



Rheumatoid arthritis in adults: management

NICE guideline

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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should [assess and reduce the environmental impact of implementing NICE recommendations](#) wherever possible.

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This guideline replaces CG79.

This guideline is the basis of QS33.

This guideline should be read in conjunction with NG193.

Overview

This guideline covers diagnosing and managing rheumatoid arthritis. It aims to improve quality of life by ensuring that people with rheumatoid arthritis have the right treatment to slow the progression of their condition and control their symptoms. People should also have rapid access to specialist care if their condition suddenly worsens.

Who is it for?

- Healthcare professionals
- Commissioners and providers
- People with rheumatoid arthritis and their families and carers

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in [making decisions about your care](#).

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

1.1 Referral, diagnosis and investigations

Referral from primary care

1.1.1 Refer for specialist opinion any adult with suspected persistent [synovitis](#) of undetermined cause. Refer urgently (even with a normal acute-phase response, negative anti-cyclic citrullinated peptide [CCP] antibodies or rheumatoid factor) if any of the following apply:

- the small joints of the hands or feet are affected
- more than one joint is affected
- there has been a delay of 3 months or longer between onset of symptoms and seeking medical advice. **[2009, amended 2018]**

Investigations

If the following investigations are ordered in primary care, they should not delay referral for specialist opinion (see recommendation 1.1.1).

Investigations for diagnosis

- 1.1.2 Offer to carry out a blood test for rheumatoid factor in adults with suspected rheumatoid arthritis (RA) who are found to have synovitis on clinical examination. **[2009]**
- 1.1.3 Consider measuring anti-CCP antibodies in adults with suspected RA if they are negative for rheumatoid factor. **[2009, amended 2018]**
- 1.1.4 X-ray the hands and feet in adults with suspected RA and persistent synovitis. **[2009, amended 2018]**

Investigations following diagnosis

- 1.1.5 As soon as possible after establishing a diagnosis of RA:
- measure anti-CCP antibodies, unless already measured to inform diagnosis
 - X-ray the hands and feet to establish whether erosions are present, unless X-rays were performed to inform diagnosis
 - measure functional ability using, for example, the Health Assessment Questionnaire (HAQ), to provide a baseline for assessing the functional response to treatment. **[2018]**
- 1.1.6 If anti-CCP antibodies are present or there are erosions on X-ray:
- advise the person that they have an increased risk of radiological progression but not necessarily an increased risk of poor function, **and**
 - emphasise the importance of monitoring their condition, and seeking rapid access to specialist care if disease worsens or they have a flare. **[2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on investigations following diagnosis](#).

Full details of the evidence and the committee's discussion are in [evidence review B: Risk factors](#).

1.2 Treat-to-target strategy

- 1.2.1 Treat active RA in adults with the aim of achieving a target of remission or low disease activity if remission cannot be achieved ([treat-to-target](#)). Achieving the target may involve trying multiple [conventional disease-modifying anti-rheumatic drugs](#) (cDMARDs), and biological or targeted synthetic DMARDs with different mechanisms of action, one after the other. **[2018, amended 2024]**
- 1.2.2 Consider making the target remission rather than low disease activity for people with an increased risk of radiological progression (presence of anti-CCP antibodies or erosions on X-ray at baseline assessment). **[2018]**
- 1.2.3 In adults with active RA, measure C-reactive protein (CRP) and disease activity (using a composite score such as DAS28) monthly in specialist care until the target of remission or low disease activity is achieved. **[2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on treat-to-target strategy](#).

Full details of the evidence and the committee's discussion are in [evidence review C: Treat-to-target](#).

1.3 Communication and education

- 1.3.1 Explain the risks and benefits of treatment options to adults with RA in ways that can be easily understood. Throughout the course of their disease, offer them the

opportunity to talk about and agree all aspects of their care, and respect the decisions they make. **[2009]**

1.3.2 Offer verbal and written information to adults with RA to:

- improve their understanding of the condition and its management, **and**
- counter any misconceptions they may have. **[2009]**

1.3.3 Adults with RA who wish to know more about their disease and its management should be offered the opportunity to take part in existing educational activities, including self-management programmes. **[2009]**

1.4 Initial pharmacological management

Conventional disease-modifying anti-rheumatic drugs

1.4.1 For adults with newly diagnosed active RA:

- Offer first-line treatment with cDMARD monotherapy using oral methotrexate, leflunomide or sulfasalazine as soon as possible and ideally within 3 months of onset of persistent symptoms.
- Consider hydroxychloroquine for first-line treatment as an alternative to oral methotrexate, leflunomide or sulfasalazine for mild or palindromic disease.
- Escalate dose as tolerated. **[2018]**

1.4.2 Consider short-term bridging treatment with glucocorticoids (oral, intramuscular or intra-articular) when starting a new cDMARD. **[2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on short-term bridging treatment with glucocorticoids](#).

Full details of the evidence and the committee's discussion are in [evidence review H: Glucocorticoids](#).

- 1.4.3 Offer additional cDMARDs (oral methotrexate, leflunomide, sulfasalazine or hydroxychloroquine) in combination in a [step-up strategy](#) when the treatment target (remission or low disease activity) has not been achieved despite dose escalation. **[2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on DMARDs](#).

Full details of the evidence and the committee's discussion are in [evidence review F: DMARDs](#).

1.5 Further pharmacological management

For guidance on using DMARDs to achieve treatment targets, see [section 1.2.1](#). Also see the [MHRA's safety advice on Janus kinase \(JAK\) inhibitors \(April 2023\)](#).

See terms used in this guideline for a description and examples of [tumour necrosis factor \(TNF\) inhibitors](#) and [JAK inhibitors](#).

Biological and targeted synthetic DMARDs

- 1.5.1 If people with RA and their clinicians consider there to be a range of suitable medicines, after discussing the advantages and disadvantages of all the options, the least expensive should be used. Administration costs, dosages, price per dose and commercial arrangements should all be taken into account. **[2024]**

Moderate RA

- 1.5.2 For medicines recommended as options in NICE technology appraisal guidance for treating moderate RA (disease activity score [DAS28] of 3.2 to 5.1) that has inadequately responded to intensive therapy with 2 or more conventional DMARDs (cDMARDs) used in combination, see the guidance on:
- [upadacitinib \(TA744, November 2021\)](#)

- [adalimumab \(TA715, July 2021\)](#)
- [etanercept \(TA715, July 2021\)](#)
- [infliximab \(TA715, July 2021\)](#)
- [filgotinib \(TA676, July 2021\)](#).

Give the biological or targeted synthetic DMARD in combination with methotrexate unless it is contraindicated, or the person cannot tolerate it. Infliximab is not recommended for monotherapy.

Severe RA

1.5.3 For medicines recommended as options in NICE technology appraisal guidance for treating severe RA (DAS28 of more than 5.1) that has inadequately responded to intensive therapy with conventional DMARDs (cDMARDs) used in combination, see the guidance on:

- [filgotinib \(TA676, February 2021\)](#)
- [upadacitinib \(TA665, December 2020\)](#)
- [sarilumab \(TA485, November 2017\)](#)
- [tofacitinib \(TA480, October 2017\)](#)
- [baricitinib \(TA466, August 2017\)](#)
- [abatacept \(TA375, January 2016\)](#)
- [adalimumab \(TA375, January 2016\)](#)
- [certolizumab pegol \(TA375, January 2016\)](#)
- [etanercept \(TA375, January 2016\)](#)
- [golimumab \(TA375, January 2016\)](#)
- [infliximab \(TA375, January 2016\)](#)

- [tocilizumab \(TA375, January 2016\)](#).

Give the biological or targeted synthetic DMARD in combination with methotrexate unless it is contraindicated, or the person cannot tolerate it. Abatacept, golimumab and infliximab are not recommended for monotherapy.

1.5.4 Rituximab in combination with methotrexate is recommended as an option in NICE technology appraisal guidance for treating severe RA (DAS28 of more than 5.1) that has inadequately responded to at least 1 [TNF inhibitor](#). For full details, see the [guidance on rituximab \(TA195, August 2010\)](#).

1.5.5 For medicines recommended as options in NICE technology appraisal guidance for treating severe RA (DAS28 of more than 5.1) that has inadequately responded to at least 1 biological DMARD, in people who cannot have rituximab, see the guidance on:

- [filgotinib \(TA676, February 2021\)](#)
- [upadacitinib \(TA665, December 2020\)](#)
- [sarilumab \(TA485, November 2017\)](#)
- [tofacitinib \(TA480, October 2017\)](#)
- [baricitinib \(TA466, August 2017\)](#)
- [certolizumab pegol \(TA415, October 2016\)](#)
- [tocilizumab \(TA247, February 2012\)](#)
- [golimumab \(TA225, June 2011\)](#)
- [abatacept \(TA195, August 2010\)](#)
- [adalimumab \(TA195, August 2010\)](#)
- [etanercept \(TA195, August 2010\)](#)
- [infliximab \(TA195, August 2010\)](#).

Give the biological or targeted synthetic DMARD in combination with

methotrexate unless it is contraindicated, or the person cannot tolerate it. Abatacept, golimumab, infliximab and tocilizumab are not recommended for monotherapy.

For abatacept, adalimumab, certolizumab pegol, etanercept, golimumab, infliximab and tocilizumab, previous biological DMARD treatment should include at least 1 TNF inhibitor.

1.5.6 For medicines recommended as options in NICE technology appraisal guidance for treating severe RA (DAS28 of more than 5.1) that has inadequately responded to at least 1 biological DMARD and rituximab, see the guidance on:

- [filgotinib \(TA676, February 2021\)](#)
- [upadacitinib \(TA665, December 2020\)](#)
- [sarilumab \(TA485, November 2017\)](#)
- [tocilizumab \(TA247, February 2012\)](#).

Give the biological or targeted synthetic DMARD in combination with methotrexate unless it is contraindicated, or the person cannot tolerate it. Sarilumab and tocilizumab are not recommended for monotherapy.

For tocilizumab, previous biological DMARD treatment should include at least 1 TNF inhibitor.

Anakinra

1.5.7 On the balance of its clinical benefits and cost effectiveness, anakinra is not recommended for the treatment of RA, except in the context of a controlled, long-term clinical study. **[2009]**

1.5.8 Do not offer the combination of TNF inhibitor therapy and anakinra for RA. **[2009]**

Glucocorticoids

1.5.9 Offer short-term treatment with glucocorticoids for managing flares in adults with recent-onset or established disease to rapidly decrease inflammation. **[2009]**

1.5.10 In adults with established RA, only continue long-term treatment with glucocorticoids when:

- the long-term complications of glucocorticoid therapy have been fully discussed, **and**
- all other treatment options (including biological and targeted synthetic DMARDs) have been offered.

See [recommendations on managing glucocorticoid withdrawal in NICE's guideline on adrenal insufficiency](#). **[2009, amended 2018]**

1.6 Symptom control

1.6.1 Consider oral non-steroidal anti-inflammatory drugs (NSAIDs, including traditional NSAIDs and cox II selective inhibitors), when control of pain or stiffness is inadequate. Take account of potential gastrointestinal, liver and cardio-renal toxicity, and the person's risk factors, including age and pregnancy. **[2018]**

1.6.2 When treating symptoms of RA with oral NSAIDs:

- offer the lowest effective dose for the shortest possible time
- offer a proton pump inhibitor (PPI), **and**
- review risk factors for adverse events regularly. **[2018]**

1.6.3 If a person with RA needs to take low-dose aspirin, healthcare professionals should consider other treatments before adding an NSAID (with a PPI) if pain relief is ineffective or insufficient. **[2009, amended 2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on symptom control](#).

Full details of the evidence and the committee's discussion are in [evidence review G: Analgesics](#).

1.7 The multidisciplinary team

- 1.7.1 Adults with RA should have ongoing access to a multidisciplinary team. This should provide the opportunity for periodic assessments (see 1.9.2 and 1.9.3) of the effect of the disease on their lives (such as pain, fatigue, everyday activities, mobility, ability to work or take part in social or leisure activities, quality of life, mood, impact on sexual relationships) and help to manage the condition. **[2009]**
- 1.7.2 Adults with RA should have access to a named member of the multidisciplinary team (for example, the specialist nurse) who is responsible for coordinating their care. **[2009]**

1.8 Non-pharmacological management

Physiotherapy

- 1.8.1 Adults with RA should have access to specialist physiotherapy, with periodic review (see 1.9.2 and 1.9.3), to:
- improve general fitness and encourage regular exercise
 - learn exercises for enhancing joint flexibility, muscle strength and managing other functional impairments
 - learn about the short-term pain relief provided by methods such as transcutaneous electrical nerve stimulators (TENS) and wax baths. **[2009]**

Occupational therapy

1.8.2 Adults with RA should have access to specialist occupational therapy, with periodic review (see 1.9.2 and 1.9.3), if they have:

- difficulties with any of their everyday activities, **or**
- problems with hand function. **[2009]**

Hand exercise programmes

1.8.3 Consider a tailored strengthening and stretching hand exercise programme for adults with RA with pain and dysfunction of the hands or wrists if:

- they are not on a drug regimen for RA, **or**
- they have been on a stable drug regimen for RA for at least 3 months. **[2015]**

1.8.4 The tailored hand exercise programme for adults with RA should be delivered by a practitioner with training and skills in this area. **[2015]**

Podiatry

1.8.5 All adults with RA and foot problems should have access to a podiatrist for assessment and periodic review of their foot health needs (see 1.9.2 and 1.9.3). **[2009]**

1.8.6 Functional insoles and therapeutic footwear should be available for all adults with RA if indicated. **[2009]**

Psychological interventions

1.8.7 Offer psychological interventions (for example, relaxation, stress management and cognitive coping skills [such as managing negative thinking]) to help adults with RA adjust to living with their condition. **[2009]**

NICE has published a [guideline on depression in adults with a chronic physical health problem](#).

Diet and complementary therapies

- 1.8.8 Inform adults with RA who wish to experiment with their diet that there is no strong evidence that their arthritis will benefit. However, they could be encouraged to follow the principles of a Mediterranean diet (more bread, fruit, vegetables and fish; less meat; and replace butter and cheese with products based on vegetable and plant oils). **[2009]**
- 1.8.9 Inform adults with RA who wish to try complementary therapies that although some may provide short-term symptomatic benefit, there is little or no evidence for their long-term efficacy. **[2009]**
- 1.8.10 If an adult with RA decides to try complementary therapies, advise them:
- these approaches should not replace conventional treatment
 - this should not prejudice the attitudes of members of the multidisciplinary team, or affect the care offered. **[2009]**

1.9 Monitoring

- 1.9.1 Ensure that all adults with RA have:
- rapid access to specialist care for flares
 - information about when and how to access specialist care, **and**
 - ongoing drug monitoring. **[2018]**
- 1.9.2 Consider a review appointment to take place 6 months after achieving treatment target (remission or low disease activity) to ensure that the target has been maintained. **[2018]**
- 1.9.3 For adults with RA who are receiving a biological or targeted synthetic DMARD,

continue treatment only if there is a moderate response (as defined in the relevant NICE technology appraisal guidance listed in [section 1.5](#)) at 6 months. Stop treatment if this is not maintained. **[2024]**

1.9.4 Offer all adults with RA, including those who have achieved the treatment target, an annual review to:

- assess disease activity and damage, and measure functional ability (using, for example, the Health Assessment Questionnaire [HAQ])
- check for the development of comorbidities, such as hypertension, ischaemic heart disease, osteoporosis and depression
- assess symptoms that suggest complications, such as vasculitis and disease of the cervical spine, lung or eyes
- organise appropriate cross referral within the multidisciplinary team
- assess the need for referral for surgery (see section 1.10)
- assess the effect the disease is having on a person's life.

Follow [recommendation 1.2.1](#) if the target is not maintained. **[2009, amended 2020]**

1.9.5 For adults who have maintained the treatment target (remission or low disease activity) for at least 1 year without glucocorticoids, consider cautiously reducing drug doses or stopping drugs in a [step-down strategy](#). Return promptly to the previous DMARD regimen if the treatment target is no longer met. See [recommendations on managing glucocorticoid withdrawal in NICE's guideline on adrenal insufficiency](#). **[2018]**

1.9.6 Do not use ultrasound for routine monitoring of disease activity in adults with RA. **[2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on monitoring](#).

Full details of the evidence and the committee's discussion are in [evidence review E: Frequency of monitoring](#).

1.10 Timing and referral for surgery

1.10.1 Offer to refer adults with RA for an early specialist surgical opinion if any of the following do not respond to optimal non-surgical management:

- persistent pain due to joint damage or other identifiable soft tissue cause
- worsening joint function
- progressive deformity
- persistent localised synovitis. **[2009]**

1.10.2 Offer to refer adults with any of the following complications for a specialist surgical opinion before damage or deformity becomes irreversible:

- imminent or actual tendon rupture
- nerve compression (for example, carpal tunnel syndrome)
- stress fracture. **[2009]**

1.10.3 When surgery is offered to adults with RA, explain that the main expected benefits are:

- pain relief
- improvement, or prevention of further deterioration, of joint function, **and**
- prevention of deformity.

Cosmetic improvements should not be the dominant concern. **[2009]**

- 1.10.4 Offer urgent combined medical and surgical management to adults with RA who have suspected or proven septic arthritis (especially in a prosthetic joint). **[2009]**
- 1.10.5 If an adult with RA develops any symptoms or signs that suggest cervical myelopathy (for example, paraesthesia, weakness, unsteadiness, reduced power, extensor plantars):
- request an urgent MRI scan, **and**
 - refer for a specialist surgical opinion. **[2009]**
- 1.10.6 Do not let concerns about the long-term durability of prosthetic joints influence decisions to offer joint replacements to younger adults with RA. **[2009]**

Terms used in this guideline

Bridging treatment

Glucocorticoids used for a short period of time when a person is starting a new DMARD, intended to improve symptoms while waiting for the new DMARD to take effect (which can take 2 to 3 months).

Conventional disease-modifying anti-rheumatic drugs (cDMARDs)

Conventional disease-modifying anti-rheumatic drugs are synthetic drugs that modify disease rather than just alleviating symptoms. They include methotrexate, sulfasalazine, leflunomide and hydroxychloroquine, but do not include biological DMARDs and targeted synthetic DMARDs.

Janus kinase (JAK) inhibitor

A targeted synthetic DMARD that inhibits the inflammatory activity of the Janus kinase enzymes. They are given orally. Examples include baricitinib, filgotinib, tofacitinib and upadacitinib.

Palindromic

Palindromic rheumatism is an inflammatory arthritis that causes attacks of joint pain and swelling similar to RA. Between attacks the joints return to normal.

Step-up strategy

Additional DMARDs are added to DMARD monotherapy when disease is not adequately controlled.

Step-down strategy

During treatment with 2 or more DMARDs, tapering and stopping at least 1 drug once disease is adequately controlled.

Synovitis

Soft tissue joint swelling.

Treat-to-target

A treat-to-target strategy is a strategy that defines a treatment target (such as remission or low disease activity) and applies tight control (for example, monthly visits and respective treatment adjustment) to reach this target. The treatment strategy often follows a protocol for treatment adaptations depending on the disease activity level and degree of response to treatment.

Tumour necrosis factor (TNF) inhibitor

A biological DMARD that inhibits an inflammatory protein, tumour necrosis factor-alpha. They are given by injection or infusion. Examples include adalimumab, certolizumab pegol, etanercept, golimumab, and infliximab.

Recommendations for research

The guideline committee has made the following high-priority recommendations for research.

Key recommendations for research

1 Analgesics

What is the clinical and cost effectiveness of analgesic drugs other than non-steroidal anti-inflammatory drugs (NSAIDs) in adults with rheumatoid arthritis (RA) whose pain or stiffness control is not adequate?

Why this is important

Analgesics (including NSAIDs, paracetamol, opioids and compound analgesics) are sometimes used with disease-modifying treatments to relieve pain and stiffness when symptom control is inadequate. Current practice regarding the choice of analgesic in RA is variable. The evidence is limited for many of the analgesic drugs other than NSAIDs, and their relative effectiveness is unknown. Further research in this area may inform future guidance on the use of analgesic drugs other than NSAIDs for controlling symptoms.

2 Short-term bridging treatment with glucocorticoids

What is the clinical and cost effectiveness of short-term bridging treatment with glucocorticoids for adults with RA starting a new disease-modifying anti-rheumatic drug (DMARD), including the most effective dosing strategy and mode of administration?

Why this is important

All DMARDs have a slow onset of action. In some cases, response may not be seen for 2 to 3 months. In contrast, glucocorticoids have an immediate effect on joint pain and swelling. In clinical practice, several different regimens are prescribed to 'bridge' the time between the initial prescription of DMARDs and the clinical response. However, good quality evidence from randomised controlled trials (RCTs) demonstrating the effectiveness of

glucocorticoids as bridging treatment is limited and inconclusive. Further research is needed to inform recommendations for practice regarding whether bridging treatment with steroids should be used until the new DMARD begins to take effect.

The optimal dosing strategy and mode of administration for bridging glucocorticoids also needs to be established. Although the anti-inflammatory response is dose dependent, side effects of glucocorticoids vary according to both the dose and the duration of treatment.

For a short explanation of why the committee made the recommendation for research, see the [rationale section on short-term bridging treatment with glucocorticoids](#).

Full details of the evidence and the committee's discussion are in [evidence review H: Glucocorticoids](#).

3 Ultrasound in monitoring

What is the clinical and cost effectiveness of using ultrasound to monitor disease in adults with RA when clinical examination is inconclusive or inconsistent with other signs of disease activity?

Why this is important

RA is a chronic inflammatory condition that needs regular review to enable adjustments in management to achieve a target of remission or low disease activity.

Although ultrasound is able to show subclinical inflammation or erosions in some people in clinical remission, evidence from RCTs does not support using ultrasound for routine monitoring. However, ultrasound may be useful for assessing disease activity in some people with RA; specifically, when clinical examination is inconclusive or is inconsistent with other signs of disease activity (for example, pain or markers of inflammation). There is no reliable evidence on the added value of ultrasound as part of a monitoring strategy in these subgroups.

In addition, when there is inconsistency between clinical examination and disease activity, it may be unclear if the person has subclinical inflammatory synovitis or more of a widespread pain syndrome, which is not inflammatory. These need very different treatments, so it is important to define them accurately.

For a short explanation of why the committee made the recommendation for research, see the [rationale section on monitoring](#).

Full details of the evidence and the committee's discussion are in [evidence review E: Frequency of monitoring](#).

4 Ultrasound in diagnosis

What is the clinical and cost effectiveness of using ultrasound in addition to clinical assessment when there is uncertainty about the diagnosis in adults with suspected RA?

Why this is important

Early diagnosis of RA is essential to reduce the impact of the disease on multiple systems in the body. The course of RA and the initial presentation can be highly variable; most people with RA have definite synovitis on clinical assessment, but sometimes this is not obvious, leading to uncertainty about the diagnosis. Ultrasound is a non-invasive and relatively inexpensive imaging modality that can detect subclinical synovitis and early erosive disease. It might help determine an early diagnosis of RA when the diagnosis would otherwise be uncertain. Early diagnosis enables earlier treatment, providing an opportunity to improve the longer term outcomes for people with RA. The use of ultrasound may also allow healthcare professionals to be more confident about ruling out a diagnosis of RA.

5 Management of poor prognosis

What is the clinical and cost effectiveness of managing RA with a poor prognosis (identified as presence of anti-cyclic citrullinated peptide [CCP] antibodies or evidence of erosions on X-ray at diagnosis) with a different strategy from that used for standard management of RA?

Why this is important

Current recommendations suggest all people with RA should be offered the same management; however clinical experience suggests that the condition responds less well in some people and some suffer progressive radiographic damage and impaired function

despite standard management. Several factors have been identified in the literature that, if present and identified early in the course of the disease, may predict a poor prognosis (greater radiographic progression). These include anti-CCP antibody positivity and the presence of radiographic erosions at baseline. At present it is unclear whether people with poor prognostic markers should have different management early in the disease, and whether this would improve radiographic and functional (HAQ) outcomes in this group.

Other recommendations for research

6 Subcutaneous methotrexate

What is the clinical and cost effectiveness of subcutaneous methotrexate compared with oral methotrexate for adults with early onset RA starting a new DMARD?

Why this is important

Methotrexate is an important drug in the treatment of RA. Subcutaneous administration is an alternative option for people who have side effects with oral treatment. Evidence on the effectiveness of subcutaneous methotrexate is lacking, but its effects may be superior, due to increased bioavailability, and fewer side effects than with oral drugs. Research on subcutaneous methotrexate will inform future guideline recommendations.

Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice. They link to details of the evidence and a full description of the committee's discussion.

Investigations following diagnosis

[Recommendations 1.1.5 and 1.1.6](#)

Why the committee made the recommendations

Evidence showed that anti-cyclic citrullinated peptide (CCP) antibodies and radiographic damage at baseline were both important prognostic factors for subsequent radiographic progression. Anti-CCP antibodies are usually measured and X-rays often taken as part of diagnosis. When this has not been done, the committee agreed that the tests should be performed as soon as possible. The results will inform discussions with the patient about how their rheumatoid arthritis (RA) might progress and reinforce the importance of active monitoring and rapidly seeking specialist care if the disease worsens.

There was limited evidence on poor function, as measured by the Health Assessment Questionnaire (HAQ), as a prognostic factor. However, the committee agreed that functional ability (measured, for example, by HAQ) should be determined at diagnosis to provide a baseline for assessing response to treatment at the annual review.

Evidence suggests that all people with RA should be offered the same management strategy; however, in the committee's experience some people may respond less well and have more progressive radiographic damage and impaired function. Because the evidence was limited as to whether people with poor prognostic markers should follow a different management strategy to improve radiographic and functional (HAQ) outcomes, the committee agreed to make a [recommendation for research](#).

How the recommendations might affect practice

Anti-CCP antibodies are usually measured so there should be no change in current practice. X-raying the hands and feet and measuring functional ability at baseline reflects

current best practice, but not everyone with RA currently has these investigations. There may be an increase in the number of X-rays, especially in units without early inflammatory arthritis clinics, but this is unlikely to have a substantial resource impact.

Measuring functional ability at baseline will involve a change of practice for some providers, but the cost is low and so this is not expected to have a substantial resource impact.

Full details of the evidence and the committee's discussion are in [evidence review B: Risk factors](#).

[Return to recommendations](#)

Investigations (ultrasound in diagnosis)

Why the committee made the research recommendation on ultrasound in diagnosis

Ultrasound is not used widely in diagnosing RA, but use is increasing and depends on the clinic and the rheumatologist. Evidence was inconsistent and too limited for the committee to make any recommendation for or against its use in diagnosis. The committee noted that the studies generally included only people with clinically definite synovitis and agreed that ultrasound may be more useful when there is uncertainty about the diagnosis after clinical assessment. They decided to make a [recommendation for research](#) to inform future guidance on who (if anyone) should have ultrasound to aid diagnosis.

Full details of the evidence and the committee's discussion are in [evidence review A: Ultrasound for diagnosis](#).

[Return to the recommendation for research](#)

Treat-to-target strategy

[Recommendations 1.2.1 to 1.2.3](#)

Why the committee made the recommendations

Strategy and treatment target

Evidence showed that a treat-to-target strategy was more effective than usual care for managing RA and improved outcomes at no additional cost. The committee agreed that this approach was more likely to achieve rapid and sustained disease control.

No evidence was identified to indicate whether a target of remission or low disease activity was more effective. However, the committee agreed that remission (for example, a DAS28 score of less than 2.6) is the most appropriate target for most people, but for some who are unable to achieve remission despite a treat-to-target approach with appropriate escalation, low disease activity (for example, a DAS28 score of less than 3.2) is acceptable. It was agreed that for those identified as being at risk of poor prognosis, a target of remission may be more appropriate.

Frequency of monitoring for active disease

No studies were identified that compared different frequencies of monitoring specifically in people with active disease. The committee noted that the 2009 guideline recommended monthly monitoring and that this was used in some of the studies of a treat-to-target strategy. The committee agreed that monthly monitoring of C-reactive protein (CRP) and disease activity was most appropriate for active disease. This allows dose escalation of disease-modifying anti-rheumatic drugs (DMARDs), checking the need for short-term bridging treatment with glucocorticoids and whether people are tolerating the drug regimen, assessing side effects, providing support and encouraging adherence.

People at risk of poor outcomes

There was no evidence that people with a poor prognosis should have different management in terms of the treatment target or the frequency of monitoring. However, in the committee's experience RA often responds less well to standard management in this group. The committee agreed that the recommendations on treat-to-target with monthly monitoring should ensure that people with a poor prognosis receive effective treatment, but they decided to make a recommendation for research to inform future guidance for managing RA in this group.

How the recommendations might affect practice

A treat-to-target strategy is current best practice in most NHS settings. The 2016 National Clinical Audit for Rheumatoid Arthritis and Early Inflammatory Arthritis indicated that healthcare professionals set a treatment target for about 90% of their patients. Although the 2018 recommendation specifies a target of remission or low disease activity, rather than a disease level previously agreed with the person, the committee agreed that these are the targets commonly used and so this is unlikely to involve a significant change in practice.

Monthly monitoring was recommended in the 2009 guideline, but the committee acknowledged that many clinics do not monitor active disease this often. [A regional survey \(Tugnet 2013\)](#) reported that about two-thirds of people with RA received monthly CRP monitoring but only a quarter had monthly monitoring of disease activity (with about 40% in dedicated early arthritis clinics) until disease control was achieved. The committee were unsure whether these rates reflected practice across England and noted that practice had improved since the survey was conducted in 2011. However, the committee agreed that monthly monitoring would likely involve a change in practice in some clinics.

Full details of the evidence and the committee's discussion are in [evidence review C: Treat-to-target](#).

[Return to the recommendations](#)

DMARDs

[Recommendations 1.4.1 and 1.4.3](#)

Why the committee made the recommendations

First-line treatment

Evidence showed that starting treatment with more than 1 conventional DMARD (cDMARD) was no more effective than starting with a single cDMARD. The committee agreed that cDMARD monotherapy might have fewer side effects and recommended cDMARD monotherapy as first-line treatment. This differed from the 2009 guideline which recommended combination therapy. The difference is largely a result of inclusion of

different evidence and a different approach to analysing that evidence.

Many of the studies included in the 2009 guideline used cDMARDs that are no longer commonly used in UK practice (for example, ciclosporin), and these studies were excluded from the evidence for the 2018 update. In addition, the 2018 update included new evidence published after the 2009 guideline. Further, a different approach to analysing the evidence was taken, with the 2018 update aiming to identify the most effective cDMARD strategy (monotherapy, sequential monotherapy, step-up therapy, step-down therapy or parallel combination therapy) as well as which cDMARD should be used. The 2009 guideline compared treatment strategies only, regardless of the particular cDMARDs, and combined evidence according to treatment strategy.

The evidence included in the 2018 update was therefore different to that included in 2009 and supported cDMARD monotherapy as first-line treatment.

Evidence from randomised controlled trials (RCTs) in people who had never had a DMARD showed no consistent differences in the effectiveness of methotrexate, leflunomide and sulfasalazine as monotherapies. The drugs also had similar costs. The committee agreed that any of these drugs can be used as first-line treatment.

Hydroxychloroquine was less effective, but fewer people stopped treatment because of side effects. The committee agreed that hydroxychloroquine could be considered for people with mild or palindromic disease.

People at risk of poor outcomes

Evidence for different first-line treatment in people with a poor prognosis was limited so the committee decided not to make a separate recommendation for this group. They agreed that the recommendation for dose increases and treating to target (with the aim of keeping disease activity low) should ensure adequate treatment for these people. Given the limited evidence in this area, the committee also decided that the possible benefit of managing RA with a poor prognosis with a different strategy was a priority for future research.

Further treatment

Evidence supported adding another cDMARD when needed (step-up strategy) rather than replacing the cDMARD with another (sequential monotherapy). The committee

acknowledged that more side effects were possible with a step-up strategy, but in their experience these could be managed by drug monitoring and were outweighed by the clinical benefit of combination treatment when monotherapy was inadequate. A published economic analysis supported a step-up approach rather than sequential monotherapy.

Subcutaneous methotrexate

No evidence was found for subcutaneous methotrexate, but the committee agreed that the effects may be superior and side effects fewer than with oral cDMARDs. However, because subcutaneous methotrexate is significantly more expensive than other cDMARD options, the committee was not able to recommend this without evidence of clinical benefit and cost effectiveness relative to oral cDMARDs. The committee decided to make a research recommendation to inform future guidance.

How the recommendations might affect practice

The 2009 guideline recommended a combination of cDMARDs (including methotrexate and at least 1 other cDMARD) for newly diagnosed RA and emphasised the importance of starting effective cDMARD therapy as soon as possible.

The 2009 recommendation to start with combination therapy was not widely adopted. The 2016 National Clinical Audit for Rheumatoid Arthritis and Early Inflammatory Arthritis reported that only 46% of people with RA received combination cDMARDs at any time. Currently there is variation in practice regarding the choice of cDMARD(s) and treatment strategy, with many healthcare professionals preferring to start with monotherapy and only use combination therapy when response is inadequate.

The 2018 recommendations to start with monotherapy and add drugs when the response is inadequate are unlikely to have a substantial impact on practice or resources, as they align with the current approach taken by many healthcare professionals. However, the recommendations should result in a more consistent treatment strategy and reduce the number of people prescribed combination therapy on diagnosis.

The 2009 guideline recommended methotrexate as one of the first drugs used in combination therapy. The 2018 recommendations do not specify which cDMARD should be used at any stage of treatment. Again, this will be unlikely to have a significant impact on practice, and methotrexate is likely to remain one of the most commonly prescribed drugs.

The recommendations on dose escalation and reduction have not changed substantially from the 2009 guideline and reflect current clinical practice. The committee clarified that dose reduction and the use of a step-down strategy should only be considered after a person has maintained the treatment target for at least 1 year without the use of glucocorticoids.

Full details of the evidence and the committee's discussion are in [evidence review F: DMARDs](#).

[Return to the recommendations](#)

Short-term bridging treatment with glucocorticoids

[Recommendation 1.4.2](#)

Why the committee made the recommendation

Evidence from RCTs on the use of short-term bridging treatment with glucocorticoids to relieve symptoms while people are waiting for a new DMARD to take effect was limited. There was some evidence that fewer people withdrew from the studies due to inefficacy or adverse events when they were taking glucocorticoids, although there was no evidence that glucocorticoids were effective in terms of disease activity score, quality of life or function, as studies did not report these outcomes. In the committee's experience people with active arthritis may benefit from the anti-inflammatory effects of glucocorticoids. However, for others with less active disease this additional treatment may not be needed. The committee agreed that short-term glucocorticoids could be considered on a case-by-case basis.

Because of the lack of good quality evidence, the committee decided to make a [recommendation for research](#) to determine the effectiveness of short-term glucocorticoids for adults taking a new DMARD, including the most effective regimen.

How the recommendation might affect practice

Most healthcare professionals offer short-term bridging treatment with glucocorticoids to adults starting a new DMARD. They can continue to offer this but the recommendation

encourages them to consider whether this additional treatment is always needed. Therefore this is unlikely to result in additional spending for the NHS.

Full details of the evidence and the committee's discussion are in [evidence review H: Glucocorticoids](#).

[Return to the recommendation](#)

Symptom control

[Recommendations 1.6.1 and 1.6.2](#)

Why the committee made the recommendations

Evidence suggested that non-steroidal anti-inflammatory drugs (NSAIDs) may offer a small benefit in relieving symptoms for adults with RA (including pain and stiffness). The committee agreed that this was likely to outweigh the increase in gastrointestinal adverse events associated with NSAIDs. To minimise adverse events, the committee agreed that NSAIDs should be used at the lowest doses and for the shortest possible time, with a proton pump inhibitor, and that risk factors for adverse events should be reviewed regularly. The recommendations for analgesic treatment in this guideline replace those in the 2009 guideline.

There was limited evidence on paracetamol, opioids and tricyclic antidepressants and no evidence for nefopam, gabapentinoids or selective serotonin reuptake inhibitor (SSRI) and SSNRI antidepressants. The committee acknowledged that the 2009 guideline had recommended analgesics other than NSAIDs for pain control. However, the 2009 guideline indicated that the evidence on analgesia other than NSAIDs was 'sparse'. No further evidence on these drugs was identified since the publication of the 2009 guideline. The committee for the 2018 guideline decided to make a research recommendation rather than a practice recommendation on analgesia other than NSAIDs.

How the recommendations might affect practice

Current practice regarding the choice of analgesic is variable, with paracetamol, compound analgesics and NSAIDs all commonly used to control symptoms. Choice of analgesic tends to be based on individual effectiveness as well as the person's risk profile,

tolerance, and side effects. In particular, there are some groups of people for whom NSAIDs are unsuitable because of contraindications, comorbidities or tolerability, and other people who are currently benefiting from analgesic drugs other than NSAIDs. The current approach is likely to continue but there may be an increase in prescribing of NSAIDs instead of other analgesic drugs for people with newly diagnosed RA.

Full details of the evidence and the committee's discussion are in [evidence review G: Analgesics](#).

[Return to the recommendations](#)

Monitoring

[Recommendations 1.9.1, 1.9.2, 1.9.5 and 1.9.6](#)

Why the committee made the recommendations

Frequency of monitoring when treatment target has been achieved

No evidence was identified on monitoring frequency once the treatment target has been achieved. However, the committee agreed that once people with RA had achieved the treatment target, and this was sustained at a 6-month follow-up appointment, there was no need for additional routine appointments to be scheduled other than the annual review. All people with RA should have an annual review.

In people with established RA (RA for at least 2 years), the evidence suggested that patient-initiated rapid access and scheduled medical review every 3 to 6 months were similarly effective. The committee agreed that all adults with RA should have rapid access to specialist care for disease flares, and ongoing drug monitoring.

Ultrasound in monitoring

Randomised controlled evidence did not support using ultrasound for routine monitoring of RA. However, in the committee's experience ultrasound can be useful for monitoring when clinical examination is inconclusive or is inconsistent with other signs of disease activity (for example, pain or markers of inflammation). The committee decided to make a [recommendation for research](#) to inform future guidance about using ultrasound in these

situations.

How the recommendations might affect practice

The frequency of monitoring and review appointments for people who have reached the treatment target vary around the country, with some people being seen more often than needed and others not receiving adequate follow-up. The 2018 recommendations are likely to reduce unwarranted variation.

Most people with RA currently have rapid access to specialist care when they have a flare. The 2016 National Clinical Audit for Rheumatoid Arthritis and Early Inflammatory Arthritis reported that 92% of people had access to urgent advice, with 97% of providers running a telephone advice line. Therefore the recommendation will not affect current practice.

Use and availability of ultrasound varies widely across the country and even between healthcare professionals in the same department. Some healthcare professionals use it routinely whereas others use it on a case-by-case basis. The recommendation should reduce the overall use of ultrasound while still allowing its use for selected subgroups.

Full details of the evidence and the committee's discussion are in [evidence review E: Frequency of monitoring](#).

[Return to the recommendations](#)

Context

Rheumatoid arthritis (RA) is an inflammatory disease largely affecting synovial joints. It typically affects the small joints of the hands and the feet, and usually both sides equally and symmetrically, although any synovial joint can be affected. It is a systemic disease and so can affect the whole body, including the heart, lungs and eyes.

The incidence of the condition is low, with around 1.5 men and 3.6 women developing RA per 10,000 people per year. The overall occurrence of RA is 2 to 4 times greater in women than men. The peak age of incidence in the UK for both men and women is the 70s, but people of all ages can develop the disease.

Drug management aims to relieve symptoms, as pain relief is the priority for people with RA, and to modify the disease process. Disease modification slows or stops radiological progression, which is closely correlated with progressive functional impairment.

RA can result in a wide range of complications for people with the disease, their carers, the NHS and society in general. The economic impact of this disease includes:

- direct costs to the NHS and associated healthcare support services
- indirect costs to the economy, including the effects of early mortality and lost productivity
- the personal impact of RA and subsequent complications for people with RA and their families.

Approximately one-third of people stop work because of the disease within 2 years of onset, and this increases thereafter. Clearly this disease is costly to the UK economy and to individuals.

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the [NICE topic page on musculoskeletal conditions](#).

For full details of the evidence and the guideline committee's discussions, see the [evidence reviews](#). You can also find information about [how the guideline was developed](#), including details of the committee.

NICE has produced [tools and resources to help you put this guideline into practice](#). For general help and advice on putting our guidelines into practice, see [resources to help you put NICE guidance into practice](#).

Update information

October 2020: We amended recommendation 1.2.1 to clarify that multiple disease-modifying anti-rheumatic drugs can be offered one after the other to achieve treatment targets. We also added a cross-reference to the recommendation from section 1.5 and recommendation 1.9.3.

July 2018: We have reviewed the evidence and made new recommendations on investigations following diagnosis, treat-to-target strategy, initial pharmacological management, symptom control and monitoring. These recommendations are marked **[2018]**.

We have also made some changes without an evidence review to:

- clarify when urgent referral is needed
- clarify when measuring anti-cyclic citrullinated peptide antibodies might be considered for diagnosis
- clarify that X-ray of the hands and feet applies to adults with suspected rheumatoid arthritis (RA)
- clarify that other treatments rather than analgesics should be considered for people on low-dose aspirin (analgesics other than NSAIDs are no longer recommended)
- clarify that all adults with RA should have an annual review, including those who have reached their treatment target.

These recommendations are marked **[2009, amended 2018]**.

Recommendations marked **[2009]** or **[2015]** last had an evidence review in 2009 or 2015. In some cases minor changes have been made to the wording to bring the language and style up to date, without changing the meaning.

Minor changes since publication

November 2024: We added links to relevant technology appraisal guidance in the section on further pharmacological management. Recommendations marked **[2024]** clarify how to

use medicines recommended in NICE technology appraisal guidance.

August 2024: We added links to NICE's guideline on adrenal insufficiency.

July 2019: Cost analysis was changed to economic analysis in the rationale for DMARDs.

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