

Orthopaedic Connection

Smoking and Bones

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Transforming patient information into patient understanding.

Our mini course on the Musculoskeletal Effects of Smoking will open the eyes (I hope) of a lot of people who thought smoking mainly caused lung cancer and emphysema. Everyone knows that every smoker doesn't get lung cancer and emphysema. The things I am talking about in these articles do affect nearly all smokers in one way or another.

Some Examples

If you read Orthopaedic Connection you have heard me refer at times to osteoblasts.

1. Osteoblasts are tiny magic cells that are the foot soldiers of bone healing. Nicotine is the enemy of the little osteoblast. Nicotine inhibits osteoblasts from forming in the first place and those that do are smaller and don't work very well in their job of making bone. The carcinogens in the cigarette smoke also gang up on the osteoblasts not just the nicotine.
2. Decreased Calcium absorption in smokers may contribute to decreased bone formation.
3. Lymphocytes in the bone marrow are depleted in smokers. The lymphocytes are important in bone health.
4. Female smokers enter menopause on average 2 years earlier than nonsmokers due to affect on sex hormones and the adrenal gland.
5. Increased rate of osteoporosis associated fractures has long been observed in smokers.
6. Smoking accelerates post menopausal and aging related bone loss.
7. Lastly bone health is affected by lifestyle differences in smokers vs nonsmokers. How? Smokers as a group have
 - Decreased appetite
 - Lower Calcium intake
 - Use more caffeine and alcohol
 - Lower level of physical activity

Healing of Fractures

Smoking is the cause of very slow healing of fractures and wounds. In many cases that I deal with, the fracture or wound that I am treating simply refuses to heal. This is due not only to nicotine, but the chemicals in cigarette smoke too.

Infection

Patients who smoke are more than twice as likely to develop an infection after surgery than those who don't. I have seen this frequently in my own practice.

It is very disconcerting to the patient and to me when a patient has an injury that results in a fracture and I operate on the fracture and the fracture refuses to heal after several months.

It should be noted that the same situation exists with fractures that don't require surgery. The fracture just sits there in a cast "doing nothing" causing the patient and me increasing levels of frustration as the months go by.

Bone Fusion

There are many Orthopaedic Surgery procedures I perform that require 2 bones to grow together or fuse. Medically it is termed arthrodesis. This is different than fracture healing because these operations are elective whereas in fracture surgery it is a requirement to have surgery to repair the fracture.

The best example of this is spinal fusion surgery which is always elective. The rate of delayed and non healing in this group of patients who smoke is so high most surgeons including me will not do back surgery unless the patient has been free of smoking for several months.

Hopefully this information is educational whether you smoke or not and if you do it makes you realize what a challenge it is for me to treat you.

See you next week for the conclusion.

Office Website and Gratiot County Herald Archive

Wow! Your window to the Orthopaedic and musculoskeletal world opens at www.orthopodsurgeon.com. It contains the Website Library of information, Your Orthopaedic Connection and GCH archive of all previous articles.

You will be amazed at all the helpful information it contains.

All of the information pertains to everything I treat in the office and hospital.

Be well.

Dr. Haverbush