

Chapter 10. Musculoskeletal and joint diseases







Contents

[10.1 Drugs used in rheumatic diseases and gout](#)

[10.2 Drugs used in neuromuscular disorders](#)

[10.3 Drugs for the relief of soft-tissue inflammation](#)

Key

	<p>Red drug see GMMMG RAG list <i>Click on the symbols to access this list</i></p>
	<p>Amber drug see GMMMG RAG list <i>Click on the symbols to access this list</i></p>
	<p>Green drug see GMMMG RAG list <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 Drug name U</p>
	<p>Not Recommended</p>
	<p>Over the Counter 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 NG226: Osteoarthritis in over 16s: diagnosis and management.](#)
- [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](#)
- [MHRA DSU: Non-steroidal anti-inflammatory drugs \(NSAIDs\): potential risks following prolonged use after 20 weeks of pregnancy, June 2023](#)

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>	

		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>Mycophenolate U</p> <p>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>See also GMMMG High Cost Drugs Pathways for:</p> <ul style="list-style-type: none"> Rheumatoid Arthritis Ankylosing spondylitis Psoriatic arthritis 		
<p>First Choices (Follow relevant pathway)</p>	<p>Abatacept</p> <p>Injection or infusion</p>	<p>R Prevents full activation of T-lymphocytes</p> <p>TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</p> <p>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</p> <p>First choice: Amgevita® ▼</p> <p>Alternative: Humira®</p> <p>Solution for injection</p>	<p>R TNF inhibitor</p> <p>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>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</p> <p>TA433: Apremilast for treating active psoriatic arthritis</p> <p>MHRA: Apremilast (Otezla ▼): risk of suicidal thoughts and behaviour</p>
	<p>Baricitinib ▼ (Olumiant®) 2mg and 4mg tablets</p>	<p>R JAK inhibitor</p> <p>TA466: Baricitinib for moderate to severe rheumatoid arthritis</p> <p>NICE NG191: COVID-19 rapid guideline: managing COVID-19</p> <p>MHRA DSU: Baricitinib (Olumiant▼): risk of venous thromboembolism, March 2020</p> <p>MHRA DSU: Baricitinib (Olumiant▼): increased risk of diverticulitis, particularly in patients with risk factors, Aug 2020</p> <p>MHRA DSU: Janus kinase (JAK) inhibitors: new measures to reduce risks of major cardiovascular events, malignancy, venous thromboembolism, serious infections and increased mortality, April 2023</p>
	<p>Belimumab ▼ Infusion</p>	<p>R Inhibits activity of B-lymphocyte stimulator</p> <p>TA752: Belimumab for treating active autoantibody-positive systemic lupus erythematosus</p>
	<p>Certolizumab pegol Solution for injection</p>	<p>R TNF inhibitor</p> <p>TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</p> <p>TA415: Certolizumab pegol for treating rheumatoid arthritis after inadequate response to a TNF-alpha inhibitor</p> <p>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</p> <p>TA35: Guidance on the use of etanercept for the treatment of juvenile idiopathic arthritis.</p> <p>TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis.</p> <p>TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</p>

		TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed
Filgotinib ▼ 100mg and 200 mg tablets	R JAK inhibitor	TA676: Filgotinib for treating moderate to severe rheumatoid arthritis MHRA DSU: Janus kinase (JAK) inhibitors: new measures to reduce risks of major cardiovascular events, malignancy, venous thromboembolism, serious infections and increased mortality, April 2023
Golimumab Solution for injection	R TNF inhibitor	TA220: Golimumab for the treatment of psoriatic arthritis. TA225: Golimumab for the treatment of rheumatoid arthritis after the failure of previous disease-modifying anti-rheumatic drugs. TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis TA497: Golimumab for treating non-radiographic axial spondyloarthritis
Guselkumab Solution for injection	R IL-23 inhibitor	TA711: Guselkumab for treating active psoriatic arthritis after inadequate response to DMARDs TA815: Guselkumab for treating active psoriatic arthritis after inadequate response to DMARDs
Infliximab Infusion Solution for subcutaneous injection	R TNF inhibitor	TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor. TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis 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 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
Ixekizumab Solution for injection	R Interleukin 17 antagonist	TA537: Ixekizumab for treating active psoriatic arthritis after inadequate response to DMARDs

		TA718: Ixekizumab for treating axial spondyloarthritis
Risankizumab ▼ Solution for injection	R Interleukin 23 antagonist	TA803: Risankizumab for treating active psoriatic arthritis after inadequate response to DMARDs
Rituximab Infusion	R Anti-lymphocytic - causes lysis of B lymphocytes	MHRA DSU: Rituximab: progressive multifocal leukoencephalopathy in a patient without prior treatment for rheumatoid arthritis, December 2009. MHRA DSU: Rituximab: screen for hepatitis B virus before treatment, December 2013 TA308: Rituximab in combination with glucocorticoids for treating anti-neutrophil cytoplasmic antibody-associated vasculitis.
Sarilumab ▼ Solution for injection	R Interleukin-6 antagonist	TA485: Sarilumab for moderate to severe rheumatoid arthritis NG191: managing COVID-19
Secukinumab Solution for injection	R	TA407: Secukinumab for active ankylosing spondylitis after treatment with non-steroidal anti-inflammatory drugs or TNF-alpha inhibitors TA719: Secukinumab for treating non-radiographic axial spondyloarthritis
Tocilizumab Injection, infusion	R Interleukin-6 antagonist	TA238: Systemic juvenile idiopathic arthritis – tocilizumab. TA247: Tocilizumab for the treatment of systemic juvenile idiopathic arthritis. TA518: Tocilizumab for treating giant cell arteritis NG191: managing COVID-19
Tofacitinib ▼ 5mg and 10mg tablets	R JAK inhibitor	TA480: Tofacitinib for moderate to severe rheumatoid arthritis TA543: Tofacitinib for treating active psoriatic arthritis after inadequate response to DMARDs MHRA DSU: Tofacitinib (Xeljanz ▼): new measures to minimise risk of venous thromboembolism and of serious and fatal infections, March 2020

		<p>MHRA DSU: Tofacitinib (Xeljanz▼): new measures to minimise risk of major adverse cardiovascular events and malignancies, Oct 2021</p> <p>MHRA DSU: Janus kinase (JAK) inhibitors: new measures to reduce risks of major cardiovascular events, malignancy, venous thromboembolism, serious infections and increased mortality, April 2023</p>
	<p>Upadacitinib ▼ Prolonged-release tablets</p>	<p>R JAK inhibitor</p> <p>NICE technology appraisals:</p> <ul style="list-style-type: none"> • TA665: severe rheumatoid arthritis • TA744: moderate rheumatoid arthritis • TA768: active psoriatic arthritis after inadequate response to DMARDs • TA829: active ankylosing spondylitis • TA861: active non-radiographic axial spondyloarthritis <p>MHRA DSU: Janus kinase (JAK) inhibitors: new measures to reduce risks of major cardiovascular events, malignancy, venous thromboembolism, serious infections and increased mortality, April 2023</p>
	<p>Ustekinumab Solution for injection</p>	<p>R</p> <p>TA340: Ustekinumab for treating active psoriatic arthritis.</p>


General guidance applicable to all drugs

- Biologics in Rheumatoid Arthritis can be used, without prior funding approval, according to [GMMMG approved pathways](#): High Cost Drugs Pathway for Rheumatoid Arthritis, High Cost Drugs Pathway for Ankylosing Spondylitis, and High Cost Drugs Pathway for Psoriatic Arthritis
- [MHRA DSU: Tumour necrosis factor alpha inhibitors: risk of tuberculosis—screen all patients before starting treatment and monitor them closely, April 2014](#)
- [MHRA DSU: TNFa inhibitors: risk of TB – screen all patients before starting treatment and monitor them closely \(April 2016\)](#)

Additional NICE guidance and technology appraisals:

- [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
<p>General guidance applicable to all drugs</p> <ul style="list-style-type: none"> • NICE NG219: Gout: diagnosis and management • 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 	

Acute attack		
First choice	Colchicine 500microgram tablets	Alternative where NSAIDS contraindicated MHRA DSU: colchicine: extremely toxic in overdose, November 2009.
Long-term control of gout		
First choice	Allopurinol tablets 100mg; 300mg	
Alternatives	Febuxostat tablets 80mg; 120mg	 Use only where allopurinol is contraindicated or not tolerated. (As per NICE guidance and/or on specialist advice.) MHRA DSU: Febuxostat (Adenuric▼): stop treatment if signs or symptoms of serious hypersensitivity occur, June 2012.
	Sulfinpyrazone tablets 100mg; 200mg	
Subsection	10.1.5 Other drugs for rheumatic diseases	
Applicable guidance:		
<ul style="list-style-type: none"> NICE NG226: Osteoarthritis in over 16s: diagnosis and management - section 1.4.6 Do not offer glucosamine products or strong opioids 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:		
<ul style="list-style-type: none"> 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	
	Mexiletine capsules: 167mg	R NICE TA748: Mexiletine for treating the symptoms of myotonia in non-dystrophic myotonic disorders
	Tizanidine tablets: 2mg, 4mg	Gn Following specialist initiation
Section	Miscellaneous	
	Nusinersen (Prevymis®) solution for injection: 12mg	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®)	<p>R</p> <p>NICE TA459: Collagenase clostridium histolyticum for treating Dupuytren's contracture</p>
Subsection	10.3.2 Rubefaciants and other topical antirheumatics	
Rubefaciants		
Do Not Prescribe	<p>Rubefaciants</p> <p>Topical rubefacient products may contain nicotinate and salicylate compounds, essential oils, capsicum, and camphor. Topical NSAID or capsaicin preps are not rubefaciants</p>	Criterion 1 (see RAG list)
Topical NSAIDS		
Options	<p>Ibuprofen 5% Gel</p> <p>(Available as 30g, 50g or 100g tubes)</p>	
	<p>Ketoprofen 2.5% Gel</p> <p>(Available as 30g, 50g or 100g tubes)</p>	<p>MHRA DSU: topical ketoprofen: reminder on photosensitivity reactions, June 2009 and MHRA August 2010</p>
	<p>Piroxicam 0.5% Gel</p> <p>(Available as 60g or 112g tubes)</p>	
Capsaicin		
Options	Capsaicin 0.025% cream	<p>NICE CG177: Osteoarthritis: Care and management in adults.</p> <p>GMMMG Neuropathic Pain in Adults - Guideline for Primary Care (May 2022)</p>
	Capsaicin 0.075% cream	
Poultices		
Not recommended for prescribing		