CONDITION

Juvenile idiopathic arthritis

Juvenile idiopathic arthritis is long-lasting joint inflammation that begins before age 16.

WHAT IT IS
Persistent inflammatory arthritis beginning before age 16

BODY SYSTEM
Joints, immune system, and sometimes eyes and internal organs

MAIN SYMPTOMS
Joint swelling, stiffness, pain, reduced movement

WHAT CAUSES IT
Immune system dysfunction; exact trigger unknown

HOW IT IS DIAGNOSED
Examination over time after excluding other causes

MAIN TREATMENT
Anti-inflammatory medicines, immune treatments, exercise, and therapy

CAN IT BE CURED?
Sometimes - lasting medicine-free remission occurs

IS IT AN EMERGENCY?
Sometimes - high fever with severe illness

LONG-TERM OUTLOOK
Many achieve control; some arthritis continues into adulthood

Overview

Juvenile idiopathic arthritis, or JIA, is a group of conditions that cause ongoing joint inflammation in children and teenagers. "Juvenile" means it begins before age 16. "Idiopathic" means the exact cause is unknown. Arthritis means inflammation in one or more joints.

JIA was previously called juvenile rheumatoid arthritis, or JRA. It is not simply the childhood form of adult rheumatoid arthritis. JIA includes several patterns of inflammation, each with different symptoms and possible complications.

Doctors usually consider JIA when arthritis has lasted at least six weeks and another cause, such as an infection or injury, has not been found. Inflammation may affect the lining of a joint, causing swelling, stiffness, pain, warmth, and limited movement.

Some forms affect only a few joints. Others involve many joints, the places where tendons

attach to bones, the skin, the eyes, or internal organs. Symptoms may improve for periods and then return. An increase in inflammation is often called a flare.

Early assessment matters because untreated inflammation can affect movement, growth, joint health, and vision. Treatment aims to control inflammation, prevent damage, and help the child continue with school, activity, sleep, and everyday life.

Symptoms

Joint swelling and stiffness are common. Pain can occur, but some children have clear swelling or limited movement without reporting much pain. Young children may limp, stop using one hand, avoid stairs, or seem unusually slow in the morning.

Symptoms can include:

The pattern depends partly on the type of JIA. Oligoarticular JIA affects a small number of joints during the first six months, often the knees or ankles. Polyarticular JIA affects five or more joints and may involve small joints in the hands and feet.

Enthesitis-related arthritis causes inflammation where tendons or ligaments attach to bone. It may cause heel, hip, knee, or lower back pain. Psoriatic JIA may occur with psoriasis, nail pitting, or swelling of an entire finger or toe.

Systemic JIA can cause daily high fevers, a temporary pale pink rash, swollen lymph nodes, and inflammation around organs as well as arthritis. Joint symptoms may appear before, during, or after the fever episodes.

JIA can also cause uveitis, which is inflammation inside the eye. This often has no early symptoms, particularly in young children with oligoarticular JIA. Regular eye examinations are therefore important even when vision seems normal.

- Swollen, warm, stiff, or painful joints
- Morning stiffness or stiffness after sitting still
- Limping or reduced use of an arm or leg
- Tiredness, reduced activity, or disturbed sleep
- Difficulty dressing, writing, walking, or joining physical activities

Causes and risk factors

JIA is an autoimmune or autoinflammatory condition. This means the immune system, which

normally protects the body from infection, mistakenly drives inflammation in healthy tissues.

The exact trigger is not known. Genes can affect susceptibility, but JIA is not usually inherited in a simple or predictable way. Most children with JIA do not have a parent with the same condition.

Different JIA categories have different genetic links and immune processes. Age, sex, family history of certain immune conditions, and some laboratory findings can be associated with particular patterns. These factors do not show that a child caused the condition or that it could have been avoided.

JIA is not caused by ordinary exercise, a particular food, poor parenting, or a minor injury. An injury may draw attention to an already inflamed joint, but it does not usually explain persistent arthritis.

Diagnosis

There is no single blood test or scan that confirms every case of JIA. Diagnosis is based on the symptoms, joint examination, how long the inflammation has been present, and the exclusion of other causes.

The assessment may include questions about morning stiffness, fever, rashes, infections, injuries, family history, and how symptoms affect daily activities. The clinician may examine every joint, not only the one that hurts, and check the skin, nails, eyes, spine, and tendon attachments.

Blood tests can look for inflammation, blood-cell changes, and markers linked with particular JIA patterns. These may include antinuclear antibodies, rheumatoid factor, and antibodies called anti-CCP. A positive result does not prove JIA, and normal results do not rule it out.

Ultrasound or MRI can show inflammation that is difficult to detect on examination. X-rays may help assess other causes or later joint changes, but early JIA can have normal X-rays.

Other tests may be needed to rule out infection, another inflammatory condition, a blood disorder, or another explanation for the symptoms. A paediatric rheumatology team usually confirms the diagnosis and classifies the pattern.

A slit-lamp eye examination checks for uveitis. This is a painless examination using a microscope and bright light. Its timing is based on factors such as JIA category, age at onset, antinuclear antibody results, and how long the condition has been present.

Treatment and management

Treatment is matched to the joints and organs affected, the level of inflammation, and how the condition responds over time. The goal is inactive inflammation with normal or near-normal daily function.

Non-steroidal anti-inflammatory drugs like ibuprofen or naproxen , often called NSAIDs, can reduce pain and stiffness. A corticosteroid injection into an inflamed joint may control local inflammation. Corticosteroid tablets or intravenous treatment may be used in selected situations, but clinicians try to limit prolonged exposure because of possible side effects.

Disease-modifying antirheumatic drugs, or DMARDs, suppress the inflammatory process rather than only easing pain. Methotrexate is a commonly used conventional DMARD. Biologic medicines target specific parts of the immune system and may be considered when inflammation is more extensive, affects certain areas, or has not responded adequately to other treatment.

These medicines require monitoring. Depending on the treatment, this may include blood tests and checks for infection or other side effects. Vaccination plans may need review because some immune-suppressing treatments affect when live vaccines can be given.

Physical therapy helps maintain joint movement, muscle strength, posture, and fitness. Occupational therapy can suggest ways to make writing, dressing, schoolwork, or other tasks easier. Splints are useful for some children but are not needed by everyone.

Regular physical activity is generally encouraged when adjusted for pain, inflammation, and ability. During a flare, lower-impact activity or temporary changes may be more comfortable than stopping all movement. The care team can help plan a safe return to sport and school activities.

Eye treatment is separate from joint treatment when uveitis is present. It may include anti-inflammatory eye drops and immune treatments. Eye drops containing corticosteroids need specialist supervision because prolonged use can raise pressure in the eye or contribute to cataracts.

Complications

Persistent inflammation can damage cartilage and bone, reduce joint movement, and weaken nearby muscles. Inflammation may also affect how a limb grows, sometimes causing a difference in limb length or joint alignment.

Pain, fatigue, sleep problems, and missed school can affect mood, learning, friendships, and family life. Support at school and attention to emotional health are important parts of care.

Uveitis can cause cataracts, glaucoma, or vision loss if it is not detected and controlled. Because it may be silent, scheduled eye screening should continue even when the joints are doing well.

Systemic JIA can rarely lead to macrophage activation syndrome. This is a serious episode of uncontrolled immune activation. Signs may include persistent high fever, marked sleepiness or confusion, unusual bleeding or bruising, breathing difficulty, or a child becoming rapidly more unwell.

Some treatments increase susceptibility to infection. Bone thinning, growth effects, liver irritation, or changes in blood counts can also occur with certain medicines. Monitoring is used to find and manage these problems early.

Prevention

There is no known way to prevent JIA because its exact cause is unknown and it is not usually linked to a preventable exposure.

Flares cannot always be prevented either. Taking treatment as agreed, attending monitoring and eye appointments, and reporting new symptoms can reduce the chance that inflammation or treatment side effects go unnoticed.

A balanced diet, sleep, and suitable activity support general health but do not replace anti-inflammatory treatment. No specific diet has been shown to cure JIA.

Living with it and what to expect

JIA often changes over months and years. Some children have one period of inflammation followed by long-term remission. Others have flares separated by quieter periods, while some need continuing treatment into adulthood. Remission means there are no signs of active inflammation; it does not guarantee that symptoms will never return.

Treatment may be increased, changed, or gradually reduced according to inflammation, examination findings, laboratory results, imaging, eye health, and previous flares. Medicines should not be stopped suddenly without guidance, even when symptoms have settled.

Many children with well-controlled JIA attend school, exercise, travel, and take part in family and social activities. Temporary adjustments may help during flares. These can include extra time between classes, movement breaks, adapted physical education, help with handwriting, or a lighter bag.

As teenagers become more independent, they can gradually learn the names and purposes of their medicines, how to arrange refills, and which symptoms to report. Planned transfer from paediatric to adult rheumatology is important if ongoing care is needed.

The long-term outlook is better when inflammation is recognised and controlled early. However, the course cannot be predicted precisely for one child. Continued follow-up helps detect changes even during periods when the condition seems quiet.

When to get medical help

Arrange a routine medical assessment for joint swelling, morning stiffness, an unexplained limp, or reduced joint movement that persists or keeps returning. A child with known JIA should also be reviewed if pain or stiffness is increasing, daily activities are becoming harder, or treatment side effects are suspected.

Contact the rheumatology or eye team promptly for a red or painful eye, light sensitivity, blurred vision, or a new change in vision. Do not wait for the next routine screening appointment.

Seek urgent medical advice for a high fever in a child taking immune-suppressing treatment, especially if they appear unusually unwell. The treating service may have specific instructions about fever, infection, and whether a medicine should be delayed.

Get emergency help for difficulty breathing, severe confusion, fainting, unusual bleeding, a seizure, or a rapidly worsening illness. Persistent high fever with marked drowsiness, bruising, or severe weakness also needs emergency assessment because it may signal a serious infection or macrophage activation syndrome.

Common questions

Is juvenile idiopathic arthritis the same as rheumatoid arthritis?

No. Some forms share features with adult rheumatoid arthritis, but JIA includes several childhood-onset patterns. Its classification, complications, and likely course are not identical.

Will my child grow out of JIA?

Some children enter lasting remission, including remission without medicine. Others have flares or continue to need treatment as adults. The early pattern alone cannot always predict the eventual course.

Can a child with JIA play sports?

Many can. Activity supports strength, movement, fitness, and confidence. During active inflammation, the type or intensity may need adjustment. A physical therapist or rheumatology team can help with an appropriate plan.

Does JIA always cause pain?

No. A joint may be swollen or stiff without severe pain, especially in a young child. Limping, avoiding an activity, or losing movement can therefore be important clues.

Why are eye checks needed when there are no eye symptoms?

JIA-associated uveitis can begin without redness, pain, or noticeable vision changes. Slit-lamp screening can find inflammation before complications develop.

Is there a special diet that treats JIA?

No specific diet has been shown to switch off JIA inflammation. A balanced diet supports growth and bone health, but it should complement rather than replace medical treatment.

Sources

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