

Smoking and Musculoskeletal Healing



Smoking narrows blood vessels and slows bone and wound healing, raising the risk of complications after surgery.

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What it is

Smoking and other tobacco use can slow down or weaken your body's ability to heal after orthopaedic surgery. This includes joint replacements, spine fusions, and tendon repairs. Your doctor considers these habits because they directly impact your recovery.

Nicotine affects how your bones grow and how well implants stick to your skeleton. It also reduces blood flow, which tendons and muscles need to repair themselves. The more you smoke, the higher the risk. Your pack-years and how long you have stopped smoking help predict how well your tendons will heal after shoulder surgery.

This applies to all forms of tobacco. Cigarette smokers face higher risks of medical and surgical complications during knee or hip replacement. Heated tobacco users see similar healing problems with rotator cuff repairs as cigarette smokers. Smokeless tobacco also raises the risk of complications and revision surgery after knee replacement and ACL reconstruction. Even smokeless tobacco carries a higher risk of complications than smoking alone in some procedures.

Your doctor will ask about all tobacco use, including smokeless products, before surgeries like scaphoid fracture repair or ACL reconstruction. This helps identify risks early. Cessation is highly advised for meniscus repairs to reduce failure rates. While modern techniques may help some spine fusion patients, quitting remains the best way to improve outcomes and lower costs.

Does it work?

Smoking and tobacco use generally make healing slower and more difficult. Your doctor will ask about all forms of tobacco, including cigarettes, smokeless tobacco, and heated tobacco products. Quitting before surgery is the best way to improve your results.

For most joint replacements and spine fusions, smoking raises your risk of complications. You may face higher rates of infection, medical issues, and poor functional outcomes. This holds true for knee and hip replacements, shoulder surgeries, and spinal fusions. Smokeless tobacco also carries risks, though some evidence suggests cigarette smoking might pose a slightly higher risk for certain complications.

Healing after rotator cuff repair is particularly sensitive to tobacco use. The number of years you smoked and how long you stopped before surgery matter. Even quitting within six months of surgery does not fully remove the elevated risk of infection or the need for revision surgery compared to never-smokers. Heated tobacco products affect healing similarly to conventional cigarettes.

The evidence is not uniform across all procedures. For some spinal fusions, modern techniques may help overcome the negative effects of smoking. In these specific cases, smoking was not linked to failed fusion on X-rays. However, you should still expect higher pain levels and poorer function if you smoke.

For knee replacements, smoking within 30 days before surgery leads to greater pain after the operation. You are less likely to reach a comfortable pain level compared to former or never-smokers. Similarly, smokers often report worse long-term function after ankle cartilage repair.

ACL reconstruction shows a mixed picture. Smokers have the same graft failure rate as non-smokers but report worse functional outcomes. This means your knee might feel less stable or strong during daily activities, even if the surgery technically succeeded.

Overall, smoking is a major factor in your recovery. It affects pain, function, and complication rates across many orthopaedic procedures. Your doctor will address this to help you achieve the best possible outcome.

Is it right for you?

Smoking and tobacco use increase your risk of complications and slower healing across many orthopaedic procedures. This includes joint replacements like hip, knee, and shoulder surgery, as well as repairs for rotator cuff tears, ACL reconstructions, and spine fusions. Your doctor will ask about all forms of tobacco, including smokeless tobacco and heated tobacco products. These products carry similar risks to conventional cigarettes for poor healing and worse outcomes.

If you are a current smoker, you may face higher rates of medical and surgical complications. You might experience more residual pain and poorer function after certain surgeries. For some shoulder procedures, you may need to stay in the hospital for at least two nights. Quitting smoking is a key step to improve your results and reduce costs. Even if you cannot quit completely, discussing your nicotine dependence with your doctor is important. They can help you optimize your health before surgery.

This approach is right for you if you are willing to stop using all tobacco products before your operation. It helps your body heal better and lowers your risk of problems. It is probably not right for you if you plan to continue smoking or using smokeless tobacco. Continuing these habits can lead to nonunion (where bones fail to join), tendon healing issues, and higher chances of needing revision surgery. Your doctor will work with you to create a plan that fits your needs and improves your chances of a successful recovery.

The bottom line

Smoking, including smokeless tobacco and heated products, increases your risk of complications, pain, and poor healing across many orthopaedic procedures. Your doctor can help you identify these risks early. Quitting smoking is a key step to improving your recovery and reducing costs. Even if you quit recently, you may still face higher risks of infection or revision surgery compared to never-smokers.