Title: Back Pain-The Basics.

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Plain Language Summary:

**What are the risk factors of back pain?**

Back pain is the most common reason people visit the doctor. In any three month period 25% of people will experience back pain. Back pain presents in a variety of ways and has a large number of causes. Factors that increase your risk of developing back pain include older age, decreased physical activity, race, family history, underlying diseases such as arthritis and cancer, tobacco use and occupational factors.

**What are the causes of back pain?**

Back pain has many causes. A mechanical problem with the way your spine moves is a common cause. One example is the breakdown of the discs between vertebrae. These same discs can bulge out and push on a nerve causing back pain that can radiate to the arms and legs. Muscles along the back can strain or spasm causing pain. Similarly, ligaments along the spine can strain from overuse or fractures of vertebrae can cause pain. These vertebral fractures often result from underlying conditions like osteoporosis. Other causes include spinal stenosis where the spinal column narrows putting pressure on the cord and nerves.

Rarely back pain is caused by infections or tumors. Infections result from either osteomyelitis which is an infection of the vertebrae along the back or due to an abscess that is a collection of pus within the spinal column itself. Tumors of the back are rare and usually have spread from another site in the body like the prostate. The pain of tumors tends to be severe and does not respond to the usual conservative therapies.

It is important to realize that emotional stress can make back pain worse regardless of the original cause. Emotional stress can also cause pain because the back muscles become tense.

**How to prevent back pain?**

There are a number of things that can be done to prevent back pain. One of the best things you can do is to exercise. If you have not exercised recently, it is best to start out with low intensity exercise first like a long walk. Yoga or weight bearing exercises that challenge balance are often the best to strengthen muscles around the back. A healthy diet is also important to maintain a healthy weight. Weight gain causes stress and strain to the back that can make pain worse. It is also important to get enough calcium and vitamin D to keep your bones healthy. Another way to prevent back pain is by having good posture. If you sit all day at work make sure you sit up straight and take breaks to walk. If you are lifting something heavy keep your back straight and use support if appropriate.
Should I see a doctor?

It is usually not necessary to see a doctor for back pain because it will usually go away on its own. Signs that indicate you might want to see a primary care doctor include numbness/tingling, severe pain that does not improve with rest and over the counter medications or pain from a hard fall or injury. It is very important to see a doctor right away if you have trouble urinating, weakness, pain/numbness in legs, fever or unexplained weight loss associated with your back pain. There may be a serious problem that requires immediate treatment.

What tests might doctors want to run?

There are a number of tests doctors may do to figure what is causing your back pain. X rays are used to look at bones in case you have arthritis or a fracture. A CT is a bunch of x rays put together and can be used to look for herniated disks, tumors and spinal stenosis. MRI is a large magnet that creates a picture of soft tissues such as ligaments, tendons, blood vessels and nerves. MRI’s are ordered if pressure on the nerve, inflammation, tumor or infection is suspected. It is usually not done until the pain persists for 4-6 weeks and surgery is considered. The doctor may order blood tests if the cause of your back pain might be due to inflammation like rheumatoid arthritis.

How is back pain treated?

Acute back pain lasting less than six weeks usually gets better on its own. You only need to reduce the pain early on. This is done with over the counter medications like Tylenol, aspirin or ibuprofen. You should also keep active with your normal routine if possible.

Chronic back pain is treated with medicines and exercises or rarely with surgery. Non-surgical treatments include hot/cold packs to soothe sore and stiff muscles. Exercise can also be helpful. A doctor and physical therapist will identify the specific exercises that will help depending on the cause of the back pain. There are a number of medications to relieve pain. Aspirin and Tylenol are the most commonly used and help to reduce inflammation and pain. Narcotics like Vicodin and Percocet should only be used for a short time in cases of severe pain. There are also topical medications that ease pain like Icy Hot and Bengay. If the above approaches fail, doctors may suggest steroid or anesthetic injections to alleviate pain. Injections are given in the nerve root, facet joint or at trigger points.

There are a number of alternative treatments that can complement the above approaches. These include spinal manipulation where professionals use their hands to adjust the spine and surrounding tissues. Transcutaneous electrical nerve stimulation directs mild electrical impulses to nerves in the affected area. This modifies how pain is perceived. Acupuncture is where thin needles are inserted at pressure points to relieve pain. There is limited evidence for the use of alternative treatments, but they are appropriate in certain situations. Make sure to talk with your doctor to make sure they are appropriate for you.

Will I need surgery?
Surgery is rarely needed for back pain. It is usually the approach of last resort. On occasion patients may need emergent surgery usual due to infection, tumors or trauma. Diagnoses that sometimes need surgery include herniated discs, spinal stenosis, spondylolisthesis, vertebral fractures and degenerative disc disease. A laminectomy/discectomy is when part of the back of the vertebrae and ligament are removed to relieve pressure on a nerve or spinal cord. A spinal fusion is done when a slipped vertebra causes enlarged facet joints and vertebral instability. A fusion allows renewed stability and usually can make pain more manageable. Vertebral fractures due to osteoporosis are often treated with a vertebroplasty where a cement-like mixture is injected into the vertebrae to stabilize it.

Where to go for more information?

Mayo clinic
http://www.mayoclinic.com/health/back-pain/DS00171

National Institute of Arthritis and Musculoskeletal and Skin Diseases

5 key words:
Back Pain
Herniated Disc
Spinal Surgery
Radiculopathy
Back Pain Prevention

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