

# OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Felicity Keough

## Losing Weight May Prevent Back Pain

*You probably know that overweight and obesity contribute to the risk of diabetes, heart disease and stroke. But did you know that surplus body weight — particularly excess fat mass — is a significant cause of back pain?*



While there are a plethora of excellent reasons to maintain a healthy body weight, Dr. Keough finds that, for many patients, the hope of preventing back pain is the extra motivation they need to finally commit to getting in shape. If you need to shed a few pounds, read on to learn about fascinating research, which is inspiring many patients to watch what they eat and exercise regularly.

### The Spinal Link

What Dr. Keough considers especially intriguing is that every one of the factors linking obesity with back pain is also a risk factor for a common spinal problem. This condition is called *vertebral subluxation*, which are dysfunctional areas in the spine where movement is restricted or spinal bones (vertebrae) are slightly out of place. Dr. Keough corrects vertebral subluxations with gentle and effective maneuvers called *chiropractic adjust-*

*ments*.

### How Overweight Causes Back Pain

There are several reasons why overweight is linked with back pain. Some of these explanations are obvious. Others might surprise you.

#### *Mechanical Stress*

Excessive fat throws off the natural mechanics of the spine. This is especially true of abdominal fat, which pulls the curve of the lower back forward. This imbalance forces the spine and surrounding muscles to take on additional work, for which they were not designed.

At the same time, extra weight subjects the spine to undue pressure, triggering spinal degeneration, joint problems and muscle fatigue. Obesity also ups the risk of developing a herniated spinal disc and related nerve problems.

#### *Lack of Exercise*

Overweight people are more likely to be sedentary, compared with their more lean counterparts. Scientific studies show that regular exercise prevents back pain. In turn, a lack of exercise ups the risk of the condition.

One study, conducted at the University of Gothenburg in Sweden and released in September 2011, looked at 109 patients with acute severe low back pain. They were randomly advised in one of two ways: “stay active even though it hurts” or “adjust your

activity to the pain”.

In spite of having more pain, the group that was advised to be as active as possible recovered more quickly and did not feel depressed at the end of the follow-up.

#### *Emotional Stress*

People who are overweight or obese have a high risk of emotional stress and depression. And, research links depression with an elevated risk of back pain.

Why is obesity associated with depression? In part because overweight people are more likely to lack exercise, compared with fit individuals. Hormones released during exercise are key to emotional well-being. In fact, studies indicate that regular aerobic exercise is as effective — if not more effective — than antidepressant medication.

“Our findings suggest that a modest exercise program is an effective, robust treatment for patients with major



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depression who are positively inclined to participate in it,” comments lead author James A. Blumenthal, PhD, of the department of psychiatry and behavioral sciences at Duke University Medical Center in Durham, NC (*Psychosom Med* 2000;62:633-8).

However, unlike exercise, a comprehensive review of 10 trials comparing antidepressants to placebo found “no clear evidence” that antidepressants ward off back pain (*Cochrane Database* 2008;23:CD001703).

Along with lack of exercise, negative self-image, social withdrawal and feelings of hopelessness are other factors explaining why obesity may instigate depression. Finally, surplus fat triggers chemical changes in the body, which may spark depression.

### **Sleep Problems**

Studies demonstrate that obese people are more likely to suffer sleep disorders, including sleep apnea. Research shows that lack of sleep or poor sleep quality bolsters an individual’s odds of developing back pain.

### **Inflammation**

The latest scientific inquiries on obesity are revealing that excess weight produces widespread inflammation in the body. Specifically, studies in mice show that obesity causes a “master switch” to be turned on in the hypothalamus area of the brain.

This “master switch,” which is usually turned off in healthy people, causes chemical changes that spark inflammation throughout the body. This, in turn, ups the risk of a myriad of health disorders, including back pain (*Cell* 2008;135:61-73).

### **Assessing Your Risk**

The simplest way to ascertain your likelihood of being overweight or obese is to calculate your body mass index (BMI). This measure, which is commonly used by health-care practitioners, is a mathematical formula that takes into consideration an individual’s height and weight.

BMI indicates the amount of fat in a person’s body. The higher a person’s BMI falls on a pre-determined range of values, the higher his or her likelihood of obesity. BMI is, however, only an indication. It does not take into account the percentage of fat mass versus the percentage of lean body mass, such as muscle.

The formula for BMI is weight in kilograms divided by height in meters squared ( $\text{kg}/\text{m}^2$ ). The Centers for Disease Control and Prevention (CDC) offers an easy-to-use BMI calculator online, which provides both English and Metric versions. Visit the site at:

[www.cdc.gov/healthyweight/assessing/bmi/index.html](http://www.cdc.gov/healthyweight/assessing/bmi/index.html)



### **Where’s the Fat?**

Back pain and disability are particularly related to specific patterns of body fat. Abdominal fat or an “apple shape” body appears to procure the highest risk. Fat around the hips, thighs and buttocks also increases the odds of back pain.

### **Not All Weight Is the Same**

Not all weight gain is linked with a bolstered risk of back pain. According to a new study, only fat gain triggers back pain. On the other hand, gain of lean body tissue, such as muscle, does not heighten the risk (*Spine* 2011;36:1320-5).

The study included 135 participants, ranging from normal weight to obese. All completed a standard questionnaire to measure low back pain intensity and related disability. They also underwent a test called dual-energy x-ray absorptiometry, which measures fat and lean body mass.

The results showed that heavier people had higher levels of back pain intensity. For each five-unit increase in body mass index (BMI) — equivalent to the difference between being classified as overweight or obese — the odds of high-intensity back pain increased by 35 percent. For back pain disability, the association was even stronger: 66 percent.

However, the increase in back pain at higher BMIs was specifically related to increased fat mass. In contrast, lean body mass was unrelated to back pain. Thus, the increase in back pain intensity among people with higher BMIs was wholly related to their higher body fat content — not just the fact that they were heavier (*Spine* 2011;36:1320-5).

### **We Can Help**

Our chiropractic practice is committed to a holistic approach to patient care. That means supporting patients to achieve wellness through regular chiropractic care, stress reduction, nutrition and exercise. This also entails encouraging patients to achieve and maintain a healthy weight and fitness level.

If you need guidance shedding extra pounds, we’re here to help. Please ask us about specific ways to develop a weight-loss plan that works for your individual circumstances.

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