

Chapter 10. Musculoskeletal and joint diseases







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Key

	<p>Red drug see GMMMG RAG list</p> <p><i>Click on the symbols to access this list</i></p>
	<p>Amber drug see GMMMG RAG list</p> <p><i>Click on the symbols to access this list</i></p>
	<p>Green drug see GMMMG RAG list</p> <p><i>Click on the symbols to access this list</i></p>
	<p>If a medicine is unlicensed this should be highlighted in the template as follows</p> <p>Drug name U</p>
	<p>Not Recommended</p>
	<p>Over the Counter</p> <p>In line with NHS England guidance, GM do not routinely support prescribing for conditions which are self-limiting or amenable to self-care. For further details see GM commissioning statement.</p>
Order of Drug Choice	<p>Where there is no preferred 1st line agent provided, the drug choice appears in alphabetical order.</p>

BNF chapter	10 Musculoskeletal and joint diseases	
Section	10.1 Drugs used in rheumatic diseases and gout	
Subsection	10.1.1 Non-steroidal anti-inflammatory drugs	
First choice	Ibuprofen tablets 200mg; 400mg; 600mg	MHRA DSU: High-dose ibuprofen: small increase in cardiovascular risk, June 2015
Alternatives	Naproxen tablets 250mg; 500mg	
	Diclofenac tablets 50mg	MHRA DSU: diclofenac: new contraindications and warnings, June 2013. MHRA DSU: NSAIDs: cardiovascular risks October 2012. Further evidence that the cardiovascular risk with diclofenac is higher than other non-selective NSAIDs and similar to the selective COX-2 inhibitors
	Etoricoxib tablets 30mg, 60mg, 90mg, 120mg	MHRA DSU: Etoricoxib (Arcoxia): revised dose recommendation for rheumatoid arthritis and ankylosing spondylitis MHRA DSU: etoricoxib: prescribing to patients with high blood pressure, July 2008.
Grey drugs Items which are listed as Grey are deemed not suitable for routine prescribing but may be suitable for a defined patient population	Piroxicam Capsules, orodispersible tablets Systemic piroxicam should be initiated only by specialists as a second-line treatment for arthritis. Patients who currently take piroxicam should be reassessed at a routine appointment.	G_n following specialist initiation Criterion 1 (see RAG list)
	Celecoxib Capsules Only for use in palliative care for the relief of cancer pain.	G_n Criterion 1 (see RAG list)
Do Not Prescribe	Naproxen with esomeprazole Modified-release tablets	Criterion 2 (see RAG list)

General Guidance applicable to all drugs

- [NICE CG177: Osteoarthritis: Care and management in adults.](#)
- [NICE NG100: Rheumatoid arthritis in adults: management.](#)
- [CKS \(2013\) NSAID prescribing issues](#)
- [BNF: NSAID-associated ulcers](#)
- [CKS \(2013\): Patients on low dose aspirin](#)
- [MHRA DSU: Non-steroidal anti-inflammatory drugs: reminder on renal failure and impairment, May 2009](#)
- [MHRA DSU: Non-steroidal anti-inflammatory drugs: cardiovascular risk, October 2012](#)
- [MHRA DSU: NSAIDs and coxibs: balancing of cardiovascular and gastrointestinal risks, December 2007](#)

Subsection	10.1.2 Corticosteroids
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Systemic corticosteroids

The general actions, uses, and cautions of corticosteroids are described [in the BNF](#).

Local corticosteroid injections

First choice	<p>Methylprednisolone acetate 40mg/ml</p> <p>or</p> <p>Methylprednisolone acetate 40mg, lidocaine hydrochloride 10mg/ml</p>	
Alternatives	<p>Dexamethasone sodium phosphate 3.8mg/ml</p>	<p>MHRA DSU: Dexamethasone 4 mg/ml injection (Organon Laboratories Limited): reformulation with changes in name, concentration, storage conditions, and presentation, October 2014.</p>
	<p>Hydrocortisone acetate 25mg/ml</p>	
	<p>Triamcinolone acetonide 10mg/ml</p> <p>Triamcinolone acetonide 40mg/ml</p>	

Subsection	10.1.3 Drugs that suppress the rheumatic disease process	
DMARDS		
First Choice	<p>Methotrexate 2.5mg tablets</p> <p>Methotrexate 50mg/ml pre-filled Pen injection (Metoject®)</p>	<p>A</p> <p>NPSA Alert, June 2006. Improving compliance with oral methotrexate guidelines.</p> <p>When prescribing oral methotrexate only ever prescribe 2.5mg tablets and pay particular attention to correct dosing instructions – weekly dosing.</p> <p>Co-prescribe oral folic acid 5mg weekly with methotrexate (to be taken at least 24 hours after the methotrexate [often 2 -3 days after]) and increase dose if necessary dependant on folate levels.</p> <p>R pending homecare arrangements</p> <p>Specialist initiation only</p> <p>If moving the parenteral formulation to homecare, clinicians should ensure that responsibility for the different aspects of care is clearly defined (in particular blood monitoring).</p> <p>MHRA DSU: Methotrexate once-weekly for autoimmune diseases: new measures to reduce risk of fatal overdose due to inadvertent daily instead of weekly dosing, Sept 2020</p>
	<p>Sulfasalazine e/c 500mg tablets</p>	<p>A</p>
	<p>Hydroxychloroquine sulphate 200mg tablets</p>	<p>A</p> <p>MHRA DSU: Hydroxychloroquine, chloroquine: increased risk of cardiovascular events when used with macrolide antibiotics; reminder of psychiatric reactions, Feb 2022</p>
Alternatives	<p>Leflunomide tablets 10mg; 15mg; 20mg</p>	<p>A</p> <p>Specialist initiation only</p>
	<p>Azathioprine tablets 25mg; 50mg</p>	<p>A</p>
	<p>Ciclosporin capsules 10mg; 25mg; 50mg; 100mg</p>	<p>A</p> <p>BNF Online Patients should be stabilised on a particular brand of oral ciclosporin because switching between formulations without close monitoring may lead to clinically important changes in blood-ciclosporin concentration. Prescribing and dispensing of ciclosporin should be by brand name to avoid inadvertent switching.</p>

	<p>Mycophenolate U Tablets 500mg, Capsules 250mg</p>	<p>A</p> <p>MHRA DSU: Mycophenolate mofetil, mycophenolic acid: new pregnancy-prevention advice for women and men 2015</p> <p>MHRA DSU: Mycophenolate mofetil: pure red cell aplasia, July 2009</p> <p>MHRA DSU: Mycophenolate mofetil (CellCept) and mycophenolic acid: risk of hypogammaglobulinaemia and risk of bronchiectasis, January 2015</p>
<p>General guidance applicable to all drugs</p> <ul style="list-style-type: none"> NICE NG100: Rheumatoid arthritis in adults: management. 		
<p>Biologics (secondary care use only)</p>		
<p>GMMMG High Cost Drugs Pathway for Rheumatoid Arthritis (December 2017)</p>		
<p>First Choices (Follow relevant pathway)</p>	<p>Abatacept Injection or infusion</p>	<p>R Prevents full activation of T-lymphocytes</p> <p>NICE TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</p> <p>NICE TA375: Adalimumab, etanercept, infliximab, certolizumab pegol, golimumab, tocilizumab and abatacept for rheumatoid arthritis not previously treated with DMARDs or after conventional DMARDs only have failed</p> <p>TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</p>
	<p>Adalimumab First choice: Amgevita® ▼ Alternative: Humira® Solution for injection</p>	<p>R TNF inhibitor</p> <p>NICE TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</p> <p>TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis</p> <p>NICE TA375: Adalimumab, etanercept, infliximab, certolizumab pegol, golimumab, tocilizumab and abatacept for rheumatoid arthritis not previously treated with DMARDs or after conventional DMARDs only have failed</p> <p>TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</p> <p>TA392: Adalimumab for treating moderate to severe hidradenitis suppurativa</p> <p>TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</p>

	<p>Apremilast (Otezla®) Tablets</p>	<p>R PDE4 Inhibitor TA433: Apremilast for treating active psoriatic arthritis MHRA: Apremilast (Otezla ▼): risk of suicidal thoughts and behaviour</p>
	<p>Baricitinib ▼ (Olumiant®) 2mg and 4mg tablets</p>	<p>R JAK inhibitor NICE TA466: Baricitinib for moderate to severe rheumatoid arthritis MHRA DSU: Baricitinib (Olumiant ▼): risk of venous thromboembolism, March 2020 MHRA DSU: Baricitinib (Olumiant ▼): increased risk of diverticulitis, particularly in patients with risk factors, Aug 2020</p>
	<p>Belimumab ▼ Infusion</p>	<p>R Inhibits activity of B-lymphocyte stimulator TA752: Belimumab for treating active autoantibody-positive systemic lupus erythematosus</p>
	<p>Certolizumab pegol Solution for injection</p>	<p>R TNF inhibitor TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis NICE TA415: Certolizumab pegol for treating rheumatoid arthritis after inadequate response to a TNF-alpha inhibitor NICE TA445: Certolizumab pegol and secukinumab for treating active psoriatic arthritis after inadequate response to DMARDs</p>
	<p>Etanercept Solution for injection</p>	<p>R TNF inhibitor NICE TA35: Guidance on the use of etanercept for the treatment of juvenile idiopathic arthritis. NICE TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis. TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</p>
	<p>Filgotinib ▼ 100mg and 200 mg tablets</p>	<p>R JAK inhibitor NICE TA676: Filgotinib for treating moderate to severe rheumatoid arthritis</p>
	<p>Golimumab Solution for injection</p>	<p>R TNF inhibitor NICE TA220: Golimumab for the treatment of psoriatic arthritis.</p>

		<p>NICE TA225: Golimumab for the treatment of rheumatoid arthritis after the failure of previous disease-modifying anti-rheumatic drugs.</p> <p>TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</p> <p>NICE TA497: Golimumab for treating non-radiographic axial spondyloarthritis</p>
	<p>Guselkumab Solution for injection</p>	<p>R IL-23 inhibitor</p> <p>NICE TA711: Guselkumab for treating active psoriatic arthritis after inadequate response to DMARDs</p>
	<p>Infliximab Infusion</p>	<p>R TNF inhibitor</p> <p>NICE TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</p> <p>TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis</p> <p>NICE TA375: Adalimumab, etanercept, infliximab, certolizumab pegol, golimumab, tocilizumab and abatacept for rheumatoid arthritis not previously treated with DMARDs or after conventional DMARDs only have failed</p> <p>TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</p> <p>TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</p>
	<p>Ixekizumab Solution for injection</p>	<p>R Interleukin 17 antagonist</p> <p>NICE TA537: Ixekizumab for treating active psoriatic arthritis after inadequate response to DMARDs</p> <p>NICE TA718: Ixekizumab for treating axial spondyloarthritis</p>
	<p>Rituximab Infusion</p>	<p>R Anti-lymphocytic - causes lysis of B lymphocytes</p> <p>MHRA DSU: Rituximab: progressive multifocal leukoencephalopathy in a patient without prior treatment for rheumatoid arthritis, December 2009.</p> <p>MHRA DSU: Rituximab: screen for hepatitis B virus before treatment, December 2013</p> <p>NICE TA308: Rituximab in combination with glucocorticoids for treating anti-neutrophil cytoplasmic antibody-associated vasculitis.</p> <p>GMMMG Rituximab biosimilar recommendation (August 2017)</p>
	<p>Sarilumab ▼ Solution for injection</p>	<p>R Interleukin-6 antagonist</p>

		<p>NICE TA485: Sarilumab for moderate to severe rheumatoid arthritis</p> <p>NG191: managing COVID-19</p>
	<p>Secukinumab Solution for injection</p>	<p>R</p> <p>NICE TA407: Secukinumab for active ankylosing spondylitis after treatment with non-steroidal anti-inflammatory drugs or TNF-alpha inhibitors</p> <p>NICE TA719: Secukinumab for treating non-radiographic axial spondyloarthritis</p>
	<p>Tocilizumab Injection, infusion</p>	<p>R Interleukin-6 antagonist</p> <p>NICE TA238: Systemic juvenile idiopathic arthritis – tocilizumab.</p> <p>NICE TA247: Tocilizumab for the treatment of systemic juvenile idiopathic arthritis.</p> <p>NICE TA518: Tocilizumab for treating giant cell arteritis</p> <p>NG191: managing COVID-19</p>
	<p>Tofacitinib ▼ 5mg and 10mg tablets</p>	<p>R JAK inhibitor</p> <p>NICE TA480: Tofacitinib for moderate to severe rheumatoid arthritis</p> <p>NICE TA543: Tofacitinib for treating active psoriatic arthritis after inadequate response to DMARDs</p> <p>MHRA DSU: Tofacitinib (Xeljanz ▼): new measures to minimise risk of venous thromboembolism and of serious and fatal infections, March 2020</p> <p>MHRA DSU: Tofacitinib (Xeljanz ▼): new measures to minimise risk of major adverse cardiovascular events and malignancies</p>
	<p>Upadacitinib ▼ 15 mg prolonged-release tablets</p>	<p>R JAK inhibitor</p> <p>NICE TA665: Upadacitinib for treating severe rheumatoid arthritis</p> <p>NICE TA744: Upadacitinib for treating moderate rheumatoid arthritis</p> <p>NICE TA768: for treating active psoriatic arthritis after inadequate response to DMARDs</p>
	<p>Ustekinumab Solution for injection</p>	<p>R</p> <p>NICE TA340: Ustekinumab for treating active psoriatic arthritis.</p>
<p>General guidance applicable to all drugs</p> <ul style="list-style-type: none"> • Biologics in Rheumatoid Arthritis can be used, without prior funding approval, according to GMMMG approved pathways: High Cost Drugs Pathway for Rheumatoid Arthritis and Harmonised Biologics Pathway for Ankylosing Spondylitis and Psoriatic Arthritis • MHRA DSU: Tumour necrosis factor alpha inhibitors: risk of tuberculosis—screen all patients before starting treatment and monitor them closely, April 2014 		

<ul style="list-style-type: none"> MHRA DSU: TNFa inhibitors: risk of TB – screen all patients before starting treatment and monitor them closely (April 2016) <p>Additional NICE guidance and technology appraisals:</p> <ul style="list-style-type: none"> NICE NG100: Rheumatoid arthritis in adults: management. NICE TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis 		
Subsection	10.1.4 Gout and cytotoxic induced hyperuricaemia	
Acute attack		
First choice Alternative where NSAIDS contraindicated	Colchicine 500microgram tablets	MHRA DSU: colchicine: extremely toxic in overdose, November 2009. British Society for Rheumatology Guideline for the Management of Gout
Long-term control of gout		
First choice	Allopurinol tablets 100mg; 300mg	
Alternatives	Febuxostat tablets 80mg; 120mg	G_n Use only where allopurinol is contraindicated or not tolerated. (As per NICE guidance and/or on specialist advice.) NICE TA164: Febuxostat for the management of hyperuricaemia in people with gout. MHRA DSU: Febuxostat (Adenuric▼): stop treatment if signs or symptoms of serious hypersensitivity occur, June 2012.
	Sulfinpyrazone tablets 100mg; 200mg	
Do Not Prescribe	Lesinurad Tablets	Criterion 2 (see RAG list)
General guidance applicable to all drugs		
<ul style="list-style-type: none"> British Society for Rheumatology Guideline for the Management of Gout <p>NICE Technology Appraisals:</p> <ul style="list-style-type: none"> NICE TA291: Pegloticase for treating severe debilitating chronic tophaceous gout NICE TA281: Canakinumab for treating gouty arthritis attacks and reducing the frequency of subsequent attacks (terminated appraisal) 		
Subsection	10.1.5 Other drugs for rheumatic diseases	
Applicable guidance:		
<ul style="list-style-type: none"> NICE CG177: Osteoarthritis: Care and management in adults. - section 1.4.5 Do not offer glucosamine or chondroitin products for the management of osteoarthritis. 		

- GMMMG 'Do Not Prescribe and Grey Lists': [glucosamine](#) and [synovial fluid injections](#) (including hyaluronan and sodium hyaluronate injection).
- [GM Policy Statement \(2020\). Hyaluronic Acid injections for Osteoarthritis. \(GM037\)](#)

NICE Technology Appraisals:

- [NICE TA477: Autologous chondrocyte implantation for treating symptomatic articular cartilage defects of the knee](#)
- [NICE TA508: Autologous chondrocyte implantation using chondrosphere for treating symptomatic articular cartilage defects of the knee](#)

Do Not Prescribe	Glucosamine With or without chondroitin	Criterion 1 (see RAG list)
	Synovial fluid injections Including hyaluronan and sodium hyaluronate injections	Criterion 1 (see RAG list)

Section	10.2 Drugs used in neuromuscular disorders	
Subsection	10.2.1 Drugs that enhance neuromuscular transmission	
First choice	Pyridostigmine tablets: 60mg	
Alternatives	Neostigmine tablets: 15mg	
Subsection	10.2.2 Skeletal muscle relaxants	
First choice	Dantrolene capsules: 25mg, 100mg	
Alternatives	Diazepam tablets 2mg, 5mg, 10mg oral solution 2mg/5ml	
	Baclofen tablets: 10mg oral solution: 5mg/5ml	
	Tizanidine tablets: 2mg, 4mg	G_n Following specialist initiation
Section	Miscellaneous	
	Nusinersen (Prevymis®) tablets: 240mg	R NICE TA588: Nusinersen for treating spinal muscular atrophy
	Risdiplam (Evrysdi®▼) powder for oral solution 0.75mg/ml	R NICE TA755: Risdiplam for treating spinal muscular atrophy
Do Not Prescribe	Therabite® Jaw rehabilitation system	Criterion 1 (see RAG list)

Section	10.3 Drugs for the relief of soft-tissue inflammation	
Subsection	10.3.1 Enzymes (Secondary care use)	
	Collagenase (Xiapex®)	R NICE TA459: Collagenase clostridium histolyticum for treating Dupuytren's contracture
Subsection	10.3.2 Rubefaciants and other topical antirheumatics	
Rubefaciants		
Do Not Prescribe	Rubefaciants Topical rubefacient products may contain nicotinate and salicylate compounds, essential oils, capsicum, and camphor. Topical NSAID or capsaicin preps are not rubefaciants	Criterion 1 (see RAG list)
Topical NSAIDS		
Options	Ibuprofen 5% Gel (Available as 30g, 50g or 100g tubes)	
	Ketoprofen 2.5% Gel (Available as 30g, 50g or 100g tubes)	MHRA DSU: topical ketoprofen: reminder on photosensitivity reactions, June 2009 and MHRA August 2010:
	Piroxicam 0.5% Gel (Available as 60g or 112g tubes)	
Capsaicin		
Options	Capsaicin 0.025% cream	NICE CG177: Osteoarthritis: Care and management in adults. GMMMG Neuropathic Pain Guideline November 2019
	Capsaicin 0.075% cream	
Poultices		
Not recommended for prescribing		