Ankylosing spondylitis
Ankylosing spondylitis (AS) is a type of inflammatory arthritis that mainly affects the joints of the spine.

Symptoms of AS include back pain, stiffness and reduced mobility in the spine.

Ankylosing spondylitis commonly affects the sacroiliac joints. These joints connect the base of the spine (sacrum) to your pelvis. Other joints such as the hips and shoulders can also be affected, as can the eyes, skin, bowel and lungs.

Ankylosing spondylitis affects men more often than women. The symptoms usually appear between the ages of 15 and 45 years. While there’s currently no cure for AS, there are many things you can do to help control your symptoms.

Ankylosing spondylitis is an autoimmune disease. That means that it occurs as a result of a faulty immune system. Instead of identifying foreign bodies (such as viruses and bacteria), and attacking them to keep you healthy, your immune system mistakenly attacks healthy tissue in and around your joints causing ongoing inflammation and pain.

As a result of this inflammation, new bone may grow around the joints in the spine. This can lead to permanent stiffness in the back and neck of some people with AS. In severe cases this extra bone can fuse the bones of the spine together; however, this can usually be prevented by starting appropriate treatment as early as possible.

Most people with AS can lead full and active lives, because the condition can be well controlled.

### Symptoms of ankylosing spondylitis

The symptoms of AS vary from person to person. The most common symptoms are:

- pain and stiffness in the back, buttocks or neck, especially in the morning. The symptoms are often worse after rest and relieved by exercise.
- pain in tendons (which connect muscles to bones) and ligaments (which connect bones to each other), often felt as pain at the front of the chest, back of the heel or underneath the foot
- fatigue (extreme tiredness).

Symptoms may change from day to day and can become more intense. When this happens it is known as a flare. Flares can be very unpredictable and can come on with little warning.

### Causes of ankylosing spondylitis

The cause of AS is unknown, but genes are thought to play a role. You are more likely to get AS if you have a history of it in your family.

Most people with AS have the gene called HLA-B27, however, this gene can also be found in people who don’t have AS. As the presence of this gene doesn’t automatically lead to the development of AS, other factors are thought to be involved.

### Diagnosing ankylosing spondylitis

Early diagnosis is important so that treatment can be started as soon as possible.

To be diagnosed with AS there needs to be evidence of changes to your sacroiliac joints, in addition to other clinical criteria.

You may undergo a number of tests including:

- medical history
- physical examination
- scans such as x-ray, CT (computed tomography) or MRI (magnetic resonance imaging)
• blood test
• genetic testing.
These tests are generally organised by your doctor or rheumatologist (a doctor who specialises in conditions that affect muscles, bones and joints, or musculoskeletal conditions). They’ll explain what the tests are looking for and what the results mean.

Treating ankylosing spondylitis

There is no cure for AS. Treatment aims to manage your pain, reduce the risk of complications and improve your quality of life. Your rheumatologist will tailor your treatment to your specific symptoms and the severity of your condition. This can involve trialling different medications to find the medication that works best for you.

Medication

Medications for the treatment of ankylosing spondylitis include:

- analgesics (pain-relieving medications) – for temporary pain relief
- non-steroidal anti-inflammatory drugs (NSAIDs) – to help control inflammation and provide temporary pain relief
- corticosteroids – to quickly control or reduce inflammation
- disease-modifying anti-rheumatic drugs (DMARDs) – to control your overactive immune system
- biologics or biosimilar medicines – biological disease-modifying drugs that work to control your immune system, but in a much more targeted way.

Exercise

Although exercise is important for general wellbeing, it’s especially important in managing AS. Exercise can be used to relieve pain, but is also important for keeping your spine mobile and flexible.

Specific strengthening exercises help to maintain strength through the spine. Exercises performed in warm water (hydrotherapy) can also be beneficial.

For your overall wellbeing, do general strengthening and aerobic exercises. You may find it helpful to see a physiotherapist or exercise physiologist to have an exercise program designed for your specific needs. Some physiotherapists have a special interest in treating AS.

Self-management

There are many things you can do to help yourself, including:

- learn more about your condition – knowing as much as possible about your AS means that you can make informed decisions about your healthcare and play an active role in managing it
- exercise and stay active as much as possible – talk with a physiotherapist or an exercise physiologist for specific advice about a daily exercise and stretching program
- manage your stress – stress can aggravate your symptoms and make you feel worse
- get up and move if you’ve been sitting or standing in one position for long periods at a time (for example at work or while travelling)
- stay involved in your usual home activities, as well as work, leisure and social activities. Social connections are extremely important
- be aware of your posture – when sitting, standing and even lying down. Your body should be in correct alignment but also loose and flexible
- eat a healthy, well balanced diet for overall good health
- manage your stress – it can aggravate your symptoms and make you feel worse
- acknowledge your emotions – it’s natural to feel overwhelmed when you’re diagnosed with AS. You may feel scared, frustrated, sad or angry. It’s important to acknowledge these feelings and get help if they start affecting your daily life. Your doctor can provide you with information about support that’s available
- seek support from others – you might find it helpful to contact the Ankylosing Spondylitis Group of Victoria and speak to other people who have AS and know what you’re going through.

Where to get help

- Your GP (doctor)
- Physiotherapist
- Exercise physiologist
- Musculoskeletal Australia - formerly MOVE Help Line. Tel. 1800 263 265
- Ankylosing Spondylitis Victoria

References

- Ankylosing spondylitis, Austin Health.
- Spondyloarthritis, American College of Rheumatology.
- Ankylosing spondylitis, Mayo Clinic, USA.
- Ankylosing spondylitis, Arthritis Australia.

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More information

Genes and genetics

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- A-Z of genetic conditions

betterhealth.vic.gov.au
A-Z of genetic conditions

- **Ambiguous genitalia**
  The causes of ambiguous genitalia include genetic variations, hormonal imbalances and malformations of the fetal tissues that are supposed to evolve into genitals.

- **Angelman syndrome**
  The characteristic features of Angelman syndrome are not always obvious at birth, but develop during childhood.

- **Ankylosing spondylitis**
  Ankylosing spondylitis (AS) is a type of inflammatory arthritis that targets the joints of the spine.

- **Barrett's oesophagus**
  Symptoms of Barrett's oesophagus are similar to regular heartburn, which means many people don't seek treatment until their condition is quite advanced.

- **Bipolar disorder**
  Bipolar disorder is a type of psychosis, which means the person’s perception of reality is altered. It is characterised by extreme mood swings.

- **Central nervous system birth defects**
  Folic acid taken before conception, and during at least the first four weeks of pregnancy, can prevent around seven out of 10 cases of neural tube defects.

- **Charcot-Marie-Tooth disease (CMT)**
  Charcot-Marie-Tooth disease is the most common inherited disorder affecting the peripheral nervous system.

- **Cleft palate and cleft lip**
  Most cleft palates and cleft lips can be repaired so that appearance and speech develop normally.

- **Congenital adrenal hyperplasia (CAH)**
  CAH is a rare genetic disorder, but it is well understood and treatment is readily available.

- **Creutzfeldt-Jakob disease (CJD)**
  Creutzfeldt-Jakob disease is characterised by physical deterioration of the brain, dementia and walking difficulties.

- **Cri du chat syndrome**
  Most children born with cri du chat syndrome have moderate intellectual disability, with varying degrees of speech delay and some health problems.

- **Cystic fibrosis (CF)**
  When a person has cystic fibrosis, their mucus glands secrete very thick sticky mucus that clogs the tiny air passages in the lungs and traps bacteria.

- **Digestive tract birth defects**
  Too much amniotic fluid surrounding the baby during pregnancy (polyhydramnios) may indicate the presence of defects of the digestive tract.

- **Down syndrome**
  With the support and opportunities available to them today, most people with Down syndrome are able to achieve and participate as valued members of their community.

- **Dwarfism**
  Dwarfism refers to a group of conditions characterised by shorter than normal skeletal growth.

- **Eczema (atopic dermatitis)**
  Eczema can vary in severity, and symptoms may flare up or subside from day to day.

- **Essential tremor**
  Essential tremor causes involuntary shaking or trembling of particular parts of the body, usually the head and hands, but it is not Parkinson's disease.

- **Fragile X syndrome**
  The facts about fragile X syndrome are complicated, and parents and family members are invited to ask their doctor to refer them to a genetics clinic.

- **Friedreich's ataxia**
  To the casual observer, a person with Friedreich ataxia may seem to be drunk.
• Genetic factors and cholesterol
  Familial hypercholesterolaemia is an inherited condition characterised by higher than normal levels of blood cholesterol.

• Haemochromatosis
  Haemochromatosis (iron overload disorder) tends to be under-diagnosed, partly because its symptoms are similar to those caused by a range of other illnesses.

• Haemophilia
  All children with severe haemophilia are given preventative treatment with infusions of blood products before they have a bleed.

• Hair
  Human hair grows one centimetre every month.

• Hearing problems in children
  The earlier that hearing loss is identified in children, the better for the child’s language, learning and overall development.

• Huntington’s disease
  The symptoms of Huntington’s disease usually, but not always, first appear when the person is approaching middle age.

• Kabuki syndrome
  Kabuki syndrome affects males and females equally and there is no cure.

• Kennedy’s disease
  Kennedy’s disease is a rare inherited neuromuscular disorder that causes progressive weakening and wasting of the muscles, particularly the arms and legs.

• Kidneys - medullary cystic kidney disease
  Medullary cystic kidney disease causes the growth of abnormal cysts in the kidneys.

• Kidneys - polycystic kidney disease (PKD)
  Polycystic kidney disease is a common cause of kidney failure in Australia and equally affects men and women of different ethnic backgrounds.

• Klinefelter syndrome
  Klinefelter syndrome is often diagnosed at puberty, when the expected physical changes don’t occur.

• Leukodystrophy
  Leukodystrophy refers to a group of inherited disorders that affect the white matter of the brain, which causes loss of normal brain functions.

• Long QT syndrome
  You should be investigated for long QT syndrome if you faint for no apparent reason, during or after exercise or emotional excitement.

• Marfan syndrome
  Some people may not realise they have Marfan syndrome, because their features are either mild or not obvious.

• McCune-Albright syndrome
  The severity of symptoms or how a child with McCune-Albright syndrome will be affected throughout life is difficult to predict.

• Muscular dystrophy
  People affected by muscular dystrophy have different degrees of independence, mobility and carer needs.

• Neurofibromatosis
  Neurofibromatosis is caused by faulty genes, which may be inherited or have spontaneously mutated at conception.

• Noonan syndrome
  Noonan syndrome is a genetic condition that usually includes heart abnormalities and characteristic facial features.

• Osteoporosis in children
  Osteoporosis in children is rare and usually caused by an underlying medical condition.

• Phenylketonuria (PKU)
  PKU is an inherited disorder that prevents the normal breakdown of a protein found in some foods.

• Prader-Willi syndrome
  A feature of Prader-Willi syndrome is the child’s excessive appetite, which often leads to obesity.
• Premature and early menopause
  The symptoms of premature or early menopause are the same as for menopause at any age.

• Rett syndrome
  People with Rett syndrome have a keen desire to communicate.

• Spinal muscular atrophy (SMA)
  A child with spinal muscular atrophy type 1 rarely lives beyond three years of age.

• Tay-Sachs disease
  Tay-Sachs disease is a serious genetic disorder common in Ashkenazi Jews and French-Canadians.

• Thalassaemia
  Thalassaemia is an inherited blood disorder that can cause anaemia or death if not treated.

• Tourette syndrome
  Milder forms of Tourette syndrome can be misdiagnosed, as it often occurs at the same time as attention deficit hyperactivity disorder (ADHD) and other disorders.

• Treacher Collins syndrome
  Treacher Collins syndrome is a genetic disorder that affects growth and development of the head, causing facial defects and hearing loss.

• Tuberous sclerosis
  Tuberous sclerosis is a genetic disorder that affects various parts of the body to varying degrees of severity.

• Turner's syndrome
  Turner's syndrome is a random genetic disorder that affects females, causing short stature and infertility.

• Usher syndrome
  Services aim to help a person with Usher syndrome prepare for the dual loss of sight and hearing.

• Von Willebrand disease
  A person with von Willebrand disease may have frequent nosebleeds, heavy menstruation or excessive bleeding from the mouth.

• Williams syndrome
  Williams syndrome often goes undiagnosed, which means that some people with the disorder fail to get the support and treatment they need until later in life.

• Wilson disease
  In Wilson's disease, a build-up of copper damages organs including the liver, nervous system, brain, kidneys and eyes.

Genes and genetics explained

• Gene therapy
  Gene therapy is an experimental form of treatment that targets the faulty genes that cause genetic diseases.

• Genetic disorders
  A genetic disorder is caused by an altered or faulty gene or set of genes.

• Genetic services in Victoria
  Genetic services can help people who are affected by, or who are at risk of, inherited conditions or birth defects, to make informed choices about their healthcare.

Genetic testing

• DNA profiling
  DNA profiling is a way of establishing identity and is used in a variety of ways.

• Egg freezing
  You can freeze your eggs for medical reasons or for reasons that are more to do with your life circumstances.

• Genetic services in Victoria
  Genetic services can help people who are affected by, or who are at risk of, inherited conditions or birth defects, to make informed choices about their healthcare.
Genetic testing for inherited cancer
A predisposition to certain cancers can be inherited via altered genes...

Newborn bloodspot screening
Every newborn baby in Australia is offered a newborn bloodspot screening test to identify those at risk of rare, but serious, medical conditions...

Pregnancy tests – chorionic villus sampling
Chorionic villus sampling (CVS) is a pregnancy test that checks the baby for some abnormalities...

Pregnancy tests - maternal serum screening
Maternal serum screening can indicate increased risk of abnormalities in the unborn child, but is not a diagnosis...

Related Information

- Arthritis
  Arthritis occurs when joints or muscles become painful, stiff and swollen. Exercise, medication and supportive therapies can help manage symptoms...

- Reactive arthritis
  Reactive arthritis is a form of arthritis that occurs as a result of some bacterial infections...

- Arthritis - juvenile
  One child in every 1,000 in Australia is diagnosed with juvenile arthritis. It is one of the most common chronic conditions to affect children...

- Gout
  While most other types of arthritis develop slowly, an attack of gout happens suddenly, often overnight...

- Polymyalgia rheumatica
  Typical symptoms of polymyalgia rheumatica include severe muscle aches and stiffness, particularly in the neck, shoulders and thighs...

Home

Related information on other websites

- Austin Health - Ankylosing Spondylitis
- Australian Rheumatology Association
- Find a physio, APA.
- Find an exercise physiologist, ESSA.
- Musculoskeletal Australia - Ankylosing Spondylitis
- National Ankylosing Spondylitis Society (UK)

Support Groups

- Ankylosing Spondylitis Support Group of Victoria

Content Partner

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