



Managing Chronic Back Pain

Many people experience recurring back pain of varying frequency, duration, and intensity. Studies have shown that for persistent back pain (lasting a few weeks or longer) exercising can be beneficial. Over time, exercising can reduce symptoms of pain, fatigue, impatience, lack of sleep, and disability while improving function and assist in eliminating the need for medications used for treatment.

Even for someone with chronic pain who has been relatively inactive for an extended period of time, an exercise program can help this person to deal with the pain better.

Different Factors to be Addressed Include:

- 1) Decreased Flexibility:** Decreased flexibility may occur in the spinal joints and soft tissues in the back, pelvis, and legs, either generalized or localized to specific muscle groups or joints. One example is someone with tight hamstrings who bends over to lift something. As this person bends, the hamstrings become stretched to their limit. In order to continue bending, further movement occurs in the low back, making it susceptible to injury while either bending forward or coming back to the erect position. Stretching exercises are included later in this handout for improved low back, pelvis/hips, and leg flexibility.
- 2) Decreased Strength:** Strong back and stomach muscles are needed to stabilize the spinal column to meet the demands not just during heavy lifting, sports, and exercise activities, but also for normal daily activities. Strong leg and gluteal muscles are needed for lifting since they are major force contributors for lifting. Also, since legs act as shock absorbers, strong quadriceps muscles reduce the impact of impact transmitted to the spine while walking. Muscle strength imbalances in the legs, hips, and trunk can also lead to compensatory movements or abnormal stress to the spine.

A variety of exercises and techniques can be helpful to improve trunk and leg strength, but these are beyond the scope of this handout. Consult with a qualified health professional for a suitable trunk, or “core,” strengthening program.

- 3) Structural Imbalances:** Some people are born with structural asymmetries which can cause specific lengthening or shortening of trunk and lower extremity muscles and other soft tissues. Others have acquired imbalances from a history of repetitive movements, poor positions, or improper habits. Examples of structural imbalances include leg length discrepancies, foot asymmetries or abnormalities, and spinal scoliosis.

These may be addressed by such things as a heel lift, orthotics, braces, etc. Acquired imbalances may be addressed with proper stretching and strengthening.

- 4) Poor Posture:** Posture needs to be addressed whether the pain is acute or chronic in order to reduce the amount of stress to the back. Sitting in a slouched position causes almost twice the stress loaded onto the low back discs compared to standing erect. Please refer to the Posture and Study Habits Guide on the McKinley Health Center website for more information.

Involvement in a regular fitness program is important for general back health. A good program should involve flexibility, strength, and cardiovascular training. It should be enjoyable so that you will not burn out or lose interest over time. Many different types of fitness can be beneficial, such as individual or team sports, yoga, Pilates, stability ball exercises, and other core strengthening programs.

After being referred by a McKinley provider, SportWell's physical therapist or athletic trainer can help determine problem areas mentioned above and devise a treatment plan to reduce or eliminate the pain. For instruction in a fitness program, SportWell has a fitness educator who can tailor a program to an individual's needs.

Improving Flexibility

Following are tips and specific stretches for improving flexibility in the low back, pelvis and hips, and legs.

General tips for stretching:

- Be warmed up prior to stretching. Stretching cold muscles may actually hinder progress by causing micro-tears in the muscle(s).
- Perform a stretch without pain.
- Avoid bouncing during stretching.
- Stop if pain or symptoms worsen and consult your McKinley provider.

Back Flexibility Stretching Exercises

If you are not accustomed to a particular stretch, it is advised to begin with a 10-15 second stretch and progress to 30 seconds as tolerated to decrease the chance for soreness. Perform 1-2 times per day for better results.



- 1) **Hamstring Stretch:** The stretch should be felt in the back of the leg on the door jam. If the stretch is too vigorous, move away from the wall, and vice versa.

Hold stretch for at least 30 seconds. Perform 2-3 repetitions.



- 2) **Piriformis Stretch:** Pull bent knee toward the opposite leg. For a more vigorous stretch, rotate in the direction of the bent leg. The stretch should be felt in the buttocks of the bent leg. Alternate legs.

Hold stretch for at least 30 seconds. Perform 2-3 repetitions.



- 3) **Gluteal Stretch:** Pull leg toward the chest. The stretch should be felt in the buttocks of the crossed leg. Alternate legs.

Hold stretch for at least 30 seconds. Perform 2-3 repetitions.



- 4) **Hip Flexor Stretch:** Keep back straight while you rock your upper body forward. Do not bend your upper body forward. The stretch should be felt in the front thigh of the leg on the pillow. For a more vigorous stretch, this exercise can be done in a lunge position with the back knee not touching the floor while maintaining an upright upper body.

Hold stretch for at least 30 seconds. Perform 2-3 repetitions.



- 5) **Low Back Stretch - Knees to Chest:** Bring both knees toward your chest. If this is bothersome, drop the knees to the side and bring each knee toward the shoulder on that side. The stretch should be felt in the buttocks/low back.

Hold stretch for at least 30 seconds. Perform 2-3 repetitions.



- 6) **Low Back-rotation Stretch:** Rotate your knees from side to side slowly, holding for 2-3 seconds each side, for 10-15 repetitions. For a more vigorous stretch, maintain the hold for 20-30 seconds and decrease to 5-10 repetitions.

Improving Strength

It is beyond the scope of this handout to discuss different methods in any detail. For specific guidance on beginning or progressing in a core strengthening program, consult a qualified fitness professional. McKinley's SportWell Center has the expertise to help you develop an appropriate program.

References

"Low Back Pain: Treatment and Prevention." *Harvard Men's Health Watch*. Dec 2006: 4-6.

Brennan, G., et al. "Lower Back Pain in Physically Demanding College Academic Programs: A Questionnaire Based Study." *BMC Musculoskeletal Disorders* 8 (2007): 67.

Kofotolis, N. and Sambanis, M.-"The influence of exercise on musculoskeletal disorders of the lumbar spine," *Journal of Sports Medicine and Physical Fitness* 45.1 (2005): 84-92.

Becker, M., et al. "Postural changes while sitting may trigger back pain," *BioMechanics* 10.8 (2003): 52-54.

Devroey, C., et al. "Evaluation of the effect of backpack load and position during standing and walking using biomechanical, physiological and subjective measures, *Ergonomics*, 50.5 (2007): 728 – 742.

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: <http://www.mckinley.illinois.edu>