Australian clinician guide for the use of immunomodulatory drugs in autoimmune rheumatic diseases at the time of COVID-19 vaccination

- This clinician guide has been developed as part of the Australian Living Guideline for the Pharmacological Management of Inflammatory Arthritis and is designed to be used in conjunction with the recommendation on COVID-19 vaccination for people with autoimmune inflammatory rheumatic diseases (AIRD) on immunomodulatory therapies
- Advice contained in this clinician guide is *general* and has not been developed through a formal GRADE process
- This advice is not intended to replace a shared decision between patient and prescriber that is based on specific clinical circumstances including disease activity, co-morbidities and risk of COVID-19
- While any immunomodulatory regimen may affect vaccine efficacy, current data suggest that B-cell depleting therapies (eg rituximab) and, to a lesser extent, abatacept, mycophenolate and high-dose glucocorticoids may be more likely to reduce immunogenicity than other medications
- Although the immune response to COVID-19 vaccination may be reduced in people with AIRD on immunomodulatory therapies, the extent to which protection from disease is reduced remains unknown and may vary between individuals. Therefore vaccination is recommended in this population
- Where practical, any decision to alter an immunomodulatory treatment regimen should be discussed with the treating specialist
- This document and the associated recommendation are living resources that will be updated as new evidence emerges

Methotrexate	**Do not routinely interrupt methotrexate at the time of COVID-19 vaccination** In patients with stable rheumatic disease at low risk of flare, or in those for whom protection from COVID-19 is of particular importance, consider holding methotrexate for one or two doses following each vaccination
Leflunomide	**Do not routinely interrupt leflunomide therapy at the time of COVID-19 vaccination**
Sulfasalazine	**Do not routinely interrupt sulfasalazine therapy at the time of COVID-19 vaccination**
Hydroxychloroquine	**Do not routinely interrupt hydroxychloroquine therapy at the time of COVID-19 vaccination**
TNF inhibitors	**Do not routinely interrupt TNFi therapy at the time of COVID-19 vaccination**
Cytokine inhibitors (IL-1, IL-6, IL-17, IL-12/23, IL-23)	**Do not routinely interrupt anti-cytokine therapy at the time of COVID-19 vaccination**
JAK inhibitors	**Do not routinely interrupt JAKi therapy at the time of COVID-19 vaccination**
Abatacept	**Withhold subcutaneous abatacept both 1 week prior to and 1 week after each COVID-19 vaccine dose**
Rituximab	**Aim to perform COVID-19 vaccination towards the end of a rituximab dosing cycle or before initiation of rituximab therapy** **Where possible, aim to defer vaccination until at least 3 months after the most recent dose of rituximab** **Aim to administer the second vaccine dose at least 2 weeks before rituximab infusion** For patients receiving the AstraZeneca vaccine, consider reducing the interval between vaccine doses (eg 6-8 weeks) to permit both doses before the next rituximab cycle
Glucocorticoids	**Do not routinely modify dose for people on stable chronic glucocorticoid therapy** In people on higher doses who are planning to taper, consider deferring vaccination until the dose is lower (eg <10mg/day), depending on the individual disease, comorbidities, likely trajectory of glucocorticoid therapy and an estimate of the risk of COVID-19
Mycophenolate	**Do not routinely interrupt mycophenolate therapy at the time of COVID-19 vaccination**
Azathioprine	**Do not routinely interrupt azathioprine therapy at the time of COVID-19 vaccination**
Cyclophosphamide	**Aim to perform COVID-19 vaccination towards the end of an IV cyclophosphamide dosing cycle or before initiation of IV cyclophosphamide therapy** **Aim to administer the vaccine at least 3 weeks after the last dose of IV cyclophosphamide and 1 week prior to the next dose** **Do not routinely interrupt oral cyclophosphamide therapy at the time of COVID-19 vaccination**

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General Considerations
All decisions about vaccination and the use of immunomodulatory medications should be based on a shared-decision making approach
Advice regarding the timing of vaccination and adjustment of DMARDs is general and aimed at supporting a shared decision between the clinician and individual patient that is based on the values and preferences of the patient, the underlying disease and its current activity, age and comorbidities, and risk of COVID-19 infection
The timing of vaccine administration should take into account the individual disease status and trajectory and risk of COVID-19 infection and severe COVID disease
The potential for reduced immunogenicity due to DMARDs should be weighed against risk of disease flare due to alteration of therapy
In newly-diagnosed patients or those who have not yet commenced immunomodulatory therapy, consider giving the first dose of COVID-19 vaccine prior to commencing DMARDs, if the clinical circumstances permit
Most current data on immunogenicity is extrapolated from other vaccines and may not apply to COVID-19 vaccines
The extent to which a serological response to vaccine correlates with protection from infection or severe disease consequences is still unknown; there is currently no role for using serological testing to guide clinical decisions about COVID-19 vaccination
People with autoimmune rheumatic diseases at high risk of severe COVID-19 should still take appropriate physical precautions against infection even after vaccination
Vaccination of other household members and close contacts of people with autoimmune rheumatic diseases who are using immunomodulatory drugs is likely to further reduce the risk of infection and therefore should be encouraged
There is no evidence to suggest that the potential effect of immunomodulatory drugs on immunogenicity differs between mRNA vaccines and adenovirus vector vaccines

*A detailed **rationale** for the guidance contained in this document may be found here.*

Link to Australian Living Recommendation

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