



# Understanding ankylosing spondylitis

*Walgreens*  
Specialty Pharmacy

# Table of contents

<b>What you need to know about ankylosing spondylitis .....</b>	<b>1</b>
How AS affects the body .....	1
Causes and risk factors .....	2
Diagnosis .....	2
Symptoms.....	3
<b>Living with AS .....</b>	<b>4</b>
Medications .....	4
Surgery .....	5
Lifestyle changes .....	5
Managing flares.....	9
Ongoing care .....	10
References.....	12
Notes.....	13

This publication is for informational purposes only. It is not intended to be a substitute for professional medical advice, diagnosis or treatment. Always seek the advice of your physician or other qualified healthcare provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read in this publication. If you think you may have a medical emergency, call your physician or 911 immediately. Walgreens Specialty Pharmacy does not recommend or endorse any specific tests, physicians, products, procedures, opinions or other information that may be mentioned in this publication. Reliance on any information provided in this publication is solely at your own risk.

This publication was created by and is provided as a service of Walgreens Specialty Pharmacy.



# What you need to know about ankylosing spondylitis

Learning how to manage ankylosing spondylitis (AS) might feel like a challenge, especially at first. But understanding your diagnosis can help you take control of your health.

Beginning treatment soon after diagnosis can help prevent long-term damage to your joints. It can also improve your overall health. This booklet provides information about AS, what to expect after diagnosis, and how to manage symptoms to live a full and active life.

## How AS affects the body

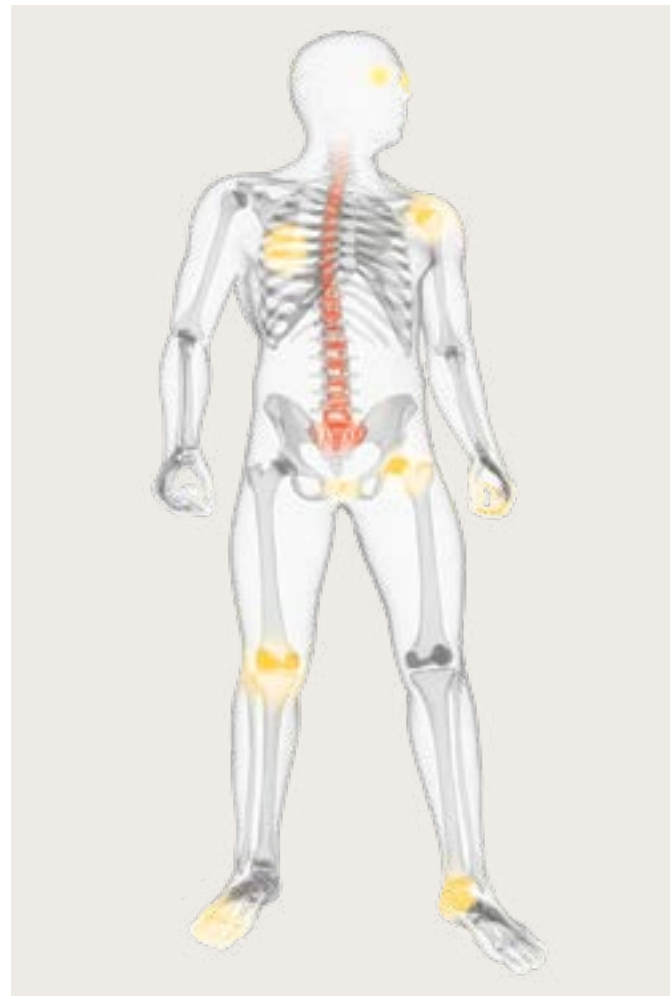
AS is a type of arthritis. It causes heat, swelling and pain in the spine.<sup>1-2</sup> AS usually begins where the base of the spine meets the pelvic bone.<sup>3</sup> It then spreads to the joints in the spine.<sup>3</sup> In severe cases, AS can cause bones in the spine to fuse, or to join together. This can cause loss of flexibility in the spine. In severe cases, it can even cause a curved spine.<sup>1</sup>

Sometimes, AS can also cause inflammation, pain or stiffness in other joints of the body, including<sup>1-3</sup>:


- Feet
- Hands
- Heels
- Hips
- Knees
- Ribs
- Shoulders

In some people, AS might also cause inflammation in the eyes or the bowel.<sup>1,4</sup> In rare cases, AS can affect the heart and lungs.<sup>1-2</sup>

**Figure. Where AS affects the body**



 = Primary locations affected by AS

 = Secondary locations sometimes affected by AS

## Causes and risk factors

The exact cause of AS is not known. But research suggests both genes and environment can play a role.<sup>1-3</sup>

- **Genes.** The chance of developing AS might be passed down through a family. Most people with AS have certain gene variations that raise the risk for AS. But not everyone with these gene variations will get AS.<sup>2</sup>
- **Outside factors.** Something in the environment, like a virus or bacterial infection, might trigger AS in people with increased genetic risk for the condition. For example, this might happen when a problem with the immune defense in the bowel allows certain bacteria into the body.<sup>2</sup>

### Who is living with AS?

AS can develop at any age. But it usually appears between **ages 17 and 45**.<sup>2</sup>

An estimated **1.7 million adults** in the United States have AS.<sup>2</sup>

AS occurs more often in **Caucasian, Asian and Hispanic populations**.<sup>5</sup>

## Diagnosis

There is not one test to diagnose AS. Healthcare providers use a few methods to confirm a diagnosis. This might include<sup>6</sup>:

- Family history
- Imaging
- Individual medical history
- Lab tests
- Physical exams

Findings that support an AS diagnosis might include<sup>6</sup>:

- Back pain and stiffness that get worse after being still for a while
- Back pain and stiffness that get better after moving around
- Blood tests showing inflammation or gene variations common in AS
- Eye inflammation
- Family history of AS
- Fatigue
- Gastrointestinal infections and conditions
- Imaging showing inflamed or damaged joints
- Limited movement in the spine or chest
- Pain that continues for more than three months
- Symptoms that start before age 45



## Symptoms

Each person with AS can have different symptoms.<sup>2,4</sup> For some, AS can cause mild back pain. This pain might come and go. Others have constant pain that is more severe.<sup>1</sup>

The early stages of AS usually bring dull pain and stiffness in the lower back and buttocks.<sup>4</sup> The pain might come from one side. Or it might switch sides. It tends to be worse first thing in the morning or at night.<sup>4</sup>

Other symptoms in the early stages of AS might include<sup>4</sup>:

- General discomfort
- Loss of appetite
- Mild fever

Symptoms can change over time. The body must work hard to deal with the inflammation from AS. This can result in fatigue or anemia. Both of these can cause feelings of tiredness.<sup>6</sup>

If AS continues to progress, parts of the spine might begin to join together. This can affect the rib cage and make it hard to take a deep breath.<sup>1</sup> If AS affects the eyes, it can cause pain, blurred vision and sensitivity to light. This can make eyes red and watery.<sup>3-4</sup>



# Living with AS

There is no cure for AS. But there are some ways to prevent AS from getting worse. Work with your healthcare provider to build a treatment plan that is right for you.

The goals of AS treatment include<sup>7</sup>:

- Decreasing complications
- Maintaining spinal flexibility and posture
- Reducing functional limitations
- Reducing symptoms

Medications and lifestyle changes can help manage pain, stay active and prevent joint damage.

## Medications

Along with lifestyle changes, certain medications can help keep you moving with less pain. But not all treatments work for everyone. Work with your healthcare provider to find what's best for you. This might change over time. Your healthcare provider can adjust your treatment as needed. There are a few types of drugs prescribed to treat AS.<sup>17</sup> (See Table.)

It's important to take medications exactly as prescribed — at the right times and the right doses. This means not stopping medications without talking with your healthcare provider first. If your treatment routine starts to feel too hard, ask your healthcare provider or pharmacist for help. Staying on track with treatment is vital for managing your symptoms and preventing AS from getting worse.



**Table. Medications for treating AS**

Type	Action
Nonsteroidal anti-inflammatory drugs	Relieve pain and swelling
Corticosteroids	Relieve swelling
Disease-modifying antirheumatic drugs	Suppress the immune system and slow the disease process
Biologic agents	Block part of the body's inflammatory response

## Surgery

If AS causes severe joint damage, surgery might be an option.<sup>1</sup> This can be used to remove and replace damaged joints. This is more commonly used for damaged knee and hip joints.<sup>1</sup> In very rare cases, surgery might be used to straighten a spine that has fused into a curved shape.<sup>1</sup>

## Lifestyle changes

Along with medications, lifestyle changes can help manage AS symptoms. They can also help slow the disease process. Staying active, eating well and managing emotional health can help you feel better.<sup>1,7-8</sup>

### Staying active

In addition to taking medication, staying active is one of the best things you can do to treat AS.<sup>1,7</sup> Regular exercise can help you maintain your posture and flexibility. It can make you stronger or improve your range of motion. It can also help reduce pain.<sup>1,8-9</sup>

It is vital to make time for exercise.<sup>8-9</sup> Make it easier for yourself. Find activities you enjoy. Schedule active time with family or friends. Use exercise reminders on your calendar or phone.<sup>9</sup>

Even short sessions of activity throughout the day can help.<sup>8-9</sup> There are many ways you might make regular exercise a part of your day<sup>9</sup>:

- Park farther away from the entrances of buildings to get in more steps
- Stretch or do squats while watching television
- Walk or ride a bicycle for errands instead of driving

Work with your healthcare provider to create the right exercise plan. You might also ask for a referral to a physical therapist.<sup>1</sup> A specialist can guide you through exercises just for AS.



## Eating well

There is no specific AS diet.<sup>1</sup> But the way you eat might affect your symptoms. For example, eating to stay a healthy weight might help reduce stress on your joints.<sup>1</sup>

In general, experts suggest following a healthful diet, which might include<sup>10</sup>:

- A variety of whole, healthful foods
- Eight to 10 glasses of water a day
- Minimal amounts of processed foods and artificial additives
- Moderate amounts of fat, cholesterol, sugar and salt
- Plenty of fruits, vegetables and whole grains

Some people find that certain foods make AS symptoms worse. Others might find certain foods that help their symptoms. For example, some research suggests that sugar, saturated and trans fats and refined carbohydrates might make inflammation worse.<sup>11</sup> Other research suggests omega-3 fatty acids found in fish, flax seeds or walnuts might help fight inflammation.<sup>1</sup>

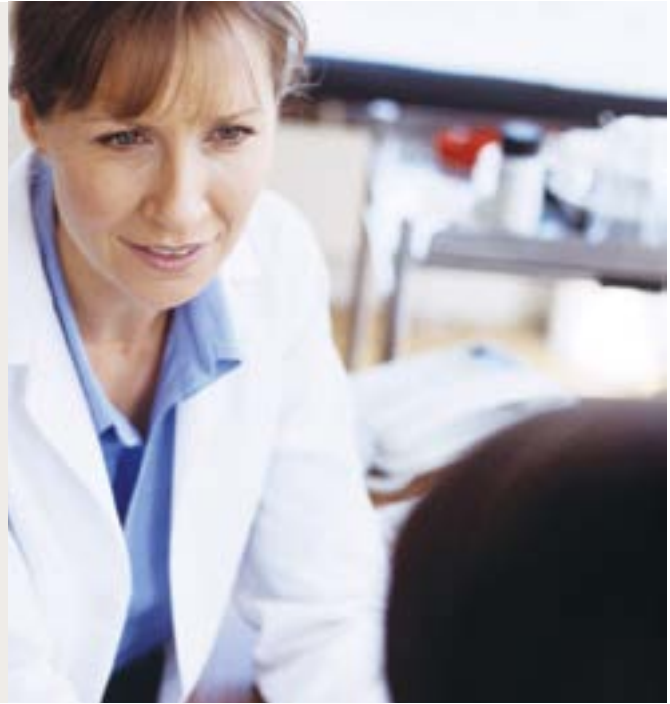
Specific foods can affect each person differently. If a pattern of symptoms seems tied to what you eat, try keeping a food diary. This can help you remember which foods to avoid and which foods might help.<sup>10</sup>



## Smoking and AS

Smoking can make the effects of AS worse.<sup>1,7</sup> It can raise your risk for severe joint damage.<sup>1</sup> If you don't smoke, don't start. If you do smoke, take steps to quit. You can find help for quitting:

- Ask your healthcare provider about any behavioral therapies, drugs or programs that might help you quit.
- Find out if your health plan offers a program to quit.
- Get free resources for quitting from the National Institutes of Health at [BeTobaccoFree.gov](http://BeTobaccoFree.gov) or 800-QUIT-NOW (784-8669).



You might also need to take other special steps for good nutrition. Certain AS drugs can affect how you gain or lose weight.<sup>10</sup> Others can affect how your body uses the nutrients from your food.<sup>10</sup> Your healthcare provider might suggest certain supplements to offset these effects.<sup>10</sup>

Those with AS are also at risk for osteoporosis, or weak, thinning bones. Getting enough calcium and vitamin D can lower this risk.<sup>10</sup> Limiting or avoiding alcohol is also important. More than two alcoholic drinks a day can affect bone strength.<sup>10</sup> Alcohol might also interact with certain medications or cause other health issues.<sup>10</sup>

Work with your healthcare provider or a dietitian to find the right approach to eating well with AS.

### Managing emotional health

Research suggests that stress can affect the immune system in people with rheumatic diseases like AS.<sup>12</sup> Stress and anxiety can make symptoms worse. This can increase pain.<sup>8</sup> It is normal to have some stressful days with AS. You can find healthy ways to cope.

Aside from eating well and staying active, you can take other steps to manage stress<sup>13-14</sup>:

- Be kind to yourself. Some days will be tougher than others. Do what you can and know your limits.<sup>13</sup> No one is perfect. Don't be afraid to ask for help.
- Give yourself time to relax. Try yoga, deep breathing, listening to music or other relaxation techniques.<sup>13-14</sup>
- Recognize your sources of stress. Use a journal to record stressful times. Look for a pattern.<sup>13</sup> Knowing the triggers for stress can help you manage them or avoid them when possible.
- Talk to someone. Share worries with friends or family. Be active in your community and build a support network. Try meeting with a therapist for one-on-one help.<sup>13-14</sup>

Some days, living with AS might be a challenge. You might feel frustrated, angry or upset. This is normal. But it's important to get help if depression and anxiety are getting in the way of daily life.

Talk to your healthcare provider if you have any of these symptoms of depression<sup>14</sup>:

- Aches and pains unrelated to AS that don't go away with treatment
- Depression that interferes with relationships or work
- Low spirits that last two weeks or more
- Thoughts of harming yourself
- Any five of these symptoms:
  - Being irritable
  - Being restless or sluggish
  - Eating too much or too little
  - Feeling sad or crying often
  - Feeling fatigued
  - Feeling worthless or guilty
  - Having a hard time concentrating
  - Having no interest in things you used to enjoy
  - Sleeping too much or too little

If you have thoughts of suicide, call 911 or your local emergency services number. You can also call a healthcare provider, mental health professional, crisis center or hotline for help.

Some people respond to chronic conditions like AS with depression. Others might have anxiety. Talk to your healthcare provider if you have any of these symptoms of anxiety<sup>14</sup>:

- Avoiding decisions because you're afraid you'll make the wrong decisions
- Fearing and dreading what might happen
- Feeling restless, on edge or irritable



- Having a hard time concentrating
- Physical symptoms like tense muscles, fast heartbeat, upset stomach, dizziness or hot flashes
- Worrying about everything, both small and large
- Worrying about worrying

Tell your healthcare provider if you feel overwhelmed with anxiety or depression. You might ask about counseling, medication or other treatments that might help.<sup>14</sup> Counseling allows you to talk with a therapist or a support group about your thoughts and feelings. Some forms of therapy can help you change certain ways of thinking to improve your mood.<sup>14</sup>

Antidepressants and anti-anxiety drugs can help balance brain chemicals to improve your mood. Some are taken for a short time. Others are for long-term treatment. Talk with your healthcare provider about if these drugs might be right for you. Ask about how these kinds of drugs might interact with your AS medications.<sup>14</sup>

# Managing flares

There will be times when pain and inflammation get worse. These are called flares. They might happen after you are sick or if you are stressed. But they can happen any time. Flares can even happen after long periods of time with few symptoms. It is hard to predict when they might happen.<sup>15</sup>

Work with your healthcare provider to build a plan for dealing with flares. Knowing what to do ahead of time can be helpful. Your plan for flares might include:

- Adjusting medications temporarily, as directed by your healthcare provider<sup>15-16</sup>
- Balancing activity with rest<sup>15-16</sup>
- Creating a backup plan for responsibilities at home, work or school<sup>15</sup>
- Finding pain relief that works for you, such as heat/cold packs, baths or showers<sup>8,16</sup>
- Talking to family, friends or co-workers ahead of time about how they can help during a flare<sup>15</sup>

## Pregnancy and breastfeeding

If you are pregnant, trying to get pregnant or planning to breastfeed, ask your healthcare provider if it is safe to continue AS drug therapy. Some medications might be safe during these times. But some can affect a man's sperm production. Others are known to cause birth defects.<sup>17</sup> And still others might be a concern during breastfeeding.<sup>17</sup>

Research suggests AS symptoms can get better, worse or stay the same during pregnancy.<sup>18</sup> Women with arthritis in places other than the spine might be more likely to see some improvement while pregnant.<sup>18</sup> Most women with AS are more likely to have a flare after giving birth.<sup>18</sup>

AS is not likely to affect an unborn baby.<sup>18</sup> However, it can affect the baby's delivery.<sup>18</sup> In some cases, spinal inflammation or fusion might make it hard to place an epidural for pain relief during labor and delivery.<sup>18</sup> Or, if AS affects the hips, it might make vaginal delivery more difficult for some women.<sup>18</sup>

Each person's experience will be different. Talk to your healthcare providers about what to expect. Together you can build a plan that helps you manage AS while preparing for a baby.



## Ongoing care

Work with your healthcare provider to keep track of your progress and your symptoms. You can discuss how well your drug therapy and lifestyle changes are working. Your healthcare provider can also adjust your treatment as needed. Each visit can help you stay on track with treatment and better manage your AS.

We provide this information because  
the more you know about AS,  
the better you'll be able to manage it.

Additionally, the Walgreens Specialty360  
Therapy Team is here to support you with  
**dependable, personalized service** to help manage  
your 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.

*Walgreens*  
Specialty Pharmacy

# References

1. Ankylosing spondylitis – in-depth. National Institute of Arthritis and Musculoskeletal and Skin Diseases Web site. [https://www.niams.nih.gov/print/view/pdf/advanced\\_reading\\_pdf\\_/advanced?view\\_args%5B0%5D=1952](https://www.niams.nih.gov/print/view/pdf/advanced_reading_pdf_/advanced?view_args%5B0%5D=1952). Accessed April 19, 2024.
2. Overview of ankylosing spondylitis. Spondylitis Association of America Web site. <https://www.spondylitis.org/Ankylosing-Spondylitis>. Accessed April 19, 2024.
3. Ankylosing spondylitis. U.S. National Library of Medicine Genetics Home Reference Web site. <https://medlineplus.gov/genetics/condition/ankylosing-spondylitis/>. Updated August 18, 2020. Accessed April 19, 2024.
4. Most common symptoms. Spondylitis Association of America Web site. <https://www.spondylitis.org/Ankylosing-Spondylitis/Symptoms>. Accessed April 19, 2024.
5. What is ankylosing spondylitis? Arthritis Foundation Web site. <https://www.arthritis.org/about-arthritis/types/ankylosing-spondylitis/what-is-ankylosing-spondylitis.php>. Accessed April 19, 2024.
6. Diagnosis of ankylosing spondylitis. Spondylitis Association of America Web site. <https://www.spondylitis.org/Ankylosing-Spondylitis/Diagnosis>. Accessed April 19, 2024.
7. Ward MM, Deodhar A, Akl EA, et al. American College of Rheumatology/Spondylitis Association of America/Spondyloarthritis Research and Treatment Network 2015 recommendations for the treatment of ankylosing spondylitis and nonradiographic axial spondyloarthritis. *Arthritis Rheumatol.* 2016;68(2):282-298. doi:10.1002/art.39298.
8. Treatment of ankylosing spondylitis and related diseases. Spondylitis Association of America Web site. <https://www.spondylitis.org/Treatment-Information>. Accessed April 19, 2024.
9. Exercise. Spondylitis Association of America Web site. <https://spondylitis.org/about-spondylitis/treatment-information/exercise/>. Accessed April 19, 2024.
10. Diet and nutrition. Spondylitis Association of America Web site. <https://www.spondylitis.org/Diet-Nutrition>. Accessed April 19, 2024.
11. 8 food ingredients that can cause inflammation. Arthritis Foundation Web site. <https://www.arthritis.org/living-with-arthritis/arthritis-diet/foods-to-avoid-limit/food-ingredients-and-inflammation.php>. Accessed April 19, 2024.
12. de Brouwer SJM, Kraaijmaat FW, Sweep FCGJ, et al. Experimental stress in inflammatory rheumatic diseases: a review of psychophysiological stress responses. *Arthritis Res Ther.* 2010;12(3):R89. doi:10.1186/ar3016.
13. Tips to manage anxiety and stress. Anxiety and Depression Association of America Web site. <https://adaa.org/tips-manage-anxiety-and-stress>. Updated September 28, 2021. Accessed April 19, 2024.
14. Treating depression and anxiety in arthritis. Arthritis Foundation Web site. <https://www.arthritis.org/living-with-arthritis/comorbidities/depression-and-arthritis/treating-depression-anxiety.php>. Accessed April 19, 2024.
15. Understanding rheumatoid arthritis flares. Arthritis Foundation Web site. <https://www.arthritis.org/diseases/more-about/understanding-rheumatoid-arthritis-flares>. Accessed April 19, 2024.
16. Your flares. National Ankylosing Spondylitis Society Website. <https://nass.co.uk/about-as/what-is-as/your-flares/>. Accessed April 19, 2024.
17. Ankylosing spondylitis fact sheet. Organization of Teratology Information Specialists Mother to Baby Website. <https://mothertobaby.org/fact-sheets/ankylosing-spondylitis/pdf/>. Published December 2018. Accessed April 19, 2024.
18. Dunkin MA. Ankylosing spondylitis and pregnancy. Arthritis Foundation Website. <https://www.arthritis.org/living-with-arthritis/life-stages/pregnancy-family/pregnancy-and-ankylosing-spondylitis.php>. Accessed April 19, 2024.





*Walgreens*  
Specialty Pharmacy