People of all ages can and do have arthritis. Nearly 300,000 children – from infants to teenagers – in the U.S. have some form of arthritis. In fact, arthritis is more common in children than type 1 diabetes and other childhood diseases that may be more familiar.

The word “arthritis” means joint inflammation (arth = joint; itis = inflammation). Joint inflammation causes pain, stiffness, swelling and redness at the affected joint. Over time, joint damage can occur, leading to decreased function and mobility. Juvenile arthritis (JA) is an umbrella term, not a specific disease. It refers to a group of rheumatic diseases and conditions affecting children.

Arthritis affects every child differently, so it’s important to recognize the signs so that a timely and accurate diagnosis can be made to ensure the best possible outcome for your child’s health and well-being. With the proper medical care, your child can continue to live a productive and fulfilling life.

**Juvenile Idiopathic Arthritis**

Juvenile idiopathic arthritis (JIA) is the most common type of arthritis in children. The term idiopathic means “of unknown origin.” JIA was previously called juvenile rheumatoid arthritis, or JRA. However, a group of international pediatric rheumatologists – including representatives from the American College of Rheumatology – developed criteria for JIA to describe the disease more accurately. It also corrects the notion that JIA is a child-sized version of rheumatoid arthritis (RA).

A healthy immune system protects the body from infection and disease. In JIA, the immune system mistakenly attacks the body’s tissue, causing inflammation in joints and potentially other areas of the body. That is why JIA is considered an autoimmune disease. JIA is not contagious.

Not all children will have the same symptoms. Joint symptoms of JIA may include pain, swelling, stiffness, redness and warmth. Pain is often worse following sleep or periods of inactivity. Non-joint symptoms may include fever, fatigue, rash in the midsection or limbs, limping, poor sleep, swollen lymph nodes, decreased hunger and weight loss. Symptoms can change from day to day or throughout a single day.

How can you tell if these symptoms mean that your child has JIA instead of an injury, or a different illness? Talk to your child’s pediatrician, who can begin the process of monitoring symptoms to establish a pattern. The pediatrician may refer your child to a pediatric rheumatologist, a doctor with special training to treat children with arthritis and other musculoskeletal diseases. If you are not able to find a pediatric rheumatologist practicing in your area, you may choose to travel to the closest one or your pediatrician may be able to do a remote consultation by phone or secure email.

Visit the Arthritis Foundation’s JA website [www.kidsgetarthritis too.org/rheums](http://www.kidsgetarthritis too.org/rheums) to access a directory of pediatric rheumatologists by location.
If you don't understand or need more information, it's your right to ask questions. Your doctors should welcome an open dialog and make you feel comfortable discussing your child's diagnosis and treatment plan.

The Arthritis Foundation is an excellent source of information and can connect you with other families in your area or to an online community of families dealing with JIA.

**What Causes Juvenile Idiopathic Arthritis?**
Researchers are uncertain what causes JIA. There is no evidence that foods, toxins, allergies or lack of vitamins play a role in developing the disease. Current research indicates that there is a genetic predisposition to JIA. More than a dozen genetic markers have been identified for JIA, and hundreds more are being considered. However, genetic markers alone can't determine who will get arthritis. Researchers believe that a trigger, like a virus, can start the disease process in those children with the genetic tendency.

**How is Juvenile Idiopathic Arthritis Diagnosed?**
An early diagnosis and aggressive treatment is key to preventing or slowing joint damage and preserving joint function and mobility.

Here are some of the steps your child’s pediatrician will perform during the initial diagnosis period.

- **Medical history.** The doctor will take your child’s health history to help determine the length of time and type of symptoms that have been present. This helps to rule out other possible causes like trauma or infections. The doctor will also ask about your family’s medical history.

- **Physical exam.** The doctor will examine your child’s joints for external signs of inflammation and test his or her range of motion.

- **Laboratory tests.** The doctor may order blood tests that measure levels of certain proteins and other chemicals that are present in children with JIA. Tests may include erythrocyte sedimentation rate (ESR or sed rate), antinuclear antibody (ANA) test, anti-cyclic citrullinated peptide (anti-CCP), rheumatoid factor (RF) test, HLA-B27 typing (a genetic marker), complete blood count (CBC) and urinalysis, among others.

- **Imaging.** The doctor may order imaging scans – X-rays, ultrasound, MRI or CT – of joints to identify joint damage.

If you don't understand why or how a test or procedure is being done, ask the pediatrician. The diagnosis of JIA is made by the presence of active arthritis in one or more joints for at least six weeks, after other conditions have been ruled out. The pediatrician and a pediatric rheumatologist may be involved in making the final diagnosis.

### Early Signs & Symptoms

The following list includes some of the most common early signs and symptoms of arthritis in children. Your child may not have all of these symptoms.

- Joints that are warm to the touch
- Swelling and tenderness at joints
- Fever
- Rash
- Favoring one limb over another
- Pain (at rest or with activity)
- Stiffness, especially upon waking in the morning
- Decreased physical activity
- Inability to bend or straighten joints completely
If your child has been diagnosed with JIA, it’s important to identify the type of JIA to ensure the most effective treatment.

**Oligoarthritis**

Oligoarthritis – *oligo* means few – is the most common form of JIA, particularly in young children. Oligoarthritis affects four or fewer joints, typically the large joints (knees, ankles or elbows). It’s particularly common in white children, accounting for about 40 percent of new JIA cases among affected children, and has been known to develop by age 6. Children with oligoarthritis are more likely to get uveitis (chronic eye inflammation). Girls are more likely to be diagnosed with both.

Children with oligoarthritis who test positive for antinuclear antibody (ANA) in the blood face the greatest risk of developing eye inflammation and should be monitored for eye problems. Children with oligoarthritis are less likely to have severe problems with joint function than those diagnosed with other types of JIA.

**Polyarthritis**

Polyarthritis – *poly* means many – affects five or more joints. About 25 percent of children with JIA have polyarthritis. Polyarthritis is more common in girls and can occur any time in childhood. It usually affects the small joints of the fingers and hands. It also can affect weight-bearing joints, such as the knees, hips, ankles and feet. A child may also have arthritis in the neck or the jaw, making opening the mouth and chewing more difficult.

Polyarthritis often affects the same joints on both sides of the body, such as the right and the left knees. Children with polyarthritis face a lower risk of eye inflammation. Annual visits to an ophthalmologist may be sufficient unless more frequency is advised.

Children with polyarthritis are either RF-positive (have the rheumatoid factor antibody in the blood) or RF-negative (no antibody). RF-positive polyarthritis is most similar to rheumatoid arthritis. Children with this form are more likely to experience severe joint disease and related erosion than those who are RF-negative.

Other symptoms of polyarthritis may also include low-grade fever, rheumatoid nodules (bumps under the skin, most often at the elbow) and anemia (low red blood cell count).

**Systemic Arthritis**

Systemic means the entire body. Systemic arthritis occurs in roughly 10 percent of JIA cases.

Symptoms of systemic arthritis include high, spiking fevers (103°F or higher) that may occur daily for weeks or even months and pale, red spots that appear on the chest, thighs and sometimes other parts of the body. The rash and fever often happen
together and may come and go for several days in a row. Joint inflammation usually begins at the same time as the fever and rash but may start weeks or months later.

Other possible signs include inflammation of the heart or lungs or their outer linings; anemia; or enlarged lymph nodes, liver or spleen. In many children, the systemic symptoms of the disease, like fever, go away completely. Eye inflammation isn’t common with systemic arthritis; however it is important to have your child’s vision checked regularly.

**Enthesitis-related Arthritis**
Enthesitis-related arthritis involves inflammation of the joints and the entheses, the places where tendons attach to the bone. It most often affects joints in the lower limbs, such as the hip, knee and foot. It can be mild for some children, while for others it can be more severe. It may lead to inflammation in the back. Often referred to as spondyloarthritis, enthesitis-related arthritis usually begins between the ages of 8 and 15. Boys are more often affected. Frequently, children with enthesitis-related arthritis test positive for the HLA-B27 gene.

**Juvenile Psoriatic Arthritis**
Juvenile psoriatic arthritis occurs with the skin condition psoriasis. However, the psoriasis may begin many years before or after the beginning of arthritis. Joint symptoms include pain and swelling in one or more joints, often the wrists, knees, ankles, fingers and toes. Symptoms of psoriasis include a scaling red rash commonly seen behind the ears, on the eyelids, elbows and knees and at the scalp line, or sometimes in the belly button. There may be splitting, crumbling or ridging of the fingernails. People with psoriasis typically have a family history of the disease.

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**Undifferentiated Arthritis**
Any arthritis of unknown cause with symptoms continuing for at least six weeks that doesn’t meet criteria for any one type of JIA or that involves symptoms spanning two or more types falls into the category of “undifferentiated arthritis.”

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**Other Pediatric Rheumatic Diseases Related to JIA**

- **Juvenile Lupus:** Lupus is an autoimmune disease that can affect joints, skin, kidneys, blood and other parts of the body.
- **Juvenile Scleroderma:** Scleroderma is the medical name for a group of conditions that can cause the skin to tighten and harden on the fingers, hands, forearms and face. It can affect other parts of the body, such as the skin, blood vessels, digestive system, lungs, kidneys, muscles, nerves and joints.
- **Juvenile Dermatomyositis:** Juvenile dermatomyositis (JDM) is an inflammatory disease that causes muscle weakness and a skin rash on the eyelids and knuckles.
- **Juvenile Vasculitis:** There are several forms of vasculitis, or inflammation of blood vessels. Joint symptoms may occur with each type.
- **Noninflammatory Conditions in Children:** There are noninflammatory musculoskeletal conditions (e.g., fibromyalgia) that can cause chronic or recurrent muscle or joint pain in children.
TREATING JUVENILE IDIOPATHIC ARTHRITIS

Early diagnosis and aggressive medical care gives children with JIA the best opportunity for a good outcome. The goal of any treatment plan is to achieve remission by controlling inflammation, relieving pain, preventing joint damage, and preserving function and mobility.

Your child’s treatment plan may include medication, exercise, eye care, dental care and proper nutrition. Rarely, surgery may be necessary at later stages to help with pain or joint function.

Providing your child with the optimal care may require a team of health care providers. These specialists may include a pediatric rheumatologist, physical and occupational therapists, nurses, dieticians, ophthalmologist, dentist, orthopaedic surgeon and psychologist.

Understanding Remission

Children do not usually outgrow arthritis. JIA is a chronic disease. But the goal of treatment is to achieve remission, or the absence of arthritis symptoms. Remission may occur while on medication (most likely) and without medication (less frequent and brief). With recent developments in medication and treatment approaches, children with arthritis can have fulfilling and productive lives.

To help your child achieve remission, closely follow the treatment plan that may include medication, exercise and physical therapy, and nutrition recommendations, among other areas of management.

Medication

The initial target of drug therapy are to reduce inflammation and relieve pain. Long-range objectives are to prevent disease progression and destruction of joint, bone, cartilage and soft tissues such as muscles, tendons and joint capsules. More than one medication may be prescribed to treat your child’s disease. The idea is to hit the disease hard and fast to prevent further joint damage and stop the disease in its tracks as much as possible.

The American College of Rheumatology developed treatment recommendations for doctors who treat children with JIA. It helps doctors determine how to increase therapy quickly if current treatments aren’t effective enough. The recommendations also describe how doctors should monitor the safety and side effects of treatments.

The following information provides a broad overview of the most common classes of medications the doctor may prescribe. If you have questions about these or other treatments for JIA, ask your child’s doctor or pharmacist. The Arthritis Foundation does not endorse any brand name or generic medication.
Dosages (how much of a medicine and how often it is taken) are set by your child’s doctor and are often based on your child’s height and weight.

**Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)**

NSAIDs (such as ibuprofen and naproxen) are a mainstay of early therapy for children with JA to ease pain and inflammation; however they do not prevent joint damage. Not all children respond to NSAIDs the same way, so your child’s doctor may try different ones for your child. Laboratory tests help doctors monitor side effects.

**Disease-modifying Antirheumatic Drugs (DMARDs)**

DMARDs are powerful anti-inflammatory medicines. They can prevent joint damage, such as cartilage and bone destruction, but can take a month or more to have an effect. They are often used in combination with other medications, like NSAIDs, corticosteroids or biologics. Children taking DMARDs need regular lab tests to monitor possible side effects.

Methotrexate is the most commonly prescribed nonbiologic DMARD in both children and adults with arthritis. It can be taken orally or by injection. It has been used for nearly 30 years to treat JIA. Other nonbiologic DMARDs used to treat JIA include sulfasalazine, leflunomide and hydroxychloroquine.

**Biologics**

Biologics, or biologic response modifiers, are a subset of DMARDs. They are used to treat a number of autoimmune diseases including JIA. These medications help to correct a faulty response by the immune system that causes arthritis inflammation. Biologics are given by injection or infusion.

Biologics suppress the immune system. This can make your child more likely to develop infections, so you should monitor for signs such as fever, sore throat, chills or cough and notify your doctor if they occur. Before your child receives a biologic, the doctor should order a TB test because biologics may activate old tuberculosis infections. Children taking biologics should not receive live vaccines such as measles-mumps-rubella and varicella (chicken pox), which contain weakened yet active virus strains.

To learn more about medications used to treat juvenile arthritis, visit [www.kidsgetarthritis too.org/meds](http://www.kidsgetarthritis too.org/meds).
**Corticosteroids**

Corticosteroids (such as prednisone) are strong anti-inflammatory medicines that work quickly compared to NSAIDs. The doctor may prescribe small doses of corticosteroids to help quickly control inflammation while waiting for DMARDs to do their work. Corticosteroids can be given orally or by injection. Injections into the joint are preferred when only a few joints are involved or when a single joint is particularly bothersome.

Because of the potential side effects, corticosteroids are used at the lowest dose for the shortest length of time as possible. Your child’s doctor will help you determine if the benefits of treatment outweigh the risks.

**Surgery**

Surgery is rarely used to treat JIA early in the course of the disease. However, it can be used to correct leg length discrepancy, straighten a bent or deformed joint or replace a damaged joint.

**Eye Care**

Eye inflammation (uveitis) can occur in children with JIA, particularly in those with oligoarthritis. It is very important for children with JIA to have their eyes checked by an ophthalmologist at diagnosis and regularly as recommended by their doctor to reduce the chance of vision loss. Uveitis does not necessarily cause symptoms such as pain or red eye. The only way to confirm if uveitis is occurring is by eye examination. Uveitis inflammation can occur even if arthritis flares are under control.

**Dental Care**

JIA may affect the temporomandibular (jaw) joint, causing pain, stiffness and altered growth. This can make brushing and flossing difficult. Your child’s dentist may suggest assistive devices or rinses to help your child keep healthy teeth and gums. More frequent, shorter dental visits can help children who are unable to keep their mouths open for long periods during dental work.

Medications may affect your child’s oral health as well. Always inform your dentist about your child’s JIA and medications. Older children who have had joint replacements may require an antibiotic before dental work.

Jaw exercises and therapy can help pain and stiffness. Injections with corticosteroids or surgery are sometimes needed.

**Splints and Orthotics**

Splints help to keep joints in the correct position and relieve pain. They can be used to correct a deformity (bending in the wrong position).

Splints are commonly used for knees, wrists or fingers. Orthotics, or shoe inserts, may help with differences in leg length and balance problems.

An occupational or physical therapist can make a custom splint for your child. Bring your child’s splint to all clinic appointments so it can be checked.

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**Managing Medication Side Effects**

All medications have potential side effects, whether minor or more serious. Some children may never experience any side effects. Talk with your child’s pediatric rheumatologist about the benefits and risks of each medication and how to alleviate side effects. Some may be avoided or minimized, for example, taking medications with food to avoid nausea.

To learn more about the possible side effects and precautions for specific drugs, check out the *Arthritis Today* Drug Guide at www.arthritis.org/DrugGuide.
Getting plenty of physical activity, eating well and learning how to cope with the challenges of the disease will be beneficial for your child.

Morning Stiffness Relief
Morning stiffness is one of the easiest ways to measure how active your child’s arthritis is: The longer the stiffness lasts, the more active the disease. Taking a hot bath or shower, sleeping in a sleeping bag or sweatsuit, doing range-of-motion exercises and using a hot or cold pack can help relieve stiffness. Although most children do better with warmth, there are a few who do well with cold treatments.

Physical Activity
Exercise is an essential part of your child’s plan. It helps keep bones and muscles strong and preserves range of motion. Physical activity will also help your child achieve and maintain a healthy weight, relieving added pressure on weight-bearing joints like knees, hips and ankles.

Therapeutic Exercise
Physical and occupational therapy can help to restore and maintain joint movement. Therapeutic exercise is the best way to preserve range of motion and strength and can help make it easier for children to perform activities of daily living.

Range-of-motion exercises help with joint stiffness to prevent joints from becoming fixed in a bent position. Joints with poor movement are at increased risk of osteoarthritis, even if the inflammation is controlled. Strengthening exercises build muscle strength that can help support weak joints.

Coping With a Flare
A flare occurs when arthritis is more active. Your child may have painful, swollen, pink and stiff joints and also feel fatigued. Call your child’s doctor if you suspect your child is having a flare. Here are ways you can help your child:

• Make sure your child takes medicine on time to avoid flares caused by lack of medicine.
• Apply ice to sore joints for 20 minutes at a time with 10-minute breaks.
• After the first 24 hours, heat may be soothing for sore joints.
• Modify your child’s activities but maintain joint flexibility and range of motion.
• Make sure your child rests when he or she is in pain.
• Ask your child’s doctor about using splints at night.
• Keep your child connected with friends to help to take the focus off the pain.

Sports and Recreational Activities
Recreational activities help your child have fun and spend time with family and friends while exercising joints and muscles. They help to build confidence in physical abilities. However, these activities should not take the place of therapeutic exercise.
Encourage activities such as swimming and bike riding, which exercise the joints and muscles without putting too much weight-bearing stress on the joints. Activities such as jumping on a trampoline or jogging often are not recommended. However, sports like basketball or soccer may not be off limits for your child if his or her arthritis is well controlled.

Special exercises and protective equipment further reduce risk of injury. Be sure to work with your child’s doctor and sports coaches to find the ideal activity for your child.

**Nutrition**

A healthy diet is important for all children. While some people have reported improved symptom relief from eating or eliminating certain foods, there is no specific diet that can cure arthritis. Following a diet low in processed foods and saturated fat and rich in fruits, vegetables, fish, nuts and beans can be beneficial for your child’s overall health and help ease inflammation.

Weight loss and gain can be associated with JIA. Weight loss may occur due to a loss of appetite. Chewing may be painful for children with affected jaws. Eating smaller, nutritious meals and snacks more often may help your child get the proper amount of calories. Try to increase the nutrient content of each bite in order to reduce the amount of food at each meal.

Some children with JIA may gain excess weight due to side effects of corticosteroids or limited physical activity. Being overweight puts extra stress on joints like the knees and hips. A registered dietician can teach you ways to improve your child’s diet.
Most children with JIA can expect the typical school experience and social life of any other child.

While you might be tempted to keep your child with arthritis at home under your watchful care when he or she is in pain, it’s important that your child attends school and other activities as consistently as possible. If your child experiences morning stiffness, work some extra time into the morning routine to loosen up for the day.

Meet your child’s teachers, school administrators and activity leaders in order to educate them about arthritis and its effects on your child. If your child agrees, offer to speak to his class or even to the parent/teacher association to spread the word about JIA.

It’s important to know your child has educational rights. Several federal laws bar discrimination against children with disabilities in public schools and require private schools to be accessible.

**Section 504 of the Rehabilitation Act of 1973** requires schools to provide physical accommodations for students with disabilities. Setting up a 504 plan with your school allows the institution to make necessary accommodations, such as obtaining an extra set of books to keep at home, grouping classes in the same location, allowing extra time to switch classes or allowing for absences and late arrivals.

The Arthritis Foundation offers a free brochure for teachers called *Juvenile Arthritis: A Teacher’s Guide.* The brochure educates your child’s teacher about JA, its challenges and educational rights as well as how he or she can help your child in the classroom. To order a free copy, visit www.afstore.org or call 800-283-7800.

**Meeting Other Kids With JA**

One of the best ways for your child to combat feelings of isolation that having arthritis may bring is to meet other children with arthritis. Often, shared experiences or perspectives can make for fast friendships and shared information about growing up with JA.

Get connected through the Arthritis Foundation. Local offices often hold events for juvenile arthritis families, such as family fun days, summer camps, trips to ball games or teen activities. The Arthritis Foundation hosts an annual national conference for families. Scholarships to attend may be available to offset costs. To find a local office near you, visit www.arthritis.org/local-offices.

Connect with other families living with JA through the Arthritis Foundation’s JA website, www.kidsgetarthritis.org/connect.

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For more information about educational rights and setting up a 504 plan for your child, visit [www.kidsgetarthritis.org/education](http://www.kidsgetarthritis.org/education).
The Arthritis Foundation is committed to helping kids, teens, parents and other loved ones deal with the daily challenges of juvenile arthritis. Our special website has the answers you need to know: KidsGetArthritisToo.org – the Foundation’s online home for the 300,000 families living with JA.

Understand and conquer JA. JA can be like a roller-coaster ride: You’re up one minute and down the next. Our JA site features stories from children and parents about coping with JA. Get tips and words of wisdom and inspiration about ways to live better with JA.

Meet other families. The Arthritis Foundation’s JA website offers many opportunities to help you find comfort, strength and hope. We host annual national events, local family days, camps and so much more – all in the company of others who know what it’s like.

Get the latest medical information. Read about types of JA care to consider – natural therapies, medication, surgery, how to achieve remission and other interventions.

Dealing with JA at school. Our survival guide helps getting through the school day a whole lot easier. We also provide a Teacher’s Guide that provides valuable information on ways teachers can help students with JA succeed in the classroom.

Which doctors can help? Check out the directory of physicians who can help you control juvenile arthritis and make the best of it.

Go to KidsGetArthritisToo.org or call 800-283-7800.

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