ADULT SHARED CARE GUIDELINES

It is vital for safe and appropriate patient care that there is a clear understanding of where clinical and prescribing responsibility rests between Consultants and General Practitioners (GPs).
This guideline reinforces the basic premise that:
When clinical and / or prescribing responsibility for a patient is transferred from hospital to GP, the GP should have full confidence to prescribe the necessary medicines. Therefore, it is essential that a transfer of care involving medicines that a GP would not normally be familiar with, should not take place without the "sharing of information with the individual GP and their mutual agreement to the transfer of care."
These are not rigid guidelines. On occasions, Consultants and GPs may agree to work outside of this guidance. As always, the doctor who prescribes the medication has the clinical responsibility for the drug and the consequences of its use.

Drug Name:

CICLOSPORIN - Dermatology

Indications:
Ciclosporin is a potent immunosuppressant which is used within dermatology to treat psoriasis, atopic dermatitis, pyoderma gangrenosum and occasionally autoimmune disorders.
It is nephrotoxic and can cause hypertension.

Dosage and administration:
Dermatology: Initial starting dose is 2.5-3.0mg/kg/day, increasing according to clinical response and results of blood tests and blood pressure to a maximum of 5mg/kg/day.
For maintenance treatment the lowest effective and well tolerated dosage should be determined individually.
Serum ciclosporin concentrations are rarely necessary unless there is significant concomitant renal disease.

Additional Information

- Pneumococcal and annual influenza vaccine is recommended
- There are **numerous drug interactions** – see overleaf or check current BNF/SPC
- Grapefruit juice or eating grapefruit should be avoided as this may increase ciclosporin levels
- Different brands of ciclosporin are not bioequivalent therefore prescribing by brand is required. Clinically, no brand is superior to any other. Dermatology consultant will start patients on the **most cost effective brand**. Although brands can be switched, it is not advisable since it can cause a loss of therapeutic control.

Monitoring requirements:
Before treatment:

- FBC including platelets, serum creatinine (must be done twice before starting treatment on different days), U&Es, LFTs, fasting lipids
- Blood pressure on two occasions (on two different days)

During treatment:

- FBC, serum creatinine, urea and potassium, and blood pressure weekly for the first four weeks, then fortnightly for 2 months and monthly thereafter if stable
- Monthly LFTs
- Fasting lipids at 1 month and then yearly if remains on treatment (HDL, Cholesterol, HDL/Cholesterol ratio).

Action to be taken if abnormal results/adverse effects:

- WBC< 4 x 10^9/l Check neutrophil count
- Neutrophils < 2.0 x 10^9/l Monitor weekly. If it falls below 1.5 x 10^9/l STOP DRUG and contact supervising consultant
- Platelets < 150 x 10^9/l Monitor weekly. If drop below 100 x 10^9/l contact supervising consultant
- Elevated creatinine: Serum creatinine rise >30% over baseline (on 2 consecutive routine blood tests) will require a dose reduction. Please contact the supervising consultant
- Hypertension: If BP > 140/90 (persistent) then start on calcium channel blocker (e.g. amlodipine 5 to10mg daily). Do not use verapamil or diltiazem due to interaction.
  If BP is uncontrolled despite medical treatment, reduce ciclosporin by at least 25mg/day and contact the supervising consultant
- If bilirubin and liver enzymes increase 2 fold above upper limit of reference range, a dose reduction may be necessary
- Abnormal bruising or bleeding: Repeat FBC and act on results as above.
- Hyperkalaemia and hyperlipidaemia does not require consultant input

Please note that in addition to absolute values for haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.

Contraindications:

- Any significant drug interactions-see BNF/SPC
- Abnormal renal function, uncontrolled hypertension, uncontrolled infections or any malignancy other than that of the skin
- Live vaccines are contra-indicated due to impaired immune response.
- Hypersensitivity to ciclosporin or any of the excipients listed in the SPC.

Significant Drug interactions:

There are numerous drug interactions with ciclosporin, many of considerable clinical significance. For full details please refer to BNF/SPC before starting any new medications.

- Ciclosporin plasma levels are decreased by barbiturates, carbamazepine, oxcarbazepine, phenytoin, rifampicin, octreotide, orlistat, St John's Wort, ticlodipine, sulfinpyrazone, terbinafine and bosentan
- Ciclosporin plasma levels are increased by erythromycin, azithromycin, clarithromycin, amiodarone, diltiazem, verapamil, omeprazole, oral contraceptives, corticosteroids, progestogens, danazol, ketoconazole, itraconazole, fluconazole, voriconazole, nicardipine, metoclopramide, allopurinol, colchicine, methylprednisolone, protease inhibitors, imatinib, nefazadone, oral contraceptives.
- Ciclosporin may reduce the clearance of digoxin, colchicine, prednisolone, statins and etoposide
- There is an increased risk of hyperkalaemia with potassium-sparing diuretics, ACE inhibitors, angiotensin-II receptor blockers and spironolactone
- Ciclosporin increases the blood levels of aliskiren and lercanidipine

Cautions:

- Administration with other nephrotoxic drugs such as, ciprofloxacin and NSAIDs (including diclofenac, naproxen and sulindac). The dose of diclofenac should be reduced by 50% if given concomitantly.
- Mothers being treated with ciclosporin should not breast feed their infants. Ciclosporin should only be used in pregnancy after a careful assessment of risk versus benefit.
- Ciclosporin is extensively metabolised by the liver. An approximate 2- to 3-fold increase in ciclosporin exposure may be observed in patients with hepatic impairment. Dose reduction may be necessary in patients with severe liver impairment to maintain blood levels within the recommended target range and it is recommended that ciclosporin blood levels are monitored until stable levels are reached.
- Careful monitoring of renal function is recommended. With the exception of patients being treated for nephrotic syndrome, patients with impaired renal function should not receive ciclosporin.

Adverse Effects:

Increased susceptibility to infection, hypertension, hypercholesterolaemia, renal and hepatic toxity (should not be severe at maintenance doses), tremor, paraesthesia, hyperkalaemia, hyperglycaemia, hypomagnesaemia, hirsuitism, gingival hypertrophy, bone marrow suppression, GI disturbance, headache.

For full details see the current edition of the BNF and SPC for ciclosporin products.

Specialist responsibilities:

1. Communicate promptly with the GP when treatment is changed and each time the patient is seen. Clearly state if dose has remained the same or if a dose adjustment has been made.
2. Ensure baseline monitoring of full blood count and biochemical profile, also subsequent monitoring until dose is stabilised.
3. Provide patient/carer with all relevant information; monitoring, side-effects, signs of toxicity
4. Check interactions with patient's current medication
5. Review the patient after six to eight weeks and if the patient is tolerating and benefiting from ciclosporin at this first visit, a written request should be made to the GP to continue prescribing the medication and to continue the monitoring.
6. Prescribe the initial 2 months of ciclosporin during the trial period and discontinue if no response or significant adverse effect.
7. Regularly review the patient to monitor efficacy of the treatment and the ability to tolerate it, and consider whether continuation of treatment is appropriate.
8. Undertake any necessary monitoring at review appointments.
9. Ensure clear backup arrangements exist for GPs for advice and support
10. Report serious adverse events on a Yellowcard to the Medicines and Healthcare products Regulatory Agency at https://yellowcard.mhra.gov.uk/the-yellow-card-scheme/

GP's responsibilities:

1. Initial referral to the appropriate consultant.
2. Provide the patient with monthly repeat prescriptions of medication (same brand that patient was commenced on) once the specialist has recommended continuation therapy following the trial period. The patient should allow at least 48 hours for the prescription from the GP to be generated once they have agreed to take on prescribing.
3. Continue with the monitoring as outlined on the first page or as recommended by the Specialist and document the results in the patient's record.
4. Report any adverse effects of medication to the consultant and complete a Yellow Card via https://yellowcard.mhra.gov.uk/the-yellow-card-scheme/
5. Refer back or contact consultant secretary (if urgent) if the patient's condition deteriorates or if there is a change in the patient's status
6. Contact the consultant if they do not agree with the treatment recommendation, or if there is a perceived problem with compliance or concordance, or if they have any questions about the management plan.
7. Check drug interactions if any new medications are started

Patient's responsibilities:

Report any adverse effects, concerns or lack of understanding of the treatment to the GP or specialist.
Attend for blood tests and take the monitoring booklet to all appointments.
Maintain safe alcohol limits

Secondary care review: Patients will be reviewed after 6-8 weeks after starting ciclosporin and thereafter at a frequency determined by the clinical need by the consultant clinic, or if requested to review by the GP.

Availability – *Primary Care – please sees Scriptswitch messages for information.*

Capimune: Capsules: 30 x 25mg, 30 x 50mg, 30 x 100mg.
Neoral: Capsules: 60 x 10mg, 30 x 25mg, 30 x 50mg, 30 x 100mg, Oral solution: 100mg/ml x 50ml
Vanquoral: 30 x 10mg, 30 x 25mg, 30 x 50mg, 30 x 100mg
Deximune: 30 x 25mg, 30 x 50mg, 30 x 100mg
Capsorin: 30 x 25mg, 30 X 50mg, 30 x 100mg

Back up advice and support:	**Telephone**
Dermatology Specialist Nurse	0151 482 7780

Written By:	Julie Orton, Wirral Medicines Management Team Abigail Cowan, Wirral Medicines Management Team, MLCSU	Gareth Malson, Lead Dermatology Pharmacist, Wirral University Teaching Hospital (WUTH) Dr Farrar, Consultant Dermatologist, WUTH Dr Hashim, Consultant Dermatologist, WUTH Dr B Tan, Consultant Dermatologist, WUTH