NORFOLK AND WAVENEY STP THERAPEUTICS ADVISORY GROUP (TAG)

SHARED CARE AGREEMENT

Shared care guidelines for use of darbepoetin alfa for the treatment of anaemia in chronic kidney disease AND unable to attend specialist centre

Monitoring level - AMBER 2 - Prescribe the drug and perform a more intense level of monitoring, e.g. quarterly

Generic and Proprietary/Brand Name	
Darbepoetin alfa / Aranesp®	
Indications for shared care	
• Monthly monitoring of blood pressure. • Monthly check of haemoglobin levels, 3-monthly check of ferritin, transferrin saturation (Tsat) and reticulocyte haemoglobin equivalent (RET-He) for patients on darbepoetin alfa therapy initiated by the hospital specialist anaemia team • Administration of darbepoetin alfa by the GP practice nurse or community nurse for patients who are unable to self-inject darbepoetin alfa and who have no relatives/carers who are able to inject darbepoetin alfa	
Specialist Prescribing and Monitoring Responsibilities – summary. Full details in main body of document	**GP / Community Team - Primary Care Prescribing and Monitoring Responsibilities – summary. Full details in main body of document**
• **Prescribe** darbepoetin • **Ongoing supply** via homecare service • **Initial monitoring and baseline assessment** specialist anaemia team • **Contact GP after initiation** when a shared care arrangement for monitoring is clinically appropriate • **Notify the patient's GP** of dose, monitoring and review arrangements. • **Provide patient with information** about darbepoetin alfa therapy and required monitoring. Make clear that Clinician will be monitoring BP only for those who cannot monitor themselves or do not have machine • **Supply blood request forms** to patient for monthly Hb check and 3-monthly ferritin, RET-He and T-sat check • **Review results every month** and alter darbepoetin dosage accordingly • **Contact patient every 1-2 months** via telephone clinic • **Review patient** though routine clinic follow up (at least every 6-12 months) • **Supervise the management of anaemia** including folate and vitamin B12 deficiency	• **No Prescribing required.** • **Blood Pressure Monitoring** ○ **Monitor** at least once a month. • **Phlebotomy –** (ICE forms supplied by Specialist team) ○ **Haemoglobin (Hb):** check monthly ○ **Ferritin + Tsat + RET-He:** check every 3 months **Notify the hospital specialist anaemia team:** ○ If the patient experiences any adverse drug reactions ○ Results of BP monitoring If systolic blood pressure is over 170 mmHg or diastolic blood pressure is over 100 mmHg ○ Any other information relevant to the patients care Seek advice from hospital specialist anaemia team in case of significant rise in BP or serious adverse reactions
Patient Information	
Information for patients prescribed Aranesp (darbepoetin alfa) for anaemia – **AMGEN patient information leaflet**. The leaflet will be given to patients when initiated on darbepoetin alfa. **Patient advice letter** details of dose and frequency of BP monitoring and blood tests.	
Specialist Contact Details	
• Rebecca Lorimer, Chronic Kidney Disease Clinical Nurse Specialist ○ phone 01603 288920 • email Rebecca.lorimer@nnuh.nhs.uk	

GENERAL PRINCIPLES FOR SHARED CARE PRESCRIBING

- Shared Care is only appropriate if it provides the optimum solution for the patient.
- GPs are **invited** to participate. If GPs are not confident to undertake these roles, they are under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist.
- **If a specialist asks the GP to prescribe this drug, the GP should reply to this request as soon as practicable if they are unwilling to do so.**
- Prescribing responsibility will only be transferred when it is agreed by the consultant and the patient's GP and when the patient's condition is stable or predictable.
- Safe prescribing must be accompanied by effective monitoring.
- **The doctor who prescribes the medication legally assumes clinical responsibility for the drug and the consequences of its use.**

Background to Treatment

From SPC, Aranesp solution for injection in pre-filled pen/syringe, www.medicines.org.uk, last update 11/12/2019 [accessed 13/12/2019]:

Human erythropoietin is an endogenous glycoprotein hormone that is the primary regulator of erythropoiesis through specific interaction with the erythropoietin receptor on the erythroid progenitor cells in the bone marrow. The production of erythropoietin primarily occurs in and is regulated by the kidney in response to changes in tissue oxygenation. Production of endogenous erythropoietin is impaired in patients with chronic renal failure and the primary cause of their anaemia is due to erythropoietin deficiency. In patients with cancer receiving chemotherapy the etiology of anaemia is multifactorial. In these patients, erythropoietin deficiency and a reduced response of erythroid progenitor cells to endogenous erythropoietin both contribute significantly towards their anaemia.

Darbepoetin alfa stimulates erythropoiesis by the same mechanism as the endogenous hormone. Darbepoetin alfa has five N-linked carbohydrate chains whereas the endogenous hormone and recombinant human erythropoietins (r-HuEPO) have three. The additional sugar residues are molecularly indistinct from those on the endogenous hormone. Due to its increased carbohydrate content darbepoetin alfa has a longer terminal half-life than r-HuEPO and consequently a greater in vivo activity. Despite these molecular changes, darbepoetin alfa retains a very narrow specificity for the erythropoietin receptor.

Licensed use and agreed local off-label use

Treatment of symptomatic anaemia associated with chronic renal failure (CRF) in adults and paediatric patients

Criteria for Patient Selection

- Patient on darbepoetin alfa treatment for anaemia in chronic kidney disease
- Initiation of darbepoetin alfa therapy by hospital specialist anaemia team
- Ongoing prescribing of darbepoetin alfa treatment by hospital specialist anaemia team
- Ongoing supply of darbepoetin alfa treatment by hospital pharmacy homecare service

AND patient has exceptional circumstances preventing attendance at specialist centre for regular monitoring of therapy i.e housebound or unable to travel

Form and strength of preparation

Aranesp 10/15/20/30/40/50/60/80/100/130/150/300/500 micrograms solution for injection in pre-filled syringe.

Aranesp 10/15/20/30/40/50/60/80/100/130/150/300/500 micrograms solution for injection in pre-filled pen.

Aranesp 25/40/60/100/200/300 micrograms solution for injection in vial.

Please refer to the manufacturers' SPCs for current prescribing and administration information - http://www.medicines.org.uk/emc/

Side Effects and Management

Please refer to the manufacturers' SPCs for current information regarding side effects: https://www.medicines.org.uk/emc/product/7993/smpc#UNDESIRABLE_EFFECTS

MHRA/CHM advice: Recombinant human erythropoietins: very rare risk of severe cutaneous adverse reactions (updated January 2018)

The MHRA is aware of very rare cases of severe cutaneous adverse reactions, including Stevens-Johnson syndrome and toxic epidermal necrolysis, in patients treated with erythropoietins; some cases were fatal. More severe cases were recorded with long-acting agents (darbepoetin alfa and methoxy polyethylene glycol-epoetin beta).

Patients and their carers should be advised of the signs and symptoms of severe skin reactions when starting treatment and instructed to stop treatment and seek immediate medical attention if they develop widespread rash and blistering; these rashes often follow fever or flu-like symptoms—discontinue treatment permanently if such reactions occur.

Drug Interactions

Please refer to the manufacturers' SPCs for current information regarding drug interactions: https://www.medicines.org.uk/emc/product/7993/smpc#INTERACTIONS

No evidence exists that indicates that treatment with epoetin alfa alters the metabolism of other drugs. Drugs that decrease erythropoiesis may decrease the response to epoetin alfa. Since ciclosporin is bound by RBCs there is potential for a drug interaction. If epoetin alfa is given concomitantly with ciclosporin, blood levels of cyclosporin should be monitored and the dose of cyclosporin adjusted as the haematocrit rises. No evidence exists that indicates an interaction between epoetin alfa and G-CSF or GM-CSF with regard to haematological differentiation or proliferation of tumour biopsy specimens *in vitro*.

Cautions and Contraindications

Please refer to the manufacturers' SPCs for current information regarding contraindications: https://www.medicines.org.uk/emc/product/7993/smpc#CONTRAINDICATIONS

Initiation of therapy and ongoing dose regimen

Hospital specialist anaemia team.

Measure Hb, CRP, ferritin, transferrin saturation (Tsat), RET-He and iron levels prior to initiation of darbepoetin alfa

- The **initial dose** depends on the weight and haemoglobin level and is administered subcutaneous fortnightly or once monthly. (Trust ESA guideline starting dose is usually fortnightly).
- The exact dose will be advised by the hospital specialist anaemia team

Ongoing supply will be arranged via hospital pharmacy homecare services

- **Maintenance dose** is administered subcutaneously either weekly, fortnightly, 3-weekly, once monthly or six-weekly or as advised by the hospital specialist anaemia team
- Dose adjustments are undertaken by hospital specialist anaemia team according to haemoglobin levels and other clinical parameters
- Supply of maintenance dose is via hospital pharmacy homecare services
- Administration is by patient or relative/carer.

Alternatively, darbepoetin alfa is administered by the GP practice nurse or community nurse for patients who are unable to self-inject and have no relative/carer who can administer the injection

Duration of therapy / How the treatment will be reviewed and if appropriate, stopped

- Duration of therapy depends on patients' blood results (haemoglobin and other clinical parameters)
- Clinical review by hospital specialist anaemia team (at least every 6-12 months)

Baseline assessment and ongoing monitoring – by Specialist

- Initial monitoring and baseline assessment through hospital specialist anaemia team

- Measure Hb, CRP, ferritin, transferrin saturation (Tsat), RET-He and iron levels prior to initiation of darbepoetin alfa
- Contact GP via initial letter after initiation of patient's treatment when a shared care arrangement for monitoring is clinically appropriate
- Notify the patient's GP of:
  - The dose of darbepoetin
  - Arrangements for monitoring / reviewing patient and frequency
  - Other relevant clinical information/drug therapy
  - Information and instructions given to the patient

GP / Community Team or other Primary Care monitoring responsibilities

Monitor blood pressure at least once a month.

- If systolic blood pressure is over 170 mmHg or diastolic blood pressure is over 100 mmHg the hospital specialist anaemia team should be informed. The team will advise on withholding or postposing darbepoetin alfa dose if appropriate. The GP may be asked to review and adjust the patient's antihypertensive therapy.

Phlebotomy – ICE forms will be supplied from the Specialist Team

- Haemoglobin (Hb): take monthly blood tests as requested by hospital specialist anaemia team. The anaemia team will adjust darbepoetin therapy if Hb is outside the target range (10–12 g/100 mL).
- Ferritin + Tsat + RET-He: take bloods every 3 months as advised by hospital specialist anaemia team. The hospital specialist anaemia team will review the results and may arrange for parenteral iron therapy if appropriate.

Consultant / Specialist prescribing responsibilities

- Prescribe darbepoetin and process prescriptions via the hospital pharmacy homecare service
- Provide the patient with information about darbepoetin alfa therapy and required monitoring
- Supply blood request forms to patient for monthly Hb check and 3-monthly ferritin, RET-He and T-sat check
- Review blood results every month and alter darbepoetin dosage according to haemoglobin levels and other clinical parameters
- Contact patient every 1-2 months via telephone clinic
- Review patient though routine clinic follow up (at least every 6-12 months)
- Supervise the management of anaemia including any folate and vitamin B12 deficiency

GP prescribing responsibilities

None

Indications for referral back to Specialist

Notify the hospital specialist anaemia team

- If the patient experiences any adverse drug reactions
- Results of blood pressure monitoring as above
- Any other information relevant to the patients care

Seek advice from hospital specialist anaemia team in case of

- Significant rise in blood pressure
- Serious adverse reactions

Author(s) and Organisation	Janet Guyton, Anaemia Co-ordinator, Renal Medicine Nicola Korn, Specialist Pharmacist, Renal Medicine

	Rebecca Lorimer, Chronic Kidney Disease Clinical Nurse Specialist, Renal Medicine Supported by Dr M Andrews, Clinical Director, Renal Medicine Norfolk and Norwich University Hospital NHS Foundation Trust
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