What is ankylosing spondylitis?
Ankylosing spondylitis is an inflammatory rheumatic disease mainly affecting the spine, although sometimes other joints, ligaments and tendons are also affected. Ankylosing spondylitis affects more than 2.7 million adults and there is a tendency for it to run in families. The disease can affect people at any age but usually starts in people in their late teens and twenties. Most people develop symptoms before the age of 30. Only 5% get symptoms after 45 years of age.

In ankylosing spondylitis, inflammation occurs where ligaments or tendons meet joints. This inflammation is followed by some erosion of the bone where the joint or ligament is attached and eventually new bone growth occurs in these areas. Movement becomes restricted where the elastic tissue of ligaments or tendons is replaced by bone. Some or all of the joints and bones of the spine may fuse together, but it is rare for total fusion of the spine to occur. Most people will have only partial fusion, sometimes limited to the pelvic bones.

Onset of the disease is gradual with increasing back pain and stiffness over weeks or months rather than hours or days. As the disease progresses the symptoms may come and go. With the correct treatment and physical therapy the disease should not cause a stooping posture in later life.

What are the symptoms of ankylosing spondylitis?
The disease starts slowly, causing increasing pain and stiffness over weeks or months. Classically, the pain occurs in the lower back, buttocks and the backs of the upper thighs. In contrast with back strains or injuries, the pain and stiffness of ankylosing spondylitis improves with exercise and worsens with rest. The pain is usually worse in the morning and improves during the day. Initially, limitation of spinal movement may not be obvious, but as the disease progresses, changes to the bone structure occur and movements become more restricted. The pelvic joints are usually affected first. In 30% to 40% of patients, other joints such as the knees and ankles are also affected during the course of the disease. In 10% to 20% of patients, involvement of joints such as the knees, ankles, and feet is the presenting feature. In the early stages of the disease, some people may also feel generally unwell and may suffer from lack of sleep because of pain early in the morning. Weight loss may occur especially in the early stages and some people may feel feverish and experience night sweats. Ankylosing spondylitis can sometimes also affect the eyes, heart and lungs. These effects are not life-threatening and can be treated relatively easily. Most people with ankylosing spondylitis are able to lead a normal life and few need to make changes to their lifestyle or occupation.

What causes ankylosing spondylitis?
It is not yet known what causes ankylosing spondylitis to occur but more than 95% of people with the disease are found to have a genetic marker known as HLA-B27 in their white blood cells. There may be an outside factor that upsets the immune system in these people, but this factor has not yet been identified. Sometimes bowel infections seem to spark off the disease and symptoms may also become apparent after periods of enforced bed rest, accelerating a previously existing mild condition.
What tests confirm a diagnosis of ankylosing spondylitis?
Your doctor will refer you to a rheumatologist who will order x-rays of your spine to look for changes. A blood test to measure the erythrocyte sedimentation rate (ESR) will show how much inflammation is present.

How is ankylosing spondylitis treated?
There is no cure for ankylosing spondylitis but anti-inflammatory drugs will help to reduce the pain and inflammation. Non-steroidal anti-inflammatory drugs (NSAIDs) are usually prescribed. Alternatively, for people at risk of gastrointestinal reactions, an NSAID can be given together with a drug to protect the stomach. If an NSAID does not give sufficient pain control, acetaminophen may be given as well. Sulfasalazine (Azulfidine EN-tabs) may be prescribed for some people with ankylosing spondylitis, especially those who have inflammatory bowel disease or arthritis of peripheral joints such as the knees or ankles. Steroid injections directly into the joints (intra-articular injection) may be used in people with more than one severely affected peripheral joint. Physical therapy and exercise are very important to prevent and delay the process of fusion of the joints. Exercise can also help to relieve the stiffness of the joints particularly on waking.

Further information
Spondylitis Association of America: www.spondylitis.org/about/overview.aspx

Last reviewed: May 2013