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No Longer "Weak in the Knees"

If you suffer from **osteoarthritis of the knees**—a condition where **inflammation causes a wearing away of the cartilage**—you may struggle with pain on a regular basis. Although your doctor may have prescribed medication for pain, you will likely find that **exercise can support your medication regimen**. Upon commencing a strengthening program, some individuals may even find that their **dosage may be lessened** or they experience enough pain reduction that **medications are no longer needed**.

Why are strengthening exercises important? For someone with osteoarthritis, **strengthening exercises provide multiple benefits**, such as

- **improving strength in support of weak joints**;
- **reducing pain and improving comfort**; and
- **protecting joints from future damage**.

When safely and carefully coordinated by a qualified physical therapist, strengthening exercises can increase muscle mass, without causing distress to the joints.

Isotonic exercises promote increased muscle strength through frequent, progressive repetitions, which may also include aids such as **resistance bands** or **light weights**. Although intensive, they can provide significant benefit.

For those persons who worry that they can't exercise at all because they suffer from intense pain, there are appropriate exercises that avoid aggravating the joints. **Isometric exercises** will provide better muscle strength without bending joints. This highly effective type of exercise approach **utilizes isolated muscle contractions coupled with relaxed periods**.

In addition to strengthening exercises, we may include other therapies. **Range-of-motion exercises** improve joint mobility and encourage flexibility through gentle stretching. **Endurance exercises** build stronger muscles and improve cardiovascular health. By using these exercises, in conjunction with strengthening techniques, **we can provide you with the necessary tools to reduce osteoarthritis knee pain**.

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ACT Injuries—The Female Version

Every year in the United States, more than 20,000 high school girls experience a **sports-related knee injury**, resulting in surgery to reconstruct a ligament. According to leading experts, female athletes have a higher risk than their male counterparts of **anterior cruciate ligament (ACT) injuries** when participating in the same sports involving jumping and pivoting. The reasons appear to be related primarily to neuromuscular recruitment and functional patterns, which differ between the sexes.

Since female participation has increased in these sports, researchers have been prompted to conduct studies to develop prevention methods for female athletes. While balance training has been the standard in preventing ACT injury, it is now believed that a **neuromuscular approach can decrease the risk of serious knee injury** by improving postural stability. If your daughter is a student athlete, she may benefit from participation in a knee injury-prevention program during the off-season to reduce the likelihood of a serious knee injury during her sport's season.

Some high schools are already implementing **knee injury-prevention programs designed to both strengthen and increase the function of the area** by creating specific exercise patterns to reduce the risk of injury. These programs typically take place 2 or 3 times a week during the off-season and may include

- **increasing nerve and muscle control**;
- **improving balance;**
- **instruction on how to avoid injury-prone situations**;
- **stretching**; and
- **weight training**.

If your daughter's high school does not offer such a program, you may want to find a local knee injury-prevention program. We may be able to recommend a reputable one. If none is available in your area, we can work with your daughter to create a series of exercises that can help **reduce her risk of knee injury and prepare her for the upcoming season**.

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The Slow Creep of Muscle Weakness

Most of us have heard about the dangers of osteoporosis, an age-related condition that results in weakened, easily broken bones. But as we age, we don't think much about losing muscle strength. **Sarcopenia**, the medical term for **muscle loss**, develops gradually. It begins around age 35, but at first the loss is slow—about one-half of one percent per year—and most of us are strong enough that we do not notice significant loss of strength for another 10–15 years. Then, somewhere in our 60s, the groceries start getting heavier, stairs feel a little steeper and jars become harder to open.

Loss of strength happens to everyone, even world-class athletes. Scientists say that muscle loss starts when nerve cells that stimulate muscle cells die. The muscle cells no longer function, and soon they die, too. As we age, we also make less of the hormones that promote muscle growth, and the rate at which we make muscle protein slows. This process is accelerated in people with little physical activity in their lives.

The good news is that **loss of muscle strength can be slowed**. Aerobic exercise such as walking, swimming and bicycling won't do it, though. The key is **resistance (strength) training**. Resistance training causes microscopic tears in muscle cells. When the body heals these tears, the cells are made stronger and more functional than they were before.

No one is too old to benefit from resistance training. Regardless of your present condition, we can design **a personalized strengthening program that will help slow or even reverse muscle loss**. You will learn how to use resistance equipment safely and effectively. Strength gains can be seen in as few as four weeks, and often balance and mobility improve, too. Talk to us today so that muscle weakness doesn't creep up on you.

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Ways to Avoid Taking the Fall

Each year, injuries from falling afflict many adults—the majority of whom are senior citizens—causing painful fractures and leaving them with severe mobility problems. **Changes related to aging**, such as decreases in visual capacity, hearing and strength, **can contribute to the likelihood of a tumble**.

Whether you are a senior or you have an elderly parent, it is important to **develop a program** that will help **protect you or your loved one from falling** by improving areas of the body that leave a person more susceptible to falls, including

- **strengthening the lower body**;
- **adjusting balance and coordination**;
- **developing correct posture**; and
- **encouraging regular physical activity**.

Home and lifestyle changes can also make a difference in fall prevention. Consider some of the following:

- **Have your vision and hearing checked regularly**;
- **Keep your home free of clutter**;
- **Ensure you have adequate lighting**;
- **Be aware of medications affecting mobility**;
- **Avoid dehydration**;
- **Have handrails installed where necessary**; and
- **Keep electrical cords and wires out of main areas**.

Injuries related to falls can affect a person's ability to lead an independent and active life. We can **begin a process for you or your loved one that can help ensure many years of healthy, injury-free living**. Take the first step toward an effective fall prevention program before your first stumble occurs.

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Pain in the Neck

It happens in an instant: you twist your neck while playing sports, falling or from being rear-ended in a car accident. You may have suffered **acceleration flexion-extension neck injury**—more commonly known as "**whiplash**."

Whiplash occurs when an abnormal force causes your neck to move beyond its normal range of motion. Depending on the severity of your injury, symptoms can include

- **neck pain and swelling**;
- **difficulty moving your neck from side to side**;
- **muscle spasms**;
- **tenderness along the back of the neck;** or
- **shooting pain from your neck to your shoulder or arm**.

Your physician will examine you and perhaps take x-rays to ensure that there are no fractures or disc injury and that your injuries won't lead to long-term problems. He or she may recommend a cervical collar and treatment at home, including cold packs applied to the neck for 20–35 minutes 3–4 times daily, for the first 48 hours following injury, as well as pain relievers and/or nonsteroidal anti-inflammatory drugs (NSAIDs) to relieve swelling.

Once the pain subsides, you may benefit from seeing us. We can **initiate a program** to promote flexibility and blood flow. We can also **recommend exercises you can do at home** to **restore your neck to normal mobility and increase strength in the neck muscles** to help avoid injuries in the future.