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Williams' Flexion Exercises vs. McKenzie's Extension Protocol

By Paul Hooper, DC, MPH

In my previous column, I wrote about Williams' flexion exercises (WFE). While I have no particular allegiance to this particular exercise protocol, it is a reasonable assortment of procedures. I indicated that the rationale that Williams used was nonsense, but that doesn't negate the value of the exercises. Overall, Williams put together a good assortment of procedures.

To my surprise, I received more responses from this article than any of my previous articles in *Dynamic Chiropractic*. Maybe it's the internet thing that allows or encourages people to respond. I don't know. Anyway, I got some interesting comments:

1. "I've never heard of these exercises before."
2. "Why do you prefer these over other forms of exercise?" (I don't).
3. "You totally misrepresented McKenzie. His protocol is not about extension."

Thanks to those who responded. It's great to hear what others think, and it's nice to know that doctors are reading my column in DC.

In my column, I did state that I would compare and contrast Williams' flexion exercises with McKenzie's extension protocol. In this issue, that's exactly what I'm going to do (my version, anyway), so let's take a look at the similarities and differences. By the way, there probably aren't a lot of WFE fans around anymore, so I don't really have to worry about offending any of them. But for all of you McKenzie devotees, hang on.

Etiology of Back Pain

There is no doubt in either Williams' mind or McKenzie's that the stresses induced on the intervertebral disc by poor posture are the root cause of all back pain. However, while they seem to agree on the discal

origin of back pain, they disagree on the postural part. Williams seems more concerned about the lack of flexion in our world, while McKenzie talks mostly about increasing extension.

Williams stated, somewhat emphatically: "Man, in forcing his body to stand erect, severely deforms the spine, redistributing body weight to the back edges of the intervertebral discs in both the low back and neck" (Williams, 1974). As I stated in my last column, Williams felt that the lordotic lumbar spine placed inordinate strain on the posterior elements of the intervertebral disc and caused its premature demise. Simply stated, Williams claimed that man developed low back pain when he first stood erect.

McKenzie also claims that the disc is the primary cause of back pain. Unlike Williams, however, McKenzie theorizes that flexion, not extension, is the culprit. McKenzie writes that one of the predisposing factors for the development of low back pain is prolonged sitting in the flexed position. According to McKenzie, a second predisposing factor is frequency of flexion. Finally, McKenzie postulates that a lack of extension range also predisposes us to low back pain.

In contrast to Williams, McKenzie argues that it is an accumulation of flexion forces, not extension, that increases the pressures on the posterior elements of the disc, and that's what causes the problem. Now I know I'm oversimplifying here, but that's what they said!

While Williams claimed man developed back pain when he stood up, I once heard a colleague, Gary Jacob, state that it wasn't when he stood up that problems began, but when he sat down to think about it that problems began. Just so no one misinterprets my viewpoint, I'm not so sure the disc is the culprit. It may sometimes be, but at other times, it's probably not involved. I'm only reporting here what others have written.

Treatment Goals

In many respects, the goals for treatment for both Williams and McKenzie were similar. They both attempted to teach their patients their versions of the reasons why back pain developed in the first place, and they both taught patients self-control techniques.

Williams was emphatic about his treatment goals. These goals maybe clarified by his "First commandment for low back and leg pain... Always sit, stand, walk and lie in a way that reduces the hollow in the low back to a minimum." His entire focus was to reduce the lumbar curve and flatten the spine.

McKenzie, on the other hand, leaned more towards the use of extension as a viable treatment tool. This was particularly evident in his early writings. For the McKenzie fans who are reading this and are beginning to steam, I am fully aware that McKenzie is far more than extension. It does appear, however, that most patients are helped by extension exercises, hence the connection with extension.

Ultimately, McKenzie wanted a full range of motion in all directions, a fact that is a significant departure from Williams' objectives. While Williams taught the same approach to everyone, McKenzie adapted his procedures to the individual patient. In some patients, he began treatment by teaching them extension exercises. In others, he began with flexion. Still others are started with a lateral shift movement or whatever it takes to control and centralize their pain.

First Aid

As with treatment, both Williams and McKenzie attempted to teach their patients first aid exercises and procedures. Williams preferred the squat and bounce, a procedure that I find particularly useful (the squat, not the bounce). McKenzie taught patients to extend their spines using a press-up, flex their knees to the chest, or slide sideways -- whatever it took to centralize their pain.

While these procedures may appear different on the surface, let's look at the similarities. Each of these clinicians taught their patients to control their back pain through movement. Granted, the movements that they suggested may have been different, but the concept of using movement to control pain was similar -- and innovative.

Treatment Procedures

Once again, Williams and McKenzie differed in their ideas of which type of movement was likely to be more helpful in reducing back pain. Williams was a bit more restrictive in his thinking. He was convinced that flexion was good, extension was bad. McKenzie was a bit more flexible recognizing that which helps one patient may not help the next. As stated earlier, McKenzie adapted to the needs and responses of his patients and varied his treatment procedures accordingly, but they both used movement and they both encouraged self-control and activity.

Which Is Better?

If you're waiting for me to state which of the procedures is better, here goes. It depends: maybe Williams; maybe McKenzie; maybe neither. I have my opinions, but when it comes to treating your patients, you decide!

Note: I ran across an interesting article recently, "The Reduction of Chronic Nonspecific Low back Pain through the Control of Early Morning Lumbar Flexion. A Randomized Controlled Trial" (Snook et al., *Spine*, Dec 1, 1998;23(23):2601-7). The article describes a randomized controlled trial to test the hypothesis that the control of lumbar flexion in the early morning will significantly reduce chronic, nonspecific low back pain.

Eighty-five subjects with persistent or recurring low back pain were randomly assigned to treatment and control groups. The treatment group received instruction in the control of early morning lumbar flexion. The control group received a sham treatment of six exercises shown to be ineffective in reducing low back pain. Six months later, the control group received the experimental treatment.

Significant reductions in pain intensity were recorded for the treatment group, but not for the control group. After receiving the experimental treatment, the control group responded with similar reductions. Significant reductions also were observed in total days in pain, disability, impairment and medication usage. The authors concluded that controlling lumbar flexion in the early morning is a form of self-care with potential for reducing pain and costs associated with chronic, nonspecific low back pain.

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