

Ankylosing spondylitis

CONDITION GUIDE



| | |
|--|----|
| Introduction and how to use this guide | 1 |
| Understanding ankylosing spondylitis | 3 |
| What is AS? | 4 |
| Who is affected? | 4 |
| What are the symptoms? | 5 |
| What are the risk factors? | 5 |
| Taking care of your body | 6 |
| Staying mobile with AS | 7 |
| Eating healthy | 7 |
| Exercising regularly | 8 |
| Practice good posture | 8 |
| Sleeping well | 9 |
| Smoking | 9 |
| Maintaining a healthy weight | 9 |
| Lifestyle approaches | 10 |
| Supporting your emotional health | 10 |
| AS treatment approaches | 12 |
| Staying on track with your medicines | 13 |
| Treatment strategies and goals | 14 |
| Administering your medicine | 14 |
| Injection-site reactions | 14 |
| Medicines for AS | 15 |
| Complementary and alternative medicine | 17 |
| The future is bright | 17 |
| Understanding side effects | 18 |
| Possible side effects | 19 |
| Nausea and diarrhea | 20 |
| When it's time to call your health care provider | 20 |
| Resources and References | 22 |
| Resources | 22 |
| References | 24 |

How to use this guide

We know the diagnosis of ankylosing spondylitis (AS) can be overwhelming. This guide can help answer concerns, while giving you or your child important information to share with family or friends.

Your health care provider has suggested that you or your child start treatment. This means that your health care provider believes you or your child has a good chance of responding to medicine. We're here to help, every step of the way. Remember that taking your medicine as prescribed will help you or your child lead a healthy life. Please do not stop taking your medicine without checking with your health care provider.

Health care providers have learned how to individualize treatment so that each patient has the best chance of responding. The treatment you or your child receives may differ from the treatment of other patients with ankylosing spondylitis. This is one of the reasons it is so important that you talk about any questions or concerns you may have with your health care provider or with a Prime Therapeutics Specialty Pharmacy™ (Prime Specialty Pharmacy) nurse or pharmacist.

- *Personal support can help make a challenging journey easier*



24/7 ACCESS

Visit us online

MyPrime.com/Specialty

A pharmacist is always available to answer questions
877.627.6337 (TTY 711)

There are four parts to this guide

1 Understanding your ankylosing spondylitis

We're here to help you become better informed. In this chapter, we'll discuss how to live your best life with a diagnosis of ankylosing spondylitis.

2 Taking care of your body

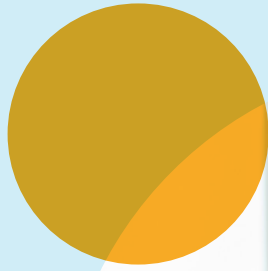
Find ways to take charge of your health — both physically and mentally — with proactive changes.

3 AS treatment approaches

Want to learn more about what treatment approaches that your health care provider or the Prime Specialty Pharmacy care team might suggest? We'll go over possible treatment plans, including medicine and other ways to help manage ankylosing spondylitis in a way that works best for your or your child's lifestyle.

4 Understanding side effects

Learn tips to help reduce side effects, and know when to call your health care provider.



Understanding ankylosing spondylitis

Did you know that approximately 500,000 people in the United States have ankylosing spondylitis?¹ Whether you or your child is newly diagnosed or has been living with AS for a while, this guide is all about helping you become better informed about AS and your options for staying healthy.

What is ankylosing spondylitis?

Ankylosing spondylitis is a chronic (long-term) disease and is a form of progressive arthritis. It results in inflammation of the spinal joints. The joints at the base of the spine, where the spine meets the pelvis, are also affected. Over time, ankylosing spondylitis can cause the affected spinal bones to grow together (fuse). This can limit the movement and flexibility of the spine and may affect posture and the function and capacity of your lungs.² It may also cause inflammation in your eyes and other parts of your body.³

Ankylosing spondylitis cannot be prevented, but early recognition of symptoms may make treatment more successful. Most people with ankylosing spondylitis can live full, productive lives.

Who is affected?

AS usually develops first in adolescents and young adults and is more common in boys² and Caucasian, Asian and Hispanic populations.¹

● *You are not alone*

Symptoms vary from mild to severe in young adults with AS. Some individuals have no symptoms at all (remission). One of the most important reasons to continue treatments, even if you feel fine, is that AS can continue to affect your body over time.



What are the symptoms?

The course of ankylosing spondylitis is difficult to predict; it varies for each individual. Some may have mild symptoms while others may have severe back pain.²

Ankylosing spondylitis causes inflammation (swelling) of the joints in the spine and the pelvis. Initially, the symptoms may come on gradually. Early symptoms include pain and stiffness in the lower back — between the pelvis and the spine — that comes and goes. The pain and stiffness may feel worse first thing in the morning, at night or after periods of inactivity, and improves with exercise or activity.²

Over time, other areas of the spine may be affected. As the disease progresses, the body attempts to heal by forming new bone matter. The new bone forms over the space between spinal bones, causing them to join — or fuse — together. This causes those areas of the spine to stiffen and become less flexible and may cause a person's posture to lean forward or “stoop.” In some people, this can become disabling. Also, there can be inflammation in the regions where ribs meet the spine or the breastbone. This may make it more difficult to expand your chest and breathe. Fatigue is also a common symptom.²

Less common symptoms include:

- ❖ Inflammation of the eye, bowel and more rarely, the heart and lungs²
- ❖ Thinning of the bones³
- ❖ Pain in the feet or heel²
- ❖ Pain and swelling in the shoulders, knees and sites where the tendons and ligaments attach to the bones²
- ❖ Pain and stiffness in the hips²
- ❖ Mild fever and loss of appetite¹

What are the risk factors?

The cause of ankylosing spondylitis is not known; however, genetics seem to play a role. People who have a gene that produces a specific genetic marker (a protein called HLA-B27) are at greater risk for developing ankylosing spondylitis.²

The risk factors for ankylosing spondylitis include genetics, gender and family history. In contrast to other types of joint disease, males show a greater risk for developing it than females. People with a family history of the disease are also at higher risk. It typically begins between the ages of 17 and 35, but it can occur earlier as well.¹ Frequent gastrointestinal infections can also be a risk factor for AS.²



Taking care of your body

Fortunately, there are ways you or your child can lessen the physical and mental health stress by being proactive in a few areas. This includes lifestyle habits to cope with the symptoms of AS and maintaining a healthy diet, regular exercise, a smart sleep schedule and a great support network.

Staying mobile with AS

AS can cause permanent stiffness with changes in mobility, sometimes affecting balance and coordination. For our bodies to stay in balance, we need our eyes, ears, brain, sense of body position and perceptions. Ask your health care provider if physical or occupational therapy would be appropriate for you.

Eating healthy

Most children do not have specific dietary needs or restrictions and there is no specific diet that can cure AS. Some children may experience weight loss due to difficulty chewing if they have an affected jaw. Other children may experience weight gain due to limitations on their mobility or side effects from certain medicines. The most important things are to eat healthy and maintain a healthy weight. A balanced diet includes plenty of fruits, vegetables and whole grains. It also limits salt, sugar, and saturated fat.

Invest the time to learn how to improve your diet. A registered dietitian nutritionist (RDN) may also be helpful to you or your child in developing a personalized eating plan.

Good nutrition can:

- ❖ Improve immune function
- ❖ Reduce inflammation
- ❖ Increase muscle strength
- ❖ Increase energy
- ❖ Stabilize mood
- ❖ Manage fatigue

Here are some tips for safe and healthy eating:

- ❖ Eat small meals or snacks every three to four hours instead of three large meals each day
- ❖ Drink at least eight glasses of water or clear, caffeine-free fluids every day
- ❖ Foods rich in omega-3 fatty acids, such as fish, may be helpful in reducing inflammation⁴

Exercising regularly

Regular exercise is important for managing the symptoms of AS. Strengthening and range of motion exercises are also helpful. Use of exercise can relieve pain, improve posture, maintain flexibility and range of motion as well as manage your or your child's weight. Some prescribed medicines can also cause you or your child to feel tired. As strange as it may seem, exercising may actually boost your or your child's energy level. Remember to check with your health care provider before starting an exercise program. Exercise can be done at home or with the help of a physical or occupational therapist.

Tips for exercising with AS include the following:

- ❖ Warm up (light stretching) before exercise to help reduce joint pain.
- ❖ Participate, if able, in low-impact exercise and sports (swimming, walking and biking).
- ❖ Ask for special accommodations at school to help manage limitations (for example, a low-impact activity during gym class).
- ❖ Find the balance between rest and activity; find time for extra rest when it seems necessary.

Practice good posture

Over time, your posture may begin to change. Your upper body may begin to lean forward. If your spine is fusing, these strategies can help to maintain an upright (rather than a stooped) position.² They can also make it easier for you or your child to perform activities of daily living (ADL) such as bathing and getting dressed. Remember to check with your health care provider before starting any exercises.

- ❖ Proper sleeping position (flat on back)
- ❖ Proper walking position
- ❖ Abdominal and back exercises

Helping your family and friends understand AS

Taking the time to educate family and friends about AS can help alleviate their concerns or fears. Consider talking to your family, friends or loved ones about your or your child's lifestyle modification and treatment plans. Including people you care about can also give them a more realistic view of your experience with AS. You or your child can explain to loved ones when you need help and when you prefer to be independent. Remember, you are not in this alone. Your support group may want to be more helpful than you or your child realize.



Sleeping well

Your or your child's body needs rest to heal and recharge, especially during treatment for AS. One of the best things you can do is to make sure you or your child is getting eight or more hours of sleep each night. If your body is telling you that you're tired and you are having trouble falling asleep, make sure to mention it to your health care provider.

Smoking

Smoking can worsen your symptoms of AS such as spinal damage and restriction to breathing.² Check with your health care provider for a smoking cessation program that will help you quit.

Maintaining a healthy weight

A healthy weight is one that allows your body to function at its best. To find out if you or your child's weight is at a healthy level, it may be best to estimate weight (body mass) on a growth chart which measures body mass index (BMI) as percentiles against average boys and girls of the same age.⁵ For adults, you should know your BMI. An RDN can be helpful in calculating a healthy weight for you. Achieving a healthy weight may also help your or your child's symptoms and condition of AS.

- 1 Choose healthy options** to keep your body functioning at its best. A website like **ChooseMyPlate.gov** can help you choose better meals.
- 2 Listening to your body** is an important step in maintaining a healthy weight. If you experience cravings or notice that you are drawn to certain foods, try and work them into your daily meal plan. Additionally, creating a meal-time plan that allows you to focus on your food with little distraction can help you feel satisfied, full and nurtured.
- 3 Accountability partners** can be a great way to keep your goals on track. It may seem hard to eat healthier or lose weight on your own. Pair up with a workout buddy or an accountability partner you can talk about challenges and share celebrations with.
- 4 Create weight loss goals that are sustainable and realistic.** Discuss your weight goals with your health care provider. A RDN may also help you to change habits blocking your path to success. In just as little as five minutes a day, you can be off to a great start.

Lifestyle approaches

There are many lifestyle modifications that can be used to help manage symptoms, including the following:

- ❖ Carefully record symptoms daily, including pain and stiffness.
- ❖ Record medicine side effects to help identify problems or concerns.
- ❖ Use self-help devices (for example, long-handled shoehorns or sock aids) when stiffness limits any bending;¹ consult with a health care provider or physical therapist about what devices are appropriate.
- ❖ Plan pain management strategies.²
- ❖ Apply heat for relief of stiff joints and tight muscles and cold for inflamed joints. Hot baths or showers or electrical stimulators for pain (for example, a Transcutaneous Electrical Nerve Stimulation (TENS) unit) can also help.⁶
- ❖ Schedule regular eye health care provider appointments to check for uveitis.³

Supporting your emotional health

Some people become overwhelmed with their diagnosis and the life adjustments they need to make. This is normal. Managing your or your child's stress and emotions and seeking help from friends, family or professionals are important aspects of staying healthy. Many members also benefit from in-person or online support groups.

Children who have AS need ongoing support and they need to know their condition is not their fault.

FOR SUPPORT

National Suicide Prevention Hotline

1.800.273.8255

TTY 1.800.799.4889

Crisis Textline

Text "GO" to 741-741

Spondylitis Association of America

Spondylitis.org

800.777.8189

Arthritis Foundation

Arthritis.org

1.844.571.HELP (Toll-free)

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

NIAMS.NIH.gov

301.495.4484

877.22.NIAMS (Toll-free)



Stress

Whether you or your child is newly diagnosed or has been living with AS for some time, stress may be experienced at certain points during treatment. Stress may make the challenges of life difficult to handle — especially when it comes to your body. Here are three ways you can manage stress:



Write it down: Record your thoughts in a journal and read through it often. Celebrate daily successes and share opportunities and challenges to help your brain recognize the many sides of your life.



Take a break: When you're in the midst of a particularly difficult moment, take a step back and take a deep breath. Even taking a small nap or watching something you enjoy on TV may help brighten your mood.



Find a support group: Every individual needs a healthy balance of people that are able to help in stressful situations. Keep phone numbers handy for family or friends you trust. Reach out to them as often as needed.

Depression

Depression is not a character flaw or weakness. It's a health problem that starts from a chemical imbalance in the brain. If you have thoughts of suicide or of harming yourself or others, call 911 or go to the emergency room.

• *A note on depression*

Everyone feels sad now and then. Sometimes a deep sadness or loss of interest in activities you or your child usually enjoys can actually be a medical illness called depression. Depression causes deep sadness or high anxiety around everyday activities, and may make it hard to live your life the way you want.





If you think you or your child may be depressed, talk with your or your child's health care provider. The health care provider may prescribe an antidepressant medicine to help with symptoms. Please note that it may take several weeks to feel the full benefit of antidepressants. Your health care provider may also recommend counseling with a mental health professional. It can be helpful to speak to someone about the impact AS has had on your life.



AS treatment approaches



Taking an active role in your or your child's health care includes paying careful attention to both symptoms and treatment. It also means talking openly with your health care provider. This part of the guide can help you:

-  Track disease symptoms and medicine side effects
-  Understand more about how this condition might affect quality of life
-  Understand more about how to get the most from medicine therapy
-  Write down questions or concerns to discuss with your health care provider

Staying on track with your medicines

Here is what you can do to help get good results from medicine therapy:

DO

- Call your health care provider or pharmacist with any questions you may have about your or your child's medicines.
- Educate yourself about medicines for AS, especially risks and warnings.
- Keep a list of the names and prescribed amounts for each medicine.
- Stick to the medicine schedule your health care professional has prescribed.
- Make taking medicines part of your normal routine.
- Check with your health care provider before starting any new medicines, including vitamins, supplements, herbal remedies, prescription medicines and over-the-counter products.

DON'T

- Skip or change doses. By taking your medicine as prescribed, you will improve the chances for a positive treatment outcome.



ASK YOUR HEALTH CARE PROVIDER

Remember to talk with your health care provider about your or your child's lab test results. Make sure you understand what they mean. Don't be afraid to ask questions if you need further clarification.

Treatment strategies and goals

Health care providers use several different approaches to treat AS. Treatment approaches consist of medicines, lifestyle approaches such as the use of exercise and rarely surgery. Keep in mind that a child with AS can live a quality life with management of the disease. No medicine can cure AS. Rather, medicines can slow the progression of AS, reduce symptoms and improve your or your child's quality of life.

The goals of treatment are to:

- ❖ Relieve pain and stiffness²
- ❖ Maintain flexibility²
- ❖ Practice good posture²
- ❖ Prevent, identify and treat complications²
- ❖ Improve quality of life²

Administering your medicine

Some medicines for AS cannot be taken by mouth. Instead, they must be injected under the skin, into a muscle or into the vein. If you or your child is worried about giving an injection, your health care provider can talk about any concerns. They will take the time to demonstrate how to inject medicine properly, and in many cases, they can provide a device that will help.

Injection-site reactions

When you inject a medicine, a reaction may occur at the injection site. Reactions may include:

- ❖ Redness
- ❖ Rash
- ❖ Stinging
- ❖ Tingling
- ❖ Swelling
- ❖ Itching
- ❖ Pain
- ❖ Discomfort

The following steps may help reduce or prevent these reactions:

| STEP | EXPLANATION |
|-------------|--|
| Preparation | <ul style="list-style-type: none"> ● Make sure the medicine is at room temperature before injection. Applying ice to the site before and after injection may lessen injection-site reactions. |
| Method | <ul style="list-style-type: none"> ● Ensure that you are using the correct injection method for your medicine. |
| Placement | <ul style="list-style-type: none"> ● Rotate each new injection site at least 1 inch apart. ● Avoid injecting into areas that are swollen, red or hard. ● Record when and where you inject each time to help keep track. |
| Supplies | <ul style="list-style-type: none"> ● Use a new needle for each injection. |

Medicines for AS

Health care providers use different types of medicines to help manage symptoms of AS. The choice depends on managing the symptoms and preventing spinal deformity.³

Nonsteroidal anti-inflammatory drugs (NSAIDs)

Nonsteroidal anti-inflammatory drugs (NSAIDs) are often the first type of medicine used to manage the symptoms of AS. Some NSAIDs are available over the counter, while others are available only with a prescription. Both medicines work to reduce inflammation and provide pain relief. If NSAIDs do not relieve symptoms, there may be other drugs that your provider will prescribe for you to help with the swelling and/or pain you may be having that are not listed here.

| DRUG NAME | FORMS | POSSIBLE SIDE EFFECTS | IMPORTANT INFORMATION |
|-------------------------------------|---------------|--|--|
| ibuprofen (Advil, Motrin) | • Oral tablet | • Stomach irritation ² • Skin rashes | • Must be taken with food. |
| diclofenac (Voltaren) | | • High blood pressure | • Get emergency help if you have chest pain, weakness, shortness of breath, slurred speech or problems with vision or balance. |
| etodolac (Lodine) | | • Fluid retention | |
| indomethacin (Indocin) | | • Possible kidney, liver and heart problems | |
| naproxen (Aleve, Naprosyn, Anaprox) | | | |
| meloxicam (Mobic) | | | |
| sulindac (Clinoril) | | | |
| piroxicam (Feldene) | | | |
| celecoxib (Celebrex*) | | | |

*COX-2 Inhibitor

This guide is updated annually.

Additional drug information can be found on our website at MyPrime.com/Specialty.

Corticosteroids

Corticosteroids are used to control inflammation and can be injected into a single, affected joint, but not the spine, to provide quick relief.²

| DRUG NAME | FORMS | POSSIBLE SIDE EFFECTS | IMPORTANT INFORMATION |
|--|--|---|---|
| betamethasone (Celestone) | <ul style="list-style-type: none"> ● Oral tablet ● Intramuscular injection ● Intravenous infusion | <ul style="list-style-type: none"> ● Weight gain ● Thinning of bones ● Cataracts ● Avascular necrosis ● Hypertension ● May interfere with growth ● Round face ● Increased risk of infection | <ul style="list-style-type: none"> ● Follow your health care provider’s advice in slowly reducing the dose. It can be dangerous to stop the medicine suddenly. |
| dexamethasone (Decadron) | | | |
| hydrocortisone (Cortef) | | | |
| hydrocortisone sodium succinate (A-Hydrocort, Solu-Cortef) | | | |
| methylprednisolone (Medrol) | | | |
| methylprednisolone acetate (Depo Medrol) | | | |
| Methylprednisolone sodium succinate (Solu-Medrol) | | | |
| prednisolone (Millipred, Orapred) | | | |
| prednisone | | | |
| triamcinolone | | | |

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Biological response modifiers (BRMs)

The newest class of medicines is called biologic agents. They are used when the other medicines have failed to provide relief of the symptoms of AS. Tumor Necrosis Factor (TNF) blockers are effective in treating the inflammation.

| DRUG NAME | FORMS | POSSIBLE SIDE EFFECTS | IMPORTANT INFORMATION |
|-----------------------------|--------------------------|---|--|
| adalimumab (Humira) | ● Subcutaneous injection | ● Upper respiratory tract infection | ● Test for tuberculosis (TB) prior to first dose. |
| certolizumab pegol (Cimzia) | ● Intravenous injections | ● Rash | ● Children should not receive “live” vaccines (e.g., MMR (measles, mumps, rubella) and varicella (chicken pox)). |
| etanercept (Enbrel) | | ● Headache | |
| golimumab (Simponi) | | ● Nausea | |
| infliximab (Remicade) | | ● Flu-like symptoms | |
| secukinumab (Cosentyx) | | ● Increased risk of serious infection and certain types of cancer | |

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Complementary and alternative medicine (CAM)

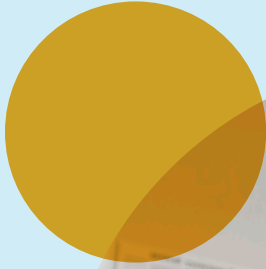
Complementary medicine refers to treatments such as herbal treatments or acupuncture. While some people see benefits from CAM, these treatments can also worsen an AS condition.

Check with your health care provider before starting any new medicines, including vitamins, supplements, herbal remedies, prescription medicines and over-the-counter products.

The future is bright

Studies on patients diagnosed with AS are happening every day. While health care providers prefer not to use the word “cure” when talking about AS, new treatments and clinical trials are ongoing to combat this disease. With new and valuable studies continuing to help health care providers make progress with treating AS, there is hope for the future. You never know when the next study will offer an incredible discovery. Remember that your or your child’s body functions best with the right lifestyle choices, good communication with your health care providers and by taking medicines as prescribed.

You can review the clinical trials that are in progress at **ClinicalTrials.gov** and searching “ankylosing spondylitis.” You can decide if a clinical trial is right for you by talking with your health care provider or pharmacist.



Understanding side effects

Some people do not experience any discomfort from their AS medicine. Others may struggle when dealing with side effects. You or your child might find that taking medicine at bedtime allows you to sleep through the strongest side effects. AS medicine may affect mental health and your body as a whole. Remember, if any side effects have changed your or your child's overall quality of life, it's time to talk to your health care provider.

Possible side effects

- 1 For trouble with sleeping,** consider avoiding large meals or caffeine too close to bedtime. You or your child may also consider developing peaceful bedtime routines that can help your body and mind better relax in the evening. Many people have found that relaxation techniques such as yoga, meditation or deep breathing can help alleviate sleep problems.
- 2 If headaches are becoming more regular,** consider drinking more fluids — especially water. Some patients have also found that dark rooms or warm baths can alleviate some headache symptoms. Make sure to speak to your health care provider or a pharmacist at Prime Specialty Pharmacy about using an over-the-counter pain reliever.
- 3 If you or your child has a fever,** make sure to drink plenty of fluids. It's important to talk with your health care provider if you or your child is taking acetaminophen before or after injections.
- 4 If you or your child lacks an appetite,** consider eating smaller and more frequent meals. Taking a walk before and after meals may also help stimulate your or your child's appetite and aid digestion. Practice good self-care, indulge in a few favorite meals and try taking supplements or drinking meal-replacement shakes to help provide the nutrition your or your child's body needs.
- 5 If you or your child is experiencing a dry mouth or bad taste,** it's recommended to start each day with a glass of water. Make sure to go for regular dental check-ups and let the dentist know about any medicines you or your child may be taking.

Nausea and diarrhea

Some medicines may cause digestive issues including nausea and diarrhea. When either occur, it's important to keep your body hydrated and well-rested. For nausea, consider taking small bites of a cracker, or try eating foods at room temperature. For diarrhea, consider limiting foods that contain caffeine and taking dairy out of your diet. Also avoid foods that cause cramping, such as cabbage, beans, onions, green peppers and carbonated drinks.

When it's time to call your health care provider

Chest pain

This includes discomfort in your or your child's chest, esophagus (throat) or lungs. This may feel like a burning or aching chest pain. Seek emergency treatment immediately if chest pain develops while taking medicines for AS, especially if the pain is:

- ❖ Very severe
- ❖ Different from pain you or your child have had before
- ❖ Occurs when you or your child are doing a strenuous activity, such as climbing stairs

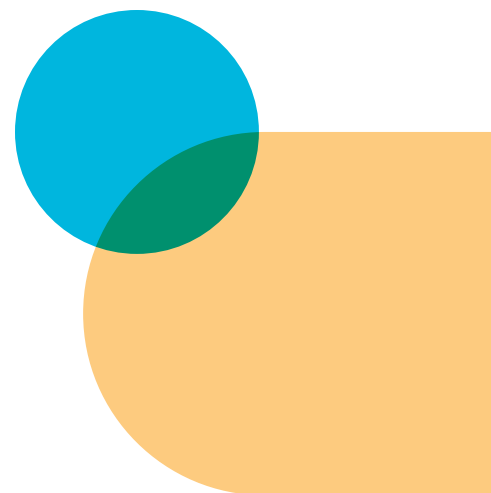
Shortness of breath

If you or your child feels short of breath, call your health care provider. Your health care provider will determine if it is related to arthritis medicines or another medical problem that requires prompt attention.

Vision changes

Although it is uncommon, some people have sudden changes in vision while taking their medicine for AS. Call your health care provider right away if you or your child develop:

- ❖ Blurry vision
- ❖ Double vision
- ❖ Sensitivity to light



● *A note on pregnancy and breastfeeding*

Let your health care provider know if you or your child is pregnant or planning to become pregnant. Some medicines for AS are not recommended for pregnant women or may pass into breast milk. Your health care provider may advise you to stop taking certain medicines during pregnancy or when breastfeeding your infant.

Also call your health care provider right away if you experience:

- ❖ Swelling in legs, feet or ankles
- ❖ Severe diarrhea lasting for more than 48 hours
- ❖ Blood in your stool
- ❖ Skin rash or unusual skin reaction in the area of an injection
- ❖ Body temperature higher than 100.5° F at any time, or you have a fever lasting longer than 72 hours or three days⁸
- ❖ Extreme fatigue
- ❖ Allergic-type reactions such as trouble breathing, hives, etc.
- ❖ The injection site does not heal within a few days



Resources

| ORGANIZATION | DESCRIPTION |
|---|--|
| <p>Arthritis Foundation arthritis.org 844.571.HELP (Toll-free)</p> | <ul style="list-style-type: none"> The Arthritis Foundation is the Champion of Yes. Leading the fight for the arthritis community, the Arthritis Foundation helps conquer everyday battles through life-changing information and resources, access to optimal care, advancements in science and community connections. Our goal is to chart a winning course, guiding families in developing personalized plans for living a full life — and making each day another stride towards a cure. |
| <p>Kids Get Arthritis, Too kidsgetarthritistoo.org</p> | <ul style="list-style-type: none"> The Arthritis Foundation is the Champion of Yes. Leading the fight for the arthritis community, the Arthritis Foundation helps conquer everyday battles through life-changing information and resources, access to optimal care, advancements in science and community connections. Our goal is to chart a winning course, guiding families in developing personalized plans for living a full life — and making each day another stride towards a cure. |
| <p>ClinicalTrials.gov clinicaltrials.gov</p> | <ul style="list-style-type: none"> A database of publicly and privately supported clinical studies of human participants conducted around the world. This is a service of the U.S. National Institutes of Health (NIH). |
| <p>EatRight Academy of Nutrition and Dietetics eatright.org</p> | <ul style="list-style-type: none"> National organization of food and nutrition professionals, who play a key role in treating persons with illnesses offering medical nutrition therapy in a variety of settings. |
| <p>Mayo Clinic mayoclinic.com</p> | <ul style="list-style-type: none"> The Mayo Clinic is a non-profit medical practice and medical research group based in Minnesota. |

| ORGANIZATION | DESCRIPTION |
|---|---|
| <p>National Institute of Arthritis and Musculoskeletal and Skin Diseases niams.nih.gov Toll free: 877.22.NIAMS (877.226.4267) TTY: 301.565.2966</p> | <ul style="list-style-type: none"> • The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) is part of the NIH. Its main function is to support research on arthritis and other related diseases. This site has a searchable database of information related to rheumatoid arthritis, including research studies. |
| <p>Patient Advocate Foundation patientadvocate.org</p> | <ul style="list-style-type: none"> • Patient Advocate Foundation (PAF) is a national 501 (c)(3) non-profit organization which provides professional case management services to Americans with chronic, life threatening and debilitating illnesses. |
| <p>Spondylitis Association of America spondylitis.org 800.777.8189</p> | <ul style="list-style-type: none"> • The Spondylitis Association of America (SAA) is a nonprofit organization founded in 1983 to address the needs of people affected by spondyloarthritis. |
| <p>U.S. National Library of Medicine nlm.nih.gov</p> | <ul style="list-style-type: none"> • The U.S. National Library of Medicine offers visitors online materials for reading on medical issues, disorders and treatments. |

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