

The long term effects of smoking increase the probability of spinal stenosis surgery

The increased spinal fusion failure rate of patients who are smokers has long been known. Some authors have suggested that the failure rate is as much as four times higher in smokers than non-smokers. Many spine surgeons will not perform surgery on smokers. At the very least, they will require that they cease smoking for several months before performing the surgery. Last month, a large population study published in the [Spine Journal](#) shed some light on the surgery rates for lumbar spinal stenosis on patients with varying degrees of smoking frequency. (*Spine J.* 2017 Dec 12. pii: S1529-9430(17)31193-2. doi: 10.1016/j.spine.2017.11.018). This study offers an additional perspective on the etiology of spinal problems related to smoking.

The study reviewed 331,941 workers derived from a Swedish nationwide occupational surveillance program for construction workers. The workers were divided into four categories: never smoked, former smoker, moderate current (1-14 cigarettes/day) and heavy current (≥ 15 cigarettes/day). 44% of the participants were non-smokers, 16% were former smokers, 26% were moderate smokers, and 14% were heavy smokers. The vast majority of construction workers were males (95%). The average follow-up of 30.7 years,

Of the 331,941 participants, approximately 0.5% (1653) underwent surgery. When compared to non-smokers, all smoking categories showed an increased incidence of surgery for lumbar spinal stenosis. The quantity of cigarettes smoked correlated with a greater chance that they would develop spinal stenosis and require surgery.

The authors conclude that ***“Tobacco smoking is associated with increased incidence of surgically treated LSS. The effect seems to be dose-related, whereby heavy smokers have a higher risk than moderate or former smokers.”***

So why is this important to us? First, it points out that smoking is not just an indicator of poor surgical outcome, as we already know. It is also considered to be a contributing factor in the development of the disease itself. The authors suggest that smoking has an adverse effect on disc metabolism and degeneration. In other words, smokers have altered disc metabolism, likely secondary to impaired vascularization, oxygenation and nutrition deficits which are known to accelerate disc disease and degeneration.



A MEDICAL-LEGAL NEWSLETTER FOR PERSONAL INJURY ATTORNEYS BY DR. STEVEN W. SHAW

The other reason that this is important is because it helps to explain why your clients that are involved in otherwise uncomplicated injuries may have other health related factors that will alter the course of their recovery. As an example, everyone knows that diabetics heal poorly when compared to non-diabetics. Diabetes, as a co-morbidity, may lead to suboptimal healing and greater chance for residual disability and impairment. The same is true for patients who are smokers. This study shows that the smoking population has a greater chance for pre-morbid spine conditions that are more likely to predispose them to injury. We know from other related research that they also heal sub-optimally which results in a potential for poor outcomes when compared to a non-smoker.

In our offices we take the patients as they present. As attorneys, you accept the “eggshell” plaintiff in a similar fashion. That’s why it’s important for your treating doctors to identify co-morbidities and factors leading to potentially suboptimal outcomes.

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