



## CLINICAL GUIDELINES

# Perioperative Management of DMARDs and Biologics in Rheumatology Patients Undergoing Elective Orthopaedic Surgery

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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### Important Note:

The Intranet version of this document is the only version that is maintained. Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

**Introduction:**

This Guideline is intended to be used by clinical staff within Rheumatology and/or Orthopaedic Surgery to assist in the management of rheumatology patients undergoing elective orthopaedic surgery who may be receiving disease-modifying anti-rheumatic drugs (DMARDs) or biologic agents.

**Table 1: Timing of stopping and starting of disease-modifying anti-rheumatological drugs (DMARDs) in patients with rheumatological disease in the perioperative period for orthopaedic surgery**

Name	Dosing Interval	Continue/Withdraw	Clinical considerations
Methotrexate	Weekly	Continue	Consider withholding 2 weeks prior to surgery for old, frail patients or with renal insufficiency
Sulfasalazine	Once or twice daily	Continue	
Hydroxychloroquine	Once or twice daily	Continue	
Leflunomide	Daily	Consider withholding 2 weeks prior to surgery in higher risk patients. Restart with wound healing (2 weeks)	Risk of infection. Risk of bone marrow suppression.
Azathioprine	Daily or twice daily	Consider withholding 2 weeks prior to surgery. Restart with wound healing (2 weeks)	Risk of infection. Risk of bone marrow suppression.
Mycophenolate mofetil	Twice daily	Consider withholding 2 weeks prior to surgery. Restart with wound healing (2 weeks)	Risk of infection. Risk of bone marrow suppression.
Cyclosporine	Twice daily	Consider withholding 2 weeks prior to surgery. Restart with wound healing (2 weeks)	Risk of infection. Risk of bone marrow suppression.

**Table 2: Timing of stopping and starting of biological drugs in patients with rheumatological disease in the perioperative period**

Biologic Drug	Dosage Interval	Half-life	Period in which surgery should be scheduled relative to last dose administered for the following risk of intra-operative contamination or patient factors for infection:		
			Low	Moderate	High
Etanercept	Weekly	3 days	Week 2	Week 3	Week 5
Adalimumab	Every 2 weeks	14 days	Week 3	Week 7	Week 11
Certolizumab	Every 2 weeks	14 days	Week 3	Week 7	Week 11
Golimumab	Monthly	14 days	Week 5	Week 7	Week 11
Infliximab	Every 8 weeks or 6 weeks	9 days	Week 5		Week 9
Rituximab	2 doses 2 weeks apart 6-18 months as needed	18 days	Ideally, surgery at least 6 months from last infusion (3 months if low risk patient & procedure) Re-start 4 weeks after surgery		
Tocilizumab	Weekly (SC) Monthly (IV)	13 days	Week 3	Week 7	Week 10
			Restart IV infusions 4 weeks after surgery		
Abatacept	Weekly (SC) Monthly (IV)	14 days	Week 3	Week 7	Week 11
			Restart IV infusions 4 weeks after surgery		
Ixekizumab	Monthly	13 days	Week 5	Week 7	Week 11
Sarilumab	Every 2 weeks	21 days	Week 4	Week 10	Week 16
Ustekinumab	12 weekly	21 days	Week 13	Week 13	Week 16
Secukinumab	Monthly	27 days	Week 5	Week 13	Week 20
Tofacitinib	Daily/ Twice daily	3 hours	Day 3	Week 2	Week 2
Anakinra	Daily	4-6 hours	Day 3	Week 2	Week 2
Baricitinib	Daily	12.5 hours	Day 3	Week 2	Week 2
Upadacitinib	Daily	12 hours	Day 3	Week 2	Week 2
Filgotinib	Daily	7 hours	Day 3	Week 2	Week 2
Apremilast	Daily/Twice Daily	6-9 hours	Continue		

Source:

1. Goodman SM, Springer B, Guyatt G et al. 2017 American College of Rheumatology/ American Association of Hip and Knee Surgeons Guideline for the Perioperative Management of Antirheumatic Medication in Patients With Rheumatic Diseases Undergoing Elective Total Hip or Total Knee Arthroplasty. Arthritis Care & Research Vol. 69, No. 8, August 2017, pp 1111–1124 DOI 10.1002/acr.23274
2. N. Maiden, N. Liggett, V. McGoldrick, S. Walker, R Stewart. Clinical Guidelines published by SHSCT Rheumatological Service November 2018.