

Fear feeds the pain

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People suffering from lumbago do not move as healthy people do. The pain and the fear of it change their way of moving. This partially explains how acute lumbago can in some cases become chronic. A researcher supported by the Swiss National Science Foundation has shown that patients suffer less if they are reassured.

According to the statistics, only 20% of the population in industrialised countries maintain that they have never experienced back [pain](#). The majority of people suffer at least once in their lives from lumbago, an affliction characterised by pain between the twelfth rib and the buttocks crease. Lumbago is mainly caused by the manipulation of heavy objects, bad posture, stress or a lack of physical activity.

Patients generally recover within six to twelve weeks. However, for reasons that are still unknown, the illness becomes chronic and the prospects of recovery uncertain for a minority of the patients. The treatment of such patients accounts for 85% of the total costs incurred by cases of lumbago, i.e. approximately CHF 6 billion per year in Switzerland.

Yves Henchoz and his colleagues at the University of Quebec in Trois-Rivières, Canada, wondered what role the fear of pain might play in the chronification of the illness: does fear change the activity of the trunk muscles and the way in which movements are executed? They asked 22 people in [good health](#) and 22 patients suffering from chronic lumbago to bend and then straighten their trunks. While the participants were doing this, a thermode was applied to their lower back; the thermode issued

three levels of heat: painless, slightly painful or painful. Before each contact, the participants were informed about the stimulation that they were about to receive.

A vicious circle

During the experiment, the researchers measured the movements of the lower back and the lumbar muscle activity. The - recently published - results were surprising. People in good health are most influenced by the fear of pain: the stronger the [fear](#), the more rigid the muscles become. In patients suffering from chronic lumbago, the anticipation of strong pain leads to less neuromuscular change. The researchers' explanation is that these patients are already stiff when they bend their backs and receive the painless heat. As their movement strategy is more fixed, it adapts less well to the environment. They are trapped within a vicious circle: fearing the suffering linked to movement, they lose their mobility, and the pain persists.

Manipulating the waits

Six out of the 27 times that the participants bent and straightened their backs, the researchers manipulated their anticipation of the pain through false instructions: before applying a high level of heat, they announced only a slight pain. Both the persons in good health and those suffering from lumbago felt less pain when the hot thermode was applied. Hence, it seems that the first pain-reliever to be administered to a patient suffering from acute lumbago should be a generous dose of reassuring words, in order to prevent the illness from becoming chronic.

More information: Henchoz, Y. et al. (2013). Effects of noxious stimulation and pain expectations on neuromuscular control of the spine in patients with chronic low back pain, *The Spine Journal*. [DOI:](#)

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