MEDICAL DIRECTIVE
Orthopedic Surgical Patients Referred to Preoperative Blood Conservation Clinic (BCC)

Approved by/Date: Medical Advisory Comm. – Apr. 22, 2014

Authorizing physician(s)

All Orthopedic Surgeons

Authorized to whom

The Blood Conservation Nurse (BCN).

Patient Description/Population

The patient population to be assessed by the BCN will meet all of the following criteria:

- The patient has been referred for perioperative blood conservation for procedures with high blood loss.
- The patient has been referred more than 3 weeks prior to surgery.
- The tentative surgery date is within 6 weeks.
- The patient's hemoglobin is less than 130 g/L.

Medical Directive Description/Physician's Order

Optimizing perioperative hemoglobin is a key strategy in perioperative blood conservation. The BCN will perform the following activities under this medical directive:

The BCN will order laboratory tests for the assessment of anemia:

- Initial tests may include CBC, reticulocyte count, ferritin, TIBC, transferrin saturation, B12, creatinine.
- CBC, reticulocyte count may be ordered during therapy to assess response
- CBC will be ordered preoperatively on the day of surgery

The BCN will direct the patient to initiate one of the following oral iron preparations for 4-6 weeks preoperatively:

Ferrous Fumarate (Palafer®) 300 mg PO daily
OR
Polysaccharide-Iron Complex (FeraMAX®) 150 mg PO daily
OR
Heme iron polypeptide (Proferrin®) 11 mg PO twice daily

The BCN will assess the laboratory results for iron deficiency anemia.

- Iron deficiency anemia is defined as ferritin less than 30 mcg/L or ferritin less than 200 mcg/L with a transferrin saturation less than 20%. In addition to preoperative oral iron, intravenous iron will be considered if:
  - The patient does not tolerate oral iron
    OR
  - The time to surgery is too short to enhance iron stores
    OR
  - Hemoglobin less than 110 g/L due to iron deficiency

If the patient meets the criteria as noted above for intravenous iron, the BCN will order:

- Iron sucrose 300 mg in 250 mL 0.9% Sodium Chloride IV infusion over 2 hours, weekly for a maximum of 3 doses. If the patient weighs less than 50 kg, administer 200 mg in 250 mL 0.9% Sodium Chloride IV infusion over 2 hours

In other causes of anemia, the BCN will assess the patient for epoetin alfa and, if appropriate, will order:

- Epoetin alfa 40,000 units subcutaneous pre-operatively every 5-7 days for a maximum of four doses
- Administration schedule guideline based on Hemoglobin level:
  - For Hemoglobin less than 109 g/L administer every 5-7 days to a maximum of 4 doses
  - For Hemoglobin 110-119 g/L administer every 5-7 days to a maximum of 3 doses
  - For Hemoglobin 120-129 g/L administer every 5-7 days to a maximum of 2 doses
- Hemoglobin target is 130 g/L except in renal or oncology patients where the hemoglobin target is 120 g/L
- Notify physician if hemoglobin increases more than 10 g/L per week or if hemoglobin is greater than 129 g/L for any patient or greater than 119 g/L for renal or oncology patients

If patient is being treated by nephrology, oncology or hematology, consult regarding treatment plan prior to offering any treatment.

Contraindications to the implementation of the Directive

The patient has an allergy or has any contraindications to oral iron, intravenous iron and/or epoetin alfa.

Identify relevant Delegated Controlled Act or Added Skill associated with this Directive

- Ordering laboratory testing
- Communicating a diagnosis identifying a disease or disorder as the cause of a person's symptoms.

Documentation requirements

- The BCN will document in the health record that discussion concerning blood conservation measures took place, and the outcome of that conversation.
- Implementation of the medical directive will be documented on the physicians order sheet
- The patients' primary Health Care Provider will be notified if any blood conservation strategies are initiated via faxed copy of the Physician Update Letter

Review/Evaluation Process (how often/by whom)

This Medical Directive will be reviewed in six months and then yearly by the Physician Lead for BCC

References

Ontario Transfusion Coordinators (ONTraC) Blood Conservation Algorithm

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London Health Sciences Medical Directive (2013)

Ferrous fumarate monograph. Retrieved from https://online.lexi.com/lco/action/doc/retrieve/docid/patch_f/6905

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Feramax monograph (2012)BioSyent Pharma Inc. http://www.feramax.com/feramax150doctor/images/FeraMAX%20Prescribing%20Information%20-%20Revised%20Nov%202012.pdf

Iron: MedlinePlus supplements http://www.nlm.nih.gov/medlineplus/druginfo/natural/912.html