Biologic therapy for axial SpA (AS)

For anyone living with axial spondyloarthritis (AS) including ankylosing spondylitis (AS)

Contents

Who is this guide for?

This guide is for anyone with axial spondyloarthritis (axial SpA) including people with ankylosing spondylitis (AS).

What is axial spondyloarthritis?

Axial Spondyloarthritis (axial SpA) is a painful form of inflammatory arthritis.

The main symptom is back pain but it can also affect other joints, tendons and ligaments. Other areas such as the eyes, bowel and skin can also sometimes be involved.

Axial spondyloarthritis is an umbrella term. It includes:

Non-radiographic axial spondyloarthritis
Where x-ray changes are not present but inflammation is visible on MRI or your blood tests and clinical picture fit the diagnosis.

To keep things simple in this guide we have tried to just refer to axial SpA (AS) throughout unless we need to highlight a difference between non-radiographic axial spondyloarthritis and ankylosing spondylitis.

Ankylosing Spondylitis (AS) (sometimes also called radiographic axial SpA)
Where there are changes to the sacroiliac joints or the spine that can be seen on x-ray.

Gareth's story

When I was first diagnosed I found it really difficult to function. As soon as I started on the biologic therapy I could see the difference.

It was taking me less time to get myself up and about in the mornings. I have a physical job and, over time, I found most aspects of my work steadily getting less painful.

Keeping active for me is key. I try to attend my local NASS branch as often as I can and enjoy the odd spin class at the local gym.

It's also important to have a well-deserved day of rest every now and again. For me this means getting creative in the kitchen and catching up with a good book.

What is biologic therapy?

Unlike medications like paracetamol or ibuprofen, which are small chemical agents, biologic medicines are complex proteins.

Biologic medicines are manufactured within a living system and target specific molecules believed to be involved in axial SpA (AS). They are made up of genetically engineered proteins and are very large, complex molecules.

The most common forms are called monoclonal antibodies. This gives many of these drug names their 'mab' ending.

Most biologics are designed to block specific aspects of the immune system and can be thought of as 'targeted therapies'. Because these therapies are proteins, they do not work as tablets and have to be given as injections into the skin.

Biologic Medicines		Other Prescription Medicines
Generally very large and complex medicines.	**Size**	Generally smaller and with a less complex structure.
A biological process (inside a living cell).	**How they are made**	A chemical process.
Because biologics are so large and so complex, copies can never be identical. These are known as biosimilars.	**Making copies**	Exact copies can be made by using the same chemical components and processes. These exact copies are known as generics.

What biologic therapies are available to treat axial SpA (AS)?

The current biologics licensed for axial SpA (AS) and approved by NICE target one of two specific inflammatory molecules, namely TNF and IL-17A.

Both work by reducing the abnormal inflammation produced by the body.

There are more drugs currently in development and going through clinical trials which target these and other pathways, which should become available in future if effective and safe.

Anti TNF therapy

Anti TNF therapy is used to treat a range of inflammatory conditions including non radiographic axial SpA (no changes on x-ray) and ankylosing spondylitis (AS) (changes on x-ray), as well as other conditions such as inflammatory bowel disease, rheumatoid arthritis and psoriasis.

Anti TNF therapy interferes with the action of a protein called tumour necrosis factor (TNF) which is over-active in people with inflammatory arthritis, including axial SpA (AS).

Too much TNF can cause inflammation and damage to bones, cartilage and tissue. Anti TNF therapy blocks the action of TNF and can reduce the amount of inflammation present in your body and joints.

There are several anti TNF therapies available for axial SpA (AS), which are listed later on in this guide.

Anti IL-17A

Anti IL-17A therapy is currently licensed to treat ankylosing spondylitis, as well as psoriasis and psoriatic arthritis. We anticipate it will also become available in the future for people with non-radiographic axial spondyloarthritis.

It works by neutralising the activity of a protein in the body called IL-17A.

IL-17A is a key protein in the skin inflammation in psoriasis.

Research has shown that people with axial SpA (AS) have very high levels of IL-17A in their body and that IL-17A plays a very important role in causing the inflammation associated with axial SpA (AS). By decreasing the IL-17A, this biologic reduces inflammation in your body and joints.

Biologic therapies work by reducing the abnormal inflammation produced.

Who can be offered biologic therapy?

Many people with axial SpA (AS) do not need biologic therapy because they can manage their condition well with a combination of physiotherapy and non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen or naproxen.

However, some people still have active or progressive symptoms despite these treatments and they may require biologic therapies.

Your rheumatology consultant or nurse might talk to you about biologic therapy if:

- You have tried NSAIDs but you feel they aren't helping.
- You are not able to take NSAIDs because they cause problems with your stomach or other medical conditions.
- You still have high pain levels and stiffness which are thought to be due to inflammation from your axial SpA (AS).
- Your axial SpA (AS) is having a big impact on your life. It might be affecting your ability to work, enjoy your family life or have a good quality of life.

Biologic therapy can only be prescribed by a consultant rheumatologist. Your GP cannot offer it to you. If you are not under the care of a rheumatologist do ask your GP to refer you.

The National Institute for Health and Care Excellence (NICE) has produced written national guidelines about prescribing anti TNF therapy and anti IL-17A that must be followed. Your rheumatologist will advise you if you meet the criteria for biologic therapy and they are safe for you.

You **may** not be suitable for biologic therapy if:

- You have had tuberculosis (TB) in the past (in which case you may first need treatment for this). Your rheumatology doctor or nurse will test you for TB before prescribing a biologic.
- You have had recent, repeated or serious infections, or are at very high risk of infections.
- You have multiple sclerosis (MS) – this applies to anti TNF therapy
- You have had cancer within the past 5 years.
- You have heart failure.
- Your pain is due to causes other than inflammation.

How can biologic therapy help?

Biologic therapy works to reduce inflammation in your body and that means you should get less pain, less stiffness and more movement. Hopefully this will mean you can get moving more quickly in the morning, find it easier to carry out your daily activities, be able to exercise more and sleep better.

In short, biologic therapy should give you a better quality of life.

Biologic therapy cannot reverse any damage or fusion of the spine and sacroiliac joints that has already occurred, but research has shown that many people with long-standing disease can still have significant improvement with biologic therapies.

There is some early evidence that biologic therapies may prevent new bone formation in the long-term. We hope to see more evidence for this over the coming years.

It appears that people generally tolerate these treatments well, but occasionally have to stop them due to side effects. Your rheumatologist should explain these possible side effects.

Unfortunately, not everyone with axial SpA (AS) will respond to biologic therapies. The reasons for this are still not fully known and cannot be clearly predicted in advance.

It is thought that approximately 8 people out of every 10 will have a meaningful response, justifying ongoing use.

People who do not respond sufficiently (it may take 3-6 months to be certain), or who get serious side effects, will usually be recommended to stop their biologic therapy. If it is safe and appropriate to do so, your rheumatologist may suggest trying an alternative biologic therapy.

It is important to continue with your regular exercises, whatever treatment you take.

What are the side effects?

Most people have relatively few day-to-day side effects with biologics. The most common side effects are:

Injection site reactions
You may find you get a reaction at the site of the injection, such as redness, swelling or pain. These aren't usually serious and regularly changing the site where you inject will help reduce the chances of this irritation.

Do inform your rheumatology team if these are serious, increasing or you think you may be having an allergic reaction, in which case they may suggest changing to a different biologic therapy.

Infections
Because biologic therapy affects the immune system, it can make you more likely to pick up infections. It can also make them harder to spot as the normal signs of infection may be suppressed by the biologic therapy.

If you do pick up an infection you need to see your GP immediately and may need antibiotics. You should stop your biologic therapy while you have an active infection or are taking antibiotics. You should also tell any doctor who sees you that you are taking biologic therapy.

Viruses
You might find a viral infection affects you more severely. You should see your doctor immediately if you develop chickenpox or shingles or come into contact with someone who has chickenpox or shingles. You may need antiviral treatment, and your biologic therapy may be stopped until you're better.

What are the long-term risks?

All medications come with risk. It's important to understand the risks and to balance these against the possible benefits of taking the medication.

These risks should always be fully discussed with your consultant and rheumatology team.

Anti TNF therapy has now been used in patients with axial SpA (AS) and other types of arthritis for well over 15 years and no pattern of serious long-term side effects is currently emerging. Safety data is being collected by large registries around the world, principally in the UK (British Society for Rheumatology Biologics Register), mainland Europe and Scandinavia.

Reassuringly, this registry data has found no increase in the incidence of cancer above what was expected for the general population – with the exception of certain types of skin cancer which can be readily treated when diagnosed early.

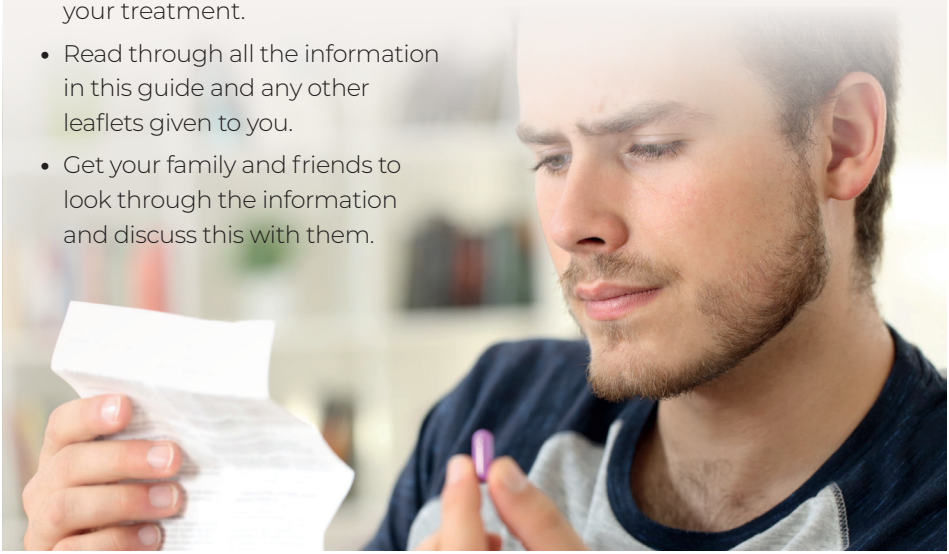
People on anti TNF therapy are asked to keep a close eye out for any suspicious skin moles, lumps or bumps that develop once treatment has started and see their GP for a review if necessary.

Anti IL-17A is a newer therapy. It has, however, been used for many years in patients with psoriasis, and no new side effect signals have emerged. There is still some uncertainty regarding some superficial fungal (candida) infections and its use in people with inflammatory bowel disease (Crohn's disease), so your consultant may ask you about these.

How do I decide if biologic therapy is for me?

- Think about how your axial SpA (AS) has affected you over the past 6 months. Consider what it's stopping you doing or how it's causing you problems.
- Talk to your rheumatologist, specialist nurse and physiotherapist. Your rheumatology team will regularly ask you to complete questionnaires, such as the BASDAI, to assess how active your disease is and whether this may require an escalation in your treatment.
- Read through all the information in this guide and any other leaflets given to you.
- Get your family and friends to look through the information and discuss this with them.
- Have a chat with someone else already taking biologic therapy. More than a third of NASS members are now taking biologic therapy.
- Call for a chat on the NASS Helpline (020 8741 1515).

Use the following pages to write down your hopes and concerns about biologic therapy. Take it to your next appointment and talk them through with your rheumatology team.



Hopes

Concerns

Getting started on biologic therapy

In addition to asking you questions, your rheumatology team will also do a number of tests before you start biologic therapy.

Blood tests to check levels of inflammation and to check there are no other problems that may affect the safety of the therapy. They may also do blood tests to see if you do not have certain infections, such as viral hepatitis, or whether you are immune to chicken pox.

Chest x-ray and special tuberculosis (TB) blood test to make sure you have no latent or active TB infection.

The Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) questionnaire asks a number of questions about your symptoms including fatigue, back pain and morning stiffness. You rate your symptoms using a 1 to 10 scale. A higher score means your symptoms are worse and may require biologic therapy if other treatments, such as NSAIDs, have not worked.

The VAS Spine Score asks you to assess your back pain over the past week. The worse your back pain, the higher the score.

Occasionally your consultant may request an **MRI** to see if there is evidence current inflammation in your spine or sacroiliac joints before starting biologic therapy, but this is not required for most people.

There is currently no evidence that any particular biologic therapy is better or worse than another.

Choices, choices, choices...

A number of biologics have been licensed and approved by NICE for the treatment of axial SpA (AS). There is currently no evidence that any particular biologic therapy is better or worse than another.

Your consultant may have a particular biologic in mind for you given your past medical history or current condition. There may be reasons, such as having another condition like Crohn's disease, which would suggest one specific therapy might be better for you than another. Your rheumatologist should discuss this with you.

Often your rheumatology nurse or physiotherapist may take you through your choices. They will highlight the main differences between the different options to help you make your choice.

Some things you should consider when making your choice include:

- How often will I have to inject?
- Is there an injection device I prefer or find easier?
- Can I safely store injection pen devices in a fridge?

We have outlined the main therapy choices. These include both the originator therapies and biosimilar medicines.

Biosimilar medicines are developed to be highly similar (but not identical) to a biological medicine which has already been tested, approved and made available for patients.

They can be developed by manufacturers once the patent for the original product has expired. They are called “biosimilar” because the molecular structures are so complex that it is not possible to produce an absolutely identical drug to the original - referred to as the “originator”. Biosimilar medicines are developed in order to provide alternative products, usually at a lower cost, than the original biological medicine. Biosimilar medicines may also have differences in the injection devices and solutions that may need to be considered by your rheumatology team when deciding on the best treatment for you.

Biosimilars still have to go through a regulatory process which requires comparability studies that demonstrate equivalence to the originator product in terms of quality, efficacy and safety. Overall, there does not appear to be any significant difference in effect or safety of biosimilar drugs compared to their originators but there may be some minor individual variation.

Once approved, a biosimilar medicine is recognised to be a highly similar version of a biological medicine and can be used for the same indications.

Anti TNF therapy choices

ADALIMUMAB (Amgevita (biosimilar), Hulio (biosimilar), Humira (orignator), Hyrimoz (biosimilar), Imraldi (biosimilar).

- Self-administered by injection pen device.
- Once fortnightly dosing.

CERTOLIZUMAB (Cimzia).

- Self-administered by injection pen device.
- When you start certolizumab pegol you need to do 2 injections every 2 weeks for the first 6 weeks and then you move to one injection every 2 weeks, or 2 injections every 4 weeks.

ETANERCEPT (Benepali (biosimilar), Enbrel (originator), Erelzi (biosimilar)).

- Self-administered by injection pen device.
- Once or twice a week dosing.

GOLIMUMAB (Simponi).

- Self-administered by injection pen device.
- Once monthly dosing.

INFLIXIMAB (Inflectra (biosimilar), Remicade (originator) and Remsina (biosimilar).

- Administered by infusion (drip), often in day unit clinic.
- Dosing varies but is often every 6 to 8 weeks.

Anti IL-17A

SECUKINUMAB (Cosentyx).

- Self-administered by injection pen device.
- Treatment starts with four 'loading doses'. After your first dose (week 0) you inject your medication weekly at weeks 1, 2 and 3. On week 4 you will recieve the first of your monthly injections. After that you will continue to inject monthly.

Use this page to write notes on what factors are important to you when choosing a biologic therapy and then have a chat with your rheumatology team about the best options for you.

What next?

Once you have been fully assessed for biologic therapy and you and your rheumatology team have decided which biologic you will use, then you will be shown how to do the injections and given all the extra information you need.

Delivery

Biologic therapy will be delivered to your home on a regular basis by a specialist home care delivery company commissioned by the NHS but independent of your rheumatology team. You will not pay for your prescription or the delivery. You will be able to organise the deliveries to arrive at a convenient time for you.

How long does treatment last?

Once you start on biologic therapy you will be assessed after approximately 12 to 16 weeks to see if it is working for you. If it is helping with your axial SpA (AS) symptoms and you are happy with it, then you may stay on it for the long term provided it keeps working and you do not develop any problems. You should have regular checks with your rheumatology team while on the drug.

Biologic therapies are not a cure for axial SpA (AS), so most patients' disease will return (relapse) when they stop their biologic. On average people relapse within 14 weeks of stopping therapy. There are also concerns that if you do not take your biologic as advised by your rheumatology team, it may not work as well, so you should not stop taking it unless agreed with your rheumatology team or if there is a medical reason.

Biologic therapy will be delivered to your home.

The main reasons for having to stop

Surgery

If you have surgery planned you should talk to your rheumatologist or rheumatology nurse about how far in advance to stop your biologic therapy and how long you will need to wait before re-starting. Most rheumatologists suggest stopping your biologic for two weeks before surgery and waiting until two weeks after surgery before restarting, but then only if the wound is healing well and there are no signs of infection.

These recommendations may differ for different biologic drugs, types of surgery and between rheumatology departments, so you should always discuss it with your local rheumatology team in advance of your surgery.

Serious infections

If you develop an infection and need to take antibiotics, you should stop your biologic therapy and not take your next dose until you have finished the course and are sure you are clear of infection. If you are not sure when to restart, check with your rheumatology nurse.

Women deciding to start a family

It is very important that you discuss your options with your rheumatology team before becoming pregnant. You may decide that you do not want or need to take biologic therapy during pregnancy or you may feel that you won't be able to manage without it. Your team will be able to guide you to make the decision that is best for you and your family.

There is emerging data to support the use of some biologics throughout pregnancy, so you may not need to stop therapy if you have very severe disease but do discuss this with your rheumatology team. Your rheumatology team may also ask a specialist maternity team to look after you during pregnancy.

If you need or plan to stop treatment temporarily for any reason, it is important to discuss this with your rheumatology team well in advance.

Attending regular check ups

Your rheumatology team will tell you how often you need to attend check-ups while on biologic therapy. This may vary depending on local arrangements and which biologic you are taking.

At these check-ups, your rheumatologists will ask you about any changes to your health, any side effects and how your axial SpA (AS) is doing. You will also be asked to complete simple questionnaires, such as the BASDAI, to check you are still getting a good response, and you may be asked to have some blood tests.

Monitoring your response to treatment and your health whilst on biologic therapy is extremely important. If you fail to attend your check-ups for some time it is possible that your prescription will be stopped.

It's really important you attend all your check-ups while you are on biologic therapy and that you let any new doctors you see know that you are taking a biologic as this may not appear on your regular prescription.

It's recommended that you avoid live vaccines.

Day-to-day living with biologic therapy

Vaccinations

The Pneumovax (pneumonia) vaccine is recommended for people starting on biologic therapy along with annual flu vaccines.

If you're in your 70s your doctor may advise you to have the shingles vaccination (Zostavax) before starting biologic therapy but this is a live vaccination and is not recommended for people who are already taking biologic therapy. A new non-live vaccine (Shingrex) is likely to become available later this year, so ask your doctor about this if you do require a shingles vaccine.

If you're taking biologic therapy it's recommended that you avoid live vaccines – if in doubt, ask the person giving you the vaccine. Live vaccines include measles, mumps, rubella, varicella (chicken pox/shingles) and yellow fever.

If you do need a live vaccine (e.g. for travel) do discuss all the possible risks and benefits of the vaccination with your doctor and rheumatology team.

Other medicines

Biologic therapy may be prescribed along with other medicines. Do discuss any new medications with your doctor before starting them, and always tell any doctor treating you that you are on biologic therapy.

If you develop any kind of infection and are prescribed antibiotics, you should not take your biologic therapy again until your course of antibiotics is complete and the infection has cleared.

Biologic therapy is not a painkiller. If you are already taking a non-steroidal anti-inflammatory drug (NSAID) or painkillers, you can carry on taking these as well as your biologic therapy, unless your doctor advises otherwise.

Do not take over-the-counter preparations or herbal remedies without discussing this first with your doctor, rheumatology nurse or pharmacist.

Eating and drinking
Visit the NHS Choices website for information on reducing your risk of infection from foods.

There is no known interaction between biologic therapy and alcohol.

Surgery
If you are going to have an operation please inform your surgeon and your doctor you are on a biologic, as you are likely to be advised to temporarily stop biologic therapy before and after surgery.

Planning a family
If you are planning a family do discuss this with your rheumatologist in advance.

Travelling
If you are travelling abroad and taking your biologic therapy with you, it's important to make plans to keep it at the correct temperature during the journey and at your destination.

You can buy special cool bags and even travel fridges.

One option is to use a Frio wallet or carry case. These are designed to keep insulin cool but can work well for biologic therapy. You can buy these through Amazon.

In addition to your biologic medication you may require a travel size sharps box. Do discuss this with your Clinical Nurse Specialist or your delivery team.

Ask for a letter confirming you have been prescribed biologic therapy from your rheumatology nurse and keep a copy in your hand luggage. Some people find it helpful to scan a copy of the letter and email it to themselves so they have an electronic copy.

If you are travelling somewhere warm and sunny do remember that you should use a high factor sunscreen when on biologic therapy – this is good practice even if not on a biologic.

Become a NASS member today!

Join the largest and most significant community of people with axial SpA (AS) in the UK.

Being a member makes you an essential part of the work we do.

You will be able to impact and influence where we focus our efforts. You can help us improve both your own well-being and that of everyone living with axial SpA (AS) in the UK.

Thanks to our members support, we are able to make guides like this available to anyone who need them.

Our Members also receive:

- AS News Magazine (twice a year).
- Access to our annual Members Day (free for a member and guest).
- Access to the Members only resources on our website.
- Access to our Members Forum.
- Voting rights at our AGM.
- Chance to contribute to cutting-edge research and campaigns.
- Exclusive guides to claiming disability benefits (on request).
- Members Pack (including Membership card).

We are one connected community, transforming axial SpA (AS) futures. All that's missing is You!

Simply call 020 8741 1515, or visit www.bit.ly/JoinNASS to become a member today!

Thank you

We distribute 40,000 guides to living with axial SpA (AS) each year.

Without your hard work and support NASS wouldn't be able to provide this vital information for people with axial SpA (AS).

Donate to the fight at nass.co.uk/get-involved/donate/

Acknowledgements

NASS would like to thank all the rheumatologists, physiotherapists and other health professionals who helped to develop our NASS guides. We would also like to thank all the NASS members who commented on the text and design.

Particular thanks for their work on this booklet are due to Dr Stefan Siebert, Senior Lecturer in Inflammation and Rheumatology, University of Glasgow.

Keep in touch!

020 8741 1515

/NationalAxialSpondyloarthritisSociety

@NASSexercise and @NASS_ASone

@nass_exercise and NASS_ASone

YouTube NASS Central

www.nass.co.uk

RCN 1183175

09/19

MIX
Paper from responsible sources
FSC® C120778
www.fsc.org

Printed with 100% renewable energy and vegetable based inks

Printed by Wells Printing