NHS Greater Glasgow and Clyde

CLINICAL GUIDELINE

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.

Version Number:	2
Does this version include changes to clinical advice:	Yes
Date Approved:	4th June 2025
Date of Next Review:	31st October 2027
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Approval Group:	Medicines Utilisation Subcommittee of ADTC

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.

Section1: Guidance on disease modifying drugs (DMARDs) for adult rheumatology patients in the perioperative period for elective orthopaedic surgery

- This guideline is intended for use in as a guide in consulting patients in an orthopaedic outpatient clinic setting.
- Generally, there is no consistent evidence that continuing DMARDs increases the risk of post-operative infection above what is already present for rheumatology patients.
- Post-operative flare can instead impair mobility and rehabilitation and must be weighed with the risk of infection with the type of surgery.
- The general consideration is that DMARDs should not be stopped in the perioperative period. The types of DMARDs are listed below:
    - **Methotrexate**
    - **Sulfasalazine**
    - **Hydroxychloroquine**
    - **Leflunomide**
    - **Apremilast**
    - **Azathioprine**
    - **Mycophenolate mofetil**
    - **Cyclosporine**
    - **Tacrolimus**
    - **Vaclosporin**
    -
- Steroid exposure should be minimized prior to surgical procedures, and increases in steroid dose to prevent adrenal insufficiency are not routinely required
- When stopped, all medications should be restarted if the wound healing is satisfactory, any sutures/staples are out, there is no significant swelling, erythema, or drainage, and there is no ongoing nonsurgical site infection, which is typically 14 days. This should be at the discretion of the operating surgeon.
- Patient should be monitored for signs of infection throughout and renal function monitored to avoid drug accumulation.

Source:

1. Goodman, S. M., Springer, B. D., Chen, A. F., Davis, M., Fernandez, D. R., Figgie, M., Finlayson, H., George, M. D., Giles, J. T., Gilliland, J., Klatt, B., MacKenzie, R., Michaud, K., Miller, A., Russell, L., Sah, A., Abdel, M. P., Johnson, B., Mandl, L. A., Sculco, P., … Singh, J. A. (2022). 2022 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*, *74*(9), 1399–1408. https://doi.org/10.1002/acr.24893

Authors: Kong R, Chawla L, Rajkumar S

Section2: Guidance on advanced therapies for adult rheumatology patients in the perioperative period for elective orthopaedic surgery

- This guideline is intended for use in as a guide in consulting patients in an orthopaedic outpatient clinic setting.
- This guideline is also intended for use in adult patients only.
- Post-operative infection risk is increased in patients undergoing advanced therapy and therefore should be stopped prior to surgery as per table below.
- Consideration should be made for balancing risk of flare up of symptoms slowing post-operative recovery versus risk of infection.
- Patient without risk factors for infection or undergoing surgery should have the surgery scheduled after one dosing interval has elapsed.
- When stopped, all medications should be restarted if the wound healing is satisfactory, any sutures/staples are out, there is no significant swelling, erythema, or drainage, and there is no ongoing nonsurgical site infection, which is typically 14 days. This should be at the discretion of the operating surgeon.

Source:

1. Goodman, S. M., Springer, B. D., Chen, A. F., Davis, M., Fernandez, D. R., Figgie, M., Finlayson, H., George, M. D., Giles, J. T., Gilliland, J., Klatt, B., MacKenzie, R., Michaud, K., Miller, A., Russell, L., Sah, A., Abdel, M. P., Johnson, B., Mandl, L. A., Sculco, P., … Singh, J. A. (2022). 2022 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*, *74*(9), 1399–1408. https://doi.org/10.1002/acr.24893

Authors: Kong R, Chawla L, Rajkumar S

Table 2: Timing of surgery with cycle of advanced therapy drugs dosing in patients with rheumatology disease during the perioperative period

Drug name	Half-life	Dosage Intervals	Recommended timing of surgery after last medication dose:
Biologic drugs: Withhold through surgery			
Etanercept	3 days	Every week	Week 2
Adalimumab	14 days	Every 2 weeks	Week 3
Certolizumab	14 days	Every 2 or 4 weeks	Week 3 if taken every 2 weeks Week 5 if taken every 4 weeks
Golimumab	14 days	Every 4 weeks (SC) or Every 8 weeks (IV)	Week 5 if given SC Week 9 if given IV
Infliximab	9 days	Every 4, 6 or 8 weeks	Week 5 if taken very 4 weeks Week 7 if taken every 6 weeks Week 9 if taken every 8 weeks
Rituximab	18 days	2 doses 2 weeks apart every 4-6 months	Month 7
Tocilizumab	13 days	Every week (SC) or Every 4 weeks (IV)	Week 2 if given SC Week 5 if given IV
Abatacept	14 days	Every week (SC) or Every 4 weeks (IV)	Week 2 if given SC Week 5 if given IV
Ixekizumab	13 days	Every 4 weeks	Week 5
Sarilumab	21 days	Every 2 weeks	Week 3
Ustekinumab	21 days	Every 12 weeks	Week 13
Secukinumab	27 days	Every 4 weeks	Week 5
Guselkumab	15 – 18 days	Every 8 weeks	Week 9
Anakinra	4-6 hours	Daily	Day 2
Belimumab	19 days	Every week (SC) or Every month (IV)	Week 2 if given SC Week 5 if given IV
JAK inhibitors: Withhold 3 days before surgery			
Tofacitinib	3 hours	Daily/ Twice daily	Day 4
Baricitinib	12.5 hours	Daily	Day 4
Upadicitinib	12 hours	Daily	Day 4
Filgotinib	7 hours	Daily	Day 4

Source:

1. Goodman, S. M., Springer, B. D., Chen, A. F., Davis, M., Fernandez, D. R., Figgie, M., Finlayson, H., George, M. D., Giles, J. T., Gilliland, J., Klatt, B., MacKenzie, R., Michaud, K., Miller, A., Russell, L., Sah, A., Abdel, M. P., Johnson, B., Mandl, L. A., Sculco, P., … Singh, J. A. (2022). 2022 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*, *74*(9), 1399–1408. https://doi.org/10.1002/acr.24893

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