

Smoking cigarettes and other substances can delay healing and worsen medical conditions in our hands. This is likely due to many chemicals the body absorbs from smoking. Nicotine is one many people are familiar with that is found in cigarettes, cigars, pipes and e-cigarettes. Nicotine causes blood vessels to become smaller. When this happens, there is less blood to carry oxygen around the body. Reduced blood flow and less oxygen supply affects the very small blood vessels at the fingertips the most. It can also affect the larger blood vessels that bring oxygen to bone, nerves, tendons, and muscles. Nicotine may cause permanent damage to your hands.

Researchers have linked smoking with the following:

Reduced blood flow

Scientific studies show that smokers have decreased blood flow in their finger skin compared to non-smokers. They also have increased vascular resistance (vessels are tighter). This is likely due to the fact that smoking increases the amounts of adrenaline (norepinephrine) in the body. Scleroderma is an autoimmune disease. Patients with scleroderma and who smoke have 4 times higher chance of having finger vascular problems. These problems can require surgery and sometimes finger amputation. One study suggests that finger skin blood flow can improve within 7 days of stopping smoking.

Poor wound healing

Skin wound healing is slower in fingers exposed to cigarette smoke and nicotine. Smokers are twice as likely to have wound that will not heal and wound infections. Even former smokers are more likely to have wound problems. Patients who have smoked during the past year have significant increases in complications from any surgery they might need. Smokers are also more likely to end up back in the hospital or need more surgery to heal fully compared to those who do not smoke.

Therefore, smokers should stop smoking as soon as possible before any type of surgery. They should also cut back on smoking or quit if possible when recovering from injuries, disease or recent emergency surgery. It is best to stop smoking as soon as possible to allow your body to recover. A scientific review of the effect of smoking on wound healing indicates that multiple phases of wound healing are negatively affected. When smoking stops, the inflammatory phase of wound healing is partly reversed within 4 weeks, but the proliferative phase is not. This suggests smoking should stop or decrease as much as possible several months before a major surgery when possible.

Infection

Smokers are 1.8 times more likely to develop an infection compared to non-smokers.

Poor bone healing

Fractures (broken bones) have more trouble healing in smokers. The time it takes to heal may be longer. Some fractures may never heal (referred to as non-union). Unhealed fractures often require multiple surgeries with plates and screws. This long healing time increases pain, stiffness, and time away from work or hobbies.

Worsened nerve problems

Nerve problems (tingling, numbness, pain) can be worse in smokers who also have other conditions such as diabetes. Smokers often report more severe symptoms prior to carpal tunnel surgery. Smokers also are more likely to have continued symptoms of nerve pain even after surgery.

Birth differences (congenital hand differences)

A child born from a pregnant mother who smokes is more likely to have extra fingers (polydactyly), fused fingers (syndactyly), or a missing finger. The more the mother smokes, the more likely this happens. This is called a dose-response relationship.

Dupuytren's contracture

This is a condition where fingers may become contracted in a bent (flexed) position due to thick bands that form in the palm and around the joints of the hand. Dupuytren's is more common in smokers.

Hand pain

Unexplained hand pain is reported to be higher and last longer in smokers compared to non-smokers. Also, some disabling conditions like complex regional pain syndrome may be more likely in smokers.

Some good news for smokers is that they do not seem more likely to develop more finger arthritis. The arthritis rate in smokers has proven the same as those who do not smoke.

In some instances, your surgeon may ask you to take a test to prove that you have stopped smoking so that they can protect you from complications. After exposure to tobacco products, nicotine gets converted by the body to cotinine. Cotinine remains in the body longer than nicotine. Therefore cotinine is a better measure to check. If there is no cotinine in the blood, your doctor will know you stopped smoking longer ago and you will be safer. Each person who smokes has a choice to make. They can choose to reduce or stop smoking. Although it can be very difficult to stop smoking, each person has some control over preventing a bad outcome. Speak to your physician about resources that can help you quit smoking.