Dynamic Chiropractic

BACK PAIN

Smoking and Low Back Pain

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The statement, "things never stay the same," certainly applies to biomedical information. It is estimated that there are now over 7,000 science articles published daily. We need only look at the rapid growth in the number of chiropractic publications to see this trend. Subscribing to several of the quality peer-reviewed chiropractic journals is an indispensable step in staying informed. However, because subscribing to and reading thousands of journals isn't compatible with practice, it is important to develop online search skills that permit use of indexes which direct the busy practitioner to additional information.

Information actually changes so rapidly that your education is dated if you didn't begin reading and continuing the learning process on the day after graduating from chiropractic college. If you don't make time to read, you create unnecessary risks for your patient, decrease the quality of diagnostic and therapeutic services you perform, and create a legal risk for yourself. There are hundreds of examples that much of what was learned 10, five, or even as little as one year ago is no longer the most expeditious or effective diagnostic or therapeutic approach. As an example of how knowledge changes, we will explore the research relating to smoking. This information should impact the daily practice of every chiropractor. We will search the Medline and Chirolars databases for information from the last decade about cigarette smoking as it relates to low back pain. At the same time the indexing concept of "subheading" will be explained.

While a growing number of chiropractors are becoming familiar with the Medical Subject Headings (MeSH) used by virtually all chiropractic and biomedical indexes, most are not as familiar with the distinction between heading and subheading. A heading is a major topic i.e., smoking, low back pain, headache, neoplasms, etc. They usually relate to diseases, injuries, anatomical structures, diagnostic equipment, chemicals, organisms, etc. The subheading is used to modify the heading. In most online searches if a heading alone is used, there will be too many articles to retrieve. For example, there are thousands of articles on low back pain. There are several ways to reduce this number to a reasonable amount including limiting the number of years for your search, restricting the search to a specific age group, country, etc. The most common strategy is to use a subheading to focus on the specific aspect of low back pain desired. MeSH only permits a limited number of subheadings to be used for each headings. Some of the commonly used subheadings permitted for low back pain are as follows:

Heading	Full Subheading
Low Back Pain/cl	Classification
Low Back Pain/di	Diagnosis
Low Back Pain/dh	Diet Therapy
Low Back Pain/dt	Drug Therapy
Low Back Pain/ec	Economics
Low Back Pain/ep	Epidemiology
Low Back Pain/et	Etiology
Low Back Pain/pp	Physiopathology

Low Back Pain/pc	Prevention & Control
Low Back Pain/px	Psychology
Low Back Pain/su	Surgery
Low Back Pain/th	Therapy

An online retrieval through Medline and Chirolars could use the heading "low back pain" with subheadings "etiology" and "physiopathology" and the additional heading "smoking." By structuring the argument in this way we can see if smoking impacts the cause or abnormal physiology involved in low back pain. Such a search yields a number of important articles.

For decades we have told our patients about the adverse effects of smoking as it relates to lung cancer and many other health problems. But as neuromusculoskeletal specialists, have we kept abreast of the research linking smoking with low back pain? During the early 1980s, a number of studies began to look for risk factors associated with low back pain.

- Frymoyer et al.,[1] noted that "low back pain sufferers were likely to be smokers particularly when smoking was accompanied by a chronic cough." His work in 1984 emphasized that knowing the risk factors of low back pain permits us to prevent the problem.[2] This study also associated smoking and backache.

- In 1984, Kelsey et al.,[3] noted: "Cigarette smoking in the past year was associated with an increased risk for prolapsed disc."

- In 18 year old men Hellsing et al.,[4] found that "smoking more than 20 cigarettes a day showed a predictive value of 23%" for developing back pain.

- Dwyer[5] again suggested that smoking cessation was an important "preventive measure" for back pain.

- Several chiropractic studies, including the study by Cox and Trier[6] in 1987, also link smoking and low back pain.

In the last few years there is a growing body of evidence that the adverse effects of smoking are not only from the mechanical stress of coughing, but smoking's direct destructive effect on connective tissue. The 1991 Value Award in Clinical Sciences was given to Battie, et al.,[7] for studying disc degeneration in identical twins (one a smoker, one a nonsmoker) using MRI. Smokers had a marked increase in disc degeneration.

Recent studies demonstrate biochemical changes due to smoking, e.g., altered body pH and other variables. These changes have potential adverse effects on all body connective tissue. Research in 1993 by Boshuyen, et al.,[8] found that: "Pain in the extremities turned out to be related more clearly to smoking than to pain in the neck or back."

This is only a sample of the many fascinating studies that implicate smoking in ways you may never have learned in school. It is the kind of information that all chiropractors should know thoroughly. After all, don't we treat musculoskeletal symptoms? Don't we advocate prevention?

The most recent information is not available in textbooks because it is too new. By the time the average text is written, printed, and distributed, even the most recent references are several years old. Many of the most important supporting studies may be omitted. The only way to stay informed and clinically competent is to use primary source material. This means subscribing to several research oriented journals and developing the skills to use online indexes.

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