

Coordinating surgical procedures in patients with a bleeding disorder

PURPOSE

This guideline is designed to assist medical and nursing staff in the clinical haematology department to effectively coordinate surgical procedures in children with bleeding disorders at the Royal Children's Hospital.

SCOPE

Haematology consultants, registrars and haemophilia nurse, Laboratory Services.

DEFINITIONS

1. Factor VIII/IX inhibitor: Development of an antibody to Factor VIII or IX that renders administered clotting factor ineffective.
2. Factor VIII/IX recovery: Maximal rise in Factor VIII/FIX following infusion (FVIII expected 2 units/kg per unit infused, FIX expected 1 unit/kg/per unit infused)
3. Factor VIII/IX half life: FVIII 8 – 12 hours, FIX 8 – 18 hours

BACKGROUND

Children with bleeding disorders are at risk of haemorrhage during and after surgical procedures. The aim of clotting factor replacement is to elevate and maintain the deficient clotting factor to a normal level prior to commencement of surgery and during a designated post-operative period.

For haemophilia patients, in particular haemophilia A patients, it is important to rule out the presence of a factor inhibitor prior to elective surgery.

Incidence of inhibitors to Factor VIII are reported at 30%, inhibitors to Factor IX are rare (3%). Factor VIII and IX inhibitor levels are routinely performed by the RCH core lab on Thursdays. Patients with low titre inhibitors (< 5 BU) will require a Factor VIII/IX recovery and half life study prior to any surgical procedure to confirm an adequate rise of FVIII/IX is achieved and maintained post clotting factor administration.

PROCEDURE

Successful surgery involves effective communication and co-ordination between the surgical team, pre-op admission area, anaesthetic team, post-op ward, clinical haematology and blood bank. The haemophilia nurse or haematology registrar coordinates as outlined below.

Surgical team

For elective surgery it is expected the surgeon will book a date and time for the procedure and communicate this directly with the haemophilia treatment staff. Informed consent for the procedure will be obtained by the surgeon performing the procedure.

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Notifying the anaesthetic team

For elective surgery ensure the patient's condition is clearly documented on the surgical list the week prior to surgery. Eg "Haemophilia, requires clotting factor on induction". This acts to forewarn the anaesthetist of the patient's extra requirements and also alerts pre-op staff. This information can be added by contacting staff at the Pre Admission Resource Centre (PARC):

- Telephone Xn 54115 or 54193
- Email pre.admission@rch.org.au

For urgent surgery page the Anaesthetist in charge to notify of the patient's bleeding disorder and requirements.

Clotting factor replacement:

Dosage and medical order

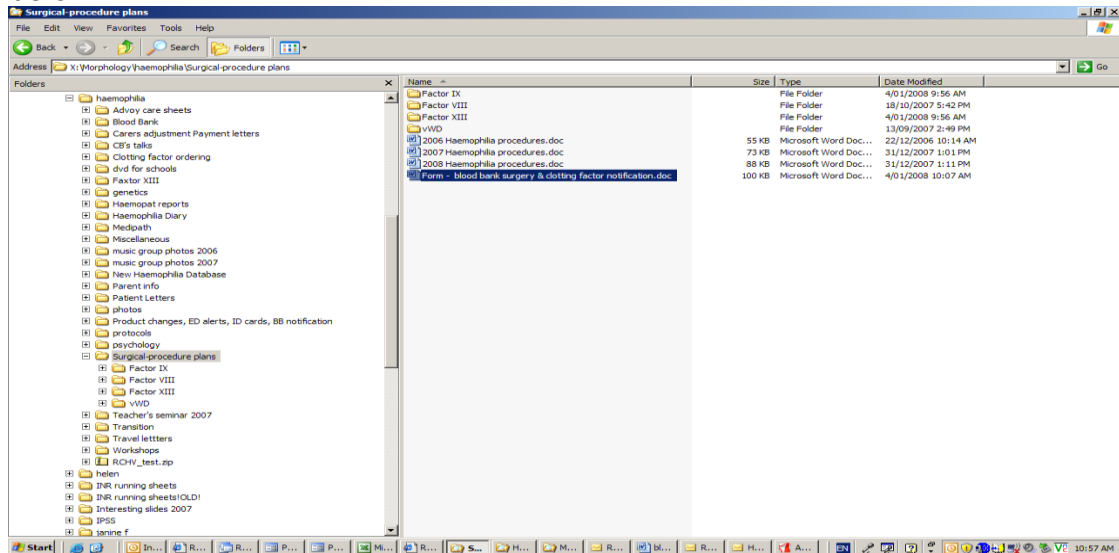
Clotting factor dosage is planned with the consultant haematologist and written up by the haematology registrar. Dosage should be calculated on a current weight. Bolus doses are ordered on the medication chart, continuous infusions on the "IV orders and fluid balance chart". For information on clotting factor dosage and infusions refer to the RCH blood transfusion web site.

Clotting factor dosage may need to be reviewed according to bleeding/swelling at the operative site. If a clotting factor level is clinically indicated, the blood sample should not be taken from the same line as the infusion. Notify the lab to expect the specimen.

Surgical procedure care plans

Documentation of the patient's plan is critical.

Examples of previous care plans can be found on the X drive as indicated below:



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A copy of the care plan and the following should be delivered to the pre-surgical admission area the day before surgery if the patient is on an am list or the morning of surgery if on a pm list:

- Medication chart with bolus clotting factor doses documented
- IV orders and fluid balance chart with clotting factor continuous infusion documented (if applicable)
- Completed Blood Bank Release Orders for pre-op factor doses (and any doses to be given in recovery)
- Clotting Factor Reconstitution guide. Reconstitution devices vary with different products and staff are often unfamiliar with them. Guides for each product can be found in a folder in the Clinical Haematology Office and on the RCH blood transfusion web site.

The plan should also be communicated to the patient's family.

Tranexamic acid

Tranexamic acid is very effective for reducing mucosal bleeding and should be given post-operatively for procedures where mucosal bleeding is anticipated, eg adeno-tonsillectomy, dental extractions.

Post-op ward

It is the responsibility of the haematology registrar to ensure IV orders for continuous clotting factor infusions are written each day.

ATTACHMENTS

REFERENCES

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