

Ankylosing spondylitis

Ankylosing spondylitis — Comprehensive overview covers symptoms, causes, treatment and complications of this inflammatory arthritis. In ankylosing spondylitis your vertebrae begin to grow together, forming vertical bony outgrowths (syndesmophytes) and becoming stiff and inflexible. Ankylosing spondylitis is a chronic inflammatory disease that primarily causes pain and inflammation of the joints between the vertebrae of your spine and the joints between your spine and pelvis (sacroiliac joints). However, ankylosing spondylitis may also cause inflammation and pain in other parts of your body as well. Also called spondylitis or rheumatoid spondylitis, ankylosing spondylitis is a chronic condition. Treatments for ankylosing spondylitis can decrease your pain and lessen your symptoms. Effective treatment may also help prevent complications and physical deformities that sometimes occur along with ankylosing spondylitis.

Symptoms

Initial symptoms

Early signs and symptoms of ankylosing spondylitis may include:

- Chronic pain in your lower back and hips, especially in the morning and after periods of inactivity
- Stiffness in your lower back or hip area

As your condition progresses

Your condition may change over time, with symptoms getting worse, improving or completely stopping at any point. Over time the pain and stiffness, which usually begin gradually, may progress up your spine and to other joints. You may experience inflammation and pain in these other parts of your body:

- Where your tendons and ligaments attach to bones
- Joints between your ribs and spine
- Joints in your hips, shoulders, knees and feet
- Your eyes

Symptoms of advanced stages

In advanced stages, the following signs and symptoms may develop:

- Restricted expansion of your chest
- Chronic stooping
- Stiff, inflexible spine
- Fatigue
- Loss of appetite
- Weight loss
- Eye inflammation (uveitis)
- Bowel inflammation

When to see a doctor

See your doctor if you have symptoms of ankylosing spondylitis. Also contact your

doctor if you're being treated for the disease and new signs and symptoms develop, particularly eye pain, light sensitivity or blurred vision.

Causes

Ankylosing spondylitis has no known specific cause, though genetic factors seem to be involved. In particular, people who have a gene called HLA-B27 are at significantly increased risk of developing ankylosing spondylitis. As ankylosing spondylitis worsens and the inflammation persists, new bone forms as part of the body's attempt to heal. Your vertebrae begin to grow together, forming vertical bony outgrowths (syndesmophytes) and becoming stiff and inflexible. Fusion can also stiffen your rib cage, restricting your lung capacity and function.

Risk factors

- **Your sex.** More males than females have the disease.
- **Your age.** Onset generally occurs between late adolescence and age 40.
- **Your heredity.** Genetics may play a role in the development of ankylosing spondylitis. In fact, the majority of people with this condition have the HLA-B27 gene. Having this gene doesn't mean that you'll acquire ankylosing spondylitis — many people without ankylosing spondylitis have this gene — but it may make you more susceptible to the disease. If you have ankylosing spondylitis, and you pass the HLA-B27 gene on to your child, there's only a one in five chance your child will develop ankylosing spondylitis.

Complications

Ankylosing spondylitis doesn't follow a set course. The severity of symptoms and development of complications vary widely from person to person. Complications may include:

- **Difficulty walking or standing.** Typically, ankylosing spondylitis begins with soreness in your lower back. As the disease progresses, the affected bones may fuse together, rendering your joints immobile and causing a stiff, inflexible spine (bamboo spine). This can make walking or standing difficult. Your joints may fuse even if you undergo proper treatment — and once joints fuse, additional treatment won't help restore mobility. However, if fusion occurs with your spine in an upright position, you can remain more able to perform activities of daily living.
- **Difficulty breathing.** Inflammation can also spread up your spine and cause the bones in your rib cage to fuse. This results in breathing problems. When your ribs can't move when you breathe, it's difficult to fully inflate your lungs. However, unless you have an unrelated lung condition, you may be able to continue your everyday activities without experiencing shortness of breath.
- **Eye inflammation (uveitis).** This complication occurs in up to 40 percent of people with ankylosing spondylitis. It can cause rapid-onset eye pain, sensitivity to light and blurred vision. See your doctor right away if you develop these symptoms.

- **Heart problems.** If the inflammation reaches your heart, you can develop valve problems, such as inflammation of the body's largest artery (aorta), also known as aortitis. Another possible complication is aortic valve regurgitation, which occurs when the aortic ring and aortic valve are distorted.

Inflammation can also involve other parts of your body, resulting in conditions such as:

- Inflammatory bowel disease
- Anemia

Preparing for your appointment

You're likely to start by first seeing your family doctor or a general practitioner. However, he or she will likely refer you to a doctor that specializes in inflammatory disorders (rheumatologist). Because appointments can be brief, and there's often a lot of ground to cover, it's a good idea to be well prepared for your appointment. Here's some information to help you get ready for your appointment, and what to expect from your doctor.

Tests and diagnosis

Diagnosis of ankylosing spondylitis may be delayed if your symptoms are mild or if you mistakenly attribute some of your symptoms to more common back problems. To determine the cause of your discomfort, your doctor will conduct a medical history and complete a physical examination. Then, your doctor may use the following diagnostic procedures:

- **X-rays or other imaging.** X-rays allow your doctor to check for changes in your joints and bones, though the characteristic effects of ankylosing spondylitis may not be evident early in the disease. Your doctor may also use other imaging tests, such as computerized tomography (CT) or magnetic resonance imaging (MRI) scans, to detect inflammation and other changes in your joints.
- **Blood tests.** Your doctor may check for indications of inflammation using one or more blood tests, including erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). In the ESR test, inflammation is signaled by elevation in the speed at which your red blood cells settle to the bottom of a tube of blood. The CRP test indicates inflammation by the presence of a protein that your liver produces as part of your immune system response to injury or infection. Finally, your doctor may check your blood for the HLA-B27 gene. The presence of this gene doesn't determine whether you have ankylosing spondylitis, but its absence makes it less likely.

Treatments and drugs

The goal of treatment is to relieve your pain and stiffness, and prevent or delay complications and spinal deformity. Ankylosing spondylitis treatment is most successful before the disease causes irreversible damage to your joints, such as fusion, especially in positions that limit your function.

Medications

Your doctor may recommend that you take one or more of the following medications:

- **Nonsteroidal anti-inflammatory drugs (NSAIDs).**
- **Disease-modifying antirheumatic drugs (DMARDs).**
- **Corticosteroids.**
- **Tumor necrosis factor (TNF) blockers.**

Physical therapy

Physical therapy can provide a number of benefits, from pain relief to improved physical strength and flexibility. Your doctor may recommend that you meet with a physical therapist to provide you with specific exercises designed for your needs. Range-of-motion and stretching exercises can help maintain flexibility in your joints and preserve good posture. In addition, specific breathing exercises can help to sustain and enhance your lung capacity. As your condition worsens, your upper body may begin to stoop forward. Proper sleep and walking positions and abdominal and back exercises can help maintain your upright posture. Though you may develop spine stiffness despite your treatment regimen, proper posture can help to ensure that your spine is fused in a fixed upright position.

Surgery

Most people with ankylosing spondylitis don't need surgery. However, your doctor may recommend surgery if you have severe pain or joint damage, or if a nonspinal joint is so damaged that it needs to be replaced.

Lifestyle and home remedies

If you smoke, quit. Smoking is bad for your health, but creates additional problems for people with ankylosing spondylitis. Depending on the severity of your condition, ankylosing spondylitis can affect the mobility of your rib cage. Damaging your lungs by smoking can further compromise your ability to breathe.

Prevention

Because genetic factors appear to play a part in ankylosing spondylitis, it's not possible to prevent the disease. However, being aware of any personal risk factors for the disease can help in early detection and treatment. Proper and early treatment can relieve joint pain and may help to prevent or delay the onset of physical deformities.