How Smoking and Marijuana Use Affect Bone and Muscle Healing

Why does this matter?

If you smoke cigarettes or use marijuana, it can slow down the healing of your bones, muscles, and tendons — especially after surgery or a fracture. Understanding how these substances affect healing can help you make the best choices for your recovery.

Part 1: Cigarette Smoking

Cigarette smoke contains thousands of harmful chemicals. These chemicals hurt your body's ability to heal in three main ways:

1. **Less blood flow to the injury.** Nicotine makes your blood vessels get smaller. This means less blood — and less oxygen — reaches the area that needs to heal.

2. **Less oxygen in your blood.** Carbon monoxide (a gas in cigarette smoke) sticks to your red blood cells. This blocks them from carrying oxygen where it's needed most.

3. **Cells can't use energy properly.** Another chemical in smoke, called hydrogen cyanide, stops your cells from using oxygen to make energy. Without energy, your cells can't do the work of healing.

What does this mean for your recovery?

- Broken bones take longer to heal. On average, smokers take about **30 weeks** to heal a fracture, compared to **24 weeks** for nonsmokers.

- Smokers are more than **twice as likely** to have a bone that doesn't heal at all.

- Tendons and muscles also heal more slowly and may not be as strong after repair.

- There is a higher chance of infection after surgery.

Part 2: Marijuana

Marijuana can also slow healing. How much it affects you depends on **how you use it** and **what is in the product**.

Smoking marijuana

Smoking marijuana is the most harmful way to use it when you are healing:

- Marijuana smoke contains **5 times more** carbon monoxide than tobacco smoke. Carbon monoxide blocks your blood from carrying oxygen to the injury.

- Marijuana smoke also contains **3 times more** tar than tobacco smoke.

- Smokers face higher rates of infection, bones that don't heal, and the need for repeat surgery.

Edibles and other non-smoked forms

Eating marijuana (edibles, gummies, tinctures) removes the smoke-related harm. You avoid the carbon monoxide and tar. However, edibles are **not risk-free** because:

- **THC** (the chemical that makes you feel "high") can slow bone healing on its own, even without smoke.

- THC weakens your body's early healing response by turning down inflammation — which your body actually needs in the first few days after an injury or surgery.

- THC can interact with other medicines, including blood thinners and anesthesia drugs.

What about CBD?

CBD is the part of marijuana that does **not** make you feel high. Early research in animals suggests CBD may actually **help** bones heal by:

- Helping bone-building cells work better

- Strengthening new bone as it forms

However, this has not yet been proven in people. A CBD-only product (without THC) appears to carry the least risk.

Part 3: What You Should Do Before Surgery or While Healing

- **Stop smoking cigarettes as early as possible** before surgery. Even quitting a few days before can help. The sooner you quit, the better your chances of a full recovery.

- **Stop all marijuana use at least 72 hours before surgery.** Two weeks is even better, especially if you smoke it.

- **Tell your doctor and anesthesia team** about any cigarette or marijuana use — they may need to adjust your medicines.

- If you are not willing to stop marijuana completely, switching from smoking to a **CBD-only oral product** is the safest option.