

COVID-19 rapid guideline: rheumatological autoimmune, inflammatory and metabolic bone disorders

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.

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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Overview

The purpose of this guideline is to maximise the safety of children and adults with rheumatological autoimmune, inflammatory and metabolic bone disorders during the COVID-19 pandemic, while protecting staff from infection. It also enables services to make the best use of NHS resources.

On 31 March 2021, we integrated content from the NHS England specialty guide on rheumatology during the coronavirus pandemic into this guideline. This includes information on making treatment decisions based on the person's condition and their medicines, advice on shielding and self-isolation, and recommendations on organising services based on COVID-19 prevalence.

On 2 July 2020, we highlighted the possible risk of adrenal crisis for patients on long-term corticosteroids.

This guideline focuses on what you need to stop or start doing during the pandemic. Follow the usual professional guidelines, standards and laws (including those on equalities, safeguarding, communication and mental capacity), as described in [making decisions using NICE guidelines](#).

This guideline is for:

- health and care practitioners
- health and care staff involved in planning and delivering services
- commissioners.

The recommendations bring together:

- existing national and international guidance and policies
- advice from specialists working in the NHS from across the UK. These include people with expertise and experience of treating patients for the specific health conditions covered by the guidance during the current COVID-19 pandemic.

NICE has also produced [COVID-19 rapid guidelines on children and young people who are immunocompromised and arranging planned care in hospitals and diagnostic services](#), which should be read alongside this guideline.

We developed this guideline using the [interim process and methods for developing rapid guidelines on COVID-19](#) in response to the rapidly evolving situation. We will review and update the recommendations as the knowledge base develops using the [interim process and methods for guidelines developed in response to health and social care emergencies](#).



1 Communicating with patients and minimising risk

- 1.1 Communicate with patients and support their mental wellbeing, signposting to charities and support groups (such as [ARMA](#), which has a list of relevant organisations, and NHS Volunteer Responders) where available, to help alleviate any anxiety and fear they may have about COVID-19.
- 1.2 Minimise face-to-face contact by:
- cutting non-essential face-to-face consultations
 - offering telephone or video consultations
 - contacting patients via text message or email
 - making use of departmental pages on local NHS trust websites
 - using rheumatology department advice services, including out-of-hours services, and thinking about a shared approach with other NHS trusts
 - using alternative ways to deliver medicines, such as postal services, NHS volunteers or drive through pick-up points
 - expanding community-based blood monitoring services, where possible.
- 1.3 Advise patients to contact:
- [NHS 111 by phone or via the website](#) for advice on COVID-19
 - their rheumatology team about any rheumatological medicines issues or if their condition worsens (or NHS 111 or primary care services, if this is not possible).
- 1.4 Tell patients who still need to attend services to follow relevant parts of government advice on social distancing (this differs across the UK) or [UK government guidance on shielding and protecting people defined on medical grounds as extremely vulnerable from COVID-19](#). [amended 21 May 2020]

2 Patients not known to have COVID-19

2.1 If patients have to attend the rheumatology department, ask them to come without a family member or carer if they can, to reduce the risk of contracting or spreading the infection. Encourage them to use their own transport, and to travel alone to the department whenever possible. Ask that children are accompanied by only 1 parent or carer.

2.2 Minimise a patient's possible exposure to infection while at the hospital by:

- encouraging them not to arrive early
- texting them when staff are ready to see them, so that they can wait outside the building, for example, in their car
- providing a 'clean route' through the hospital to the department
- reducing, and ideally eliminating, the time patients spend in waiting areas through careful scheduling
- delivering treatment promptly
- ensuring prescriptions are dispensed rapidly.

3 Patients known or suspected to have COVID-19

- 3.1 Be aware that patients having immunosuppressant treatments may have atypical presentations of COVID-19. For example, patients taking prednisolone may not develop a fever, and those taking interleukin 6 inhibitors may not develop a rise in C-reactive protein.
- 3.2 If a patient not previously known or suspected to have COVID-19 shows symptoms at presentation, follow [UK government guidance on investigation and initial clinical management of possible cases](#). This includes information on testing and isolating patients.
- 3.3 When patients with known or suspected COVID-19 have been identified, follow appropriate [UK government guidance on infection prevention and control](#). This includes recommendations on patient transfers, and options for outpatient settings.
- 3.4 For all patients with known or suspected COVID-19:
- continue hydroxychloroquine and sulfasalazine
 - do not suddenly stop prednisolone
 - only give corticosteroid injections if the patient has significant disease activity and there are no alternatives, and refer to the [British Society for Rheumatology's clinical guide on the management of patients with musculoskeletal and rheumatic conditions on corticosteroids](#)
 - be aware that some patients on long-term corticosteroids may be at risk of an adrenal crisis and may need a higher dose of corticosteroids if diagnosed with COVID-19 (see the [Society of Endocrinology's advice on managing adrenal crisis during COVID-19](#)).
- 3.5 For adults, temporarily stop other disease-modifying antirheumatic drugs, JAK inhibitors and biological therapies, and tell them to contact their rheumatology department for advice on when to restart treatment. For children and young people, consider temporarily stopping other disease-modifying antirheumatic

drugs, JAK inhibitors and biological therapies, taking account of advice in [recommendation 3.6 of NICE's COVID-19 rapid guideline: children and young people who are immunocompromised](#).

The half-life of some drugs means that immunosuppression will continue for some time after stopping treatment. See the [BNF](#) and the summaries of product characteristics (SPCs) for specific information about individual drugs. [amended 2 July 2020]

- 3.6 If COVID-19 is later diagnosed in a patient not isolated from admission or presentation, follow [UK government guidance for health professionals](#).

4 Treatment considerations

4.1 Discuss with each patient the benefits of treatment compared with the risks of becoming infected. Think about whether any changes to their medicines are needed during the current pandemic, including:

- dosage
- route of administration
- mode of action.

Encourage and support shared care, by helping patients to carry out elements of their own care.

4.2 Think about how treatment changes will be delivered and what resources are available. Be aware that some homecare drug delivery services are not accepting new referrals, in which case the department would need to organise this.

4.3 If a patient is having or going to have immunosuppressive treatments, follow the [advice on COVID-19 vaccination in the green book](#). Additional resources include the [ARMA principles for COVID-19 vaccination in musculoskeletal and rheumatology for clinicians](#) and the [Speciality Pharmacy Service information on using COVID-19 vaccines in patients taking immunosuppressive medicines](#).
[amended 31 March 2021]

Treatment decisions based on risk

4.4 When deciding whether to start a new treatment with a drug that affects the immune response, discuss the risks and benefits with the patient, or their parents or carers. Use tables 1 and 2 and take into account the following in the context of COVID-19:

- whether the patient has had a COVID-19 vaccination
- their condition (see table 1; be aware that individual patients may have additional risk factors that could place them in a higher risk group)

- the medicines they are having (see table 2); use of immunosuppressant treatments may be more important in determining risk than the person's underlying condition
- any additional risk factors:
 - high treatment doses
 - use of multiple immunosuppressant drugs
 - active disease
 - comorbidities or complications, such as interstitial lung disease or pulmonary fibrosis, pulmonary hypertension or pulmonary arterial hypertension, respiratory muscle weakness, asthma, chronic obstructive pulmonary disease, cardiac involvement, glomerulonephritis or renal impairment, neutropenia, liver disease, diabetes mellitus, ischaemic heart disease or hypertension
 - pregnancy
 - older age (older than 70). [amended 31 March 2021]

4.5 Be aware that immunosuppressant drugs may not always be listed on primary care records because they are prescribed in secondary care. [amended 31 March 2021]

4.6 Be aware that people with autoimmune connective tissue diseases or vasculitis may have complications such as respiratory muscle weakness, interstitial lung disease, pulmonary hypertension or heart involvement that may increase the risks associated with COVID-19. [amended 31 March 2021]

Table 1 Conditions that pose a potential risk above that in the general population [amended 31 March 2021]

Condition	Risk grading
Systemic lupus erythematosus	Intermediate to very high
Systemic sclerosis scleroderma	Intermediate to very high
Myositis, polymyositis, dermatomyositis, antisynthetase syndrome	Intermediate to very high

Condition	Risk grading
Primary Sjögren's syndrome	Intermediate or high
Overlap connective tissue disease (CTD)	Intermediate or high
CTD-related interstitial lung disease, RA-related interstitial lung disease	High or very high
CTD-related pulmonary hypertension, RA-related pulmonary hypertension	High or very high
Relapsing polychondritis	Intermediate to very high
Antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis, granulomatosis with polyangiitis (GPA), eosinophilic granulomatosis with polyangiitis (EGPA) or microscopic polyangiitis	Intermediate to very high
Aortitis	Intermediate to very high
Takayasu arteritis	Intermediate to very high
Giant cell arteritis (GCA) or temporal arteritis	Intermediate to very high
Behçet's disease	Intermediate to very high
Polyarteritis nodosa	Intermediate to very high
Vasculitis (other)	Intermediate to very high
Adult-onset Still's disease	Intermediate to very high
Autoinflammatory syndromes	Intermediate to very high

Condition	Risk grading
Immunoglobulin G4-related disease (IgG4-RD)	Intermediate to very high
Rheumatoid arthritis	Intermediate or high
Psoriatic arthritis	Intermediate or high
Ankylosing spondylitis or axial spondyloarthritis	Intermediate or high
Juvenile idiopathic arthritis (JIA)	Intermediate or high
Polymyalgia rheumatic (PMR)	Intermediate
Severe osteogenesis (previously types 3 and 4) imperfecta (if mobility is restricted or chest wall shape or lung capacity are affected)	High or very high
Fibrodysplasia ossificans progressive	High or very high
Severe kyphosis or scoliosis from rare bone diseases, for example, hypophosphatasia, type 1 osteogenesis imperfecta, Hajdu Cheney	High or very high

Table 2 Immunosuppressant medicines and techniques used for maintenance treatment that could increase a patient's risk [amended 31 March 2021]

Medicine or technique	Risk grading
Prednisolone 10 mg per day (or equivalent) or more for more than 4 weeks with 1 other immunosuppressant	High to very high
Prednisolone 20 mg (0.5 mg/kg in children weighing less than 40 kg) or more per day (or equivalent) for more than 4 weeks	Very high
Prednisolone 10 mg to 19 mg (or equivalent) per day for more than 4 weeks monotherapy	High
Azathioprine	Intermediate to high

Medicine or technique	Risk grading
Ciclosporin	Intermediate to high
Cyclophosphamide	Very high
Hydroxychloroquine	Low
Leflunomide	Intermediate to high
Methotrexate	Intermediate to high
Mycophenolate mofetil	Intermediate to high
Sirolimus	Intermediate to high
Sulfasalazine	Low
Tacrolimus	Intermediate to high
Abatacept	High
Adalimumab	Intermediate to high
Anakinra	Intermediate
Apremilast	Low
Belimumab	High
Certolizumab pegol	Intermediate to high
Etanercept	Intermediate to high
Golimumab	Intermediate to high
Infliximab	Intermediate to high

Medicine or technique	Risk grading
Ixekizumab	Intermediate to high
Rituximab	High
Sarilumab	Intermediate to high
Secukinumab	Intermediate to high
Tocilizumab	Intermediate to high
Ustekinumab	Intermediate to high
Baricitinib	Intermediate
Tofacitinib	Intermediate
Upadacitinib	Intermediate
Techniques	-
Apheresis	Very high
Human stem cell transplant	Very high

Non-steroidal anti-inflammatory drugs

- 4.7 Advise patients taking a non-steroidal anti-inflammatory drug for a long-term condition such as rheumatoid arthritis that it does not need to be stopped.

Corticosteroids

- 4.8 Advise patients taking prednisolone that it should not be stopped suddenly.
- 4.9 Use oral corticosteroids. Only use an intravenous or intramuscular corticosteroid (such as methylprednisolone) when benefits outweigh the risks. Refer to the [British Society for Rheumatology's clinical guide on the management of patients with musculoskeletal and rheumatic conditions on](#)

corticosteroids. [amended 31 March 2021]

Biological treatments

- 4.10 Assess whether patients having intravenous treatment can be switched to the same treatment in subcutaneous form. If this is not possible, discuss with the patient an alternative subcutaneous treatment. [amended 24 April 2020]
- 4.11 Assess whether maintenance treatment with rituximab can be reduced to 1 pulse or the duration between treatments increased. Also assess whether patients with stable disease can stop maintenance treatment with rituximab or be switched to an alternative immunosuppressant. Discuss the possible outcomes of the different options with the patient before coming to a shared decision. [amended 31 March 2021]

Immunoglobulins

- 4.12 Assess whether the frequency of intravenous immunoglobulins can be reduced in patients attending day-care services.

Bisphosphonates and denosumab

- 4.13 Do not postpone treatment with denosumab.
- 4.14 Treatment with zoledronate can be postponed for up to 6 months.

Treatments for digital ulcer disease

- 4.15 Ensure that patients having intravenous prostaglandins (for example, iloprost, epoprostenol) have had the maximum dose of sildenafil. Assess whether they can be switched to bosentan.

5 Drug monitoring

- 5.1 Assess with each patient whether it is safe to increase the time interval between blood tests for drug monitoring, particularly if 3-monthly blood tests have been stable for more than 2 years.
- 5.2 Patients starting a new disease-modifying antirheumatic drug should follow recommended blood monitoring guidelines. When this is not possible, they should contact the relevant specialist for advice.
- 5.3 Think about pooling drug monitoring resources between local organisations.

6 Modifications to usual care

- 6.1 Advise patients to shield, following [UK government guidance on shielding and protecting people defined on medical grounds as clinically extremely vulnerable from COVID-19](#). Refer to the [British Society for Rheumatology's risk stratification guide](#) to identify patients for shielding in England. [amended 31 March 2021]
- 6.2 Refer to the British Society for Rheumatology's risk stratification guide to identify patients who should self-isolate or maintain social distancing at their discretion. [amended 31 March 2021]
- 6.3 Make policy decisions about modifications to usual care at an organisational level. When deciding what services should be stopped or continued as things escalate, refer to table 3. [amended 31 March 2021]
- 6.4 Continue core services, including:
- rheumatology department advice lines (for general rheumatology, connective tissues disease and metabolic bone)
 - essential parenteral day-case treatment
 - blood tests for drug monitoring
 - on-call services for urgent patient review (both new and follow up)
 - delivery and support for patients on new injectable treatments. [amended 31 March 2021]
- 6.5 Maintain a robust on-call service for cross-consultant referrals that is available all the time, teaming up with other NHS trusts if necessary.
- 6.6 In tertiary centres, maintain specialised rheumatology networks and virtual multidisciplinary team meetings to discuss the management of complex disorders and to ratify high-cost drug use.

Primary care and the community

- 6.7 Use rheumatology department advice lines, run by staff with appropriate knowledge, to provide professional advice to primary care and community colleagues about all patients. If available, use an electronic advice and guidance service for GPs.
- 6.8 The [ARMA specialist guidance on urgent and emergency musculoskeletal conditions requiring onward referral](#) supports primary and community care practitioners in recognising serious pathology that needs emergency or urgent referral to secondary care. When prioritising urgent and emergency musculoskeletal referrals to secondary care, refer to table 3. [amended 31 March 2021]
- 6.9 In musculoskeletal services, prioritise rehabilitation for patients who have had recent elective surgery or a fracture, and for those with acute or complex needs (including carers). Focus on enabling self-management in line with [NHS England's COVID-19 guide on restoration of community health services](#).

Outpatients

- 6.10 For urgent new referrals from primary care for suspected inflammatory arthritis, suspected autoimmune connective tissue diseases and vasculitis (including giant cell arteritis), generally offer a face-to-face appointment unless the patient requests an initial phone or virtual consultation. [amended 31 March 2021]
- 6.11 For urgent follow ups (such as for ongoing and new flares, and for treatment adjustment after monitoring), think about using phone or virtual consultations followed by a face-to-face appointment, if needed. [amended 31 March 2021]

Day care

- 6.12 Prioritise day-case attendance based on the urgency of a patient's condition (for example, for new or ongoing flares, relapses, intravenous induction treatment).

Inpatients

6.13 Maintain rheumatology ward cover, and an out-of-hours on-call service if possible, to:

- provide advice on immunosuppressive drugs
- carry out assessments of rheumatological and COVID-19 disease status
- enable early discharge.

Table 3 Escalation matrix according to prevalence of COVID-19 and associated available hospital resources [amended 31 March 2021]

<p>Level of pressure on service</p>	<p>Medium (intensive care beds start to be in short supply, still reasonable number of hospital beds)</p>	<p>High (no intensive care beds, theatre pods being used, very low hospital beds, capacity increased by emergency discharges as per mass casualty plans, elective operating stopped) or</p> <p>Very high (as for high but also reduced capacity for emergency surgery)</p>
<p>Outpatient clinics: all services</p>	<p>New patients: Continue as usual.</p> <p>Follow up: Suspend non-essential face to face follow-up visits and change to virtual/telephone appointments. Postpone long-interval (at least 6 months) face to face follow ups and change to virtual or telephone appointments Adjust templates to minimise waiting times in department. Option for telephone or video consultation instead of face-to-face consultation, unless absolutely necessary to see face to face.</p>	<p>New patients: Cut all but urgent clinic attendances. See new patients with suspected inflammatory arthritis including autoimmune connective tissue disease and vasculitis face to face. Consultant to triage other urgent new patients to determine whether they need to be seen face to face or virtual or telephone appointment would be appropriate.</p> <p>Follow up: Give urgent patients only the option of a face to face appointment and other patients should be given a virtual or telephone appointment Suspend routine face to face follow up appointments and</p>

<p>Level of pressure on service</p>	<p>Medium (intensive care beds start to be in short supply, still reasonable number of hospital beds)</p>	<p>High (no intensive care beds, theatre pods being used, very low hospital beds, capacity increased by emergency discharges as per mass casualty plans, elective operating stopped) or</p> <p>Very high (as for high but also reduced capacity for emergency surgery)</p>
		<p>change to virtual or telephone appointments</p>
<p>Outpatient clinics: patients on conventional disease-modifying antirheumatic drugs, JAK inhibitors and biologicals</p>	<p>Post or use home delivery for oral systemic drugs or provide FP10 prescriptions for readily available drugs.</p> <p>Prescription duration should be extended to 3 months.</p> <p>Maximise blood tests out of hospital where local resources allow.</p> <p>Schedule appointments to avoid patients waiting for treatments.</p> <p>Maximise use of home care administration.</p> <p>On a case-by-case basis, determine whether patients could reduce any of their medication.</p>	<p>On a case-by-case basis, determine whether patients could reduce any of their medication.</p> <p>Consider frequency of blood monitoring appointments and whether they could be reduced in patients with stable disease who have established treatment.</p>

<p>Level of pressure on service</p>	<p>Medium (intensive care beds start to be in short supply, still reasonable number of hospital beds)</p>	<p>High (no intensive care beds, theatre pods being used, very low hospital beds, capacity increased by emergency discharges as per mass casualty plans, elective operating stopped) or</p> <p>Very high (as for high but also reduced capacity for emergency surgery)</p>
<p>Day-care units</p>	<p>Screen patients to check whether treatment could be deferred, for example, in a patient whose condition is stable and who is on regular rituximab infusions.</p> <p>Switch intravenous infusions to subcutaneous injections where available, for example, tocilizumab and abatacept.</p>	<p>High: Screen patients to check whether treatment could be deferred, for example, in a patient whose condition is stable and who is on regular rituximab infusions.</p> <p>Very high: Screen patients to determine benefit versus risk with any delay in treatment.</p> <p>Denosumab must not be deferred (consider administration in the community) but zoledronate could be deferred up to 6 months.</p>

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<p>Rheumatology advice lines (consider providing extra cover from home by nurses needing to self-isolate)</p>	<p>Key resource: Prompt response needed.</p>	<p>Key resource: Prompt response needed. Management of disease flare: Have a lower threshold for issuing acute prescriptions if appropriate, for example, colchicine for gout or prednisolone for a rheumatoid arthritis flare. Consider using an FP10 (using postal service from outpatient pharmacy, if possible).</p>

<p>Level of pressure on service</p>	<p>Medium (intensive care beds start to be in short supply, still reasonable number of hospital beds)</p>	<p>High (no intensive care beds, theatre pods being used, very low hospital beds, capacity increased by emergency discharges as per mass casualty plans, elective operating stopped) or</p> <p>Very high (as for high but also reduced capacity for emergency surgery)</p>
<p>On-call service (hospitals where rheumatology out-of-hours on-call service is not available currently, should consider implementing an on-call rota)</p>	<p>Ensure good liaison with acute services and be involved in managing rheumatology conditions in patients admitted with coronavirus.</p> <p>Consultants who need to self-isolate but are otherwise well could provide a second on-call service, deliver remote consultations (subject to an appropriate trust policy being in place) and give advice on the phone.</p>	<p>Ensure good liaison with acute services and be involved in managing rheumatology conditions in patients admitted with coronavirus.</p> <p>Consultants who need to self-isolate but are otherwise well could provide a second on-call service and give advice on the phone.</p> <p>Very high: In case of a significant number of consultants off work, consider liaising with a nearby hospital on-call service and use a virtual regional multidisciplinary team meeting facility.</p>

7 Healthcare workers

- 7.1 All healthcare workers involved in receiving, assessing and caring for patients who have known or suspected COVID-19 should follow [UK government guidance for infection prevention and control](#). This contains information on using personal protective equipment (PPE), including visual and quick guides for putting on and taking off PPE.
- 7.2 If a healthcare professional needs to self-isolate, ensure that they can continue to help by:
- enabling telephone or video consultations, and attendance at virtual multidisciplinary team meetings
 - identifying patients who are suitable for remote monitoring and follow up, and those who are vulnerable and need support
 - carrying out tasks that can be done remotely, such as entering data.
- 7.3 Support staff to keep in touch as much as possible, to support their mental wellbeing.
- 7.4 Provide all staff with visible leadership and supportive messaging, to maintain morale.
- 7.5 Take account of the information on [the NHS Employers website](#) about good partnership working and issues to consider when developing local plans to combat COVID-19.

Update information

31 March 2021: We integrated content from the NHS England specialty guide on rheumatology during the coronavirus pandemic into this guideline. This includes information on making treatment decisions based on the person's condition and their medicines, advice on shielding and self-isolation and recommendations on organising services based on COVID-19 prevalence.

2 July 2020: We added a bullet point to recommendation 3.2 to highlight the possible risk of adrenal crisis for patients on long-term corticosteroids.

21 May 2020: We added a link from recommendation 3.2 to the advice in NICE's COVID-19 rapid guideline: children and young people who are immunocompromised on factors to take into account when considering temporarily stopping some drugs. We aligned recommendation 1.4 with current government advice on social distancing.

30 April 2020: We added information to recommendation 3.2 to highlight that the half-life of some drugs means that immunosuppression will continue for some time after stopping treatment.

24 April 2020: We amended recommendation 4.9 to include switching from an intravenous treatment to a subcutaneous form of the same treatment. Subcutaneous infliximab is now available, so we deleted a recommendation on switching from infliximab to a different treatment in subcutaneous form.

Minor changes since publication

21 December 2020: In recommendation 4.11 we removed a link to an NHS specialty guide that has been withdrawn.

3 June 2020: We updated the link in recommendation 6.6 to cover NHS England's specialty guides for adults and children.

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