Nicotine Addiction

Nicotine can act as both a stimulant (*excites/activates*) and a sedative (*calms/quiets*). Immediately after exposure to nicotine, there is a "kick" caused in part by the drug's stimulation of the adrenal glands and resulting discharge of adrenaline (*epinephrine*). The rush of adrenaline stimulates the body and causes a sudden release of sugar. This means that smokers are always slightly hyperglycemic. Hyperglycemic means that the blood sugar is high, just like in diabetics. Nicotine also decreases the amount of insulin which helps control sugar levels in the body. There is an increase in blood pressure, breathing, and the rate of heart beats.

In addition, nicotine indirectly causes a release of dopamine in the brain that controls pleasure and motivation. A similar reaction is seen with other drugs of abuse, such as cocaine and heroin. This dopamine release is thought to cause the pleasurable sensations when smoking. In some different cases, nicotine can also create a calming effect, depending on sensitivity of the smoker's nervous system and the dose of nicotine taken.

WHAT HAPPENS WHEN NICOTINE IS TAKEN FOR LONG PERIODS OF TIME?

- Long-term use of nicotine results in addiction. It is difficult to stop.
- Repeated use of nicotine creates tolerance. Higher doses of nicotine are needed to get the "kick."

When nicotine use is stopped, withdrawal may last a month or more. Withdrawal may begin within a few hours after the last cigarette. Symptoms peak within the first few days and may lessen within a few weeks. For some people, however, symptoms may last for months or longer. Withdrawal symptoms include:

- Irritability.
- Craving.
- Learning and attention deficits.
- Sleep disturbances.
- Increased appetite.

Craving for tobacco may last for 6 months or longer. Many behaviors done while using nicotine can also play a part in the severity of withdrawal symptoms. For some people, the feel, smell, and sight of a cigarette and the ritual of obtaining, handling, lighting, and smoking the cigarette are closely linked with the pleasure of smoking. When stopped, they also miss the related behaviors which make the withdrawal or craving worse. While nicotine gum and patches may lessen the drug aspects of withdrawal, cravings often persist.

WHAT ARE THE MEDICAL CONSEQUENCES OF NICOTINE USE?

- Nicotine addiction accounts for one-third of all cancers. The top cancer caused by tobacco is lung cancer. Lung cancer is the number one cancer killer of both men and women.
- Smoking is also associated with cancers of the:
  - Mouth.
  - Pharynx.
  - Larynx.
  - Esophagus.
  - Stomach.
  - Pancreas.
  - Cervix.
  - Kidney.
  - Ureter.
  - Bladder.
- Smoking also causes lung diseases such as lasting (*chronic*) bronchitis and emphysema.
- It worsens asthma in adults and children.
- Smoking increases the risk of heart disease, including:
  - Stroke.
  - Heart attack.
  - Vascular disease.
  - Aneurysm.
- Passive or secondary smoke can also increase medical risks including:
  - Asthma in children.
  - Sudden Infant Death Syndrome (SIDS).
- Additionally, dropped cigarettes are the leading cause of residential fire fatalities.

- Nicotine poisoning has been reported from accidental ingestion of tobacco products by children and pets. Death usually results in a few minutes from respiratory failure (when a person stops breathing) caused by paralysis.

TREATMENT FOR NICOTINE ADDICTION

- Medication. Nicotine replacement medicines such as nicotine gum and the patch are used to stop smoking. These medicines gradually lower the dosage of nicotine in the body. These medicines do not contain the carbon monoxide and other toxins found in tobacco smoke.
- Hypnotherapy.
- Relaxation therapy.
- Nicotine Anonymous (a 12-step support program). Find times and locations in your local yellow pages.

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