Smoking and Wound Healing:  
A Guide for Surgical and Burn Patients

Smoking can slow wound healing. There are many ways you can help your body heal faster.

**What is the function of our skin?**
Our skin system is made of 3 layers, the epidermis, dermis, and subcutaneous layer. Hair, nails, and glands are included in the skin system. The skin is the largest organ of the body. It acts as a giant covering that protects the inside of our bodies from infection. This is what our skin looks like.

![Skin Diagram]

**What happens when my skin has a wound?**
Wounds result from many things such as burns, surgery, scraping your knee, or infections. No matter how big or small your wound is your body follows a similar process to help it heal. When a wound occurs, the immune system sends out many healing factors through the blood vessels to the wound to help it heal. Oxygen we breathe is also sent to the wound through our blood vessels to help the wound heal. When the wound-healing process is complete, the new skin and/or scar tissue acts as a new covering to protect us from future injuries.

**How does smoking affect my skin and wound healing?**
Smoking causes blood vessels to become smaller. The smaller vessels have a hard time carrying oxygen, nutrients, and healing factors to the wound. This can slow the wound healing process.

Carbon monoxide is a poison from smoking that enters your blood cells. This poison lowers the level of oxygen in your blood. Oxygen is vital to your healing. It only takes 3 full days of not smoking to get rid of all the carbon monoxide in your blood. It is vital to quit smoking for at least 3 days before your surgery so the oxygen can build back up in your blood stream.

**What if I only smoke every once in a while or only smoke cigars?**
Studies have shown that any amount of smoking can delay the wound healing process, even if you only smoke once in a while. Cigars also prevent wound healing in the same way.
Won’t my wound(s) heal anyway?
Yes, your wound(s) may still heal, but there are many other reasons why you should stop smoking. Smoking can cause many of the problems listed below.

- Infection of your wound.
- Longer and more expensive hospital stay.
- If you have had a skin graft, it has a greater chance of not attaching as it should or failing.
- Blood clots may form near the wound.
- Stitches may come apart, causing scarring.
- You are more likely to catch a cold or pneumonia due to more mucus in your lungs.
- Decreased Vitamin C levels. Vitamin C is needed to help your skin heal.

What can I do to help my wound(s) heal?
Eat right and drink lots of fluids. Wound healing takes a lot of energy. It is a good idea to increase the amount of protein, calories, and Vitamin C you eat. Meats, nuts, beans and dairy products are great sources of protein. Citrus fruits and green leafy vegetables are sources of Vitamin C. Try to drink eight (8 oz.) glasses of water a day, and avoid drinks with caffeine. Caffeine causes the body to lose water. When the body does not have enough water, your skin can become dry, and your wound will not heal as well.

Know and look for signs and symptoms of infection
Contact your doctor if you have these symptoms.

- Increased redness (over 1 inch in width) and swelling around the skin graft.
- Foul smelling drainage or pus from the skin graft.
- Flu-like symptoms (fever, chills, nausea or vomiting, muscle aches) and/or increased pain.

Stay as active as possible. Exercise will help keep you healthy. It will also help your immune system fight infections.

Quit Smoking. Quitting is the best possible choice you can make to help your wound(s) heal faster, safer, and with fewer problems. It is also the best way to start a healthy lifestyle. If you would like more information on quitting please ask any member of your health care team.

Questions? Please call
The University of Wisconsin Smoking Cessation and Prevention Clinic
(608) 263-0573

OR
Wisconsin Tobacco Quit Line
1-800-QUIT-NOW