke exposure refers to exposure to smoke components and their metabolic by-products from contact with surfaces that have adsorbed smoke. The smoke leaves a residue of nicotine and other toxic substances in household dust and on surfaces. Although not yet well studied, there is concern that contact with third hand smoke will result in absorption of toxins through the skin or ingestion from contamination of the hands.



A hand with red nail polish is shown in a fist, standing on a large pile of discarded, lit cigarettes. The background is a soft, out-of-focus white. The text "Solutions: Prevention & Control" is overlaid in a bold, yellow font with a slight shadow.

# Solutions: Prevention & Control

# Prevention & Control

- **Globally:** governed / advised by the Framework Convention on Tobacco Control **FCTC** (ratified by KSA in 2005); **WHO-MPOWER** (first launched in 2008)
- **Nationally:** coordinated by Ministry of Health - Tobacco Control Program in KSA (TCP); other agencies' efforts
- **Conceptually:**
  - Primary prevention = tobacco use [smoking] **prevention**
  - Secondary prevention = tobacco use [smoking] **cessation (quitting smoking)**
  - Tertiary prevention = dealing with its consequences

# WHO-MPOWER

- Monitoring tobacco use and prevention policies
- Protecting people from tobacco smoke
- Offering help to quit
- Warning of dangers of tobacco
- Banning tobacco advertising, promotion and sponsorship
- Increasing taxing on tobacco

# Primary Prevention

- Strengthening religious beliefs / “fatwas”
- Legislations for banning smoking in public places
- Banning advertising, especially to youngsters
- Increasing taxation on tobacco products
- Public health education through:
  - Health warning labeling on tobacco products
  - Using mini and mass media
  - Banning smoking in drama



# Smoking Cessation

- dramatically reduces the risk of most smoking-related diseases.
- One year after quitting, the risk of coronary heart disease decreases (CHD) by 50%.
- Within 15 years, the relative risk of dying from CHD for an ex-smoker approaches that of a lifetime non-smoker.

# Smoking Cessation

- No amount of tobacco use is safe
- Moreover, the relative risks of developing lung cancer, chronic obstructive lung diseases and strokes also decrease, but more slowly
- Smoking cessation also shows a beneficial effect on pulmonary function, particularly in younger subjects, and the rate of decline among former smokers returns to that of those who have never smoked.

# Smoking Cessation

## Thinking about quitting

- Picking a quit date
- Keeping a record of why, when, where and with whom you smoke
- Getting support and encouragement from your family, friends, and health providers.
- Joining a quit group
- Getting individual counseling
- Quitting Clinics available at: KSU; MoH-TCP; Naqa' (Charitable Society for Tobacco control جمعية نقاء, others

# Smoking Cessation

## The Quitting Plan

- Treating oneself well
- Drinking lots of water
- Changing routines
- Reducing stress
- Deep breathing
- Regular exercise
- Doing something enjoyable every day
- Increasing non-smoking social support



# KSA Tobacco Control Program

<http://www.tcpmoh.gov.sa/>

تبريد البرنامج ، tobaccopro@moh.gov.sa

هاتف البرنامج ، 0114194658



التدخين و المرأة



التدخين و الصحة



البرنامج الإلكتروني



حجز المواعيد في عيادات  
الإقلاع عن التدخين



اللائحة الخليجية  
والاتفاقيات العالمية



اللجنة الوطنية



المسابقات



مكتبة البرنامج



# Five A's Counseling Strategy

- Physicians should address smoking cessation with all patients who use tobacco.
- The five A's framework (ask, advise, assess, assist, arrange) has been developed to allow physicians to incorporate smoking cessation counseling into busy clinical practices.



# Ask

- All patients should be asked about tobacco use and assessed for motivation to quit at every clinical encounter.
- *Have you ever been a smoker or used other tobacco products? Do you use tobacco now? How much?"*



# Advise

- Advice to patients should be clear (direct expression of the need for smoking cessation), strong (highlighting the importance of cessation), and personalized (linking the patient's health goals to cessation)
- Setting a follow-up appointment specifically to discuss this advice further.





# Assess

1. Smoking history and current level of nicotine dependence.
2. Willingness to quit and barriers to quitting should be assessed.
3. Patients should be asked about their timeline for quitting and about previous attempts.



# Assist (or refer)

- Offer support and help patients to anticipate difficulties and encourage them to prepare their social support systems and their environment for the impending change.



# Assist (or refer)

## ■ *These difficulties include:*

### 1) Nicotine withdrawal symptoms:

- e.g., irritability, anxiety, restlessness.
- Peak within the first week and last for 2 – 4 weeks.
- NRTs can be helpful.

### 2) Depression:

Smokers are more likely than nonsmokers to have a depressive episode.

### 3) Weight Gain.



# Arrange

- Follow-up plans should be set.
- It is important to elicit the benefits of quitting and ask patients to anticipate situations that might lead to relapse.



# References

- World Health Organization (WHO): [www.who.int/tfi](http://www.who.int/tfi)
- Global Health Observatory (GHO) data: <http://www.who.int/gho/tobacco/use/en/>
- WHO 2015 global report on trends in prevalence of tobacco smoking: [http://apps.who.int/iris/bitstream/10665/156262/1/9789241564922\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/156262/1/9789241564922_eng.pdf)
- Centers for Disease Control and Prevention: [www.cdc.gov/](http://www.cdc.gov/)
- Tobacco Control Journal. [www.tobaccocontrol.com](http://www.tobaccocontrol.com)
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