SHARED CARE AGREEMENT

Name of medicine Penicillamine

Indication For the treatment of inflammatory rheumatic diseases

Version: 2.2 **Approval date: September 2024** **Review date: September 2027**

The Shared Care Agreement (SCA) is intended to facilitate the accessibility and safe prescribing of complex treatments across the secondary/primary care interface. It does not contain all of the relevant product information, which should be sought using the current British National Formulary and manufacturer's Summary of Product Characteristics. The SCA must be used in conjunction with the NHS Lothian Procedure for the Shared Care of Medicines, available here.

Roles and responsibilities

Listed below are specific responsibilities that are additional to those included in the NHS Lothian Policy and Procedures for Shared Care. Please refer to the policy for core roles and responsibilities that apply to all Shared Care Agreements.

Consultant

- Assessing the need for penicillamine therapy.
- Undertaking and assessing the relevant baseline investigations.
- Arranging for the patient to receive verbal and written information on penicillamine.
- Treatment will be initiated by the consultant and the supply made by secondary care for the first 8 weeks. During this time rheumatology will provide comprehensive patient support including monitoring for adverse effects, addressing any treatment-related issues and responding to patient queries via the patient helpline.
- Advising the GP of any requirement for co-prescribing pyridoxine.
- Making arrangements for the results of blood tests to be reviewed during the first 6 weeks of treatment.
- Making arrangements for the patient to be reviewed 3-4 months after initiation of treatment to assess response.
- Providing advice to the GP regarding monitoring, adverse effects and dose modifications when required.
- Specialist service to refer patients for vaccinations which are out with routine vaccination schedules or recall programmes via the clinician referral form (NHS Lothian HSCP Vaccination Service (scot.nhs.uk). Please note that Patient Specific Directions (PSD) are required for bespoke vaccination schedules where there is no PGD in place. The referral forms should be sent to the partnership that is responsible for administering vaccinations to their residents.
- Making arrangements for the patient to be kept under long term review.

General Practitioner and primary care non-medical prescribers

- Prescribing penicillamine in consultation with the specialist after the first 8 weeks.
- Arranging for blood tests to be taken during the initiation period and at appropriate intervals thereafter as detailed in `Monitoring` on page 2.
- Monitoring for specific side effects as detailed in "Monitoring" on page 2 after the first 8 weeks of treatment.

Patient, Relatives, Carers

- As listed in the NHS Lothian Policy and Procedures for the Shared Care of Medicines.
- Ensuring adherence to phlebotomy requirements throughout treatment.
- Patients can access advice via the rheumatology patient helpline by calling 0131 537 1405.

Support and Advice for the GP

SPR or Rheumatology Consultant on call 13.00-17.00 on weekdays and 09.00-12.00 on Saturdays and public holidays via the switchboard (0131 537 1000). Urgent queries outwith these times will be dealt with by the on-call medical team.

GPs can access advice from the rheumatology specialist service using the rheumatology on call e-mail which aims to give advice with a 24 hour response time: loth.rheumatologyoncall@nhs.scot. Advice will be communicated back to the GP by e-mail. The GP should copy in the practice's clinical e-mail address and ask that the reply is sent to all, so that the reply is picked up even if the sender is not available.

Key Information on the Medicine

Please refer to the current edition of the British National Formulary (BNF), available at www.bnf.org, and Summary of Product Characteristics (SPC), available at www.medicines.org.uk for detailed product and prescribing information and specific guidance.

Helpful information on DMARDs can be found in the 2017 British Society for Rheumatology *Guideline for the prescription and monitoring of non-biologic Disease-Modifying Anti-Rheumatic Drugs*.
Link: https://www.rheumatology.org.uk/practice-quality/guidelines/

Background to disease and use of drug for the given indication

Penicillamine is now rarely used in the management of inflammatory rheumatic diseases. Typically it is used as monotherapy when other treatments have failed or caused adverse effects.

Dosage and Administration

First month: 250mg daily then increased by 125-250mg at intervals not less than 4 weekly to maintenance 500–750mg daily (divided doses). Maximum dose is 1-1.5g/day (rarely used).
If remission sustained for 6 months, reduction of daily dose by 125-250mg every 12 weeks may be attempted.

In the elderly (>65 years), the initial dose should not exceed 125mg daily for the first month, increasing by similar increments every four to 12 weeks until the minimum maintenance dose to suppress symptoms is reached. Daily dosage should not exceed 1000mg.

The consultant will advise on dose titration and maintenance dose.

Pyridoxine daily may be given to patients on long term therapy on the advice of the consultant, especially if they are on a restricted diet, since penicillamine increases the requirement for this vitamin.

Monitoring

On initiation of treatment, patients are provided with pre-labelled forms for blood tests. Bloods are taken in primary care and reported to rheumatology during the first 6 weeks of treatment.

Test	Frequency	Abnormal Result	Action if Abnormal Result
FBC	Every 2 weeks for the first 6 weeks, then monthly. Revert to initial schedule in the event of a dose increase.	Platelets 100-140 WCC 2.0-3.5 Neutrophils 1.0-1.6	Withhold therapy for 2 weeks and recheck. Contact rheumatology regarding advice for penicillamine dose reduction once bloods resolved.
		Platelets < 100 WCC < 2.0 Neutrophils < 1.0 Lymphocytes < 0.5 MCV > 105	Withhold treatment and contact rheumatology. MCV – check B12, folate, TFTs and consider discussion with rheumatology.
Urinalysis	Every 2 weeks for the first 6 weeks then 3 monthly. Revert to initial schedule in the event of a dose increase.	Proteinuria	Check MSSU: if infection present, treat accordingly. If sterile and proteinuria (2+) persists, advise patient to withhold treatment and contact rheumatology for further advice.

- Abnormal trends should prompt extra vigilance and may be a sign of toxicity even if absolute levels are normal.

Contraindications - Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

- Moderate – severe renal impairment
- Systemic Lupus Erythematosus (SLE)

Cautions - Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

Adverse effects - Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

- Temporarily withdraw if the patient reports **sore throat, unexplained bleeding or bruising, mouth ulcers** or other signs of blood dyscrasia or evidence of infection. Perform repeat blood monitoring.
- Temporarily discontinue during a serious infection.
- In the event of an unexplained **acute widespread rash**, withhold penicillamine and seek urgent specialist (preferably dermatological) advice. Inform rheumatologist.

Drug interactions - Refer to current Summary of Product Characteristics (SPC): www.medicines.org.uk

- Increased risk of agranulocytosis with certain antipsychotics, including clozapine. Avoid concomitant use.
- Concomitant use of NSAIDs and other nephrotoxic drugs may increase the risk of renal damage.
- Antacids, iron or zinc supplements: absorption is reduced if taken within 2 hours

Pregnancy, Breastfeeding & Fertility

- There is limited data available regarding the effects of penicillamine on human fertility.
- Patients who are planning a pregnancy should be referred to the rheumatology specialist
- The safety of penicillamine for use during pregnancy has not been established. Penicillamine is not recommended during pregnancy unless considered to be absolutely essential by the rheumatology specialist. Consult rheumatology for advice.
- Due to the lack of data on the use in breast-feeding patients, penicillamine treatment must be discussed with the rheumatology specialist. Consult rheumatology for advice.

Vaccinations

- Individuals who on immunosuppressant therapy should be given inactivated vaccines in accordance with national recommendations.
- It is recommended that patients with autoimmune inflammatory diseases on immunosuppressant therapy should be offered pneumococcal, COVID19 and influenza vaccination.
- Patients who are severely immunosuppressed and >50 years of age should be offered the varicella-zoster vaccine, Shingrix, to help protect them against shingles. Penicillamine alone is unlikely to cause severe immunosuppression so the full clinical picture and other DMARD therapy should be taken into account when considering suitability for vaccines. When considering suitability for live vaccines concurrent DMARD therapy should also be taken into account.
- For further information see: https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book

The presence of this SCA does not compel a primary care prescriber to prescribe if they feel that it is out with the scope of their competencies (as per GMC guidance on safe prescribing) or resources, as ultimate responsibility lies with the prescribing, not the recommending, clinician.

For office use only:

Approved by the General Practice Prescribing Committee (GPPC) on 10th September 2024