Ashford and St. Peter's Hospitals
NHS Foundation Trust

Management of Significant Upper Gastrointestinal Bleeds

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Guideline History		
Date	**Comments**	**Approved By**
December 2025	New guideline	Paediatric guidelines group
August 2026	Review of guideline following DTC decision of Octreotide	Paediatric Guideline Group

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Management of Significant Gastrointestinal Bleeds

Significant Gastrointestinal Bleed:
Evidence of ongoing bleeding/haemodynamic compromise. Repeated episodes reported.

CALL FOR HELP EARLY!

Step 1 (AIRWAY)

Consider whether early intubation required- 2222 for Anaesthetics.
Aim saturations >95%
Oxygen 15l/min via NRBM
If no immediate airway concerns, Anaesthetic team should still be made aware of patient once stabilised.

IF VARICES SUSPECTED LOCATE OCTREOTIDE NOW (See Appendix 1)

DO NOT insert a nasogastric tube if known to have varices

Step 2 IV ACCESS

2x large bore IV cannula
IO for difficult access to avoid delay

Baseline bloods:
Blood Gas, BSL, Cross match, FBC, Clotting Screen including INR, U&Es, LFT, Bone profile, Blood culture

Consider Differential Diagnosis:
CXR for evidence of possible battery ingestion
Abdominal US to assess for portal hypertension, if urgent transfer not required

Step 3

Activate Major haemorrhage pathway
Resuscitate with blood as soon as available. Use O-ve blood if haemodynamically unstable.
Aim to maintain Hb at 90g/l
Slowly transfuse
Start Octreotide Infusion

Vital Signs

Monitor HR, BP and Urine Output

DO NOT AIM TO HAVE A HIGH SYSTOLIC BP
Neonate Systolic >60mmHg
<1yo Systolic > 70mmHg
>1yo (age x 2) + 70mmHg

Step 4

Piperacillin/Tazobactam IV
IV Vitamin K
IV Omeprazole/IV Esomeprazole
Platelets, FFP and cryoprecipitate if platelets <100, INR > 1.5 or bleeding uncontrolled

Drug doses

IV Vitamin K	300mcg/kg (max 10mg)
IV Omeprazole	2mg/kg/day (max 40mg/day)
IV Piperacillin/ Tazobactam	90mg/Kg 6 hourly
IV Octreotide infusion (*can cause hypotension) IV Terlipressin can be used as an alternative	Loading dose 1mcg/kg (max 50mcg) over 5 mins Maintenance rate 1-3 mcg/kg/hr (max 50mcg/hr)
Other Medications:	
IV Tranexamic acid	10mg/Kg 23 times a day given over 10 minutes. IV infusion 45mg/kg dose to be given over 24 hours

Step 5

Keep NBM. Start 2/3 maintenance IV fluids
CXR
Monitor BSL 2-4 hourly, Aim for BSL 4 8mmol/l
Strict Fluid Balance
Correct electrolyte abnormalities
Call STRS and either Kings Liver Team or SGHPaedsgastro depending on aetiology.

IMPORTANT NUMBERS

STRS 020 7188 5000 For management advice and transfer
KINGS Paediatric Liver Team 020 3299 7812; OOH 07866 792358 For varices/ portal hypertension
SGH Paediatric Gastroenterology via Switchboard 0208 672 1255

Introduction

The following guidelines are for the management of clinically significant upper gastrointestinal bleeding in a DGH setting.

Definition:

Upper gastrointestinal bleeding (UGIB) is defined as bleeding arising from a source proximal to the ligament of Treitz (i.e. the oesophagus, stomach or duodenum). It is uncommon in children. The incidence is not well established, but estimated at 1-2/10000 per year, of which the majority are benign and self-limiting.

Acute, clinically significant UGIB may present with

- Haematemesis
- Melaena
- Hypovolaemic shock

Clinically insignificant UGIB is often due to a slower rate of bleeding and may present as

- Coffee ground vomiting
- Occult blood in stool without melaena or haematochezia

Causes Of UGIB:

The history may provide important clues regarding the underlying cause of UGIB. The underlying cause varies with age and co-existing disease.

A variceal bleed may be the first presentation of a child with portal hypertension, which may be secondary to underlying liver disease or isolated portal vein thrombosis.

A misdiagnosis of UGIB can be made due to ingestion of foods that may alter the colour of vomit or stool. For example, red food colouring, fruit juices, and beetroot may colour the vomit or stool red. Stool may also be black after ingestion of iron, grape juice, spinach, and blueberries. If in doubt and in a non-emergency situation, you may send a sample for occult blood.

Causes of UGIB by age group in approximate order of frequency (Adapted from UpToDate):

Neonate	Infant	Child or adolescent
▪ Swallowed maternal blood*	▪ Mallory-Weiss tear (including due to vomiting from pyloric stenosis or bowel obstruction)	▪ Epistaxis (mimicking UGIB)
▪ Stress gastritis or ulcer¶	▪ Stress gastritis or peptic ulcer¶	▪ Mallory-Weiss tear (these are caused by vomiting)
▪ Esophagitis	▪ Esophagitis	▪ Stress gastritis or peptic ulcer disease (including due to NSAIDs)¥
▪ Trauma (eg, nasogastric tube)	▪ Peptic ulcer disease (including due to NSAIDs)¥	▪ Gastric or esophageal varices
▪ Vascular anomalies△	▪ Vascular anomalies△	▪ Foreign body (especially button battery due to risk of direct mucosal injury)
▪ Gastrointestinal duplications	▪ Gastrointestinal duplications	▪ Caustic ingestion
▪ Vitamin K-deficient bleeding◇	▪ Gastric or esophageal varices	▪ Esophagitis or gastritis
▪ Coagulopathy (eg, associated with infection)	▪ Duodenal or gastric webs	▪ Vasculitis (eg, IgA vasculitis)
▪ Milk protein intolerance§		▪ Crohn disease
▪ Congenital coagulation disorders (eg, von Willebrand disease)		▪ Bowel obstruction
▪ Disseminated intravascular coagulation (viral or bacterial causes)		▪ Dieulafoy lesion
		▪ Hemobilia

The following features suggest a potential variceal bleed:

1. Pre-existing liver disease/portal hypertension
2. Splenomegaly +/- hepatomegaly
3. Deranged liver function tests /low platelets /prolonged clotting

Key elements of the history in an infant or child with suspected upper gastrointestinal bleeding

History	Diagnostic considerations/implications
Characteristics of hematemesis	
Sudden-onset, massive hematemesis	Vascular bleed (either from varices or arterial bleed).
Vomiting preceding hematemesis (usually with small blood and/or coffee ground appearance)	Mallory-Weiss tear, esophagitis, or gastritis.
Characteristics of stool	
Melena (black or dark red stools)	Moderate or brisk UGI bleeding (versus lower GI bleed).
Hematochezia (bright red blood in stool)	LGI source, **or** very brisk UGI bleed. Hematochezia is common in infants with UGI bleeding, due to shorter transit time.
Accompanying symptoms	
Epigastric pain or heartburn	Gastritis, peptic ulcer, or esophagitis (peptic, eosinophilic, or pill esophagitis).
Vomiting and feeding intolerance	Many causes, including peptic disease in children and food protein intolerance ("allergy") in infants.
Odynophagia (pain with swallowing)	Pill esophagitis, foreign body, infectious esophagitis (eg, *Candida*, HSV, CMV).
Jaundice	Underlying liver disease.
Epistaxis (recent or recurrent)	Ingested blood from nasopharynx, or bleeding disorder.
Diarrhea	Suggests acute infectious gastroenteritis.
Easy bruising or bleeding	Bleeding disorder (refer to below).
Underlying disease	
Chronic liver disease or other causes of portal hypertension	Can cause either vascular bleeding (eg, varices, with brisk bleeding) or mucosal bleeding (eg, gastropathy, with slow bleeding or oozing of blood). Key causes of portal hypertension in children include cystic fibrosis, biliary atresia, portal vein thrombosis, or Budd-Chiari syndrome.
Bleeding disorder	Many causes; may be congenital (eg, von Willebrand disease) or acquired (eg, ITP, liver disease, or vitamin K deficiency). In neonates, confirm that vitamin K prophylaxis was administered at birth.
Critical illness	Risk factor for peptic gastritis, esophagitis, or ulcer disease. Also consider bleeding from a non-GI source (eg, traumatic NG or ET tube placement).
Medications	
NSAIDs, tetracyclines (eg, for acne), or bisphosphonates	Peptic disease (gastritis or ulcers) or pill esophagitis.
Anticoagulants, antiplatelet medications (eg, NSAIDs), certain herbal medicines (ginger, feverfew, and ginko biloba)	Can exacerbate bleeding from another cause.
Beta-adrenergic blockers	May impair hemodynamic response to hypovolemia.
Other history	
Breastfed infant	Swallowed maternal blood; evaluate the mother for cracked nipples.
Possible foreign body ingestion, including putting objects in mouth and/or a choking episode	Esophageal or GI foreign body (eg, button battery).
Alcohol ingestion (especially binge drinking)	Gastritis, esophagitis.
Severe cough, chronic lung disease, or congestive heart disease	Swallowed blood from lungs.
NG tube placement or aggressive suctioning	Iatrogenic trauma.

CMV: cytomegalovirus; ET: endotracheal; GI: gastrointestinal; HSV: herpes simplex virus; ITP: immune thrombocytopenia; LGI: lower gastrointestinal; NG: nasogastric; NSAIDs: nonsteroidal antiinflammatory drugs; UGI: upper gastrointestinal; UGIB: upper gastrointestinal bleeding.

UpToDate®

Management

Ask for HELP Early

Discussion with STRS +/- St George's Paediatric gastroenterology/ +/- Liver Team is essential for children with clinically significant UGIB. The tertiary team required depends on the aetiology, for example, suspected varices/ portal hypertension/ known liver disease should be discussed with the King's Liver Team.

- ABC (locate the octreotide) DE Approach
- Haemodynamic assessment. If in shock then proceed with immediate resuscitation, as per APLS/ EPALS.
- Focused history
- Focused physical examination

A: opt for early intubation if there is severe uncontrolled bleeding, encephalopathy, drowsiness, unable to maintain saturations above 90%, or signs of aspiration pneumonia

B: Aim for saturations >95%. Administer oxygen via face mask if required.

C: Monitor heart rate, blood pressure, urine output (catheterise).

Vascular Access:

- Aim for ≥2 large bore peripheral intravenous cannulas
- Intra-osseous (IO) access if peripheral IV access is poor, inaccessible, or delayed
- Take baseline blood samples:
    - Blood gas and Blood sugar
    - Cross-match
    - FBC, Clotting Screen (INR/APTR/Fibrinogen), U&Es, renal, liver and bone profiles and blood cultures
    - Consider sending an ammonia sample (stored on ice) if encephalopathy suspected.

Fluid Resuscitation

- Keep NBM
- Insert NGT and keep on free drainage **EXCEPT IF KNOWN VARICES****
- Treat shock (IV fluids/ inotropes/ blood). If haemodynamically unstable, and blood volume required, activate local major haemorrhage pathway and give O-ve blood.
- Aim to initially transfuse to haemoglobin level of 90g/l. Transfuse slowly to reduce risk of increasing portal pressure and re-bleeding. Do NOT over transfuse.
- Commence on 2/3 maintenance IV fluids.

Give platelets, FFP and cryoprecipitate if indicated (platelets<100, INR>1.5, fibrinogen <2g/l or bleeding not controlled).

Blood Pressure – DO NOT AIM TO HAVE A HIGH SYSTOLIC BP

- Newborns to 1 month old: Systolic >60mmHg
- <1yr old: Systolic >70mmHg
- >1yr old: (Agex2) + 70mmHg

Strict Fluid balance

Correct electrolyte abnormalities

D: Monitor Blood Glucose 2-4 hourly and maintain normal blood sugar (4-8mmols/l). Keep child nil by mouth (NBM).

E: Keep child warm

Sheffield Scoring System

The Sheffield Scoring System for paediatric GI bleeding is not a validated scoring system. Nevertheless, it may still provide useful applied data to help guide management/ need for urgent endoscopy.

History	**Score**
Significant pre-existing condition	1
Presence of Melaena	1
History of large bloody vomit	1
Clinical examination	
HR>20 from mean for age	1
Prolonged capillary refill	4
Lab tests	
Hb drop >20g/L	3
Management	
Requirement for IV fluid bolus	3
Requirement for transfusion (Hb<80)	6
Need for other blood product	4

Maximum score 24.

High risk of needing endoscopic intervention >8

Medications

Prophylactic antibiotics are recommended for all cases of upper GI bleeding. Intravenous Piperacillin/tazobactam is the first line antibiotic choice.

The following drugs are beneficial in decreasing the bleed (Adapted from PIER Network Guideline):

Medication	Information
IV Octreotide	**Dose**: Loading dose:1mcg/kg (max 50mcg/hr) over 5 mins, then maintenance infusion 1-3 mcg/kg/hr (max 50mcg/hr) **Preparation**: Loading dose – no dilution required. Maintenance infusion - Dilute 500mcg octreotide in 40ml with 0.9% sodium chloride (1ml/hr = 12.5mcg/hr) ***Notes*** • *Use dedicated IV cannula. Ideally via a central line or large peripheral cannula as octreotide can cause extravasation injury due to low pH. If access is difficult and only a small cannula can be sited, do not delay giving as it can be given via small cannula initially, and IV access changed when stable.* • *Continue octreotide Infusion until bleeding is controlled, then wean slowly over 24 hours to reduce risk of rebound bleeding* • *Octreotide has a short half- life, therefore re-site cannula immediately if it tissues*.
IV Vitamin K (Phytomenadione)	**Dose**: 300mcg/kg; max 10mg as slow IV injection over 5-10 minutes
IV Omeprazole	**Dose**: 2mg/kg/day; max 40mg/day IV infusion over 20 minutes
IV Tranexamic acid	**Dose**: 10 mg/kg max dose 1g as slow IV injection over 10 minutes. ***Note****: evidence for benefit is unclear and is not in the national guidance but may help to prevent rebleed. Do not delay giving Octreotide.*

2. Supporting References

1. PIER Network Guideline: **Management of Significant Upper Gastrointestinal Bleeding in Secondary Care.** *https://www.piernetwork.org/guidelines-gi-bleed.html*
2. Assessment and Management of Oesophageal Varices in Children – July 2017; Joint Guideline of the Children's Specialised Liver Services in Birmingham, Leeds and King's. https://bspghan.org.uk/wp-content/uploads/2021/12/Varices-guideline_BSPGHAN_v2.pdf
3. Management of Upper Gastro-Intestinal Bleeding in Children Guidance: A Transport Team Perspective (Embrace; Sheffield Children's NHS Foundation Trust. https://www.sheffieldchildrens.nhs.uk/download/1018/circulation/23444/management-of-upper-gastro-intestinal-bleeding.pdf
4. Upper Gastrointestinal Bleeding in Children: A tertiary United Kingdom Children's Hospital; Experience. Nasher et al. Children 2017, 4(11), 95; https://doi.org/10.3390/children4110095
5. Approach to upper gastrointestinal bleeding in children. Up To Date. Approach to upper gastrointestinal bleeding in children - UpToDate
6. St George's Paediatric Gastroenterology Upper GI Bleeding Pathway

Upper GI bleeding pathway_V7 Oct 24.pdf (Command Line)

3. Supporting relevant trust guidelines

Ashford and St Peter's NHS Foundation Trust Formulary:

Medicines Formulary

4. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: Management of significant Upper GI bleeds

Policy (document) Author: Dr Josephine Yeboa-Henaku

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	**Local and tertiary gastro teams. Paediatric guideline committee**
	Who was engaged in a review of the document (list committees/ individuals)?	**Y**	**As Above**
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Y**	
	Are local/organisational supporting documents referenced?	**Y**	
5.	**Approval**		

		Yes/No/ Unsure/NA	Comments
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**N/A**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Y**	
	Does the plan include the necessary training/support to ensure compliance?	**Y**	
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**Y**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	**3y**
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Alexandra Jones**	**Date**	**26/08/2026**

Ratification by Management Executive (if appropriate)
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner
Date: n/a

5 . Appendices

Appendix 1: Octreotide location

In hours:

Please contact the **Paediatric Pharmacist (bleep 8875, or extension 3359)** or call **Pharmacy (extension 3208).**

Out of hours:

Octreotide is kept in the **Emergency Drugs Room**, and is accessed via the **CSNP (bleep 5001).**

Appendix 2: Medication Contra-indications (as per BNFC)

Tranexamic acid:

Fibrinolytic conditions following disseminated intravascular coagulation (unless predominant activation of fibrinolytic system with severe bleeding); history of convulsions; thromboembolic disease.