

Lucky break: Quit smoking after fracture surgery for better healing

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Smokers who refrain from using tobacco during the six-week period following emergency surgery for an acute fracture heal more quickly and experience fewer complications than patients who continue to smoke during the healing process, according to a study published in the June 2010 issue of *The Journal of Bone and Joint Surgery* (JBJS).

"Our results indicate that a [smoking cessation](#) intervention program during the first six weeks after acute fracture surgery decreases the risk of [postoperative complications](#) by nearly half," said Hans Nil'sell, MD, senior surgical consultant, Karolinska Institutet, Södersjukhuset, Stockholm, Sweden.

While earlier research has clearly indicated refraining from smoking prior to surgery results in better healing and fewer postoperative complications, this multi-center, randomized study was the first to examine the effects of smoking cessation following surgery.

"[Tobacco](#) smoking is a major health and economic concern and also is known to have a significant negative effect on surgical outcomes," Dr. Nil'sell said. "The benefits of a smoking cessation program prior to elective surgery are well known, but there have not been any studies about the benefit of smoking cessation following emergency surgery. Our aim was to assess whether a smoking cessation program, started soon after hospitalization and continuing for six weeks following surgery, could reduce the number of postoperative complications."

In the study, conducted at three hospitals in Stockholm, daily smokers who underwent emergency surgery for an acute fracture were offered a smoking cessation program within two days of surgery, and then followed for six weeks.

Patients included in the program were offered one or two in-person meetings, in addition to regular telephone contact with a nurse trained in the cessation program. During the six-week follow-up, patients were encouraged not to smoke and free nicotine substitution was offered to those who needed it.

Up until this point, the belief was that you needed to stop smoking prior to surgery to gain any benefit," Dr. Nil'sell said. "It was surprising, and encouraging, to see that even stopping smoking following surgery for a period of time can offer significant benefits, including nearly a 50 percent reduction in wound complications.

"The smoking cessation program requires only about two to three hours of support from the nursing staff, which is significantly less time than would be required for the treatment of side effects such as poor wound healing which can occur as a side effect of smoking," he added.

Smoking inhibits circulation and lowers blood oxygen levels, which can affect short-term and long-term healing in several ways, including:

- failure or delayed healing of bone, skin and other soft tissues; or
- causing wound site infections.

"In elective surgery, smoking cessation can become part of a plan preoperatively to reduce risks during and after surgery," noted Dr. Nil'sell. "But with emergency surgery, such as acute fracture surgery,

stopping smoking before surgery is not an option. Therefore, it's very encouraging to see that stopping smoking following surgery offers some of the same benefits as preoperative smoking cessation."

Dr. N' sell said he hopes the results of the study will encourage hospitals and clinics to begin offering smoking cessation programs routinely to patients undergoing emergency surgery. He also added that in Sweden, hospitals are required by The National Board of Health and Welfare to offer a smoking cessation program as an option to any patient undergoing surgery, whether planned or emergency.

"Other studies have shown that most individuals who smoke would like to quit," he noted. "Having a smoking cessation program available to all patients pre-surgery can serve as a motivator to get them to quit. Even though this intervention lasts for six weeks, it may be all that is needed to help patients quit for good."

Provided by American Academy of Orthopaedic Surgeons

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