



NHS GG&C Diagnostics Division North Glasgow Sector, Haematology MAJOR HAEMORRHAGE PROCEDURE GARTNAVEL			MAI-ALL-ALL-133
			Revision - 1
			Active Date – 02/11/20
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			Page 1 of 6

Gartnavel Major Haemorrhage Policy Guidance for Staff

Gartnavel Hospital and Beatson Oncology Centre (Gartnavel Campus)

The following guidelines have been developed in the event of a major haemorrhage.

Blood banking services on the Gartnavel campus are available from 09.00 – 2000 Monday to Friday. Out with these times and on Public Holidays the service is provided from Glasgow Royal Infirmary.

In view of this the Major Haemorrhage Policy for Gartnavel ties in with that of GRI (with appropriate changes).

Telephone Numbers:

- Gartnavel Blood Transfusion Laboratory : 301 (5)7728 / 7729
- Gartnavel Porters : 301 (5)9794
- Glasgow Royal Infirmary Laboratory: 242 (2) 9603 / 9606 / 9604

1. What constitutes a Major Haemorrhage Situation?

This is most easily defined in retrospect when a patient has bled ≥ 1 blood volume (4-5 litres) and/or received >6-10 units CRC transfusion within a short period of time (e.g. 12 hours). Identifying a major haemorrhage situation prospectively can be more difficult, but will usually be heralded by one or more of the following:

- Measured blood loss (e.g. peri-operatively) of >2.5litres
- Peri-operative transfusion of >6 units CRC
- Bleeding rate of >100-150ml/min
- Significant peri-operative bleeding which is unlikely to be controlled surgically (i.e. 'non-surgical' bleeding)

Classification of an on-going bleeding episode as a 'Major Haemorrhage' can only be called by the medical staff directly attending the patient.

Patients suffering a major haemorrhage can deteriorate rapidly, thus early recognition of a major haemorrhage situation is essential to allow notification and mobilisation of appropriate services (e.g. additional senior surgical and anaesthetic support, haematology and blood bank support, radiology/imaging requirements, portering support for blood specimens and blood & products for transfusion).

2. Principles of Management of Major Haemorrhage

The key principles are:

- Recognise a major haemorrhage situation and activate Protocol (**call 2222**)
- Restore circulating volume (avoiding sustained hypotension)
- Initiate i.v. tranexamic acid regimen (1g bolus followed by 1g over 8 hours) for major trauma patients, and consider in other patients as a general haemostatic measure.
- Arrest bleeding
- Identify key team member to liaise with blood bank and haematology medical staff
- Maintain Hb > 80g/L
- Maintain Platelets >50-75 x 10⁹/L
- Maintain PT (INR) and APTT ratio <1.5 x Normal (ie PT<17s, APTT<50s)
- Maintain Fibrinogen >1g/L
- Monitor FBC and coagulation status regularly
- Avoid DIC, by treating potential underlying triggers

While the onsite anaesthetist (or surgeon) will co-ordinate management at the bed side (or in theatre), haematology medical staff may advise upon, and facilitate provision of, appropriate blood and blood product requirements (and investigations) as the situation unfolds.

3. Stocks of Emergency O Neg Blood

- Blood fridge at Porters station 4 units
- Blood Fridge in Theatres GGH 2 units
- 1 unit of platelets stored in the blood bank for emergency use

Please contact the laboratory at GGH (or GRI out of hours) if replenishment is required

4. Communication

As soon as the clinician feels he/she is dealing with a major haemorrhage, activate major haemorrhage protocol by calling 2222 and state '**major haemorrhage, exact location, including hospital and contact telephone number**'.

Following activation of the protocol, Haematology laboratory staff will contact the clinical area. They will require the following information.

- Patient details to include full name , date of birth, gender and CHI number
- Exact location including Hospital and contact details
- Exact blood component requirements

	NHS GG&C Diagnostics Division North Glasgow Sector, Haematology MAJOR HAEMORRHAGE PROCEDURE GARTNAVEL			MAI-ALL-ALL-133
				Revision - 1
				Active Date – 02/11/20
Author	M J Cartwright	Authorised By	Dr Richard Soutar	Page 3 of 6

5. Time required to process requests and supply blood and products

N.B As the blood transfusion laboratory at Gartnavel does not operate 24/7 it is essential to communicate with blood bank/haematology staff regarding requirements/predicted requirements at the earliest opportunity to take account of transport time for components

This is particularly true out of hours when portering and blood bank staff are at a minimum. It is therefore important to think ahead and give support services staff as much warning as possible. Please note:

- Matched CRC takes approx 30 mins once a sample has reached the lab. If CRC required more urgently please request group specific CRC (or Group O Neg CRC if blood group unknown)
- After transfusion of 10 units CRC, if the patient is known to have no red cell allo-antibodies, it is now accepted practice to supply unmatched group specific CRC if blood still required urgently.
- FFP and Cryoprecipitate will require thawing (20 mins) in Blood bank before transport to the clinical area .
- Platelet may need to be ordered from SNBTS at Gartnavel General Hospital by GRI blood bank
- Even in a patient with normal baseline parameters (FBC and Coag), they are likely to require FFP after 2 litre blood loss and platelets after 3 litres loss. In patients with abnormal baseline parameters or developing DIC, such factors may be required earlier in the scenario.
- Cryoprecipitate should only be required when FFP has failed to keep the Fibrinogen >1g/L
- Monitoring is made easier by availability of regular FBC and Coagulation results.

	NHS GG&C Diagnostics Division North Glasgow Sector, Haematology MAJOR HAEMORRHAGE PROCEDURE GARTNAVEL			MAI-ALL-ALL-133
				Revision - 1
				Active Date – 02/11/20
Author	M J Cartwright	Authorised By	Dr Richard Soutar	Page 4 of 6

6. Transport of specimens, request forms and blood/products

Small delays are sometimes inevitable. However always consider the following:

Think ahead, predicting likely requirements

6.1. Emergency transport of specimens

- In core hours - Monday to Friday 9am to 8pm, ALL samples and request forms should be sent to GGH lab. All requests for further blood and products should be telephoned to the blood bank on **301(5) 7728 / 7729**
- Out with these hours the porters will arrange for emergency transport of sample to GRI Blood Bank. All request for further blood and products should be telephoned to GRI blood bank on **242 (2) 9603 / 9604 / 9606**. Request forms for blood and products should be e- mailed to GRI blood bank to GRI.Bloodbank@ggc.scot.nhs.uk

6.2 Emergency transport of products

- In core hours - Monday to Friday 9am to 8pm, GGH lab staff will liaise with porters to transport blood and products to the clinical area
- Out with these hours GRI blood bank staff will arrange transport of blood and blood products to GGH
 GRI lab staff will let GGH porters know to expect products out of hours – **Ext 59794** and telephone the clinical area when products have left GRI.
 Taxi driver will be instructed to deliver products to porters' desk at GGH. The porter will immediately deliver the transport box to the clinical area.

7. Notes for clinical staff

- Recognise a major haemorrhage situation and activate Protocol (call 2222)
- Consider use of O Neg Emergency blood from Theatre or Porters fridge
- Identify key individual on the team to liaise with blood bank and Haematology medical staff
- Early communication with blood bank is essential, as is subsequent regular communication with Haematology medical staff
- Think ahead, predicting likely blood/product requirements
- Monitor FBC and Coagulation status
- Consider transfer to Acute Hospital as soon as clinically possible (will involve liaison with relevant clinical teams).

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				Revision - 1
				Active Date – 02/11/20
Author	M J Cartwright	Authorised By	Dr Richard Soutar	Page 5 of 6

8. Notes for GRI Blood bank BMS staff

Any activation of the Gartnavel MH page between 8.00pm and 9.00am and at weekends or public holidays will be managed from GRI blood bank.

- When first informed of a major haemorrhage situation, clearly establish the immediate blood/product requirements from the attending team (e.g. number of CRC, urgency - ? group specific, FFP, platelets etc.)
- Remind clinical staff that there are 4 O Negatives in Porters fridge and 2 O Negatives in Theatre fridge and one unit of platelets for emergency use in the GGH blood bank
- Pre-thaw 4 units appropriate group FFP (Group AB if blood group unknown) if clinical team have requested.
- Arrange for emergency Taxi to transport blood from GRI to GGH porters desk (out of hours).
- If delay in receiving crossmatch sample, consider sending additional emergency O Negative units.
- Highlight any likely delays or potential problems to haematology medical staff and clinical area.
- Think ahead! Establish availability of additional staff to assist in blood bank (eg other haematology BMS staff – utilise Reception staff to answer and make phone calls. Assess stock levels of appropriate group red cells and platelets etc. and order from SNBTS as appropriate
- After transfusion of 10 units CRC (= issue of >12 units CRC, any further urgent CRC requirements should be met with group specific CRC issues (unless known allo-antibodies).
- Maintain regular contact with Haematology medical staff
- Replace Emergency O Negative units as soon as possible



9. Notes for Portering Staff

On activation of MH alert via Page

- In core hours – Monday to Friday 9am to 8pm go to clinical area and take samples to GGH laboratory. Clinical area will alert you if further sample transport required.
- Out of Core hours – go to clinical area pick up samples and await emergency taxi for transportation to GRI labs. GRI will also send blood and/or blood products in transport box to GGH in another taxi. As this taxi arrives you must sign paperwork to say you have received them and take immediately to clinical area. Continue to do this as required until the clinical area 'stand down' MH.

Think ahead – if taxis not arriving in timely manner let clinical area and GRI blood bank know.