

Smoking and Tobacco Use Cessation



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5/31

اليوم العالمي للامتناع عن التدخين من كل سنة

اليوم العالمي للامتناع عن تعاطي التبغ

التاريخ  31 مايو من كل عام

الجهة المنظمة  منظمة الصحة العالمية

شعار 2018  التبغ وأمراض القلب

مرتبة التبغ بين
مسببات أمراض
القلب، بعد ارتفاع
ضغط الدم

2

عدد ضحايا التبغ
سنويا حول العالم،
بينهم 900 ألف من
غير المدخنين

7

ملايين



الأهداف

زيادة الوعي بالصلة بين التبغ
وأعراض القلب والسكتة
الدماغية

زيادة الإجراءات والتدابير العملية
للحد من المخاطر التي يشكلها
التبغ على صحة القلب

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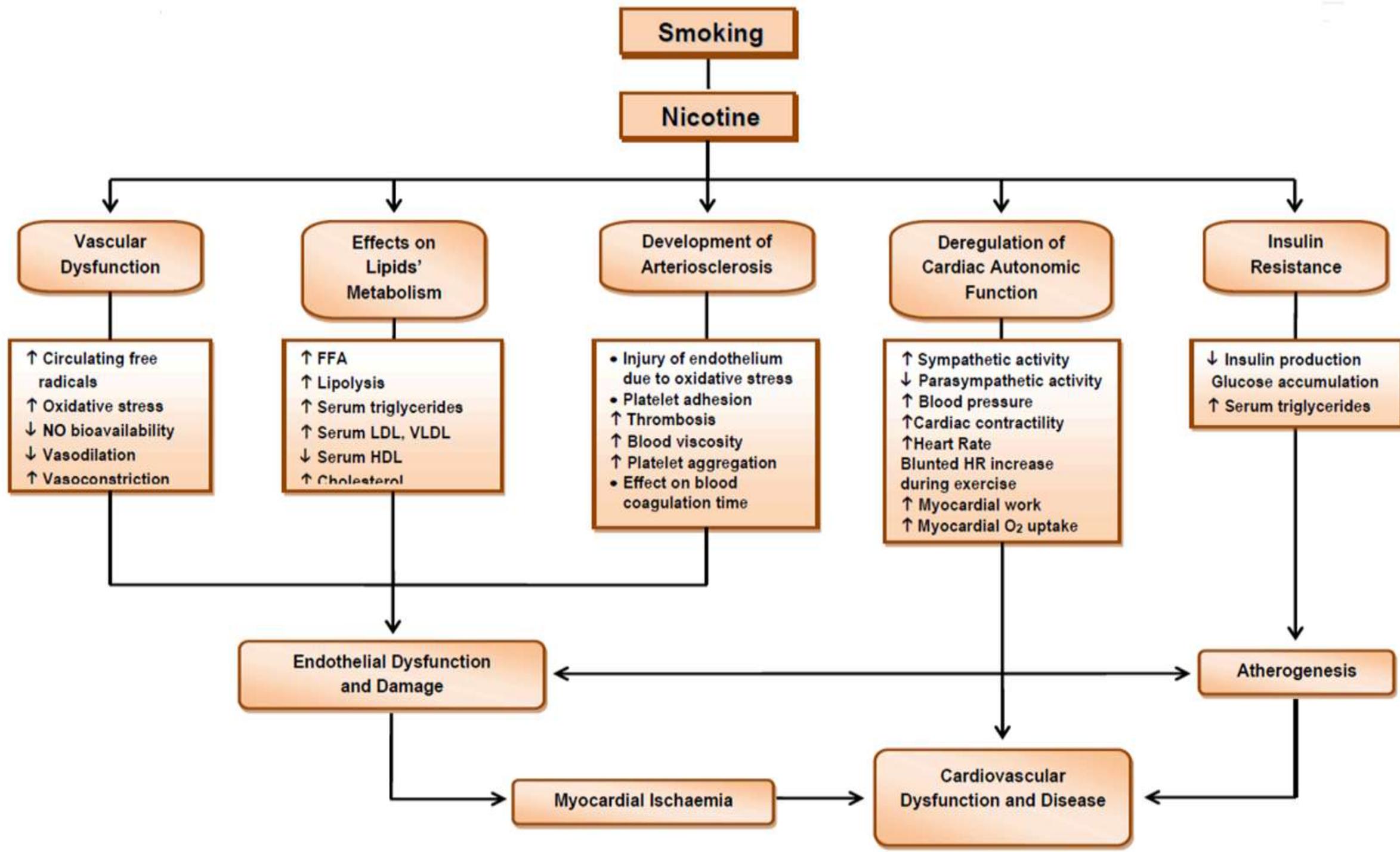
Pharmacologic Aspects of Nicotine

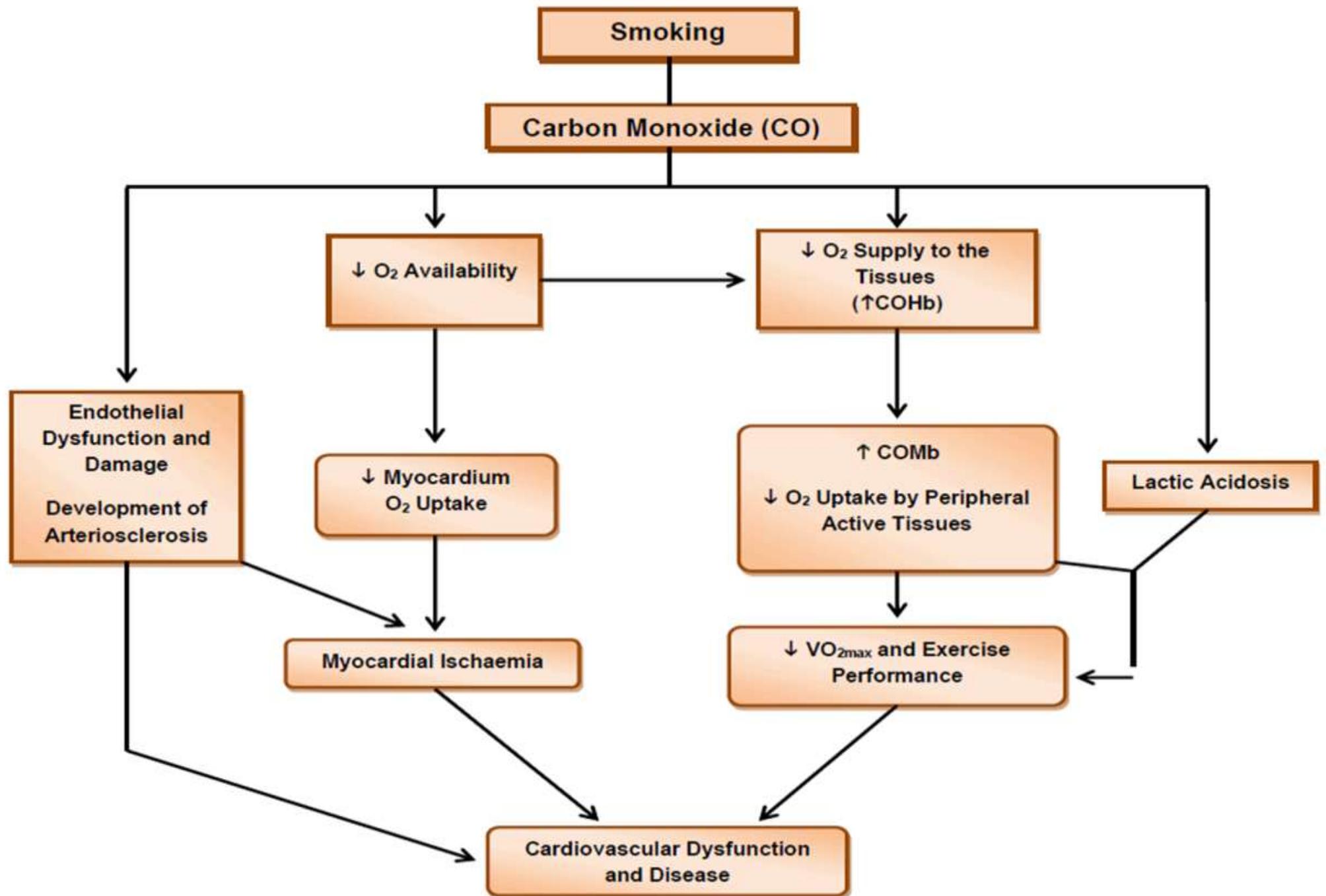
The pharmacologic effects of nicotine are essential to sustaining cigarette smoking. Tobacco is used by people to deliver nicotine to the body. The primary physiologic effects of nicotine (reviewed in detail in the 1988 surgeon general's report) are listed below.

- **Electroencephalographic desynchronization**
- **Increased circulating levels of catecholamines, vasopressin, growth hormone, adrenocorticotrophic hormone, cortisol, prolactin, and beta-endorphin**
- **Increased metabolic rate**
- **Lipolysis, increased free fatty acids**
- **Heart rate acceleration**
- **Cutaneous and coronary vasoconstriction**
- **Increased cardiac output**
- **Increased blood pressure**
- **Skeletal muscle relaxation**

Actions of Nicotine on the Brain

- ❑ **The nicotine molecule is shaped like acetylcholine.**
- ❑ **Acetylcholine**
 - is a neurotransmitter, that is, a chemical naturally found in the body that is involved in transmitting information from one neuron to another.
 - **Receptors (specialized proteins that selectively bind drugs and initiate drug effects in the body) for acetylcholine are called cholinergic receptors.**
- ❑ **Nicotine acts on certain cholinergic receptors in the brain and other organs of the body. The receptors would normally be acted on by the body's own acetylcholine.**
- ❑ **By activating cholinergic receptors, nicotine enhances the release of other neurotransmitters and hormones including acetylcholine, norepinephrine, dopamine, vasopressin, serotonin, and beta-endorphin**





Tolerance and Withdrawal

- ❖ With prolonged or repetitive exposure to nicotine, the brain cells adapt in such a way as to compensate for the actions of nicotine, that is, to return brain functioning to normal. This process is called neuroadaptation
- ❖ When the brain has adapted so as to function normally in the presence of nicotine, it also becomes dependent on the presence of nicotine for normal functioning. When nicotine is not available (such as when a smoker stops smoking), the brain function becomes disturbed, resulting in a number of withdrawal symptoms, as mentioned below.

ADDICTION TO NICOTINE

Nicotine is absorbed through the skin and the mucosal lining of the nose and mouth and by inhalation into the lungs.

A cigarette is a very efficient delivery system for the inhalation of nicotine.

Nicotine is **rapidly distributed throughout the body after inhalation, reaching the brain in as little as 10 seconds.**

Nicotine that is **swallowed is not absorbed in the stomach because of the acidic environment.**

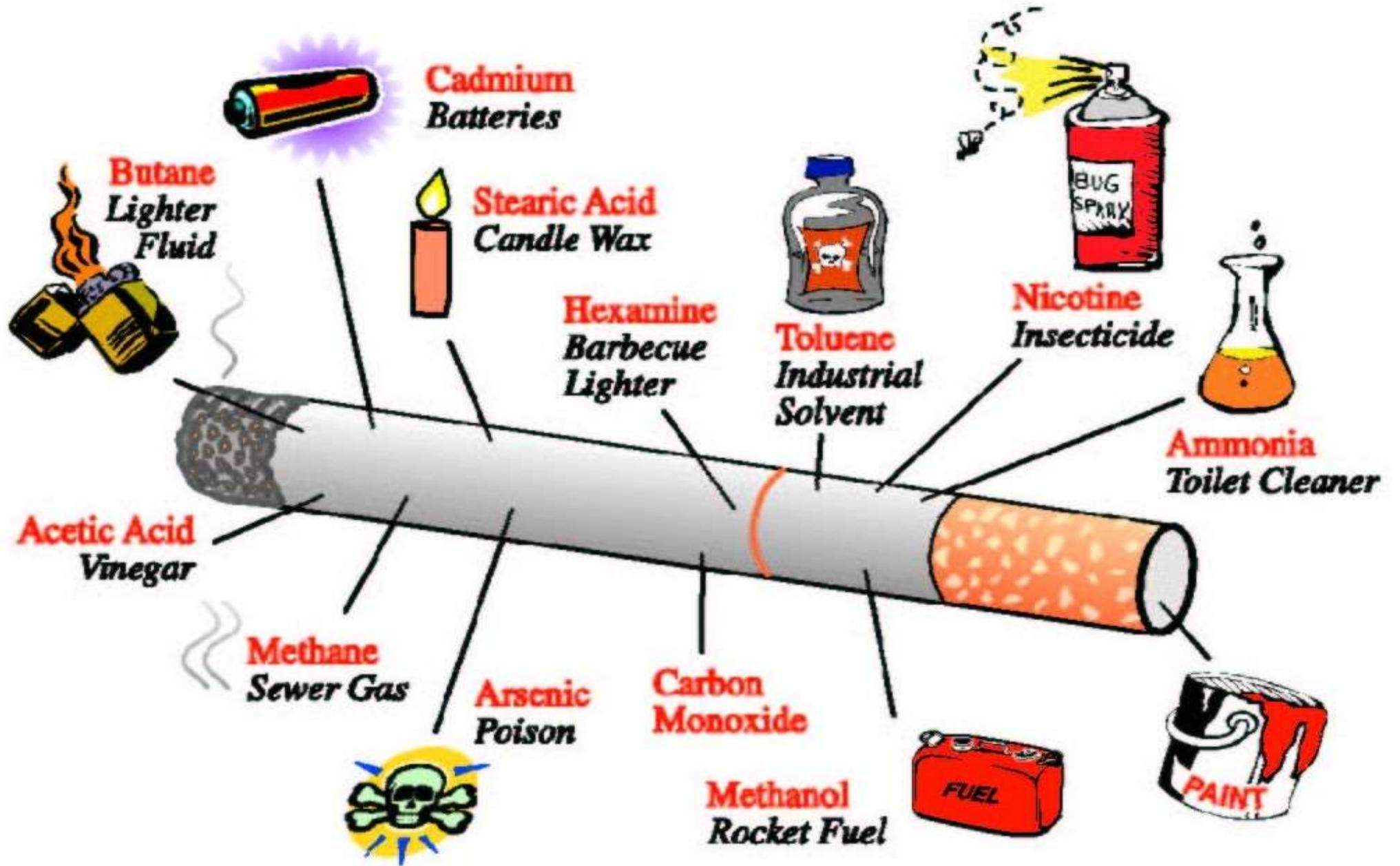
The **effects of nicotine gradually diminish over 30 to 120 minutes**; this produces **withdrawal effects** that may include:

- ✓ Restlessness
- ✓ Eating more than usual
- ✓ Anxiety/tension
- ✓ Impatience
- ✓ Irritability/anger
- ✓ Difficulty concentrating
- ✓ Excessive hunger
- ✓ Depression
- ✓ Disorientation
- ✓ Loss of energy/fatigue
- ✓ Dizziness
- ✓ Stomach or bowel problems
- ✓ Headaches
- ✓ Sweating
- ✓ Insomnia
- ✓ Heart palpitations
- ✓ Tremors
- ✓ Craving cigarettes.



ADDICTION TO NICOTINE

- ❖ The elimination half-life of nicotine is about 2 hours, which allows it to accumulate with repeated exposure to cigarettes throughout the day, with effects persisting for hours
- ❖ A typical smoker will take 10 puffs of every cigarette over a period of about 5 minutes that the cigarette is hit.
- ❖ Each cigarette delivers about 1mg of nicotine.
- ❖ Thus, a person who smokes about 1½ packs (30 cigarettes) a day gets 300 hits of nicotine to the brain every day, each one within 10 seconds after a puff.
- ❖ This repeated reinforcement is a strong contributor to the highly addictive nature of nicotine.



Adverse effects of smokeless

- ❑ **Cigarette smoking is a major risk factor for**
 - stroke,
 - myocardial infarction,
 - peripheral vascular disease,
 - aortic aneurysm
 - sudden death.
- ❑ **It is the leading cause of**
 - lung disease, including chronic bronchitis, emphysema, pneumonia, and lung cancer.
- ❑ **It is also strongly linked to**
 - cancers of the esophagus, stomach, pancreas, cervix, kidney, colon, and bladder.
- ❑ **Other effects include**
 - premature skin aging and an increased risk for cataracts.



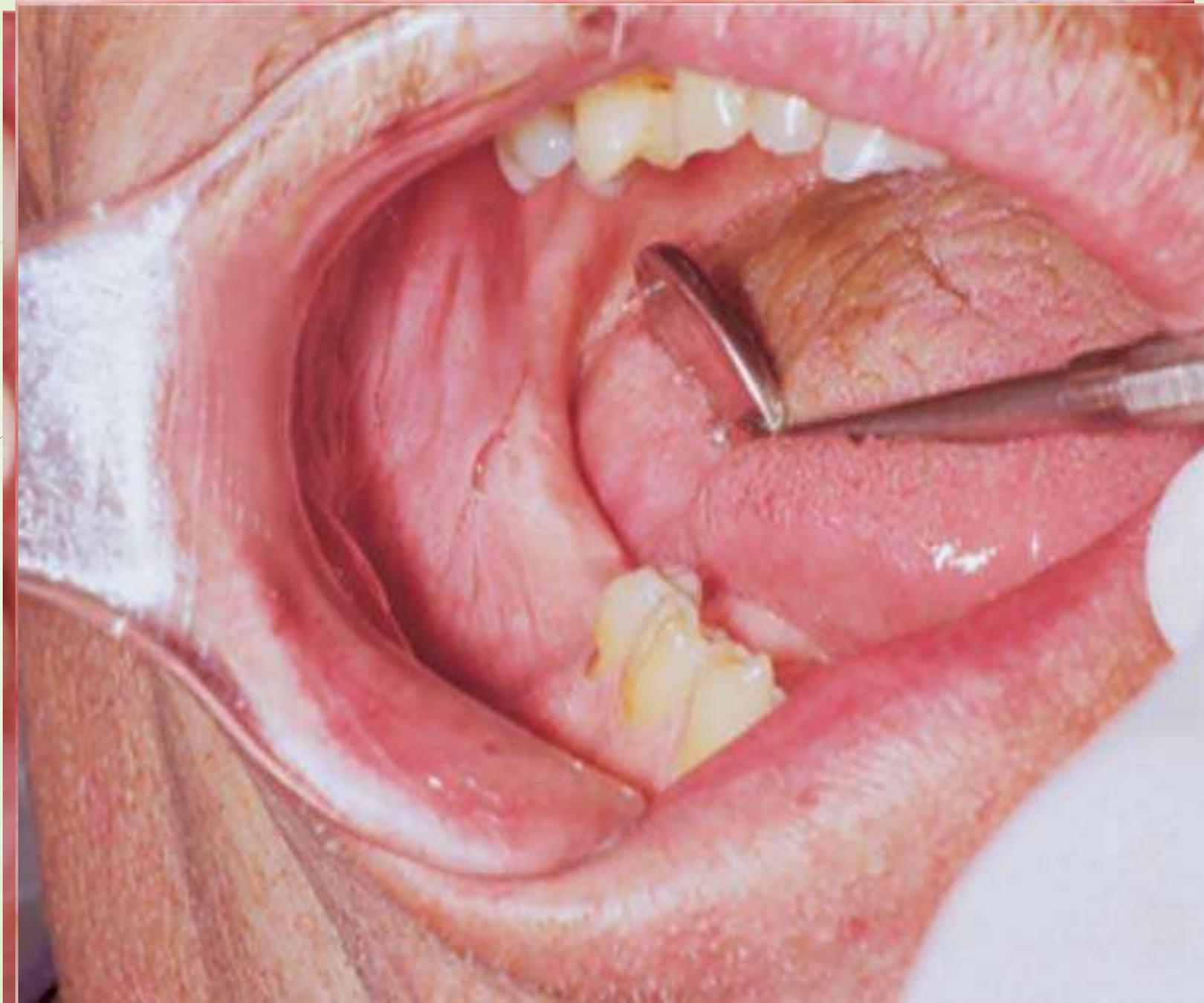
Adverse effects of smokeless

- ✓ Cigar and pipe smokers are subject to similar addictive and general health risks as are cigarette smokers, although pipe and cigar users typically do not inhale.

- **Oral effects of smoking include**

1. squamous cell carcinoma
2. leukoplakia
3. nicotine stomatitis
4. smoker's melanosis,
5. hairy tongue
6. halitosis.
7. It increases the risk of failure of intraosseous implants and the risk of dry socket,
8. impairs wound healing.
9. an impaired sense of taste and smell.





Adverse effects of smokeless

❑ **The adverse effects of smokeless tobacco primarily consist of:**

- addiction

❑ **its effects on the oral mucosa, including**

- squamous cell carcinoma,
- tobacco or snuff dipper's pouch
- Verrucous carcinoma
- gingival recession
- periodontitis,
- necrotizing ulcerative
- gingivitis
- The sense of taste and smell is diminished as well.





Benefits of Quitting Smoking (US Surgeon General 1990)

- ❑ **Quitting helps to stop the damaging effects of tobacco on your appearance, including the following:**
 - **20 minutes after quitting:** Your heart rate drops.
 - **12 hours after quitting:** Carbon monoxide level in your blood drops to normal.
 - **2 weeks to 3 months after quitting:** Your circulation improves and your lung function increases.
 - **1 to 9 months after quitting:** Coughing and shortness of breath decrease; cilia regain normal function in the lungs, increasing the ability to handle mucus, clean the lungs, and reduce the risk of infection.
 - **1 year after quitting:** The excess risk of coronary heart disease is half that of a smoker's.
 - **5 years after quitting:** Your stroke risk is reduced to that of a nonsmoker 5 to 15 years after quitting.
 - **10 years after quitting:** The lung cancer death rate is about half that of a continuing smoker. Risks of cancer of the mouth, throat, esophagus, bladder, cervix, and pancreas decrease.
 - **15 years after quitting:** The risk of coronary heart disease is that of a nonsmoker.

Quitting helps to stop the damaging effects of tobacco on your appearance, including the following:

- **Premature wrinkling of the skin**
- **Bad breath**
- **Stained teeth**
- **Gum disease**
- **Bad smelling clothes and hair**
- **Yellow fingernails**
- **Food tastes better**
- **Sense of smell returns to normal**
- **Ordinary activities no longer leave you out of breath (climbing stairs, light housework, etc.)**



Cessation of smoking

Help to coordinate a program for the patient, or designate another individual in the office to perform that function



- Prescribe smoking cessation medications for the patient
- Refer the patient to an outside program
- Refer the patient to a counseling source, such as a telephone help line

INTERVENTIONS FOR SMOKING CESSATION

- Public health measures include raising awareness of the dangers of smoking and tobacco use by airing public service television or radio ads.
- **increasing the price of cigarettes and other tobacco products, and banning smoking in public places.**
- Individual methods of smoking cessation include the use of telephone quit lines and [NICOTINE REPLACEMENT THERAPY \(NRT\)](#), along with individual or group counseling.
- **Overall success rates for smoking cessation efforts are generally low, and quitting is associated with high rates of relapse. The 1-year success rate for stopping is about 5%.**
- The 1-year success rate with bupropion is about 23%. NRT combined with bupropion improves the success rate to about 36%.
- **It is interesting to note that one study reported that a program that used only intensive counseling reported a success rate of 68%.**
- In general, the chance for success increases when more than one option is used.

5"As": 4-Assist: Willing to quit

- Help develop a quit plan
- **S**et a quite date
- **T**ell family and friends for support
- **A**nticipate challenges & discuss challenges / triggers
- **R**emove tobacco products
- Avoid
 - Alcohol use
 - Express to tobacco
- Provide supplementary materials
- Give nutritional advice
- Physical activity may help
- Recommend the use of approved pharmacotherapies



INTERVENTIONS FOR SMOKING CESSATION

NRT

- Nicotine **Gum** (Over the counter)
- Nicotine **Inhaler** (Prescription)
- Nicotine **Lozenges** (Over the counter)
- Nicotine **Nasal Spray** (Prescription)
- Nicotine **Patch** (Over the counter)

Non NRT

- Bupropion SR (Prescription)
- Varenicline (Prescription)

[NICOTINE REPLACEMENT THERAPY \(NRT\)](#)

INTERVENTIONS FOR SMOKING CESSATION

Non-NRT Pharmacotherapeutic Agents

- FDA Approved for smoking cessation
 - Bupropion (Zyban)
 - Varenicline (Chantix)
- Non-FDA approved
 - Nortriptyline (Pamelor)
 - tricyclic antidepressant
 - Clonidine (Catapres)
 - α -2 adrenergic agonist; antihypertensive

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