NEW EDITION

A REPORTERS' GUIDE TO **RHEUMATOID ARTHRITIS**

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INTRODUCTION

Whilst most reporting of rheumatoid arthritis (RA) is accurate, many popular misconceptions and myths still exist around the disease within the media.

"It is important that people affected by RA, their families and friends see accurate information about RA when stories are covered by the media. Our helpline receives a huge increase in enquiries when any RA coverage appears and it's particularly important to ensure reporting on the symptoms, alleviating symptoms and new developments in RA treatment are communicated correctly."
National Rheumatoid Arthritis Society

Symptoms of RA can be painful, debilitating and progress rapidly, having a devastating impact on the lives of patients and their families.[1] However, despite the burden of disease, early assessment and diagnosis combined with the right treatment can effectively control RA, leading to a more normal life for patients than has ever been possible before.[1] The Disease Activity Score of 28 joints (DAS28) is a scoring model that measures disease activity in RA. Remission is defined as a DAS28 score of less than 2.6,[2] and according to international guidance remission should always be the goal for people with RA.

Despite the fact that up to 690,000 people live with RA in the UK[1], it is a sometimes poorly understood condition within the general public.

This guide is designed to convey key points, explore and explode some of the myths surrounding RA with simple, concise explanations and scientific accuracy, to provide you with the background and understanding of RA you need for accurate reporting.

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KEY FACTS

1 in 100

people will develop RA[3]

x3

Women are nearly 3 times more likely to develop RA than men[1]

RA commonly starts between the ages of

40-60[1]

In the UK over

690,000

people live with RA[1]

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Approximately

26,000

new cases of RA are diagnosed in England each year[4]

Approximately

ONE THIRD

of people stop work because of the disease within 2 years of onset and by ten years this proportion is around 50%[4]

Over

60%

of the people with RA will have been living with the disease for more than 10 years[4]

The average life expectancy for people with RA is shortened by

3-7 YEARS[5]

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MYTH #1: RA IS LIKE 'REGULAR' ARTHRITIS

There is no such thing as 'regular' arthritis. Osteoarthritis - or 'wear and tear' is a degenerative joint disease limited solely to the joints. It does not involve the immune system.[6]

RA is a chronic, progressive and disabling auto-immune disease which causes swelling and damages the cartilage and bone around the joints. The hands, feet and wrists are most commonly affected but it can affect any joint. RA is a systemic disease which means that it can affect the whole body and, in some cases, internal organs.[1]

RA is diagnosed using a series of tests including a physical examination, joint imaging and blood tests.[7]

There are 200 types of chronic arthritis and musculoskeletal conditions, split into three classifications:[8]

- Inflammatory arthritis, such as RA
- Non-inflammatory arthritis, such as osteoarthritis, scoliosis
- Connective tissue disease, such as sclerosis, Sjögren's syndrome

MYTH #2: ONLY OLD PEOPLE GET RA

This is not true. Although it is more likely to develop between the ages of 40 and 60, children and young people can also be affected by the juvenile form of RA.[1]

Arthritis in children – or juvenile idiopathic arthritis (JIA) affects up to 12,000 people in the UK under the age of 16.[1] Although some will develop joint damage, the outlook for most children with JIA is good, and they grow up to lead normal lives. Treatment for children is usually the same as for adults. Exercise, especially swimming, is particularly beneficial.[9]

There are three main types of JIA:[9]

- Oligoarticular JIA (oJIA)
  - The most common form of childhood arthritis, affecting four or fewer joints in the body.
- Polyarticular JIA (pJIA)
  - Affects many joints (five or more) and usually starts before seven years of age.
- Systemic onset JIA (sJIA)
  - sJIA begins with systemic symptoms such as fever, rash and lethargy. The most common time for the condition to start is when a child is under five years of age.[9]

"It's lonely not being able to do the things other people my age do. I feel like I'm just old"[10]

Person with RA

"Work is very important to people with RA. Attitudes of others at places of work can sometimes be more disheartening than the rigour of the work itself. Work tasks or habits may need to change with RA, but the diagnosis doesn't equal a lifetime of disability."

"Many people will need allowances at work, or will have to limit some activities during disease flares. However, a large proportion of people go on working normally with RA."

Colin Beevor, Matron and Service Manager, Musculoskeletal OPD Services, Queen Alexandra Hospital, Cosham

MYTH #3: MOST PEOPLE WITH RA CAN'T WORK

MYTH #4: IT IS BEST TO WAIT UNTIL THE DISEASE PROGRESSES BEFORE STARTING TREATMENT

This is untrue. NICE recommends that people with RA are treated as early as possible to preserve the joints. It is also recommended that newly diagnosed RA patients are offered a combination of disease modifying anti-rheumatic drugs (DMARDs) as first line treatment as soon as possible, ideally within three months of the start of persistent symptoms.[11]

The progressive nature of RA means that without treatment, patients can suffer from irreversible joint damage and disability.[12] Ideally, treatment should start as soon as possible after diagnosis as delaying treatment can mean worse outcomes later on. For this reason primary care professionals must refer people with suspected persistent synovitis to a rheumatology service within three working days of presentation. Patients should be seen by this service within three weeks of referral and offered a treatment within six weeks.[13]

MYTH #5: MOST PEOPLE WITH RA GET CANCER

This is untrue. More than one in three people in the UK will develop a cancer at some time in their lifetime[14] and more than one in four people in the UK die from cancer.[15] Thus, many people who suffer from RA are also likely to develop cancer. Most forms of cancer occur with equal frequency in people who have RA and people who do not. However, there are some forms of cancer which occur more frequently in people with RA.[16]

As RA is an auto-immune disease, the cells of the immune system are activated and divide more rapidly than in normal individuals. This is the setting in which cancer may develop, and it is cancers of the immune system, including certain types of leukaemia, lymphomas and multiple myeloma, which are most commonly linked with RA.[16]

Patients with RA also have an increased risk of developing lung cancer, however, this excess risk is most likely a result of the fact that smoking is a risk factor for RA and people with RA are more likely to be, or have been, smokers than people of the same age and sex in the general population.[16]

"My hands were so painful I couldn't turn the key to get into my own home. I was stuck in the garage for 45 minutes waiting for someone to come home."[11]

Person with RA

The goal of clinicians and nurses is to ensure that people with RA are 'pain free'. Uncontrolled RA is painful and learning to cope with chronic (long-lasting) pain may be the biggest challenge a patient with RA will face.

RA causes a number of types of pain:[17]

- Active inflammation in a joint (synovitis)
- Usage-related joint pain due to muscle weakness
- Secondary osteoarthritis

Most people with RA will experience all of these types of pain. There are educational programmes available to help people who have to live with pain and the benefits they provide can make a big difference. There are many things that people with RA can do to reduce the pain they experience; pain management can comprise:[18]

- Pain-relieving medication. Severe RA pain may require maximum doses of NSAIDs, although side effects may limit their use at higher doses
- Meditation and relaxation. Meditation can help relieve pain, and is a skill that can be learned
- Distraction. Focusing on pain makes it worse, not better
- Heat, cold, and massage. These can provide some quick relief for mild symptoms

Myth #6: Most people with RA suffer with uncontrollable pain

"Starting a new medication made it seem more serious. I had a lot of fears but the pain has been lessened so I've started to see it in a positive light."[11]

Person with RA

PATIENT AND HEALTHCARE PROFESSIONAL PERCEPTION OF RA

It is important to understand both the patient and healthcare professional perception of RA, including perception of its treatment and management. The ultimate goal is remission, which is achievable for many people with RA. A patient awareness campaign ***'What Does Remission Mean to You?'*** initiated by the National Rheumatoid Arthritis Society and Roche/Chugai aimed to understand patient perception of RA and remission. The campaign included a patient survey which found that:[2]

- Only **31%** of people with RA feel their disease is well controlled
- Remission in RA is generally **poorly understood** by people with the disease
- **86%** of people with RA believe more education about RA is needed for people with RA
- **65%** of people with RA believe more education is needed for HCPs
- There is a **mismatch** between how HCPs define remission and what people with RA understand by the term

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CARE PATHWAY

WHO'S INVOLVED IN CARE?

The treatment of RA is a team effort involving many people. The full healthcare team involves:

Physiotherapist

Occupational health professional

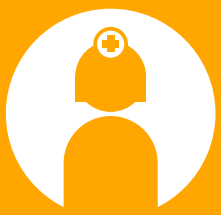
Voluntary organisation

Podiatrist

Phlebotomist

The core team

The patient
The most important member of the team



Rheumatology nurse specialist

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NICE guidance suggests that patients should have access to a named member of the multidisciplinary team (MDT), for example, the specialist nurse, who is responsible for coordinating their care.[5]

Some patients also benefit from counselling services, although currently these professionals are not automatically part of every rheumatology team. Patients are part of the management team and are encouraged to gain knowledge of the disease and of the drugs and procedures used for its treatment so as to be able to make informed rational decisions regarding their individual treatment.

GP
The first port of call when symptoms develop

Rheumatologist
If the GP suspects RA, he or she will refer the patient to a rheumatologist for diagnosis

Radiographer

Orthotist

Occupational therapist

Dietician

Orthopaedic surgeon

Psychologist or counsellor

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TREATMENTS FOR RA

There is no known cure for RA. The mainstay of treatment for RA involves medicines with help from physiotherapists and occasionally surgeons.

WHICH DRUGS ARE USED?

Treatment for RA relies on combinations of a wide range of drugs. These can be split into two main categories; non-biologic and biologic therapies.

NON-BIOLOGIC TREATMENTS

- NSAIDs (non-steroidal anti-inflammatory drugs), which relieve the painful symptoms and inflammation of RA (such as ibuprofen)[18]
- Corticosteroids (commonly called steroids), which reduce inflammation and provide a "sense of well-being"[19]
- Disease modifying anti-rheumatic drugs (DMARDs) which slow the course of the disease (such as methotrexate, sulfasalazine and leflunomide, among others)[20]

BIOLOGIC TREATMENTS

Unfortunately, only one third of patients with RA who are treated with DMARDs achieve DAS28 remission.[21] Research has also shown that up to 40% of people given methotrexate do not respond to it well enough, and/or they experience side effects and require other drugs to help control their inflammation.[22] In these instances there is a need for other types of treatments, known as biologics;

- Anti-TNF (tumour necrosis factor) therapy; etanercept (Enbrel), infliximab (Remicade), adalimumab (Humira), golimumab (Simponi), certolizumab pegol (Cimzia): blocks the action of a chemical called tumour necrosis factor (TNF). In doing so it reduces the contribution that TNF makes in causing inflammation and inhibits the progression of RA, both in the joints and throughout the body [23]
- Interleukin 6 (IL-6) blockade; tocilizumab (RoActemra): an IL-6 receptor inhibitor, which disrupts the IL-6 (an inflammatory cytokine) signalling pathway within the immune system. In doing so it reduces the contribution that IL-6 makes in causing inflammation and inhibits the progression of RA, both in the joints and throughout the body[24]
- B-cell therapy; rituximab (MabThera): selectively targets and depletes CD20 B-cells (white blood cells), which have been shown to contribute to the development of RA[25]
- T-cell co-stimulation therapy; abatacept (Orencia): modifies a co-stimulatory signal which is required for full T-cell activation[26]

NICE GUIDELINES FOR RA TREATMENT

There are many treatments available for patients with RA which means that the treatment pathway can become confusing. The first line of treatment is with DMARDs:

NON-BIOLOGIC TREATMENT

- In people with newly diagnosed active RA, a combination of DMARDs (including methotrexate and at least one other DMARD, plus short-term glucocorticoids) should be offered as first-line treatment, ideally within 3 months of the onset of persistent symptoms[5]
- In people with newly diagnosed RA for whom combination DMARD therapy is not appropriate, start DMARD monotherapy, placing greater emphasis on fast escalation to a clinically effective dose rather than on the choice of DMARD[5]
- In people with recent-onset RA receiving combination DMARD therapy and in whom sustained and satisfactory levels of disease control have been achieved, doctors should cautiously try to reduce drug doses to levels that still maintain disease control[5]

If a patient has an inadequate response (assessed using a composite score such as DAS28 – see section 'Monitoring rheumatoid arthritis') to methotrexate and one other DMARD, they are eligible to move on to biologic therapy. Listed below are the current biologic treatments that are recommended by NICE (as of June 2014), along with their position in the treatment pathway.

The table below details NICE recommendations for the treatment of RA

Biologic treatment mode of action	1st line biologic	2nd line biologic	3rd line biologic
Abatacept (Orencia)* ***t-cell co-stimulation***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment.[27,28]	n/a	Adults with severe active rheumatoid arthritis who have had an inadequate response to, or have an intolerance of, other DMARDs including at least one TNF inhibitor and MabThera is contraindicated or withdrawn due to adverse events.[2,9]
Adalimumab (Humira)** ***aTNF***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment.[27]	n/a	Adults with severe active rheumatoid arthritis who have had an inadequate response to, or have an intolerance of, other DMARDs including at least one TNF inhibitor and MabThera is contraindicated or withdrawn due to adverse events.[29]
Certolizumab pegol (Cimzia)** ***aTNF***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment. The manufacturer provides the first 12 weeks of certolizumab pegol free of charge to all patients starting treatmentt.[27,30]	n/a	n/a
Etanercept (Enbrel)** ***aTNF***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment.[27]	n/a	Adults with severe active rheumatoid arthritis who have had an inadequate response to, or have an intolerance of, other DMARDs, including at least one TNF inhibitor, and MabThera is contraindicated or withdrawn due to adverse events.[29]
Golimumab (Simponi)* ***aTNF***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment. The manufacturer provides golimumab with the discount agreed as part of the patient access scheme.[31]	n/a	Adults with severe active rheumatoid arthritis who have had an inadequate response to, or have an intolerance of, other DMARDs, including at least one TNF inhibitor, and MabThera is contraindicated or withdrawn due to adverse events.[31]

Infliximab (Remicade)* ***aTNF***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment.[27]	n/a	Adults with severe active rheumatoid arthritis who have had an inadequate response to, or have an intolerance of, other DMARDs including at least one TNF inhibitor and MabThera is contraindicated or withdrawn due to adverse events.[29]
Rituximab (MabThera)* ***b-cell***	n/a	Rituximab in combination with methotrexate is recommended as an option for the treatment of adults with severe active rheumatoid arthritis who have had an inadequate response to, or are intolerant of, other disease-modifying anti-rheumatic drugs (DMARDs), including at least one tumour necrosis factor (TNF) inhibitor.[29]	n/a
Tocilizumab (RoActemra)* ***IL-6***	Active rheumatoid arthritis as measured by disease activity score (DAS28) greater than 5.1 confirmed on at least two occasions, 1 month apart. Have undergone trials of two disease-modifying anti-rheumatic drugs (DMARDs), including methotrexate (unless contraindicated), with inadequate response. A trial of a DMARD is defined as being normally of 6 months, with 2 months at standard dose, unless significant toxicity has limited the dose or duration of treatment. The manufacturer provides RoActemra with the discount agreed as part of the patient access scheme.[32]	n/a	Adults with moderate to severe active rheumatoid arthritis who have had an inadequate response to at least one TNF inhibitor and a) MabThera is contraindicated or withdrawn due to adverse events or b) a patient has an inadequate response to MabThera.[32]
Anakinra (Kineret) **IL-1**	Not recommended for the treatment of RA, except in the context of a controlled, long-term clinical study.[5]	n/a	n/a

* Treatment should be used in combination with methotrexate
** Treatments have NICE guidance in monotherapy[29]

MONITORING RA

To ensure patients' RA is being managed as well as possible, it is important to regularly monitor symptoms to inform decision-making about:

- increasing or changing treatment to control disease
- cautiously decreasing treatment when disease is controlled[5]

There are several ways in which patients' RA is monitored, including ultrasound, MRI, X-ray and blood tests. The most common tests, and those which are recommended by NICE, are the Erythrocyte Sedimentation Rate (ESR) and C-reactive protein (CRP) blood tests, and the DAS28 examination.

ERYTHROCYTE SEDIMENTATION RATE (ESR)

The ESR is an indication of the degree of inflammation in the body. It is actually a measurement of the speed with which red blood cells fall in a test tube of blood. When the inflammation in the blood goes up, these inflammatory substances attach to red blood cells and the cells fall faster. The ESR doesn't point to any particular disease, but is a general indication of the amount of inflammation in the body and one of the aims of treatment is to reduce the ESR to normal levels.[33]

C-REACTIVE PROTEIN (CRP)

CRP also indicates the amount of inflammation present. It is thought to be a more sensitive measure of inflammation than the ESR as in a normal situation there is very little if any CRP in the blood. As with the ESR, CRP is a general measure and is not specific to RA.[33]

DAS28 EXAMINATION

The DAS28 is a measure of RA disease activity. The examination involves a series of tests; the results of which are entered into a specially designed formula to determine a patient's disease activity score (DAS).[34] These tests include an examination of swollen and tender joints in the body (28 in total), the ESR or CRP which are measured via a blood test and the patient's own interpretation of how they feel their disease is at present.[34] The table below shows what different levels of DAS represent:

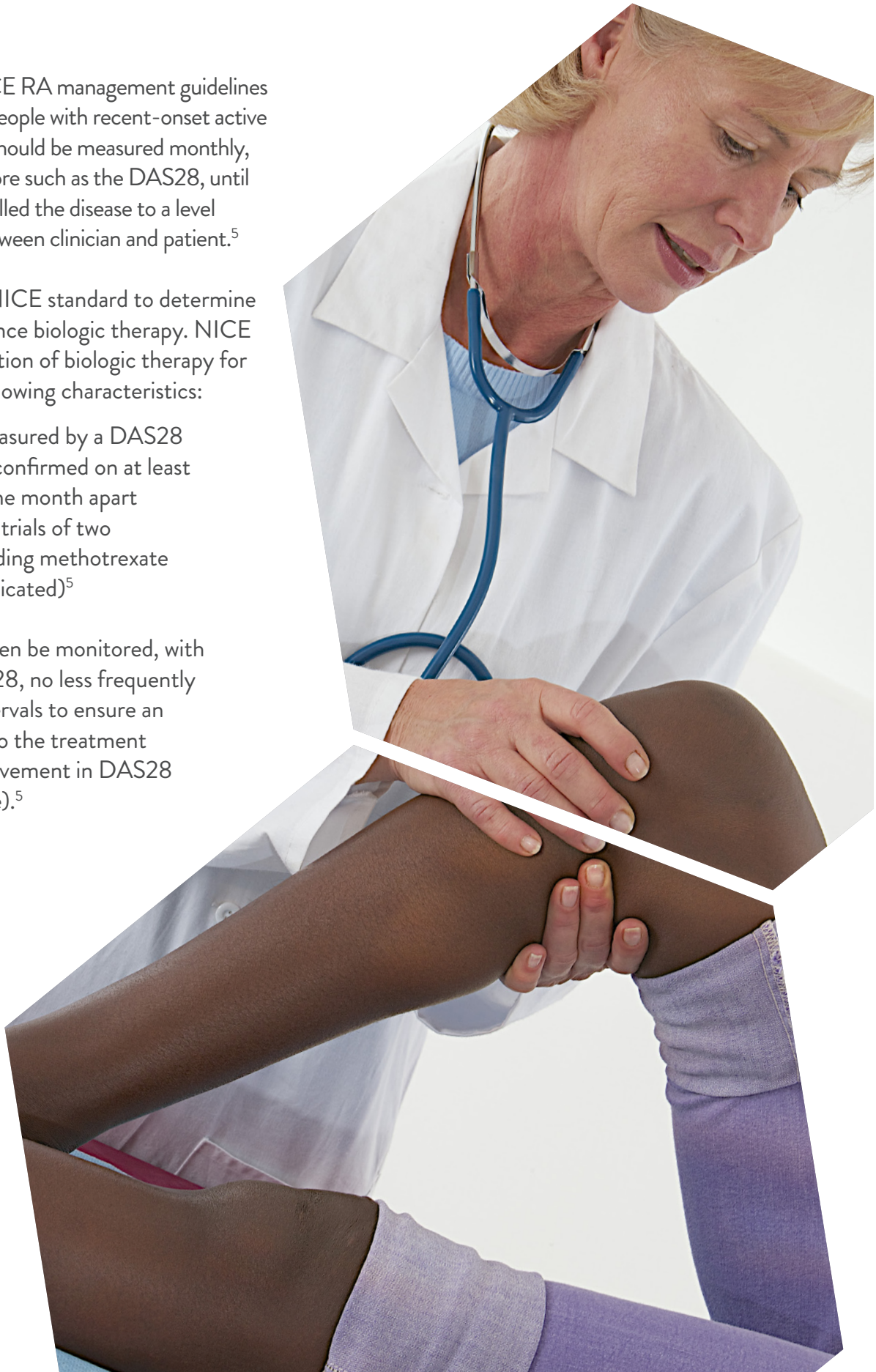
DAS28	Implication
Less than 2.6	Disease remission. Usually no action necessary
2.6 to 3.2	Low disease activity. **May** merit change in therapy for some patients
3.2 to 5.1	Moderate disease activity. **May** merit change in therapy for some patients
More than 5.1	Severe disease activity. Likely to require change in therapy

The most recent NICE RA management guidelines recommend that in people with recent-onset active RA, disease activity should be measured monthly, using a composite score such as the DAS28, until treatment has controlled the disease to a level previously agreed between clinician and patient.[5]

DAS28 is also the NICE standard to determine eligibility to commence biologic therapy. NICE recommends the option of biologic therapy for patients with the following characteristics:

- Active RA as measured by a DAS28 greater than 5.1 confirmed on at least two occasions, one month apart
- Have undergone trials of two DMARDs, including methotrexate (unless contraindicated)[5]

Treatment should then be monitored, with assessment of DAS28, no less frequently than 6-monthly intervals to ensure an adequate response to the treatment (defined as an improvement in DAS28 of 1.2 points or more).[5]



GLOSSARY OF TERMS

Antibody – A blood protein that forms in response to foreign or dangerous substances that the immune system uses to fight infections.[35]

Anti-CCP – Anti-CCP, which stands for anti-cyclic citrullinated peptide antibody, is an autoantibody which is detected in the blood of about 60% of RA patients. A blood test which measures for these antibodies can help doctors confirm a diagnosis of RA, however this is not a conclusive test as a negative result does not exclude disease.[33,36]

Autoantibodies – Antibodies that mistakenly target and damage specific tissues or organs of the body.

Autoimmune disease – A disorder of the body's defence mechanism (immune system), in which antibodies and other components of the immune system attack the body's own tissue rather than germs, viruses and other foreign substances.[35] Example autoimmune diseases are RA and lupus.

B cell – A type of white blood cell. Some B cells make the auto-antibody called rheumatoid factor (RF).

Biologic DMARD (disease modifying anti-rheumatic drug) – A newer type of treatment for autoimmune diseases. These drugs target specific chemical messengers or cells that activate inflammation in the body.[35]

CCP (cyclic citrullinated peptide) – In some people with RA, proteins can become citrillinated and this, in turn, leads to the creation of anti-CCP antibodies which can cause inflammation.[37]

CRP (C-reactive protein) – A substance found in the blood that indicates that there is inflammation in the body. For people with RA, doctors frequently measure the amount of CRP.[36]

Cytokines – Substances in the blood that communicate with cells in the body, including white blood cells. Some of these cytokines organize the attack on infections, which results in inflammation. When the immune system is working normally, the attack is ended once the infection has been fought off. However, people with RA have levels of certain cytokines that are too high. It's this constant inflammation that causes the signs and symptoms of RA. Major cytokines that play a role in RA are TNF (tumor necrosis factor), IL-1 (interleukin 1) and IL-6 (interleukin 6).[23]

DAS (Disease Activity Score) – A score used to assess the level of disease activity in people with RA and guide treatment decisions. It is calculated through an examination of the joints, a consultation with the health care professional regarding the current level of disease activity and a blood test.[35]

DMARD (disease modifying antirheumatic drug) — A kind of medicine that works on the immune system to treat the signs and symptoms of RA and may slow the progression of the disease.[35]

Fatigue – A general feeling of exhaustion or weariness. Fatigue can be caused by inflammation or disease, lack of sleep or physical, mental or emotional overexertion.

Flare or Flare-up – a period in which the symptoms of a disease reappear or worsen.[35]

IL-1 – An abbreviation for interleukin 1. Interleukins are cytokines. IL-1 is a cytokine that plays a pro-inflammatory role in the immune system.[35]

IL-6 – An abbreviation for interleukin 6. In people with RA, IL-6 plays a large role in the immune system and maintaining inflammation.[24]

Immune system – A complex collection of organs and cells that protect the body from infection.[35] In people with RA, the immune system starts to attack your joints and the surrounding tissues.[38]

Inflammation – A normal reaction to injury or infection of living tissues. The flow of blood increases, resulting in heat and redness in the affected tissues, and fluid and cells leak into the tissue, causing swelling.[35] Chronic inflammation is a symptom of RA.

Monotherapy – The treatment of a disorder with a single drug.

NSAID (nonsteroidal anti-inflammatory drug) – A large family of drugs prescribed for different kinds of arthritis that reduce inflammation and control pain, swelling and stiffness. Common examples include ibuprofen, naproxen and diclofenac.[35]

Osteoarthritis (OA) – A condition that can be confused with RA. Damage to joints is usually caused by the wear and tear of age.

Remission – Remission is the disappearance of the signs and symptoms of a disease.[35] In RA, the clinical definition of remission is a DAS28 score of less than 2.6.[2]

Rheumatoid factor (RF) – An auto-antibody found in the blood of 2 in 3 people with RA that helps doctors diagnose RA. A positive RF test is suggestive of RA, but not conclusive.[3]

Steroid – Steroids have a very powerful effect in reducing inflammation and so they can suppress it in RA. They can be given as injections into a joint, a vein or a muscle, or as tablet.[39]

T cell – T-cells are a type of white blood cell which defend the body against disease but sometimes they start attacking the body's own tissue as in RA.[35]

TNF – An abbreviation for tumor necrosis factor. TNF is a cytokine. In people with RA, TNF plays a large role in the immune system and maintaining inflammation.[23]

REFERENCES

1 National Rheumatoid Arthritis Society (NRAS). 2011 What is RA? Available at: http://www.nras.org.uk/what-is-ra--what-is-ra--295 . Last accessed Jan 2015

2 NRAS. What does remission mean to you? Report February 2014

3 Patient.co.uk. Rheumatoid Arthritis leaflet. Available at http://www.patient.co.uk/health/rheumatoid-arthritis-leaflet. Last accessed Jan 2015

4 National Audit Office. Services for people with rheumatoid arthritis. Report by the comptroller and auditor general. July 2009. Available at: http://www.nao.org.uk/wp-content/uploads/2009/07/0809823.pdf. Last accessed Jan 2015

5 Symons D, Mathers C, Pfleger B. The global burden of rheumatoid arthritis in the year 2000. World Health Organisation 2006

6 Healthline.com. Is It RA? Rheumatoid Arthritis vs. Osteoarthritis. Available at http://www.healthline.com/health/rheumatoid-arthritis/ra-vs-oa. Last accessed Jan 2015

7 Arthritis Research UK. How is rheumatoid arthritis diagnosed? Available at http://www.arthritisresearchuk.org/arthritis-information/conditions/rheumatoid-arthritis/diagnosis.aspx. Last accessed Jan 2015

8 Arthritis Care. Types of arthritis. www.arthritiscare.org.uk/AboutArthritis/FAQs/Typesofarthritis. Last accessed Jan 2015

9 Arthritis Care, Arthritis in Children (conditions) www.arthritiscare.org.uk/AboutArthritis/Conditions/Arthritisinchildren. Last accessed Jan 2015

10 Roche data on file, RCUKDONF00017. Patient Insights market research. January 2014

11 National Institute for Health and Clinical Excellence. CG79 Rheumatoid arthritis: the management of rheumatoid arthritis in adults. February 2009. http://guidance.nice.org.uk/CG79. Last accessed Jan 2015

12 Aletaha D et al. Physical disability in rheumatoid arthritis is associated with cartilage damage rather than bone destruction. Ann Rheum Dis 2011;70:733–739

13 National Institute for Health and Clinical Excellence. NICE quality standards [QS33] Available at: http://www.nice.org.uk/guidance/qs33/resources/guidance-quality-standard-for-rheumatoid-arthritis-pdf. Last accessed Jan 2015

14 Sasieni PD et al. What is the lifetime risk of developing cancer?: the effect of adjusting for multiple primaries. Br J Cancer (2011) 105, 460 – 465. Last accessed Jan 2015

15 Office for National Statistics. Deaths Registered in England and Wales (Series DR), 2012. Available at: http://www.ons.gov.uk/ons/dcp171778_331565.pdf. Last accessed Jan 2015

16 Cush J J et al. Does Rheumatoid Arthritis or Biologic Therapy increase cancer risk? Drug Safety Quarterly. 2012 Vol 4(2).

17 Conaghan P. Managing the pain of rheumatoid arthritis. NRAS 2013. Available at http://www.nras.org.uk/managing-the-pain-of-rheumatoid-arthritis Last accessed Jan 2015

18 Arthritis Care: coping with pain booklet. Available at http://www.arthritiscare.org.uk/@3235/Listedbytype/Booklets. Last accessed Jan 2015

19 Kirwan J. Steroids in Rheumatoid Arthritis. NRAS 2013. http://www.nras.org.uk/steroids-in-rheumatoid-arthritis Last accessed Jan 2015

20 Luqmani R. Getting Established on DMARD therapy. Available at http://www.nras.org.uk/getting-established-on-dmard-therapy . Last accessed Jan 2015

21 Kremer J M et al March 2011. Tocilizumab inhibits structural joint damage in rheumatoid arthritis patients with inadequate responses to MTX. Arthritis & Rheumatism 2011;63(3): 609-621

22 Pincus T, et al. Underestimation of the efficacy, effectiveness, tolerability, and safety of weekly low-dose methotrexate in information presented to physicians and patients. Clin Exp Rheumatol 2010; 28(Suppl. 61):S68–S79

23 Choy E. Anti TNF treatment in Rheumatoid Arthritis. NRAS 2013. Available at http://www.nras.org.uk/anti-tnfa-treatment-in-rheumatoid-arthritis. Last accessed Jan 2015

24 Arthritis Research UK. What is tocilizumab? http://www.arthritisresearchuk.org/arthritis-information/drugs/tocilizumab/what-it-is.aspx. Last accessed Jan 2015

25 Ostor A. Rituximab (Mabthera). NRAS 2013. http://www.nras.org.uk/rituximab-mabthera- Last accessed Jan 2015

26 Ostor A. Abatacept (Orencia). NRAS 2012. http://www.nras.org.uk/abatacept-orencia- Last accessed Jan 2015

27 National Institute for Health and Clinical Excellence. TA280: Abatacept for treating rheumatoid arthritis after the failure of conventional disease-modifying anti-rheumatic drugs. Available at: http://www.nice.org.uk/guidance/TA280/chapter/1-guidance. Last accessed Jan 2015

28 National Institute for Health and Clinical Excellence. TA130: Adalimumab, etanercept and infliximab for the treatment of rheumatoid arthritis. Available at: http://publications.nice.org.uk/adalimumab-etanercept-and-infliximab-for-the-treatment-of-rheumatoid-arthritis-ta130. Last accessed Jan 2015

29 National Institute for Health and Clinical Excellence. TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor. Available at: http://publications.nice.org.uk/adalimumab-etanercept-infliximab-rituximab-and-abatacept-for-the-treatment-of-rheumatoid-ta195. Last accessed Jan 2015

30 National Institute for Health and Clinical Excellence. TA186: Certolizumab pegol for the treatment of rheumatoid arthritis. Available at: http://egap.evidence.nhs.uk/certolizumab-pegol-for-the-treatment-of-rheumatoid-arthritis-ta186. Last accessed Jan 2015

31 National Institute for Health and Clinical Excellence. TA225: Rheumatoid arthritis (after the failure of previous anti-rheumatic drugs) - golimumab. Available at: http://guidance.nice.org.uk/TA225. Last accessed Jan 2015

32 National Institute for Health and Clinical Excellence. TA247: Tocilizumab for the treatment of rheumatoid arthritis. Available at: http://www.nice.org.uk/guidance/ta247. Last accessed Jan 2015

33 Panayi G. Laboratory tests used in the diagnosis and monitoring of rheumatoid arthritis. NRAS 2013 http://www.nras.org.uk/laboratory-tests-used-in-the-diagnosis-and-monitoring-of-rheumatoid-arthritis Last accessed Jan 2015

34 Kiely P. The DAS28 score. NRAS 2011 http://www.nras.org.uk/the-das28-score Last accessed Jan 2015

35 Arthritis Research UK glossary, available at http://www.arthritisresearchuk.org/arthritis-information/inflammatory-arthritis-pathway/glossary.aspx. Last accessed Jan 2015

36 Niewold T, et al. Anti-CCP antibody testing as a diagnostic and prognostic tool in rheumatoid arthritis. Q J Med 2007; 100:193–201

37 Luban S, Li ZG. Citrullinated peptide and its relevance to rheumatoid arthritis: an update. Int J Rheum Dis. 2010 Oct;13(4):284-7

38 Bupa, Rheumatoid arthritis, available at http://www.bupa.co.uk/individuals/health-information/directory/r/arthritis Last accessed Jan 2015

39 Arthritis Research UK, Steroids for rheumatoid arthritis, available at http://www.arthritisresearchuk.org/arthritis-information/conditions/rheumatoid-arthritis/treatments/steroids.aspx Last accessed Jan 2015

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www.arthritiscare.org.uk

Offers advice and information for people with arthritis

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Offers information, support and education for people living with RA

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