Title	Erythropoiesis Stimulating Agents (ESAs) Management of symptomatic anaemia in chronic renal failure
Document Type	Shared Care Guidelines and Information to GPs
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Approved by	NHS Lothian SCA Review Group; General Practice Prescribing Committee
Owner/Person Responsible	Liz Leitch; Formulary Pharmacist
Developed by	NHS Lothian; SCA Review Group
Reviewed by	Liz Leitch, Formulary Pharmacist; Dyan McDonagh, Senior Charge Nurse', Borders Dialysis Unit, BGH
Healthcare Inequality Impact Assessed (statutory for policies)	N/A

SHARED CARE AGREEMENT

Name of medicine **Erythropoiesis Stimulating Agents (ESAs)**

Indication **Management of symptomatic anaemia in chronic renal failure**

Approval date: **March 2019; reviewed October 2021** Review date: **October 2023**

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.

Roles and responsibilities

Listed below are specific responsibilities that are additional to those included in the agreed standard procedures for Shared Care.

Consultant / Anaemia Co-ordinator

- Ensuring patient is medically stable and iron replete with well controlled blood pressure and no contraindications to treatment
- Giving appropriate iron therapy if not replete prior to commencing treatment with ESA
- Initiating ESA therapy during appointment with the Anaemia Co-ordinator
- Supplying the first 4 weeks of ESA. Note that ESAs can only be used for 4 weeks after being removed from monitored cold storage
- During first 12 weeks - monitoring of blood tests taken in primary care (see 'Monitoring' on following page)
- After first 12 weeks - adjust dose as necessary and carry out monitoring as indicated in 'Monitoring' on the following page, advising the GP of any dose changes based on the results of monitoring.

General Practitioner

- Prescribing ESA after the initial 4 week period
- Contacting the Anaemia Co-ordinator or the patient's named consultant if concerned about side effects
- Monitoring blood pressure (BP) prior to the administration of each dose where doses are given in the GP practice or in the community by District Nurse
- Adjusting antihypertensives to control BP if required, in conjunction with the patient's renal consultant
- During the first 12 weeks of treatment - arrange for FBC to be taken every 2 weeks. These results will be remotely monitored by the Anaemia Co-ordinator, who will take any necessary action as appropriate.
- After the first 12 weeks of treatment - monitor BP and FBC monthly. If results are abnormal, contact Anaemia Co-ordinator or patient's renal consultant as indicated in 'Monitoring' on following page
- Iron studies, Vitamin B_{12} and folate levels will usually be taken at renal clinic visits and should only be taken in primary care if requested by the renal team. These test results and trends will be reviewed by the Anaemia Co-ordinator and the patient's renal consultant
- A treatment plan and record card which summarise monitoring requirements will be issued at the time of ESA therapy initiation. These documents can be used by the GP, practice nurse, district nurse or patient to record test results.

Patient, relatives, carers

- As agree standards for the Shared Care of Medicines

Support and Advice for the GP / District Nurse / Practice Nurse

Anaemia Co-ordinator: Dyan McDonagh / Claire Hope

e-mail: anaemiamanagement.clinic@borders.scot.nhs.uk (preferred contact)

tel: 01896 826637

Renal Registrar: can be contacted out of hours on 07816 174 294

Renal Pharmacists: available 8.30am - 5.00pm, Monday to Friday

contact via RIE switchboard on 0131 536 1000, bleep 8006 / 5745 / 5125

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.

Background to disease and use of drug for the given indication

Erythropoietin is a hormone that is produced by the kidney. In chronic renal failure there may be lower levels of erythropoietin which can lead to anaemia. ESAs stimulate erythropoesis by increasing proliferation and maturation of erythroid progenitors. Correction of anaemia in chronic renal failure with ESAs reduces the risk of cardiovascular disease, improves patient well-being, exercise tolerance, quality of life and reduces the need for blood transfusions.

Indication

NeoRecormon® and Mircera® are licensed and Formulary approved for symptomatic anaemia associated with chronic renal failure.)

Dosage and administration

Mircera® (Roche), Epoetin beta (Methoxy polyethylene glycol-epoetin beta) available as 30, 50, 75, 100, 120, 150, 200, 250, 360 microgram prefilled syringes.

Mircera® is prescribed in peritoneal, pre dialysis and some transplant patients at a dose of 0.6 micrograms/kg subcutaneously. This should be given once every two weeks until the 12-week establishment period has been completed and Hb > 105g/L is achieved; then monthly at double the previous fortnightly dose.

NeoRecormon® (Roche) available as 500, 1000, 2000, 3000, 4000, 5000, 6000, 10,000, 20,000 and 30,000unit prefilled syringes.

NeoRecormon® is prescribed for home haemodialysis patients at a dose of 50units/kg intravenously three times a week.

Monitoring

The aim of ESA therapy is to increase Hb by 10 to 20g/L per month to a target range of 105 to 125g/L. This usually takes approximately 12 weeks

First 12 weeks of treatment

Blood pressure to be taken every 2 weeks prior to the administration of each dose of ESA

In the first 12 weeks, blood tests are to be taken in primary care for review by the Anaemia Co-ordinator

During the first 12 weeks of treatment, arrange for **FBC to be taken every 2 weeks**.
The results will be remotely monitored by the Anaemia Co-ordinator who will take any necessary action as appropriate.

- If using electronic ordering, the Anaemia Co-ordinator will look up these results directly via TRAK
- If using paper based method for ordering, please enter “Anaemia Coordinator BGH Dialysis Unit” in the “Report to Section” of the blood form; this will be sent directly to the Anaemia Services.

Note: There is no need for the GP to check the FBC result in the first 12 weeks.

After first 12 weeks of treatment

Monitoring to be done in primary care

After the first 12 weeks of treatment, monitor BP and FBC as detailed below. If results are abnormal, contact Anaemia Co-ordinator or patient's renal consultant.

Test	Frequency	Abnormal Result	Action if Abnormal Result
BP	Prior to each ESA dose	**170/95 or above** Note – a continual rise in BP may require alteration of antihypertensive therapy	Withhold dose if BP greater than 170/95mmHg and contact patient's renal consultant
FBC	Every month	Hb < 105g/L or > 125g/L	Contact Anaemia Co-ordinator

Monitoring to be carried out during clinic visits

Iron studies, Vitamin B_{12} and folate levels will usually be taken at renal clinic visits and should only be taken in primary care if requested by the renal team. Results and trends will be reviewed by the Anaemia Co-ordinator and the patient's renal consultant.

Test	Frequency	Abnormal Result
Ferritin	Every 3 months	Ferritin < 150µg/L
Transferrin saturation (TSAT)	Every 3 months	TSAT <20%
Vitamin B12	Every 12 months	Vitamin B12 < 187ng/L
Folate	Every 12 months	Folate < 3µg/L

In addition, FBC, U&Es, iron studies, haematinics and BP will be measured at renal clinic visits and trends in these parameters monitored.

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

Contraindications - 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

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