

HEALTH IN OUR HANDS!

The Arkansas State University Wellness Program Newsletter
www.astate.edu/conhp



Bone and Joint Health

Overview

Joints provide support for our bodies and enable us to move. Any damage from disease or injury can interfere with movement and cause pain. Joint pain is often mild but can be severe making it impossible to move the joint. Joint pain is often referred to as arthritis or arthralgia. Joint pain is common with about one-third of adults experiencing joint pain every month. Knee pain is the most common followed by shoulder and hip pain. With age, joint pain becomes more common. Joint pain can be treated with medication, physical therapy or alternative treatments.

Causes

There are several conditions that can lead to painful joints including but not limited to:

- Obesity
- Osteoarthritis
- Rheumatoid arthritis
- Bursitis
- Gout
- Strains
- Sprains
- Traumatic injuries
- Systemic diseases such as lupus and Lyme disease

When to See a Doctor

Make an appointment with a doctor if your joint pain is accompanied by:

- Swelling
- Redness
- Tenderness and warmth around the joint

See a doctor immediately if your joint pain is caused by injury and is accompanied by:

- Joint deformity
- Inability to use the joint
- Intense pain
- Sudden swelling

Physical Therapy

A physical therapist can recommend treatment to strengthen the muscles around the joint to stabilize the joint and improve range of motion. Exercises that help with good posture can relieve pain for the neck, back and hips. Therapists use techniques such as ultrasound, heat/cold therapy, electrical nerve stimulation, mobilization, and exercises.

Activity

Losing weight can relieve some of the pressure from the

joint. Being active is one of the best ways to keep joints and bones healthy. When exercising, stick to low-impact exercises such as swimming and bicycling. Exercise can help maintain bone density, lessen joint pain, keep extra weight off to avoid stressing joints, and help balance to avoid falls that can damage bones and joints. If you are not active, ask a doctor before starting an exercise program. Types of exercises to try to improve joint health include:

- **Strengthening:** Strengthening exercises can help slow the process/prevent osteoporosis. Building up the muscles around the joints helps protect joints.
- **Aerobic:** Biking and swimming are good for people who already have pain but weight-bearing activities such as walking, dancing or climbing stairs helps strengthen muscles around the joints.
- **Flexibility:** Stretching and yoga are good for the joints because they preserve range of motion.

Diet

The essential nutrients for healthy bones and joints are calcium and vitamin D. Calcium keeps bones strong and vitamin D helps the body absorb calcium. Good sources of calcium include dairy products and green leafy vegetables. Dark leafy greens include kale, spinach and collard greens. Adults need about 1000 mg of calcium daily. Vitamin D is manufactured when the body is exposed to sunlight, but also can be found in salmon, tuna and fortified dairy products. Ten to fifteen minutes of sunlight exposure three times a week is enough to produce the amount of Vitamin D the body needs. Excess body weight stresses joints and causes wear and tear. Following a diet low in fat and calories can help maintain or reduce body weight. Limit carbonated beverages because dark soda has high levels of phosphates that bind to calcium and decrease its absorption.

Supplements

There are hundreds of supplements available but we will discuss only a few. The most common supplements are calcium, glucosamine, chondroitin, methylsulfonylmethane (MSM) and protein powders. It is not recommended to stay on supplements other than calcium for longer than 8-12 weeks then have a 2-4 week break before resuming the dosage. Do not take glucosamine or chondroitin if you are allergic to shellfish. Most studies have shown that supplements are safe and have few side effects. The major risk with supplements is that they

cost money and may not help you. People should speak to their doctors before starting any supplements for bone or joint health.

- Calcium supplements are a good alternative for people that are lactose-intolerant or vegan. This supplement is also recommended for people with osteoporosis or osteopenia.
- Glucosamine is a naturally occurring compound that provides the joint with the building blocks to repair damage caused by osteoarthritis or injuries. There are questions about how readily absorbed glucosamine is and if it can penetrate cartilage. Consumption of glucosamine may increase the rate of formation of new cartilage. Glucosamine is not recommended for people with high blood pressure because the supplement is high in sodium. The recommended dosage is 500 mg three times a day.
- Chondroitin is a major constituent of cartilage, providing structure, holding water and nutrients, and allowing other molecules to move through cartilage. Some studies suggest that chondroitin may promote the healing of bone and may lower blood cholesterol levels. The recommended dosage is 200-300 mg three times a day.
- Methylsulfonylmethane may help support healthy ligaments. Glucosamine and chondroitin have undergone more clinical testing than MSM. The recommended dosage is 1-2 grams a day.

- Protein powder comes in several forms. The most popular are whey, soy and casein protein. Whey is a highly digestible source of protein and is one of the two types of proteins found in milk. Whey protein is used to build muscle, recover from injury, and increase caloric intake. It is a good option for vegans because it has all nine of the amino acids. The recommended dosage depends on how much protein is already in a person diet and a person's goals.

References

- www.bodybuilding.com
- www.cancer.org
- www.mayoclinic.com
- www.medicinenet.com
- www.webmd.com

Other News:

**If you have any suggestions for newsletter topics, please contact Dean Susan Hanrahan at hanrahan@astate.edu.

The Arkansas State University Employee Wellness Newsletter is published monthly during the academic year by the College of Nursing and Health Professions. Health questions can be addressed to Dean Susan Hanrahan, Ph.D., ext. 3112 or hanrahan@astate.edu. Produced by Michelle Williams, graduate student in the College of Nursing and Health Professions, Physical Therapy Program.