Western Locality Shared care information for Erythropoietin and Darbepoetin

April 2013

Erythropoietin (Epoetin Beta - Neorecormon®) & Darbepoetin (Aranesp®) for the management of anaemia in chronic renal failure in adults.

It is expected that the vast majority of erythropoietin will be prescribed by secondary care, who are also responsible for the monitoring of these patients (see notes below), and supplied via the homecare services.

Specialist: Please complete the Shared Care letter sending a request to GP (see bottom of the page)

GP: Please indicate whether you wish to share patient's care by completing letter and return to specialist

Aim of treatment

Erythropoietin (EPO) stimulates erythropoiesis by increasing proliferation and maturation of erythroid progenitors. Correction of anaemia in chronic renal failure with EPO reduces the risk of cardiovascular disease, improves patient well-being, exercise tolerance and quality of life, and reduces the need for blood transfusions.

Darbepoetin is a hyperglycosylated analogue of EPO, allowing the molecule to be more stable in vivo. Its mechanism of action, by stimulating the EPO receptor, is the same as that of endogenous and recombinant EPO.

The majority of patients will receive supplies of darbepoetin via the local homecare delivery service (arranged and co-ordinated by PHNT). Administration in such patients may be by self-injection, injection by a carer or by the practice or district nurse.

Specialist responsibilities

1. Assess the patient and discuss with them the benefits, side-effects, frequency of dosing and monitoring requirements of treatment.
2. Communicate with the patient's GP, in writing, and confirm that the GP agrees to share care.
3. Undertake baseline investigations, initiate therapy and supplemental iron, folic acid and B12 as necessary by haematinic results.
4. Ensure training in the administration of the drug is provided to the patient or carer.
5. Prescribe the drug until the condition/dose is stabilised (minimum of three months) or supply in accordance with the local PHNT purchasing policy.
6. Specify target doses, monitoring and review dates at clinically relevant time intervals for both the GP and specialist team and any other patient specific information.
7. Ensure that full information, including results from baseline investigations, is sent to the GP without undue delay and recommend that the GP and practice staff continue treatment in accordance with this guideline.
8. Review the patient monthly (correction phase) to every 3 months (maintenance).
9. Provide advice as requested by the GP.
10. Assess patients referred back by GPs as soon as is practical.

General practitioner responsibilities

If GP has agreed to share care:

1. Monitor for adverse effects and drug interactions and report adverse events to the specialist team
2. Conduct monitoring, review results and undertake any necessary action.
3. Report to and seek advice from the specialist team on any aspect of patient care which is of concern to the GP and may affect treatment.
4. This vast majority of erythropoietin will be prescribed by secondary care and supplied via the homecare services. Occasionally primary care doctors may wish to prescribe further supplies if necessary, in discussion with secondary care.
5. Support administration if necessary

Patient Monitoring

Secondary care – will be responsible for Hb and haematinic interpretation to assist dose selection.

Primary care – will be involved in BP monitoring and blood sampling (as requested and see below), referring back to the renal team as appropriate.

- Hb every 4 weeks and BP a minimum of every 4 weeks until levels stabilised during correction and after any dose adjustment. Hb and BP every 6-8 weeks during maintenance phase when Hb has reached target range.
- Hb every 8 weeks during maintenance phase when Hb has reached target range. Ret-he (Reticulocyte haemoglobin equivalent: an indicator of reduced iron availability in chronic kidney diseases during erythropoietin therapy) to be checked as part of the Hb test; this needs to be identified on the blood request form.
- Ferritin: level taken prior to treatment and after any supplemental IV iron treatment. Otherwise 3 monthly during maintenance phase.
- Folic acid and vitamin B12 every 6 months in the renal clinic

Patient monitoring for those self-administering

- Patient agrees pre-treatment to purchase a BP monitor; advice given on purchase by renal unit
- Primary Care is informed patient is self-administering
- Patient takes BP pre injection. Patients are advised from renal unit, not to administer injection if their diastolic is >100 and to contact renal unit
- If patient sees a trend in diastolic rising after 3-4 readings they are advised to contact the renal unit
- Patient contacts GP practice to arrange blood testing; this can be in practice, or at home for housebound patients
- Renal unit run a monthly report to identify any patients who have not had their bloods checked for 8 weeks; they write to the patient advising them to contact their GP, and stop supplies if the patient does not have bloods taken after 3 requests

Results/symptoms and actions to be taken:		
Test	**Target**	**Action**
Hb	10.5-12.5g/dl	Check haematinics and correct if deficient levels. If normal haematinics, liaise with secondary care and increase epoetin beta or darbepoetin.
Ferritin	200-500µg/L	Oral iron in general will be sufficient to attain and maintain within targets in those not yet requiring dialysis and those on peritoneal dialysis. Those not responding on oral iron will require intravenous iron which will be organised through secondary care.
Folic acid	3.8–16µg/L	Start oral supplement to maintain within targets
B12	175–900ng/L	Start IM injection to maintain targets

Back-up advice and support

Renal

- Dr P Rowe 01752 792463
- Dr R McGonigle 01752 792462
- Dr W Tse 01752 517580
- Dr I Saif 01752 792467
- Dr H Cramp 01752 245119
- Hilary Lawson Pre-dialysis Lead nurse: 01752 792457

Derriford Medicines Information: 01752 439976

Medicines Optimisation Teams

- NEW Devon CCG, Western Locality 01752 398800
- Kernow CCG 01726 627953

Supporting Information

Preparations

Epoetin Beta - Neorecormon®

Cartridges should be stored at 2-8°C.

The unreconstituted cartridge can be stored at room temperature (not above 25°C) for one single period to a maximum of 5 days e.g. for the purpose of ambulatory use (medical information Roche).

Reconstituted cartridges must be stored at 2-8°C and only removed from refrigeration specifically for administration (medical information Roche).

- Cartridges for Reco-pen® (powder and solvent) 10,000 units, 20,000 units, 60,000 units

Pre-filled syringes should be stored at 2-8°C. For the purpose of ambulatory use the patient may store it at room temperature (not above 25°C) for one single period of up to 3 days.

- Pre-filled syringes (solution) 500, 1,000, 2,000, 3,000, 4,000, 5,000, 6,000, 10,000, 20,000, 30,000 units

Darbepoetin - Aranesp®

Store at 2-8°C. For the purpose of ambulatory use, darbepoetin may be removed from storage once for a maximum single period of seven days at room temperature (up to 25°C). Once a syringe or pen has been removed from the refrigerator and has reached room temperature (up to 25°C) it must either be used within 7 days or disposed of.

- Pre-filled syringes containing 10, 15, 20, 30, 40, 50, 60, 80, 100, 150, 300, and 500 micrograms
- Pre-filled pens containing 10, 15, 20, 30, 40, 50, 60, 80, 100, 150, 300, and 500 micrograms (SureClick®)

Dose

Epoetin Beta - Neorecormon®

Epoetin beta is administered by subcutaneous injection between one and three times per week.

Correction phase (specialist team only)

- Initial dose: 60 units/kg every week until in the target Hb range of 10.5-12.5g/dl.
- The initial aim is to raise the Hb by 1-2g/dl/month.The maximum dose should not exceed 720 units/kg per week. (Target Hb as per NICE clinical guideline 39)

Maintenance phase

Usually commenced at half the dose used to achieve the target Hb level and titrated to a standard dose thereafter. Patients who are stable on a once weekly dosing regimen may be switched to once every two weeks administration.

Darbepoetin - Aranesp®

Correction phase (specialist team only)

- Initial dose: 0.45 micrograms/kg once per week. In patients not on dialysis, an initial dose of 0.75 micrograms/kg may be administered subcutaneously as a single injection once every two weeks. The initial aim is to raise the Hb by 1-2g/dl/month. Dose increases must not be made more frequently than every 4 weeks. Target Hb range is 10.5-12.5g/dl (NICE clinical guideline 39)

Maintenance phase

In the maintenance phase darbepoetin may continue to be administered once every week or every two weeks. In patients not on dialysis the maintenance dose may be given once monthly using an initial dose equal to twice the previous once every two week dose.

Supplementary Intravenous Iron Therapy

People receiving EPO maintenance therapy should be given iron supplements to keep their:

- serum ferritin levels between 200 and 500 µg/l in both haemodialysis and non-haemodialysis patients, and either:
    - transferrin saturation level above 20% (unless ferritin is >800 µg/l) **or**
    - percentage hypochromic red cells (%HRC) less than 6% (unless ferritin is >800 µg/l).

In practice it is likely this will require intravenous iron. (NICE clinical guideline 39)

Contraindications

- Patients who develop anti-erythropoietin antibodies and pure red cell aplasia (PRCA) following treatment with erythropoietin should not receive any further epoetin or darbepoetin
- Hypersensitivity to darbepoetin, epoetin or any excipients. NB. Contains phenylalanine, thus not suitable for patients with phenylketonuria
- Poorly controlled hypertension may require suspension of epoetin beta or darbepoetin treatment until blood pressure is managed. In general, systolic BP >180mmHg and/or diastolic BP >100mmHg require discussion with secondary care before epoetin beta or darbepoetin administration and for adjustment of hypertensive treatment.
- Cardiovascular disease including recent MI, CVA, unstable angina or history of thromboembolic disease. Discuss with specialist team.
- Breastfeeding (darbepoetin only)

Cautions

- Epilepsy
- Chronic liver disease
- Sickle cell anaemia
- Thrombocytosis
- Malignancy
- Pregnancy
- Breastfeeding (epoetin beta only)

Side effects

(Refer to SPCs for further information)

- **Common:** Hypertension, increased risk of thrombosis, injection site pain, headache (stabbing migraine-like pain can be warning of hypertensive crisis)
- **Rare/very rare:** hyperkalaemia, seizures, thrombocytosis, influenza-like symptoms, pure red cell aplasia (PRCA), rash, pruritis, urticaria, anaphylaxis

Interactions

(Refer to the BNF for further information)

Data available so far do not indicate any significant interaction of epoetin beta or darbepoetin with other medicinal products

- ACE inhibitors/ Angiotensin receptor antagonists – some evidence to suggest that hyperkalaemia and antagonism of antihypertensive effect may occur.
- Ciclosporin & Tacrolimus – Potential for interaction since the immunosuppressants are bound to red blood cells. Monitor immunosuppressant level and adjust dose as Hb rises.

Shared Care Agreement Letter – Consultant Request

To: Dr.....

Practice Address.....

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Patient Name:	
NHS Number:	
Date of birth:	
Address:	

Diagnosed condition: .....

I recommend treatment with the following drug: .....

At the following dosage: .....

I request your agreement to sharing the care of this patient according to the Western Locality Shared Care Information guidelines for this drug. The patient has been initiated on treatment and stabilised in accordance with the appropriate Shared Care Information.

Principles of shared care:

GPs are invited to participate, but **if the GP is not confident to undertake these roles then they are under no obligation to do so.** If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Sharing of care assumes communication between the specialist, GP and patient. The intention to share care should be explained to the patient and accepted by them.

Remember: the doctor who prescribes the medication has the clinical and legal responsibility for the drug and the consequences of its use.

Signed:		Date:	
Consultant name:			
Telephone number:		Fax number	
Email address			

Please sign below and return promptly. Remember to keep a copy of this letter for the patient's records. If this letter is not returned shared care for this patient will not commence.

GP Response

I agree / do not agree* to share the care of this patient in accordance with the Shared Care Guideline.

Signed: ..... Date: .....

GP name: ..... *Delete as appropriate.