SHARED CARE GUIDELINE

Homerton University Hospital NHS Foundation Trust

NHS City and Hackney Teaching Primary Care Trust

PENICILLAMINE
In Rheumatological Conditions

INTRODUCTION

Penicillamine is licensed for use in severe active rheumatoid arthritis, including juvenile forms and in some other inflammatory arthropathies. Penicillamine should be discontinued if there is no improvement within 1 year. Patients should be warned not to expect improvement for at least 6 to 12 weeks after treatment is initiated.

DOSE AND ADMINISTRATION

Initially **125mg** daily for 1 month increased by the same amount every 4 weeks to a maintenance of **500mg.** if no response after a further 3 months increase by 125mg every 4 weeks to a maintenance of **750mg** daily. If no response after 3 months a further increase of 125mg every 4 weeks to **1g** daily may be considered. If no response after 3 months on this dose **STOP** treatment.

Penicillamine is available as 125mg and 250mg tablets.

Penicillamine tablets should be taken on an empty stomach at least half an hour before meals, or on retiring. Indigestion remedies or medicines containing iron or zinc should not be taken at the same time of day as penicillamine.

CAUTIONS

- Drugs that decrease absorption of penicillamine (such as oral **iron, zinc** and **antacids**) should be avoided within 2 hours of a dose. (See BNF, appendix 1, for further drug interactions).
- Mild renal impairment.
- Careful assessment of risk versus benefit should be carried out before use during pregnancy.
- In general patients should try to avoid 'live' vaccines such as oral polio, MMR, BCG and yellow fever (passive immunization should be carried out using Varicella zoster immunoglobulin (VIZIG) in non-immune patients exposed to active chickenpox or shingles).

CONTRA-INDICATIONS

- Hypersensitivity to penicillamine or any of the ingredients.
- Agranulocytosis or severe thrombocytopenia due to penicillamine.
- Lupus erythematosus.
- Moderate or severe renal impairment.

SIDE- EFFECTS

- Gastrointestinal disturbances (nausea, anorexia, diarrhoea, reversible loss of taste).
- Blood disorders (agranulocytosis, neutropenia, thrombocytopenia, aplastic anaemia, stomatitis, sore throat).
- Kidney reactions (proteinuria, haematuria).

See BNF and Summary of Product Characteristics for comprehensive list.

MONITORING STANDARDS FOR PENICILLAMINE IN RHEUMATOLOGY

The following standards have been agreed for the monitoring of penicillamine in rheumatology patients.

Pre-treatment FBC, urinalysis (for protein and blood), U&Es, serum creatinine

Monitoring FBC, urinalysis, U&Es, serum creatinine every 2 weeks for first 6 weeks, then every 4-6 weeks thereafter

EVENTS AND ACTION

Laboratory Events	Values	Action
• MCV	> 110 x 10^9 fl	**Stop** or reduce dose. No action if RBC folate, serum B12, TFT and GGT are normal. Consider haematological opinion.
• WBC	< 3.0 x 10^9 /L	**Stop**, repeat FBC in 1 or 2 weeks. If signs of infection, will require broad spectrum antibiotics. Consider haematological opinion.
• Neutrophils	< 1.5 x 10^9/L	
• Platelets	< 100 - 150 x 10^9/L	**Stop**, repeat FBC in 1 or 2 weeks.
• Sequential falls in WBC or neutrophils	> 10% on 3 occasions	**Stop +** seek advice.
• Sequential falls in Platelets	> 10% on 3 occasions	**Stop** – unless falls are from high level e.g. 600, 500, 400 x 10^9/L, which are a response to treatment.
• Haematuria and or Proteinuria	Trace or +	**Continue drug.**
• Haematuria	++ or+++	**Stop**, check MSU, consider other causes, and seek advice.
• Proteinuria	++ or+++	**Stop**, check MSU, 24 hour urinary protein, and seek advice.

Symptoms	Management
• Nausea	Reduce dose. Take with food; **Stop** if unacceptable.
• Oral ulceration, Stomatitis	**Stop if severe** and discuss with rheumatologist. Consider carbenoxolone or benzydamine mouthwashes. Check WBC.
• Loss of taste	Common in early weeks of treatment. Usually reappears with time and when drug stopped. Metallic taste common in early weeks. Settles with time. **Stop** if unacceptable.
• Dyspnoea / Bronchiolitis	**Stop** + consider lung function tests, TFT and FBC.
• Rash	A late rash, described as acquired epidermolysis bullosa and penicillamine dermopathy, may occur after several months or years of therapy. This may necessitate a reduction in dosage. Antihistamines, steroid cover, or temporary reduction of dose will control urticarial reactions.
• Lupus and/ or Myaesthenic syndrome	**Stop drug** + seek advice.
• Abnormal bruising or bleeding	**Stop,** repeat FBC in 1 or 2 weeks.

REMEMBER if unsure at any point: Contact the Rheumatologist on 020 8510 7612 or Specialist Nurse on 020 8510 7200 or Rheumatology Specialist Registrar on bleep 120, through the Homerton Hospital switchboard.