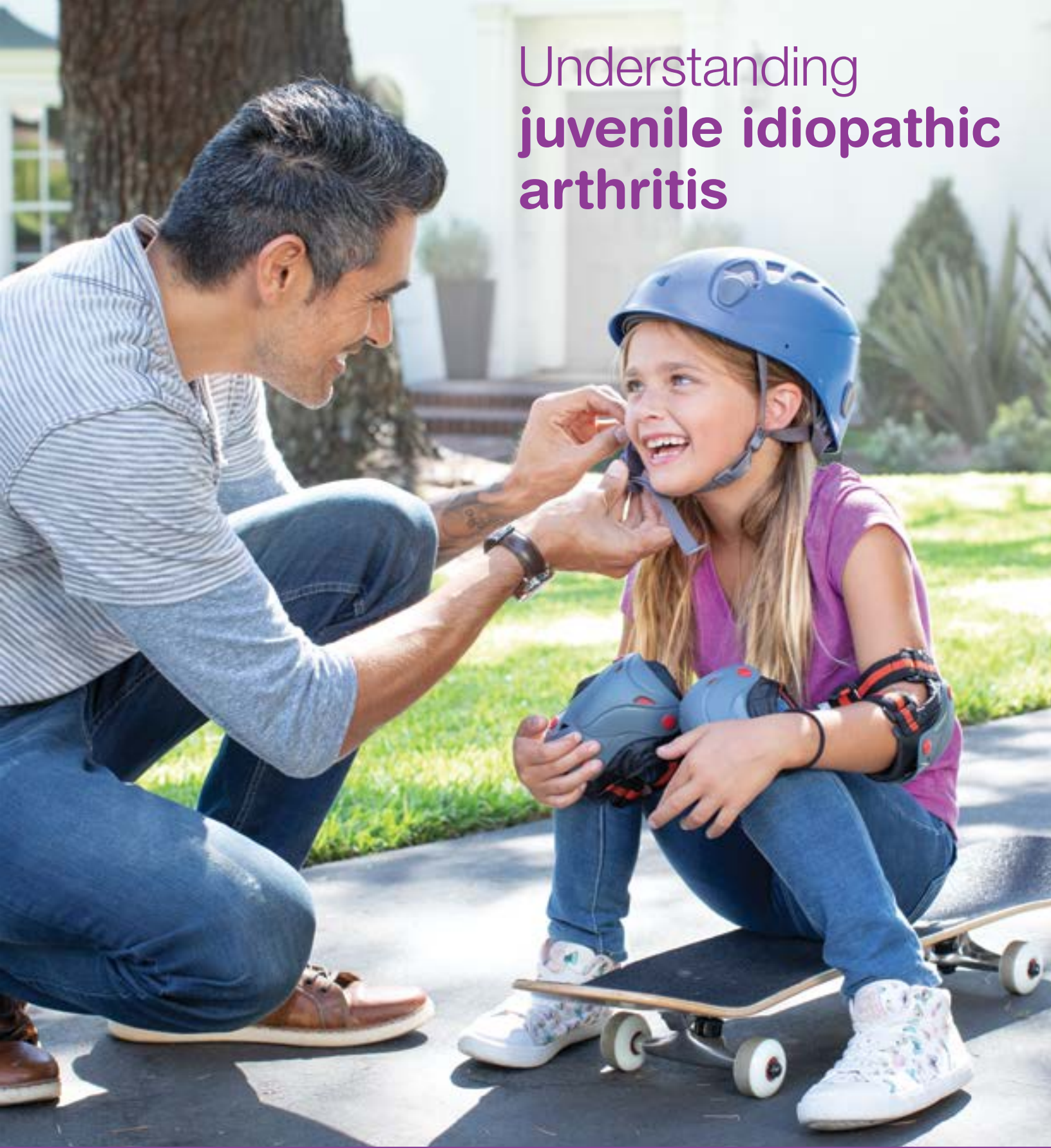


# Understanding juvenile idiopathic arthritis



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# What you need to know about juvenile idiopathic arthritis

Learning how to manage juvenile idiopathic arthritis (JIA) might be a challenge, especially at first. But understanding the diagnosis is key to taking control of any health concerns. Starting treatment soon after diagnosis can help prevent long-term joint damage and improve overall health.<sup>1</sup> A number of treatment options and lifestyle changes can help. This booklet provides information about JIA, what to expect after diagnosis and how to manage symptoms to live a full and active life.

## What is JIA?

JIA is a long-term, or chronic, condition. It causes swelling in one joint or many.<sup>1-2</sup> This leads to pain and stiffness that doesn't go away.<sup>3</sup> This can make it hard to move or complete daily tasks.<sup>3</sup> JIA symptoms usually begin before the age of 16.<sup>1-2</sup>

Each joint in the body is where the ends of two bones meet. A flexible coating called cartilage connects the bones. (See Figure 1.) Each joint is surrounded by synovium. This is a type of tissue that helps the bones move smoothly at that joint. In JIA, it becomes swollen and thick.<sup>1</sup> (See Figure 2.) This makes it hard to move. If the swelling is not treated, it can damage the joints.<sup>1</sup>

JIA usually affects the knees, hands and feet.<sup>3</sup> But it can also cause other issues in other parts of the body. This might include fevers and rash.<sup>1-3</sup>

There are six types of JIA.<sup>1-2</sup> (See Table 1.) Different children might experience the same type of JIA in a different way.<sup>4</sup> Some might have many symptoms, while others only have a few. And some might have more severe symptoms than others.

Figure 1. Normal joint

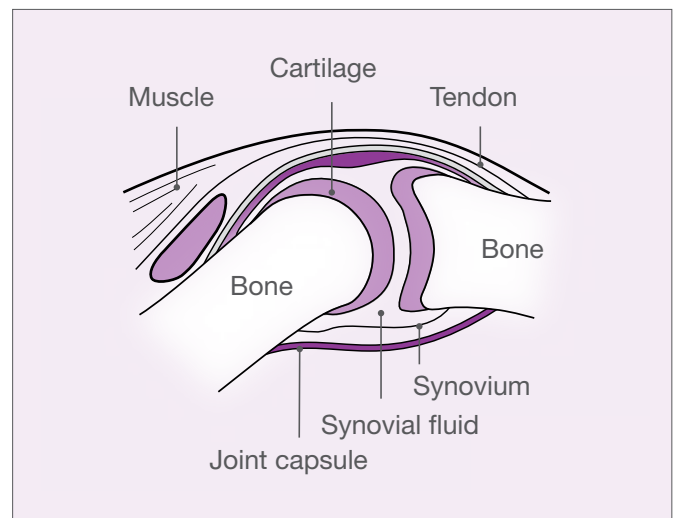
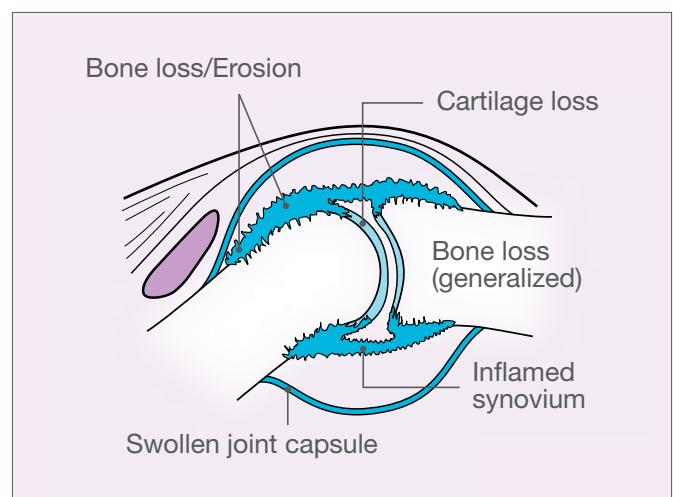


Figure 2. Affected joint



Adapted from: National Institute of Arthritis and Musculoskeletal and Skin Diseases. *Handout on health: Rheumatoid arthritis*. Bethesda, MD: NIAMS/ National Institutes of Health; 2017.

## What you need to know about juvenile idiopathic arthritis (cont.)

**Table 1. Types of JIA**

Type	Description
Enthesitis-related	<ul style="list-style-type: none"><li>• Joint inflammation paired with tenderness where bones meet tendons or ligaments</li><li>• Inflammation in other parts of the body, such as the spine</li><li>• More common in boys</li></ul>
Oligoarticular	<ul style="list-style-type: none"><li>• Affects four or fewer joints in the first six months</li><li>• Has increased risk for eye inflammation</li><li>• Called <i>persistent</i> if confined to four or fewer joints after six months</li><li>• Called <i>extended</i> if affecting more than four joints after six months</li><li>• More common in girls</li></ul>
Psoriatic	<ul style="list-style-type: none"><li>• Joint inflammation paired with a skin disorder called psoriasis</li><li>• Possible finger, nail or eye problems</li></ul>
Rheumatoid factor-negative polyarticular	<ul style="list-style-type: none"><li>• Affects five or more joints in the first six months</li><li>• No rheumatoid factor present in the blood</li></ul>
Rheumatoid factor-positive polyarticular	<ul style="list-style-type: none"><li>• Affects five or more joints in the first six months</li><li>• Rheumatoid factor present in the blood</li><li>• Closely resembles rheumatoid arthritis in adults</li></ul>
Systemic	<ul style="list-style-type: none"><li>• Affects one or more joints</li><li>• High daily fever lasting two weeks</li><li>• Skin rash or enlarged lymph nodes</li></ul>
Undifferentiated	<ul style="list-style-type: none"><li>• Does not fit one specific type of JIA</li><li>• Has features from more than one type of JIA</li></ul>

## Who develops JIA?

About **300,000 children** in the United States have been diagnosed with JIA.<sup>1-3</sup>

JIA can affect children of **any ethnic background and any age**.<sup>1,3</sup>

It typically develops between **6 months of age and 16 years of age**.<sup>1,3</sup>

## Causes and risk factors

JIA is thought to be an autoimmune disease.<sup>2-3</sup> This means it occurs because the immune system is not working properly.

Normally, the immune system seeks out and attacks bacteria or viruses that might cause illness. It also helps the body recover from illness or injury. But in JIA, the immune system mistakenly attacks healthy tissue in the joints.<sup>2-3</sup>

The cause of this abnormal immune response is not clear. Some think it develops from a combination of genetic and environmental factors. This means that a child might inherit an increased risk for JIA. Then, exposure to an outside factor, like a virus, might trigger it to develop.<sup>2-3</sup>

## Diagnosis

JIA can be hard to diagnose. Joint swelling and other symptoms might not be obvious right away. Some children might not report any pain at first.<sup>1</sup>

There is no single test to diagnose JIA. Your doctor likely used many types of information, including<sup>1-4</sup>:

- Family history, as a small percentage of cases can run in families
- Physical exam
- Symptoms, such as joint pain or swelling, rashes or swollen lymph nodes
- X-rays and lab tests

Your doctor likely also had to rule out other diagnoses with similar signs and symptoms, including<sup>1</sup>:

- Bone disorders
- Lupus
- Lyme disease



## What you need to know about juvenile idiopathic arthritis (cont.)

**Figure 3. Joints affected in JIA**



### Symptoms

The most common symptoms of JIA are<sup>3</sup>:

- Joint swelling
- Pain
- Stiffness

These symptoms don't go away. They usually occur in the hands, feet and knees.<sup>3</sup>

But JIA can cause a number of other symptoms. These might include<sup>1-4</sup>:

- Difficulty with fine motor activities
- Excessive clumsiness
- Fatigue

- High fever
- Inability to bend or straighten joints all the way
- Joints that feel warm
- Poor appetite
- Preference for one limb over another, or a limp
- Rash
- Sleep problems
- Swollen lymph nodes
- Weight loss

Symptoms can be different for each person. And symptoms can change within a single day, from one day to the next, or over time.<sup>4</sup> Symptoms can also come and go. Flares are times when symptoms get worse. Remissions are times when symptoms get better or go away.<sup>3</sup>

### Related conditions

JIA can raise the risk for other health issues. Some of these might not show up right away, including<sup>1,3,5-6</sup>:

- Eye inflammation, which can cause vision loss
- Growth problems
- High blood pressure
- Lung problems
- Uneven growth of bones and joints
- Weak bones, or osteoporosis

Work with your care team to keep an eye out for potential complications. A pediatric rheumatologist specializes in treating arthritis and other bone and joint diseases in children. You might also see other specialists. They might help monitor and manage things like eye health, mobility or nutrition.

# Living with JIA

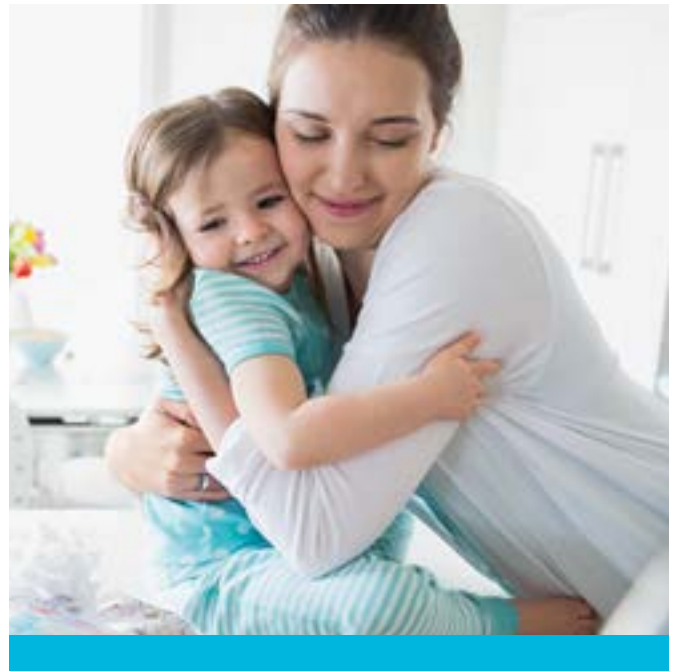
There is no cure for JIA. Starting treatment soon after diagnosis is important.<sup>1,7</sup> This can help manage symptoms, minimize joint damage and increase the chance for remission.<sup>1,7</sup> Work with your doctor to find the best approach.

The main goal of JIA treatment is to improve quality of life by doing the following<sup>7</sup>:

- Managing symptoms
- Minimizing damage to bones and joints
- Reducing inflammation
- Relieving pain

## Staying on track with treatment

Drug therapies, along with lifestyle changes, can help prevent joint damage. They can also stop JIA from getting worse.<sup>7</sup> But not all treatments work for everyone. Work with your doctor to find the right approach. This can change over time. Your doctor can adjust your treatment as needed. There are several types of drugs used to treat JIA.<sup>1,7</sup> (See Table 2.)



**Table 2. Drugs for treating JIA**

<b>Drug</b>	<b>Action</b>
Nonsteroidal anti-inflammatory drugs	<ul style="list-style-type: none"><li>• Relieve pain and joint swelling</li><li>• Do not prevent joint damage</li></ul>
Disease-modifying antirheumatic drugs	<ul style="list-style-type: none"><li>• Suppress the immune system</li><li>• Slow the disease process to prevent joint damage</li></ul>
Biologic response modifiers	Target parts of the immune system that cause joint swelling
Corticosteroids	Quickly control joint swelling

## Living with JIA (cont.)

It's important to take medication exactly as prescribed—at the right times and the right doses. This means not stopping medication without asking your doctor first. If a treatment routine starts to feel too hard, ask your doctor or pharmacist for help. Staying on track with treatment is vital for controlling symptoms and improving overall health.

### Lifestyle changes

Along with drug therapy, lifestyle changes can help manage JIA symptoms.<sup>7</sup> Staying active, eating well and getting enough rest can help minimize symptoms and improve overall health.

#### Staying active

JIA pain can sometimes make it feel tough to move. But regular exercise can help reduce symptoms.<sup>8</sup> Exercise can keep the joints mobile and functional. It can also help build strong bones.<sup>3,6,9</sup> Staying active can also help maintain a healthy weight. This can take extra pressure off the joints.<sup>8</sup> Finding an enjoyable activity can also improve mood and connections with others.<sup>9</sup>

Examples of low-impact activities include<sup>8-9</sup>:

- Biking
- Swimming
- Tai chi
- Yoga
- Walking



The right amounts and types of exercise can differ for each person. It can also change for a person from day to day. It is important to balance activity with rest. This is especially true when symptoms are bad. It might be necessary to limit some activities during a flare.<sup>3</sup>

Talk to your doctor before starting any exercise program. You might wish to ask for a referral to a physical therapist or exercise specialist. Together, you can build a smart exercise plan. Finding the right activities can take some trial and error, but it is important for better health.<sup>9</sup>



## Building healthy bones

Children with JIA might be more likely to develop weak bones that break easily.<sup>6</sup> This is called osteoporosis. In JIA, weaker bones might be due to<sup>10</sup>:

- Corticosteroid drugs
- Lack of activity
- Overall effects of JIA

Work with your doctor to track bone health. Some things might help prevent weak bones<sup>10</sup>:

- Do gentle, weight-bearing exercise like walking.
- Get enough protein, calcium and vitamin D from food, sunshine and supplements.
- Talk to your doctor about drugs that might prevent or treat osteoporosis.

## Eating well

There is no specific JIA diet. In general, experts say following a healthful, balanced diet is a good approach.<sup>11-12</sup> A diet with the right amounts of carbohydrates, protein, calcium and vitamin D can help control weight and build strong bones and muscles.<sup>12</sup>

Some food choices might also help lower inflammation, such as<sup>11</sup>:

- Beans, including black, garbanzo and pinto
- Fish like salmon, tuna and mackerel
- Fruits, especially berries and citrus fruits
- Green vegetables like broccoli or spinach
- Nuts like walnuts and almonds
- Olive oil

Some symptoms of JIA and side effects of some JIA drugs can make it hard to eat well.<sup>12</sup> Fatigue or joint pain might make it hard to handle food and utensils. Or, jaw pain, nausea and stomach issues might cause a poor appetite.<sup>12</sup> A doctor or a dietitian can provide guidance and support for good nutrition despite these kinds of challenges.



## Living with JIA (cont.)

### Getting enough rest

Rest and good sleep are important for those with JIA. This is especially true during flares. Rest helps the body recharge and restore itself. Lack of rest might make fatigue and pain worse.<sup>13</sup>

But it is common for those with JIA to have trouble sleeping well. Some might have a hard time falling asleep, even when tired. Others might fall asleep right away, but wake up throughout the night.<sup>13</sup>

Trouble with sleep might be due to medication side effects. It might also be connected to pain, depression or other health issues related to JIA.<sup>13-14</sup> Certain habits might help promote better sleep<sup>14</sup>:

- Avoid daytime naps when possible.
- Cut back on screen time before bedtime.
- Get regular exercise.
- Go to sleep and wake up at the same times each day.
- Keep meals lighter before bedtime.
- Leave electronics out of the bedroom.
- Relax before bedtime with a warm bath or calming music.
- Take medication earlier in the day if it affects sleep.
- Use comfortable bedding, a white noise machine or blackout shades.

If sleep troubles don't improve, talk with your doctor. Together, you can make a plan for better sleep. It is important to find ways to get the rest your body needs.



### Managing flares

Flares can happen suddenly. For some children, stress might bring on a flare. In others, infection might be the cause.<sup>15</sup> It's not always clear what triggers flares. If you suspect a flare, call your doctor for guidance.<sup>16</sup>

Certain things might help prevent and manage flares<sup>15-16</sup>:

- Balance activity with rest. Stay active to maintain strength and flexibility. But be sure to take it easy when needed.
- Consider ice, heat or massage. Ask your doctor if it's safe to use hot or cold packs and massage to soothe aching joints.

- Plan ahead. Work with your school to create a plan for days when flares make it hard to participate in class or to attend school.
- Stabilize painful joints. Ask your doctor about using splints at night. This might help minimize pain.
- Stay on track with medication. Some flares are the result of missing doses or taking them too late.

### **Emotional health**

Living with JIA can be tough sometimes. Stiffness and pain can make it hard to eat, sleep, learn or play.<sup>1-4</sup> And it might be hard to connect with others. This might cause frustration or anxiety. This is normal. It's good to be aware of these feelings and find healthy ways to cope.

Along with healthful eating and regular exercise, other things might help improve mood<sup>17</sup>:

- Emotional expression through music, journaling or art
- Massage or other bodywork
- Relaxation techniques like guided imagery or meditation
- Time for play and laughter with family and friends

Some days might feel sad or overwhelming. This is normal, too. It's important to recognize the symptoms of depression and know when to get help. In children and teens, symptoms of depression can include<sup>18</sup>:

- Boredom or low energy
- Difficulty with relationships
- Extreme sensitivity to rejection or failure
- Frequent sadness, tearfulness or crying
- Hopelessness
- Increased irritability, anger or hostility
- Less interest or enjoyment of favorite activities
- Low self-esteem and guilt
- Major changes in eating or sleeping patterns
- Poor concentration
- School troubles
- Social withdrawal from friends and family
- Talk of running away from home
- Thoughts about death or suicide

If either you or your child has thoughts of suicide, call 911 or your local emergency services number. You can also call a doctor, mental health professional, crisis center or hotline for help.

Tell your doctor if you feel depressed. Your doctor might suggest counseling, antidepressant medication or a combination of both. Antidepressants can help balance brain chemicals that affect mood.<sup>19</sup> Counseling provides a safe space to discuss thoughts, feelings or concerns.



### **Support groups**

A JIA support group can connect you with others like you.<sup>17</sup> This kind of group might make it easier to talk about the challenges of living with JIA. It might also be a place to learn new ways to manage school concerns or family dynamics.

### **Family or individual counseling**

Sometimes, one-on-one conversation might feel like a better option. This might make it easier to share personal or private concerns. You might try talking with a counselor or therapist.<sup>17</sup> Your doctor might be able to refer you to a counselor who works with those living with chronic conditions like JIA.

### **Ongoing care**

Work with your care team to keep track of your progress and your symptoms. You can talk about how well your medication therapy and lifestyle changes are working. Your doctor can also monitor side effects and adjust your treatment as needed. Each visit can help you stay on track with treatment and better manage JIA.

We've provided this information because we believe the more you know about JIA, the better prepared you will be to manage it. In addition, the AllianceRx Walgreens Prime specialty pharmacy Care Team is here to provide you with dependable, personalized support to help you manage medication side effects and stay on track with your prescribed therapy. We look forward to being a member of your healthcare team and helping you get the best results from your treatment.

## References

1. Juvenile arthritis. American College of Rheumatology Web site. <https://www.rheumatology.org/I-Am-A/Patient-Caregiver/Diseases-Conditions/Juvenile-Arthritis>. Updated March 2019. Accessed March 23, 2020.
2. Juvenile idiopathic arthritis. U.S. National Library of Medicine Genetics Home Reference Web site. <https://ghr.nlm.nih.gov/condition/juvenile-idiopathic-arthritis>. Updated July 10, 2018. Accessed March 23, 2020.
3. What is juvenile arthritis? National Institute of Arthritis and Musculoskeletal and Skin Diseases Web site. <https://www.niams.nih.gov/sites/default/files/catalog/files/FF%20Juven%20Arthritis%202-15.pdf>. Published November 2014. Accessed March 23, 2020.
4. Juvenile idiopathic arthritis symptoms. Arthritis Foundation Web site. <https://www.arthritis.org/about-arthritis/types/juvenile-idiopathic-arthritis-jia/symptoms.php>. Accessed March 23, 2020.
5. Stoll ML, Cron RQ. Treatment of juvenile idiopathic arthritis: a revolution in care. *Pediatr Rheumatol Online J*. 2014;12:13. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4003520/>. Accessed March 23, 2020.
6. Juvenile idiopathic arthritis (JIA). Arthritis Foundation Web site. <https://www.arthritis.org/diseases/juvenile-idiopathic-arthritis>. Accessed April 7, 2020.
7. Juvenile idiopathic arthritis treatment. Arthritis Foundation Web site. <https://www.arthritis.org/about-arthritis/types/juvenile-idiopathic-arthritis-jia/treatment.php>. Accessed March 23, 2020.
8. CAM therapies to try for juvenile arthritis. Arthritis Foundation Web site. <https://www.arthritis.org/health-wellness/treatment/complementary-therapies/natural-therapies/cam-therapies-to-try-for-juvenile-arthritis>. Accessed April 7, 2020.
9. Brown LJ. The importance of exercise in kids with arthritis. Arthritis Foundation Kids Get Arthritis, Too Web site. <http://www.kidsgetarthritistoo.org/living-with-ja/daily-life/staying-active/ja-exercise.php>. Accessed March 23, 2020.
10. Uziel Y, Zifman E, Hashkes PJ. Osteoporosis in children: pediatric and pediatric rheumatology perspective: a review. *Pediatr Rheumatol Online J*. 2009;7:16. <https://ped-rheum.biomedcentral.com/articles/10.1186/1546-0096-7-16>. Accessed March 23, 2020.
11. Expert Q&A: Is there a special diet for juvenile arthritis? Arthritis Foundation Kids Get Arthritis, Too Web site. <http://www.kidsgetarthritistoo.org/living-with-ja/daily-life/healthy-eating/expert-qandamp;a-diet.php>. Accessed March 23, 2020.
12. Brown LJ. Ensure proper nutrition for your child with JA. Arthritis Foundation Kids Get Arthritis, Too Web site. <http://www.kidsgetarthritistoo.org/living-with-ja/daily-life/healthy-eating/juvenile-arthritis-nutrition.php>. Accessed March 23, 2020.
13. Stinson JN, Hayden JA, Ahola Kohut S, et al. Sleep problems and associated factors in children with juvenile idiopathic arthritis: a systematic review. *Pediatr Rheumatol Online J*. 2014;12:19. doi:10.1186/1546-0096-12-19.
14. Dunkin MA. Sleep and JA. Arthritis Foundation Kids Get Arthritis, Too Web site. <http://www.kidsgetarthritistoo.org/living-with-ja/medical-care/pain-and-symptoms/mood-pain-and-sleep.php>. Accessed March 23, 2020.
15. Managing JIA in school. JIA at NRAS Web site. <https://www.jia.org.uk/data/files/Living%20with%20JIA/Managing%20JIA%20in%20School%20-%20July%202016%20V2.pdf>. Published 2016. Accessed March 23, 2020.
16. Seven tips for managing your child's arthritis flares. Arthritis Foundation Kids Get Arthritis, Too Web site. <http://www.kidsgetarthritistoo.org/living-with-ja/medical-care/pain-and-symptoms/manage-juvenile-arthritis-flares.php>. Accessed March 23, 2020.
17. Arthritis and emotions. Arthritis Foundation Web site. <https://www.arthritis.org/living-with-arthritis/life-stages/coping-with-change/emotions-and-feelings.php>. Accessed March 23, 2020.
18. Depression in children and teens. American Academy of Child and Adolescent Psychiatry Web site. [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/The-Depressed-Child-004.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/The-Depressed-Child-004.aspx). Updated October 2018. Accessed March 23, 2020.
19. Antidepressants. MedlinePlus Web site. <https://medlineplus.gov/antidepressants.html>. Updated April 30, 2018. Accessed March 23, 2020.



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