

**Chapter 10. Musculoskeletal and joint diseases**







Contents

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

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**Key**

	<p><b>Red drug</b> see <a href="#">GMMMG RAG list</a>  <i>Click on the symbols to access this list</i></p>
	<p><b>Amber drug</b> see <a href="#">GMMMG RAG list</a>  <i>Click on the symbols to access this list</i></p>
	<p><b>Green drug</b> see <a href="#">GMMMG RAG list</a>  <i>Click on the symbols to access this list</i></p>
	<p><b>If a medicine is unlicensed this should be highlighted in the template as follows</b>  <b>Drug name U</b></p>
	<p><b>Not Recommended</b></p>
	<p><b>Over the Counter</b>          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 <a href="#">GM commissioning statement</a>.</p>
<p><b>Order of Drug Choice</b></p>	<p>Where there is no preferred 1<sup>st</sup> line agent provided, the drug choice appears in alphabetical order.</p>

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

**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](#)

<b>Subsection</b>	<b>10.1.2 Corticosteroids</b>
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**Systemic corticosteroids**

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

**Local corticosteroid injections**

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



	<p><b>Mycophenolate U</b></p> <p>Tablets 500mg, Capsules 250mg</p>	<p><b>A</b></p> <p><a href="#">MHRA DSU: Mycophenolate mofetil, mycophenolic acid: new pregnancy-prevention advice for women and men 2015</a></p> <p><a href="#">MHRA DSU: Mycophenolate mofetil: pure red cell aplasia, July 2009</a></p> <p><a href="#">MHRA DSU: Mycophenolate mofetil (CellCept) and mycophenolic acid: risk of hypogammaglobulinaemia and risk of bronchiectasis, January 2015</a></p>
<p><b>General guidance applicable to all drugs</b></p> <ul style="list-style-type: none"> <li><a href="#">NICE NG100: Rheumatoid arthritis in adults: management.</a></li> </ul>		
<p><b>Biologics (secondary care use only)</b></p>		
<p><b><a href="#">GMMMG High Cost Drugs Pathway for Rheumatoid Arthritis (December 2017)</a></b></p>		
<p><b>First Choices</b> <b>(Follow relevant pathway)</b></p>	<p><b>Abatacept</b></p> <p>Injection or infusion</p>	<p><b>R</b> Prevents full activation of T-lymphocytes</p> <p><a href="#">NICE TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</a></p> <p><a href="#">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</a></p> <p><a href="#">TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</a></p>
	<p><b>Adalimumab</b></p> <p>First choice: Amgevita® ▼</p> <p>Alternative: Humira®</p> <p>Solution for injection</p>	<p><b>R</b> TNF inhibitor</p> <p><a href="#">NICE TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</a></p> <p><a href="#">TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis</a></p> <p><a href="#">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</a></p> <p><a href="#">TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</a></p> <p><a href="#">TA392: Adalimumab for treating moderate to severe hidradenitis suppurativa</a></p> <p><a href="#">TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</a></p>

<p><b>Apremilast</b> (Otezla®) Tablets</p>	<p><b>R</b> PDE4 Inhibitor <a href="#">TA433: Apremilast for treating active psoriatic arthritis</a> <a href="#">MHRA: Apremilast (Otezla ▼): risk of suicidal thoughts and behaviour</a></p>
<p><b>Baricitinib ▼</b> (Olumiant®) 2mg and 4mg tablets</p>	<p><b>R</b> JAK inhibitor <a href="#">NICE TA466: Baricitinib for moderate to severe rheumatoid arthritis</a> <a href="#">MHRA DSU: Baricitinib (Olumiant ▼): risk of venous thromboembolism, March 2020</a> <a href="#">MHRA DSU: Baricitinib (Olumiant ▼): increased risk of diverticulitis, particularly in patients with risk factors, Aug 2020</a></p>
<p><b>Belimumab ▼</b> Infusion</p>	<p><b>R</b> Inhibits activity of B-lymphocyte stimulator <a href="#">TA397: Belimumab for treating active autoantibody-positive systemic lupus erythematosus</a></p>
<p><b>Certolizumab pegol</b> Solution for injection</p>	<p><b>R</b> TNF inhibitor <a href="#">TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</a> <a href="#">NICE TA415: Certolizumab pegol for treating rheumatoid arthritis after inadequate response to a TNF-alpha inhibitor</a> <a href="#">NICE TA445: Certolizumab pegol and secukinumab for treating active psoriatic arthritis after inadequate response to DMARDs</a></p>
<p><b>Etanercept</b> Solution for injection</p>	<p><b>R</b> TNF inhibitor <a href="#">NICE TA35: Guidance on the use of etanercept for the treatment of juvenile idiopathic arthritis.</a> <a href="#">NICE TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis.</a> <a href="#">TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</a> <a href="#">TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</a></p>
<p><b>Filgotinib ▼</b> 100mg and 200 mg tablets</p>	<p><b>R</b> JAK inhibitor <a href="#">NICE TA676: Filgotinib for treating moderate to severe rheumatoid arthritis</a></p>
<p><b>Golimumab</b> Solution for injection</p>	<p><b>R</b> TNF inhibitor <a href="#">NICE TA220: Golimumab for the treatment of psoriatic arthritis.</a></p>

	<p><a href="#">NICE TA225: Golimumab for the treatment of rheumatoid arthritis after the failure of previous disease-modifying anti-rheumatic drugs.</a></p> <p><a href="#">TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</a></p> <p><a href="#">NICE TA497: Golimumab for treating non-radiographic axial spondyloarthritis</a></p>
<p><b>Guselkumab</b> Solution for injection</p>	<p><b>R</b> IL-23 inhibitor</p> <p><a href="#">NICE TA711: Guselkumab for treating active psoriatic arthritis after inadequate response to DMARDs</a></p>
<p><b>Infliximab</b> Infusion</p>	<p><b>R</b> TNF inhibitor</p> <p><a href="#">NICE TA195: Adalimumab, etanercept, infliximab, rituximab and abatacept for the treatment of rheumatoid arthritis after the failure of a TNF inhibitor.</a></p> <p><a href="#">TA199: Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis</a></p> <p><a href="#">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</a></p> <p><a href="#">TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</a></p> <p><a href="#">TA715: Adalimumab, etanercept, infliximab and abatacept for treating moderate rheumatoid arthritis after conventional DMARDs have failed</a></p>
<p><b>Ixekizumab</b> Solution for injection</p>	<p><b>R</b> Interleukin 17 antagonist</p> <p><a href="#">NICE TA537: Ixekizumab for treating active psoriatic arthritis after inadequate response to DMARDs</a></p> <p><a href="#">NICE TA718: Ixekizumab for treating axial spondyloarthritis</a></p>
<p><b>Rituximab</b> Infusion</p>	<p><b>R</b> Anti-lymphocytic - causes lysis of B lymphocytes</p> <p><a href="#">MHRA DSU: Rituximab: progressive multifocal leukoencephalopathy in a patient without prior treatment for rheumatoid arthritis, December 2009.</a></p> <p><a href="#">MHRA DSU: Rituximab: screen for hepatitis B virus before treatment, December 2013</a></p> <p><a href="#">NICE TA308: Rituximab in combination with glucocorticoids for treating anti-neutrophil cytoplasmic antibody-associated vasculitis.</a></p> <p><a href="#">GMMMG Rituximab biosimilar recommendation (August 2017)</a></p>
<p><b>Sarilumab ▼</b> Solution for injection</p>	<p><b>R</b> Interleukin-6 antagonist</p>

		<a href="#">NICE TA485: Sarilumab for moderate to severe rheumatoid arthritis</a> <a href="#">NG191: managing COVID-19</a>
<b>Secukinumab</b>	Solution for injection	<p><b>R</b></p> <a href="#">NICE TA407: Secukinumab for active ankylosing spondylitis after treatment with non-steroidal anti-inflammatory drugs or TNF-alpha inhibitors</a> <a href="#">NICE TA719: Secukinumab for treating non-radiographic axial spondyloarthritis</a>
<b>Tocilizumab</b>	Injection, infusion	<p><b>R</b> Interleukin-6 antagonist</p> <a href="#">NICE TA238: Systemic juvenile idiopathic arthritis – tocilizumab.</a> <a href="#">NICE TA247: Tocilizumab for the treatment of systemic juvenile idiopathic arthritis.</a> <a href="#">NICE TA518: Tocilizumab for treating giant cell arteritis</a> <a href="#">NG191: managing COVID-19</a>
<b>Tofacitinib ▼</b>	5mg and 10mg tablets	<p><b>R</b> Janus Kinase Inhibitor</p> <a href="#">NICE TA480: Tofacitinib for moderate to severe rheumatoid arthritis</a> <a href="#">NICE TA543: Tofacitinib for treating active psoriatic arthritis after inadequate response to DMARDs</a> <a href="#">MHRA DSU: Tofacitinib (Xeljanz ▼): new measures to minimise risk of venous thromboembolism and of serious and fatal infections, March 2020</a> <a href="#">MHRA DSU: Tofacitinib (Xeljanz ▼): new measures to minimise risk of major adverse cardiovascular events and malignancies</a>
<b>Upadacitinib ▼</b>	15 mg prolonged-release tablets	<p><b>R</b></p> <p>JAK inhibitor</p> <a href="#">NICE TA665: Upadacitinib for treating severe rheumatoid arthritis</a>
<b>Ustekinumab</b>	Solution for injection	<p><b>R</b></p> <a href="#">NICE TA340: Ustekinumab for treating active psoriatic arthritis.</a>

**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](#) 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](#)
- [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.](#)



<ul style="list-style-type: none"> <li><a href="#">NICE TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis</a></li> </ul>		
<b>Subsection</b>	<b>10.1.4 Gout and cytotoxic induced hyperuricaemia</b>	
<b>Acute attack</b>		
<b>First choice</b> Alternative where NSAIDS contraindicated	<b>Colchicine 500microgram tablets</b>	<a href="#">MHRA DSU: colchicine: extremely toxic in overdose, November 2009.</a> <a href="#">British Society for Rheumatology Guideline for the Management of Gout</a>
<b>Long-term control of gout</b>		
<b>First choice</b>	<b>Allopurinol tablets</b> 100mg; 300mg	
<b>Alternatives</b>	<b>Febuxostat tablets</b> 80mg; 120mg	<b>G<sub>n</sub></b> Use only where allopurinol is contraindicated or not tolerated. (As per NICE guidance and/or on specialist advice.) <a href="#">NICE TA164: Febuxostat for the management of hyperuricaemia in people with gout.</a> <a href="#">MHRA DSU: Febuxostat (Adenuric▼): stop treatment if signs or symptoms of serious hypersensitivity occur, June 2012.</a>
	<b>Sulfinpyrazone tablets</b> 100mg; 200mg	
<b>Do Not Prescribe</b>	<b>Lesinurad</b> Tablets	<a href="#">Criterion 2 (see RAG list)</a>
<b>General guidance applicable to all drugs</b>		
<ul style="list-style-type: none"> <li><a href="#">British Society for Rheumatology Guideline for the Management of Gout</a></li> </ul>		
<b>NICE Technology Appraisals:</b>		
<ul style="list-style-type: none"> <li><a href="#">NICE TA291: Pegloticase for treating severe debilitating chronic tophaceous gout</a></li> <li><a href="#">NICE TA281: Canakinumab for treating gouty arthritis attacks and reducing the frequency of subsequent attacks (terminated appraisal)</a></li> </ul>		
<b>Subsection</b>	<b>10.1.5 Other drugs for rheumatic diseases</b>	
<b>Applicable guidance:</b>		
<ul style="list-style-type: none"> <li><a href="#">NICE CG177: Osteoarthritis: Care and management in adults.</a> - section 1.4.5 Do not offer glucosamine or chondroitin products for the management of osteoarthritis.</li> <li>GMMMG 'Do Not Prescribe and Grey Lists': <a href="#">Glucosamine</a>.</li> <li><a href="#">GM Policy Statement (2017). Hyaluronic Acid injections for Osteoarthritis. (GM037)</a></li> </ul>		
<b>NICE Technology Appraisals:</b>		
<ul style="list-style-type: none"> <li><a href="#">NICE TA477: Autologous chondrocyte implantation for treating symptomatic articular cartilage defects of the knee</a></li> </ul>		

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

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

<b>Section</b>	<b>10.2 Drugs used in neuromuscular disorders</b>	
<b>Subsection</b>	<b>10.2.1 Drugs that enhance neuromuscular transmission</b>	
<b>First choice</b>	<b>Pyridostigmine</b> tablets: 60mg	
<b>Alternatives</b>	<b>Neostigmine</b> tablets: 15mg	
<b>Subsection</b>	<b>10.2.2 Skeletal muscle relaxants</b>	
<b>First choice</b>	<b>Dantrolene</b> capsules: 25mg, 100mg	
<b>Alternatives</b>	<b>Diazepam</b> tablets 2mg, 5mg, 10mg oral solution 2mg/5ml	
	<b>Baclofen</b> tablets: 10mg oral solution: 5mg/5ml	
	<b>Tizanidine</b> tablets: 2mg, 4mg	<b>G<sub>n</sub></b> Following specialist initiation
<b>Section</b>	<b>Miscellaneous</b>	
	<b>Nusinersen</b> tablets: 240mg (Prevymis®)	<b>R</b> <a href="#">NICE TA588: Nusinersen for treating spinal muscular atrophy</a>
<b>Do Not Prescribe</b>	<b>Therabite®</b> Jaw rehabilitation system	<u>Criterion 1</u> (see RAG list)

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