

# Smoking and Betel Nut Health Risks and Cessation

## The Harmful Effects of Smoking and How to Quit

### The Harmful Effects of Smoking

When a cigarette burns, it produces more than 4,000 chemicals. Some of these chemicals spread into the air, while others are inhaled into the lungs. These substances include nicotine, tar, carbon monoxide, dozens of irritating chemicals, and more than 40 known cancer-causing substances.

**Nicotine** stimulates the central nervous system and can make people feel more alert. It is also the main substance that causes addiction. To obtain nicotine, smokers also inhale many toxic and cancer-causing chemicals that can damage cells. Nicotine increases heart rate, raises blood pressure, and causes blood vessels to narrow. Long-term use can lead to heart and blood vessel diseases.

**Carbon monoxide** prevents oxygen from binding normally to hemoglobin in the blood, causing the body to lack oxygen. In severe cases, this can even lead to death.

**Tar and irritating substances** are major causes of chronic bronchitis, emphysema, chronic obstructive pulmonary disease (COPD), and many types of cancer.

None of these substances are necessary for the body. They harm not only smokers but also people exposed to secondhand smoke.

Smoking increases the risk of many diseases, including lung cancer, liver cancer, cervical cancer, bladder cancer, heart disease, high blood pressure, and stroke. It also increases the risk of accidents. In terms of quality of life, smoking can cause facial wrinkles, cataracts, osteoporosis, easy bone fractures, delayed healing after fractures, erectile dysfunction in men, decreased sexual function, and harmful effects on future generations in women.

Smokers not only damage their own physical and mental health, but also expose their families to secondhand smoke, reduce productivity, and create additional medical expenses. Smoking places a financial burden on families, and a shortened lifespan can cause long-lasting pain for loved ones. Smoking also sets a negative example for children.

### Quitting Smoking and Nicotine Withdrawal

Willpower is very important when quitting smoking, but quitting by willpower alone can be very difficult. This is because smokers must overcome **nicotine withdrawal symptoms** and psychological dependence.

Nicotine withdrawal occurs when a person who has used nicotine regularly for several weeks suddenly stops or reduces nicotine use. Symptoms usually appear within 24 hours and may include:

- Irritability or depressed mood
- Insomnia
- Frustration or anger
- Anxiety
- Difficulty concentrating
- Restlessness
- Watery eyes
- Palpitations or trembling
- Slower heart rate
- Increased appetite or weight gain

About 50% of people who quit smoking experience withdrawal symptoms. These symptoms usually begin within a few hours, peak within 1–4 days, and gradually improve over 2–4 weeks. However, cravings to smoke may last for months or even years.

Many smokers rely on smoking for pleasure, concentration, emotional support, or social interaction. After quitting, they may experience uncomfortable physical symptoms, which can feel like a form of punishment. Reducing nicotine withdrawal symptoms can make quitting easier and increase the willingness to quit.

### **Nicotine Replacement Therapy (NRT)**

In addition to willpower, using effective medications can greatly increase the success rate of quitting smoking. **Nicotine replacement therapy (NRT)** provides a small and controlled amount of nicotine through routes other than smoking to reduce withdrawal symptoms during the early stages of quitting.

NRT is currently recognized as one of the most effective methods to quit smoking. Nicotine from NRT is absorbed through the mouth or skin, and the nicotine level in the blood is only one-third to

one-half of that from smoking. It is absorbed more slowly and does not cause the strong stimulation or pleasure associated with smoking, making it safer.

Medication treatment usually lasts about two months and can help long-term smokers successfully break free from nicotine dependence.

Common forms of NRT include:

- Nicotine gum
- Nicotine inhalers
- Nicotine nasal sprays
- Nicotine patches

Doctors will choose the most suitable option based on each person's condition.

**Note:** NRT is not suitable for people with recent acute heart attacks, severe heart rhythm problems, worsening angina, or rapidly worsening high blood pressure.

**Nicotine gum** can double the success rate of quitting. It must be chewed and then placed between the cheek and gums to allow absorption. Some people may experience mouth soreness, hiccups, or stomach discomfort, but these symptoms are usually mild.

**Nicotine patches** provide a steady dose of nicotine through the skin. Blood levels peak after 4–8 hours. Side effects are minimal, usually mild skin irritation that resolves on its own.

**Nicotine inhalers** may cause mild throat or mouth discomfort and coughing at first, which usually improves over time.

**Nicotine nasal sprays** have stronger side effects and may irritate the nasal lining. People with severe respiratory allergies should avoid using them.

Smoking cessation clinics are available to provide counseling and treatment. Eligible adults may receive government subsidies for smoking cessation treatment. Those who wish to quit smoking are encouraged to seek assistance.

## **The Harmful Effects of Betel Nut Chewing**

### **Health Risks of Betel Nut**

Betel nut itself is a **known carcinogen**. It contains several substances, including arecoline,

arecaidine, and polyphenols, which can cause cell mutations and have cancer-causing potential. In the mouth, these substances can form nitrosamines, which promote tumor development.

Ingredients often added to betel nut, such as betel flower and betel leaf, also contain cancer-causing chemicals. Betel flower contains compounds such as safrole, eugenol, and related substances. Safrole has been confirmed as a carcinogen, while eugenol can damage DNA and cause thinning of the oral lining.

About **90% of patients with oral cancer have a habit of chewing betel nut**. Compared with the general population:

- Chewing betel nut increases the risk of oral cancer by **28 times**
- Drinking alcohol and chewing betel nut increases the risk by **54 times**
- Smoking and chewing betel nut increases the risk by **89 times**
- Smoking, drinking alcohol, and chewing betel nut together increase the risk by **123 times**

Betel nut chewing not only increases the risk of oral cancer, but also esophageal cancer, throat cancer, liver cancer, liver cirrhosis, and diabetes. It also damages the oral lining and gums, increasing the risk of periodontal (gum) disease..