Health and Social Care Board

Interface Pharmacist Network Specialist Medicines

Azathioprine

Post Solid Organ Transplant Shared Care Guideline

Specialist Details	Patient Identifier
Name: _____	
Location: _____	
Tel: _____	**Date:** _____

Introduction

Licensed indication: immunosuppression post organ transplant.
Azathioprine is no longer routinely used as first line post transplant. Previous transplant patients established will remain on azathioprine. Azathioprine is never prescribed concurrently with mycophenolate mofetil.

Adult Dosage and Administration

Post renal transplant: The dose used may approach 2mg/kg in those patients on azathioprine and prednisolone alone.
Post liver transplant: approximately 1mg/kg taken once daily, rounded to the nearest 25mg dose.

Available as: azathioprine 25mg, 50mg tablets

Hospital Specialist Responsibilities

- Agree shared care with the patient's GP
- Send a copy of this guideline to the GP.
- Provide patient/carer with relevant information on use, side effects and need for monitoring of medication
- Baseline tests and ongoing safety monitoring:

• FBC	• U&E	• Lipids	• Blood pressure
• LFT	• Urinalysis	• Blood glucose	•

- Drug monitoring and azathioprine dose adjustments.
- Review results of safety monitoring and request additional tests as necessary.
- Investigate, as appropriate, where symptoms suggest viral or fungal infections or possible tumours.
- Provide any other information or advice for the GP if required

GP Responsibilities

- Prescribe azathioprine.
- Monitor patient's overall health and wellbeing.
- The Liver Unit may request tests to be repeated at the GP practice but will provide specific advice on this and the process to follow.
- Identify and report any adverse drug reactions to the initiating specialist and usual bodies (e.g. MHRA/CHM)
- Ensure no drug interactions with other medicines.
- Administer inactivated influenza vaccine annually unless otherwise advised by the initiating specialist.
- Check patient has had ONE DOSE of pneumococcal vaccine (revaccination is not recommended except every five years in patients whose antibody levels are likely to have declined more rapidly e.g. asplenia) - see BNF or Green Book.
- Passive immunisation using Varicella immunoglobulin (VZIG) should be considered in non -immune patients if exposed to chickenpox or shingles. Contact Regional Virus Laboratory, Royal Group of Hospitals for advice if exposure is suspected.
- Ask about oral ulceration/sore throat, unexplained rash or unusual bruising at every consultation.
- Suspected non-compliance with immunosuppression is serious and can lead to loss of the graft - refer to the specialist urgently.

Adverse Effects, Precautions and Contraindications

- **General** signs of malaise, dizziness, diarrhoea, rash, myalgia and arthralgia can occur infrequently. If severe or persistent, refer to the initiating specialist.
- **Acute Kidney Injury (AKI):** Transplant patients are at increased risk of developing AKI. ACEI, ARBs, and NSAIDs should be withheld in situations of hypotension/hypovolaemia (GAIN,2014)
- **Infection**: immunosuppressants can increase susceptibility to infection.
- **Nausea** can occur initially, but can be reduced by taking the tablets after food or separate from prednisolone.
- **Blood disorders**: Leucopenia, anaemia and thrombocytopenia: are most likely to be discovered in the transplant clinic. GPs should be alert to any oral ulceration / sore throat, unexplained rash or abnormal bruising or bleeding.
- **Pancreatitis** has been reported in a small percentage of patients.
- **Cancer risk**. Patients receiving long-term immunosuppressive drugs are at increased risk of developing a malignancy. The most frequently occurring types are lymphoma and skin malignancy. The avoidance of excessive exposure to the sun, and the use of high factor sunscreen and protective clothing are advised. Adherence to population screening programmes is particularly important in this population.
- **Pregnancy / Contraception**. Patients discovered or planning to become pregnant should be referred to the specialist at the earliest opportunity. Initially post-transplant, barrier contraception is the preferred method of contraception, but at a later stage the combined oral contraceptive is a suitable option for transplant recipients. Intra-uterine devices are not suitable for this group of patients.
- **Breastfeeding**. Patients should not breastfeed while receiving azathioprine.
- **Acute interstitial nephritis** is a rarely described complication of azathioprine but indicates immediate withdrawal of the drug. Any rise in serum creatinine of >20% should be referred urgently to the specialist.
- **Vaccines**: Live vaccines should be avoided, except on the advice of initiating specialist

Common Drug Interactions

The interactions listed below relate to azathioprine. Consideration should be given to the other agents used as part of a regime.
The degree of renal / hepatic function should be taken into consideration when co-prescribing for transplant patients.
The following drugs should not be initiated by a GP unless discussed with the specialist:
Do not prescribe concomitant **allopurinol or febuxostat.**
Ribavarin: increases risk of myelosuppression
Rifampicin may reduce the efficacy of azathioprine and lead to transplant rejection.
Trimethoprim and co-trimoxazole: there is a risk of haematological abnormalities
Warfarin effect may be reduced requiring an increased dose.

Communication

Renal Units

• Altnagelvin Hospital: Renal Unit	028 7161 1162
• Antrim Hospital: Renal Unit	028 9442 4894 or 028 9442 4472
• Belfast City Hospital: Renal Unit	028 9504 0719
• Daisy Hill Hospital: Renal Unit	028 3083 5036
• Omagh hospital and primary care complex (OHPCC): Renal Unit	028 8283 3350
• Royal Belfast Hospital for Sick Children: Dialysis Unit	028 9063 6621
• Ulster Hospital: Renal Unit	028 9056 4839

Liver Unit

• Royal Victoria Hospital	028 9615 6222

This information is not inclusive of all prescribing information and potential adverse effects.
Please refer to full prescribing data in the SPC at www.medicines.org.uk or the BNF

Date Prepared: January 2022 Date of review: January 2027