



Specialised Medication – Tocilizumab Guideline

1. Purpose

This guideline provides guidance for the prescription and administration of tocilizumab for **adult** patients by infusion or subcutaneous injection for rheumatoid arthritis.

This guideline must be used in conjunction with the associated mandatory [MR173F WACHS Specialised Medication - Tocilizumab Pre-Infusion Checklist](#).

This infusion may only be administered when there is a doctor who is:

- familiar with specified guidelines
- aware of the patient receiving the infusion
- credentialed and appointed to the hospital site where the infusion is being administered
- willing and able to respond in the event of an emergency in the absence of a dedicated Medical Emergency Response (MER) team.

For paediatric patients, refer to the Perth Children's Hospital – Medication Management Manual - [Tocilizumab](#) (accessible via HealthPoint).

2. Guideline Statement

Tocilizumab inhibits the activity of interleukin-6 (IL-6) by binding to its receptors. IL-6 is a cytokine that is involved in the pathogenesis of rheumatoid arthritis (RA).¹

2.1 Presentation²

Vials contain 20 mg/mL of concentrated tocilizumab solution (available in 4 mL, 10 mL and 20 mL) for dilution prior to intravenous infusion.

Alternatively, some WACHS Pharmacy Departments may purchase infusions prepared by sterile manufacturing facilities.

Subcutaneous injection is presented in a prefilled syringe containing 162 mg /0.9 mL tocilizumab.

2.2 Indication³

Availability of tocilizumab is currently restricted to indications listed on the PBS on presentation of an approved PBS authority prescription.

- Rheumatoid arthritis (RA) – prescribed by a rheumatologist

2.3 Contraindications^{1,2}

- Hypersensitivity reactions to tocilizumab, any component contained in the product, Chinese hamster ovary cell products or other recombinant human or humanised antibodies
- Serious or untreated infection

- Not recommended for use with other biological agents including TNF antagonists, anakinra, rituximab and abatacept

2.4 Precautions^{1,2}

Precautions for the use of tocilizumab are extensive. Please refer to the Product Information for the complete list and full details. Below is a summary of important points.

- Serious and sometimes fatal infections have been reported in patients receiving tocilizumab. If a patient develops a serious infection, treatment is to be interrupted until resolution.
- Patients are to be screened for latent tuberculosis (TB), and appropriately treated if necessary, prior to initiation. Patients are to be instructed to seek medical advice if they develop any symptoms suggestive of TB.
- Viral reactivation (hepatitis B) has been reported with biological therapies.
- Pregnancy. Avoid use unless 'clearly necessary' (no data); Australian category C. Use of appropriate contraception during and for several months after treatment is recommended.
- Breastfeeding. It is unknown whether tocilizumab is excreted into human breast milk. Efficacy and safety in lactating women has not been established. The decision whether to continue/discontinue treatment with tocilizumab or to continue/discontinue breastfeeding is on an individual case basis.
- Decreases in neutrophil and platelet count have occurred in patients that are treated in combination with methotrexate. Neutrophil and platelet count is to be monitored 4-8 weeks after starting therapy then as per standard practice. Dose reductions may be necessary.
- Transient elevations of hepatic transaminases have been reported. Alanine aminotransferase (ALT) and aspartate aminotransferase (AST) levels are to be monitored every 4-8 weeks for the first 6 months then every 12 weeks. Dose reductions may be necessary.
- Diverticular perforation as a complication of diverticulitis have been reported in patients treated with tocilizumab. Tocilizumab is to be used with caution in patients with a previous history of intestinal ulceration or diverticulitis. Patients presenting with symptoms of such are to be promptly identified and managed appropriately.
- Live and live attenuated vaccines should not be given concurrently with tocilizumab.

2.5 Dosage^{1,2}

Intravenous Infusion:

Condition	***Usual Dose Recommendation	Frequency
Rheumatoid arthritis (adults)	8 mg/kg (up to maximum of 800 mg)	Every 4 weeks

*** It is possible, due to the results of pathology (neutrophil count, platelet count, liver enzyme abnormalities) that a reduced dose may be prescribed. Reduce dose only under the direction of the treating rheumatologist. Any query relating to the dose for the patient is to be referred to the treating rheumatologist.

Subcutaneous injection:

Condition	***Usual Dose Recommendation	Frequency
Rheumatoid arthritis (adults)	162 mg weekly If transitioning from infusion to subcutaneous injection: <ul style="list-style-type: none"> • 4 mg/kg – 162 mg every 2 weeks • 8 mg/kg – 162 mg once weekly 	Weekly

The first dose of the subcutaneous injection must be given under medical observation. May be suitable for self-administration in selected patients however the potential for anaphylaxis must be considered.

2.6 Administration^{2,4,5}

Intravenous Infusion

- Specific considerations for handling of monoclonal antibodies:
 - Prepare using aseptic technique.
 - Personal Protective Equipment (PPE) - A N95 respirator and protective eyewear is to be worn during preparation.
 - These PPE is also to be worn during administration processes for IV formulations where the dis/connecting of administration lines may present a risk of aerosolisation.
 - Closed system drug transfer devices are not required for the preparation of doses for administration but can be utilised by individual sites based on availability.
 - All waste is to be handled as per standard procedures for parenterally administered agents.
 - Avoid preparation and handling if pregnant, breastfeeding or immunosuppressed.
- Calculate the volume required of the tocilizumab concentrate to provide the prescribed dose.
- Withdraw and discard the volume calculated in step 1 from a **100 mL sodium chloride 0.9 % bag**.
- Under aseptic conditions, add the prescribed dose of tocilizumab to the sodium chloride 0.9 % bag.
- To mix the infusion, gently invert to avoid foaming
- Only solutions that are clear to opalescent, colourless to pale yellow and free of visible particles can be infused.
- **Do not** administer concurrently with any other IV medication.
- Infuse over **one** hour (protect from light).

Subcutaneous Infusion

- Allow the syringe to reach room temperature over 20-30 minutes.
- Inject into the thigh, abdomen or upper arms.
- Do not shake before administration.

2.7 Storage^{2,4}

Store vials between 2 and 8 °C, protected from light.

Following dilution, infuse immediately, or commence infusion within 24 hours of preparation, if stored between 2 and 8 °C.

Syringe for subcutaneous injection to be stored between 2 and 8 °C within the supplied carton to protect from light.

Once removed from the fridge the subcutaneous syringe must be stored below 30 °C and administered within 8 hours.

2.8 Infusion reactions²

Infusion related adverse effects were reported in 6.9 % of patients during clinical trials. The adverse event reported during the infusion was primarily hypertension whereas headaches and skin reactions were reported within 24 hours of completing the infusion. These events did not prevent further treatment.

‘Mild’ infusion reactions

These reactions involve symptoms such as (but not limited to) headache, nausea, dizziness, fever, flushing, pruritis, urticaria, muscle pain, flu-like symptoms.

Patients should be managed on an individual case basis but reduction in infusion rates and symptom management with medications such as paracetamol, antihistamines or glucocorticoids (e.g. dexamethasone) may allow the completion of the infusion.

If infusion-related reactions occur, stop the infusion and notify the prescriber to review patient and advise on management options.

In most circumstances, when the symptoms have completely resolved, the infusion can be recommenced at a 50 % reduction in rate.²

‘Severe’ hypersensitivity/ anaphylactic reactions

These reactions involve symptoms such as (but not limited to) anaphylaxis, hypo/hypertension, chest pain, dyspnoea, swelling, severe pruritis.

Patient management should be:

- escalated according to the [MR140A Adult Observation and Response Chart \(A-ORC\)](#) criteria
- in accordance with Adverse Drug Reaction section of the [WACHS Medication Prescribing and Administration Policy](#).

For guidance on the management of anaphylaxis, refer to the [ASCIA Guidelines – Acute management of anaphylaxis](#).

Where applicable, the WACHS doctor or nurse should discuss this event with the referring specialist.

In the event of a ‘severe’ reaction, STOP the infusion immediately. Consult the prescriber and treat the patient according to symptoms. This may include, but is not limited to

adrenaline, antihistamines, glucocorticoids, intravenous fluids, vasopressors, oxygen, bronchodilators and paracetamol.

In all cases consult the prescribing doctor.

2.9 Monitoring requirements

- The minimum physiological observations to be documented as recommended by the approved product information or as a minimum pre infusion, mid infusion, post infusion and as clinically indicated during the infusion based on patient response (e.g. light-headedness, flushing).
- Record temperature, pulse, respiration rate and blood pressure prior to commencement of the infusion and at completion.
- Check the IV regularly to ensure correct flow rate and cannula position.
- Monitoring should continue for at least 30 minutes post infusion.

3. Roles and Responsibilities

The **Nurse Unit Manager / Senior Nursing Staff** is responsible for:

- receiving valid referral and documentation including a valid PBS prescription as required from the prescribing consultant or other treating doctor
- informing the prescriber, if external to the hospital, that the infusion has been administered and any related outcomes (e.g. adverse events).

The **Medical Officer** is responsible for completing all treatment and duties within scope of practice.

The **Registered Nurse** is responsible for completing all nursing duties for the patient within scope of practice.

Where supplied by the pharmacy department, **the Chief Pharmacist** is responsible to ensure the prescription is processed for payment via PBS.

All staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

4. Monitoring and Evaluation

4.1 Monitoring

Managers of clinical areas, health sites and services are responsible for monitoring compliance with this guideline.

Any variance from this guideline should be under the guidance of a senior medical practitioner and reported by the nurse manager to the Regional Drugs and Therapeutics Committee. This will prompt a review of the guideline.

4.2 Evaluation

Adverse events and clinical incidents relating to the prescribing and administration of this medicine are to be reported and managed as per the WACHS Medication Prescribing and Administration Policy.

5. Compliance

Guidelines are designed to provide staff with evidence-based recommendations to support appropriate actions in specific settings and circumstances. As such, WACHS guidelines should be followed in the first instance. In the clinical context, where a patient's management should vary from an endorsed WACHS guideline, this variation and the clinical opinion as to reasons for variation must be documented in accordance with the [Documentation Clinical Practice Standard](#).

6. References

1. Australian Medicines Handbook [Internet]. AMHS Pty Ltd. Tocilizumab. 2022 July [cited: 08 September 2022]. Available from: <https://amhonline-amh-net-au.wachslibresources.health.wa.gov.au/>
2. MIMS Online [Internet]. MIMS Australia Pty Ltd. [cited: 08 September 2022] Available from: <https://www-mimsonline-com-au.wachslibresources.health.wa.gov.au/Search/Search.aspx>.
3. Pharmaceutical Benefits Scheme (PBS) [Internet]. Australian Government. [cited: 08 September 2022]. Available from: <http://www.pbs.gov.au/>
4. Australian Injectable Drugs Handbook. SHPA. Tocilizumab. 2022 August [cited: 08 September 2022]. [Available from: <https://aidh-hcn-com-au.wachslibresources.health.wa.gov.au/browse/t/tocilizumab>.
<https://login.wachslibresources.health.wa.gov.au/login?qurl=https://aidh.hcn.com.au/browse/n/natalizumab>
5. Alexander M, King J, Bajel A, Doecke C, Fox P, Lingaratnam S, et al. Australian consensus guidelines for the safe handling of monoclonal antibodies for cancer treatment by healthcare personnel. Internal Medicine Journal, 2014 Oct 09; 44 (10):1018-26. Available from: <https://doi.org/10.1111/imj.12564>.

7. Document summary

Coverage	WACHS wide
Audience	Medical Officers, Nurses and Midwives, Pharmacists
Records Management	Clinical: Health Record Management Policy
Related Legislation	Medicines and Poisons Act 2014 (WA) Medicines and Poisons Regulations 2016 (WA)
Related Mandatory Policies / Frameworks	Clinical Governance, Safety and Quality Framework WA Clinical Alert (Med Alert) Policy - MP 0053/17 High Risk Medication Policy - MP 0131/20
Related WACHS Policy Documents	Aseptic Technique Policy High Risk Medications Procedure Medication Handling and Accountability Policy Medication Prescribing and Administration Policy Personal Protective Equipment (PPE) Procedure Safe Handling and Administration of Monoclonal Antibodies Guideline
Other Related Documents	Nil
Related Forms	MR173F WACHS Specialised Medication - Tocilizumab Pre-Infusion Checklist.
Related Training Packages	Nil
Aboriginal Health Impact Statement Declaration (ISD)	ISD Record ID: 1780
National Safety and Quality Health Service (NSQHS) Standards	1.7, 1.10, 3.9, 4.3, 4.4, 4.7, 4.8, 4.11, 4.15, 5.10, 5.11, 6.5, 8.4, 8.5, 8.6.
Aged Care Quality Agency Accreditation Standards	Nil
National Standards for Mental Health	Nil

8. Document Control

Version	Published date	Current from	Summary of changes
4.00	20 December 2022	20 December 2022	Desktop Review Precaution information to include live and live attenuated vaccines. Infusions to be stopped and prescriber contacted for any infusion related reactions.

9. Approval

Policy Owner	Executive Director Clinical Excellence
Co-approver	Executive Director Nursing and Midwifery Services
Contact	WACHS Chief Pharmacist
Business Unit	Pharmacy
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