Guideline for the management of Massive Upper Gastro-intestinal Haemorrhage in Adults

For Use in:	Accident and Emergency, Acute Medical Unit
By:	All Clinicians
For:	Patients with massive upper-intestinal heamorrhage
Division responsible for document:	Medical Division
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Compliance links: *(is there any NICE related to guidance)*	NICE Guidance - Gastrointestinal bleeding: the management of acute upper gastrointestinal bleeding, Clinical guidelines, CG141 - Issued: June 2012
If Yes - does the strategy/policy deviate from the recommendations of NICE? If so why?	No deviation

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

Version Number	Date of Update	Change Description	Author
V3	12/03/2020	Description of changes: Reviewed minor changes	Dr A Desilva

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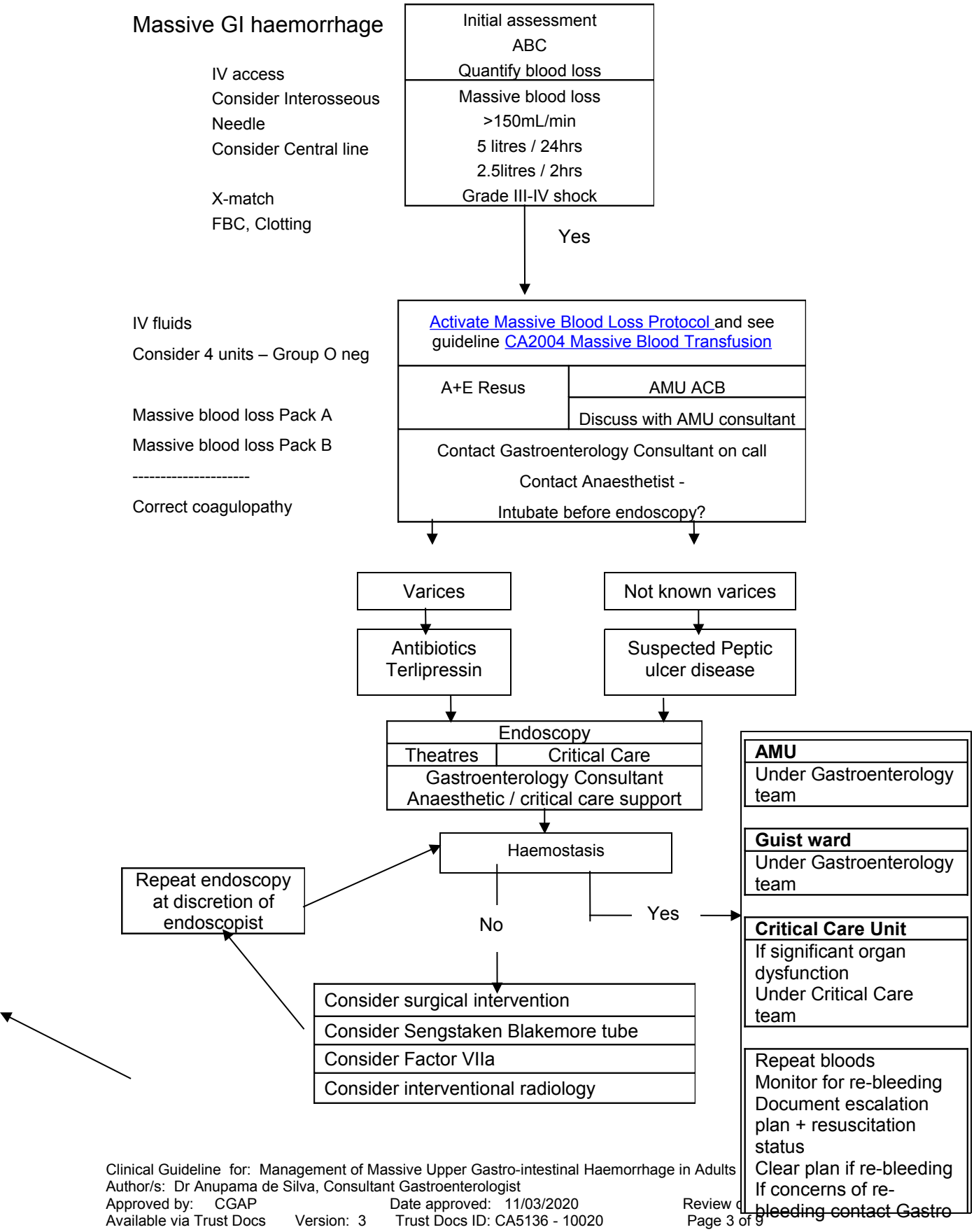
The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

Quick reference guideline



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Rationale and Objectives

Upper GI bleeding is a common medical emergency with 7-10% mortality. Significant numbers of patients are seen with Upper GI bleeds on the Acute Medical Unit each month. In a small percentage of these patients the bleeding is life threatening. This guideline aims to draw awareness to the challenges in resuscitating such patients and provide a structure to the emergency management.

In June 2012 NICE issued comprehensive guidance on Upper GI haemorrhage and it highlights the need to develop local protocols/guidelines for massive haemorrhage. The majority of the information in this guideline is taken directly from the NICE guidance [http://guidance.nice.org.uk/CG141] or from the NNUH Massive Blood Loss Protocol and these articles can be referred to for further information.

Broad recommendations

Criteria for massive GI bleeding

Massive Blood Loss Protocol if:	>150mLs per minute
	5litres in 24hrs
	2.5litres in 2hrs

Assess for signs of shock (tachycardia, hypotension, reduced GCS, peripheral shutdown, oliguria).

It should be noted that a haemoglobin drop may lag behind blood loss until haemodilution has occurred.

Consider using protocol if signs of Stage III (hypotension, tachycardia, low urine output) or stage IV shock (profound hypotension). See Appendix.

Using the guideline for high risk patients.

Confused or encephalopathic patients can have variable responses to sedation prior to endoscopy and there should be a low threshold for seeking an anaesthetic review and performing endoscopy in theatres. All patients with Grade 3 or 4 encephalopathy (see appendix) should be considered for an anaesthetic review.

Patients that re-bleed during the initial resuscitation period are at high risk of developing a compromised airway during endoscopy and the majority of these patients should be anaesthetised and have endoscopy in theatres.

Most endoscopies that are done at night and at weekends are on less stable patients. Even if patients do not trigger the massive GI bleed criteria, strong consideration should be given to performing most endoscopies during these times in theatres with anaesthetist in attendance.

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Immediate resuscitation

For new admissions initial resuscitation will take place in the Resus area of Accident and Emergency or the Acute Care Bay on the Acute Medical Unit. Most patients are likely to be identified by the paramedics and taken to A+E Resus. The Gastroenterology Consultant on call should be contacted at this stage and the Anaesthetist on call contacted. The anaesthetic team will decide if intubation prior to endoscopy is appropriate.

If the patient is to be transferred to AMU then this should be discussed with the AMU consultant and a clear escalation plan should be in place with resuscitation status documented if appropriate.

The NNUH Massive Blood Loss Protocol can be followed to guide resuscitation:

- Call for help
- Resuscitate as per ABC algorithm
- IV access – 2 large bore cannulae
- If peripheral access cannot be achieved then an Interosseous needle (can be obtained from A+E) or a Single Lumen Central Line (inserted under ultrasound guidance) should be considered.
- Send samples early to cross match blood, check FBC and clotting
- Offer warm IV crystalloid until blood ready
- Packed Red Cells – 4 units immediately (via fluid warmer if available)
- Offer Group O Rh negative if needed immediately then group specific blood when available.
- Aim for Hb >80g/L
- Prevent coagulopathy, aim to keep platelets >75 $x10^{-9}$/L
- If still bleeding after 3rd unit then request the Massive Blood Loss Pack A from transfusion (5 units blood, 4 units FFP). Once this has been given then the Massive Blood Loss Pack B can be requested (5 units blood, 4 units FFP, 1 unit of platelets and 1 Cryoprecipitate).
- Correct hypocalcaemia to keep ionised calcium >1.13mmol/L

Endoscopy

Inform surgical team at an early stage of the plan to perform endoscopy.

Endoscopy should be attempted immediately after initial resuscitation in unstable patients. Aim to perform Upper GI Endoscopy in Theatres under the supervision of the Gastroenterology Consultant on call with anaesthetic support.

There is a significant risk of patients becoming compromised during endoscopy when there is ongoing blood loss. Performing endoscopy in theatres (Critical care can be used as a backup in exceptional circumstances) provides a safe environment if initial attempts to stop blood loss are unsuccessful, the airway is compromised or the patient continues to deteriorate.

If after endoscopy the patient is to return to AMU then a clear plan needs to be in place in the event of re-bleeding with documented resuscitation status.

If endoscopy is unsuccessful at achieving haemostasis then consider involving the Interventional Radiology team.

Reversal of coagulopathy

Offer pro-thrombin complex (Beriplex) ® if on warfarin and actively bleeding (see CA2085 Adult Patients Requiring Anticoagulation with Warfarin) CA2085 Adult Patients Requiring Anticoagulation with Warfarin

If within 1 year of cardiac stent insertion and on aspirin, clopidogrel or other antiplatelet agents, then these should be continued until discussed with the Cardiology Team.

- Stop Non-steroidals in the acute phase.
- Don't use Recombinant Factor VIIa except when all other methods have failed.

Variceal vs Peptic ulcer disease

Make an assessment about likely aetiology on presentation. The broad distinction between the two commonest causes of bleeding guides treatment. Risk factors for each are listed below:

Variceal bleeding
Known varices or Portal hypertension Chronic alcohol misuse Chronic liver disease Low platelets Splenomegaly

Peptic ulcer disease
Known peptic ulcer disease Gastrotoxic medication Chronic epigastric pain

Peptic ulcer disease

Avoid Proton Pump Inhibitors until after endoscopy and give as suggested by the Endoscopist.

Variceal bleeding

Give prophylactic broad-spectrum antibiotics (e.g. Tazocin) on admission for suspected variceal bleeding.

If known varices start Terlipressin at presentation and continue until haemostasis achieved or after 5 days. Extreme caution should be used when giving Terlipressin to patients with vascular disease (including coronary artery disease), severe hypertension and those with chronic nephritis (seek the advice of the Gastroenterology consultant on call if there is any doubt). It is contra-indicated in pregnancy.

If not known to have varices then the use of Terlipressin must be discussed with the Gastroenterology consultant on call.

The initial dose of Terlipressin is 2mg IV followed by 1-2mg every 4-6hrs.

Stengstaken-Blakemore tube can be considered if variceal bleeding remains uncontrolled

Other causes of bleeding

If there is a previous history of aortic surgery and upper GI bleeding remember to consider the possibility of an aorto-enteric fistula. A CT aorta will be mandatory for most of these patients.

Patients with known upper GI malignancy will need to be assessed on an individual basis and discussed with the Gastroenterology consultant on call.

Useful contact numbers:

Medical Registrar on call:	bleep 0022
Anaesthetist on call:	bleep 0900
Emergency Theatre Co-ordinator “Red spot”	bleep 0590
Transfusion:	2905
Gastroenterology SPR on call:	6033
Gastroenterology and AMU consultant on call:	via switchboard
Critical Care SPR:	bleep 0012
ITU nursing station:	2200
Endoscopy suite:	4169
Surgical SPR on call:	bleep 0080
Cardiology SPR:	6627
A+E Resus :	6524

Clinical audit standards

100% of patients with Upper Gastro-intestinal haemorrhage are managed according to the guideline.

Summary of development and consultation process undertaken before registration and dissemination

Ed Markham has drafted this document on behalf of Dr Wilson, Dr Philips, Dr Tremelling, Dr Fleming and Dr Sanders who have agreed the final content. During its development it has been circulated to the above doctors.

Distribution list/ dissemination method

Guideline will be emailed to involved consultants from the departments of Acute Medicine, Gastroenterology, Critical Care, Anaesthetics and Accident and Emergency.

References

1. NICE Guidance - Gastrointestinal bleeding: the management of acute upper gastrointestinal bleeding, Clinical guidelines, CG141 - Issued: June 2012
2. Trust Guideline for the Management of: Massive Blood Loss in Adults/Children CA2004 Massive Blood Transfusion and Massive Blood Loss Protocol
3. Mulholland MW and Doherty GM; (2012) Complications in Surgery, 2nd Ed., Lippincott Williams and Wilkins: Philadelphia.
4. Wolf DC, Encephalopathy, Hepatic, Medscape, Aug 2010

Appendix 1

Staging of shock

For adults, the clinical staging relating to loss of blood volume can be classified as [3]:

- Class 1: 10-15% blood loss; physiological compensation and no clinical changes appear.
- Class 2: 15-30% blood loss; postural hypotension, generalised vasoconstriction and reduction in urine output to 20-30 ml/hour.
- Class 3: 30-40% blood loss; hypotension, tachycardia over 120, tachypnoea, urine output under 20 ml/hour and the patient is confused.
- Class 4: 40% blood loss; marked hypotension, tachycardia and tachypnoea. No urine output and the patient is comatose.

Grading of hepatic encephalopathy [4]

- Grade 0: subclinical; normal mental status, but minimal changes in memory, concentration, intellectual function, co-ordination. This is also termed minimal hepatic encephalopathy.
- Grade 1: mild confusion, euphoria or depression, decreased attention, slowing of ability to perform mental tasks, irritability, disorder of sleep pattern such as inverted sleep cycle.
- Grade 2: drowsiness, lethargy, gross deficits in ability to perform mental tasks, obvious personality changes, inappropriate behaviour, intermittent disorientation.
- Grade 3: somnolent but rousable, unable to perform mental tasks, disorientation to time and place, marked confusion, amnesia, occasional fits of rage, speech present but incomprehensible.
- Grade 4: coma, with or without response to painful stimuli.