



## Child Protection Network

### **NATIONAL CHILD PROTECTION GUIDANCE**

**APPROVED: October 2025**

<b>Title:</b>	<b>Haematology Investigations in Suspected Physical Abuse in Children</b>
<b>Version:</b>	V0.1
<b>Review Date:</b>	October 2028
<b>Target Audience:</b>	All medical staff in the Emergency Department, all Paediatric Wards, and Child Protection Paediatricians who may contribute to the assessment of children with suspected physical abuse.
<b>Keywords:</b>	Haematology, physical abuse, child abuse
<b>National Child Protection Network Guidance:</b>	This guidance has been produced with the support of the National Network for Child Protection in Scotland. The guidance represents the key considerations that health boards could reasonably be expected to provide support for. Each guidance document is primarily to support clinical care and is designed to be modified by individual boards or centres with local contact information, investigation sets and/ or clinical systems information.

#### **Introduction:**

This guideline is to support the clinical assessment and management of children who present to Hospital with injuries which raise child protection concerns. It is aimed at any clinician that may be involved in these children's care inclusive of Emergency Department doctors, paediatricians and child protection paediatricians. The guidance is intended for use in Secondary Care.

The guidance aims to outline best practice, clarify roles (this may have some local variation) and responsibilities and to act as a practical guide. The guidance refers to the haematology investigations only – for guidance on biochemistry blood tests please refer to the RCPCH Child Protection Companion. This document can be adapted for local context in line with Laboratory service variations and request systems. The development of locally agreed guidelines for lab testing in the context of child protection investigations is encouraged, along with referral pathways and contact details of the haematologist(s) who can assist with the interpretation of results.

NATIONAL CP GUIDELINE – Haematology Investigations in Suspected Physical Abuse in Children	APPROVED: October 2025
CHILD PROTECTION GUIDELINES GROUP	VERSION: 0.1
REVIEW DATE: October 2028 PAGE NUMBER: 1 of 10	COPIES AVAILABLE: <a href="http://www.cpscottishclinicalguidelines.scot.nhs.uk">www.cpscottishclinicalguidelines.scot.nhs.uk</a>



## Child Protection Network

### **NATIONAL CHILD PROTECTION GUIDANCE**

**APPROVED: October 2025**

### **Haematology Investigations in Suspected Physical Abuse in Children**

#### **Objectives**

The guideline should assist those seeing children with suspected inflicted injuries make an informed decision about whether haematological tests are indicated, and if so which ones are relevant. This guideline should be used alongside your standard practice and following other local and national child protection guidance.

#### **Scope**

This guideline is intended for use in secondary care. It should be used when children are being seen with bleeding or bruising that has raised concern about an inflicted injury and an underlying bleeding disorder is being considered.

This guideline refers to **haematology** blood tests only. For guidance on **biochemistry** blood tests please refer to RCPCH Child Protection Companion Chapter 9 or local child protection guidelines.

[Chapter 9: Recognition of Physical Abuse detail - RCPCH Child Protection Portal](#)

#### **Background**

In 2022 the British Society for Haematology (BSH) published a consensus paper on good practice for haematological investigations in suspected physical child abuse<sup>1</sup> with the aim of:

- Providing an informed and consistent approach to testing to ensure a diagnosis of an inherited or acquired bleeding disorder is not missed
- Reducing the number of unnecessary blood tests, which can result in unnecessary venepuncture, false positive results and inaccurate diagnosis. These outcomes can also have implications for decision making in court proceedings.

**It is important to remember a child with an inherited or acquired bleeding disorder can still be a victim of physical abuse.**

NATIONAL CP GUIDELINE – Haematology Investigations in Suspected Physical Abuse in Children	APPROVED: October 2025
CHILD PROTECTION GUIDELINES GROUP	VERSION: 0.1
REVIEW DATE: October 2028 PAGE NUMBER: 2 of 10	COPIES AVAILABLE: <a href="http://www.cpscottishclinicalguidelines.scot.nhs.uk">www.cpscottishclinicalguidelines.scot.nhs.uk</a>



## Child Protection Network

# **NATIONAL CHILD PROTECTION GUIDANCE**

**APPROVED: October 2025**

## **Guidance**

### **1. Key Messages**

- A thorough history and examination is most important for deciding whether a child needs bloods tests.
- No laboratory investigations are required in the majority of cases who present with bruising, particularly older children.
- Children newly presenting with an acquired bleeding disorder usually have a recent history of unexplained or spontaneous bleeding or bruising symptoms.
- Bleeding out of proportion to the reported account or bleeding at a critical site (intracranial, gastrointestinal, retinal, intraspinal, haemarthrosis) could be a first presentation of an inherited bleeding disorder and this should be considered in the differential diagnosis.
- Bruises in unusual locations (e.g. ears, neck, cheeks, buttocks, front of trunk and thighs, genitalia) or with an unusual pattern are still uncommon and suspicious of inflicted injury in those with an inherited bleeding disorder.
- Remember there are non-haematological causes of bruising such as Ehler's Danlos and Osteogenesis Imperfecta.

### **2. Important Features in History Taking**

#### **Clinical history**

- Where is the injury?
- What is the reported mechanism of injury?
- Is the injury consistent with the child's developmental stage?
- Is the child taking any prescribed or non-prescribed medications? (to consider medication-related coagulopathy)

#### **Bleeding history**

NATIONAL CP GUIDELINE – Haematology Investigations in Suspected Physical Abuse in Children	APPROVED: October 2025
CHILD PROTECTION GUIDELINES GROUP	VERSION: 0.1
REVIEW DATE: October 2028 PAGE NUMBER: 3 of 10	COPIES AVAILABLE: <a href="http://www.cpsscottishclinicalguidelines.scot.nhs.uk">www.cpsscottishclinicalguidelines.scot.nhs.uk</a>

## NATIONAL CHILD PROTECTION GUIDANCE

**APPROVED: October 2025**

This is very important and cannot be left at asking broadly about any known history. Questions need to be asked **specifically** about:

- Site or sites of bleeding; this should include specifically asking about skin, mucous membranes (mouth or gums, epistaxis or menorrhagia).
- Whether any bleeding or bruising seen is spontaneous vs traumatic
- Lifelong or acute; is there a history of bruising from a young age?
- Previous haemostatic challenges (e.g. previous surgery or dental work)
  - The absence of significant bleeding after surgical procedures largely excludes a clinically significant inherited bleeding disorder<sup>2</sup>
- Umbilical stump bleeding or bleeding post circumcision
- Previous transfusions
- Current medication
- If an infant, did they receive Vit K? (IM or oral, also ask about feeding method)

### Family bleeding History

This is important and can help guide investigations but even children with, for example, severe haemophilia will only have a positive family history in 50% of cases.

- Significant bleeding symptoms (as above, including grandparents)
- Inherited bleeding disorders
- Parental consanguinity
- Propensity to bruising
- Medical conditions

#### **BOX 1 Key bleeding history questions (WHO, WHAT, WHEN, WHY):**

- Site of bleeding (skin, mucous membranes, retinal etc)
- Type of bleeding (petechiae, purpura, epistaxis, menorrhagia vs muscle or joint bleeding)
- Spontaneous vs traumatic
- Lifelong or acute
- Difficult to stop bleeding when haemostatically challenged (e.g. during/ after surgery or childbirth)
- Umbilical stump bleeding
- Previous transfusions
- Current medication
- Family history of the above including (including grandparents) and consanguinity



## Child Protection Network

### ***NATIONAL CHILD PROTECTION GUIDANCE***

**APPROVED: October 2025**

#### **3. Important Features of the Examination**

Thorough top-to-toe examination should be completed, with careful documentation and photographs of injuries.

Note any findings which may be consistent with a collagen disorder – blue sclera, abnormal dentition, short stature, dysmorphic faces, atrophic scars and increased skin/joint laxity.

#### **4. Do all children presenting with injuries suspicious of an inflicted injury require blood tests?**

Not all children presenting with injuries suspicious of inflicted injuries require blood tests. The British Society of Haematology consensus paper recommendations have been adopted by the RCPCH.

Box 2, below, shows situations where blood tests are unlikely to be required. Box 3 illustrates situations when tests are likely to be required. If any uncertainty then please seek advice from the child protection team (add your local CP team number) or the haematology team (add your local Haematology team contact number/detail).

NATIONAL CP GUIDELINE – Haematology Investigations in Suspected Physical Abuse in Children	APPROVED: October 2025
CHILD PROTECTION GUIDELINES GROUP	VERSION: 0.1
REVIEW DATE: October 2028 PAGE NUMBER: 5 of 10	COPIES AVAILABLE: <a href="http://www.cpscottishclinicalguidelines.scot.nhs.uk">www.cpscottishclinicalguidelines.scot.nhs.uk</a>

## NATIONAL CHILD PROTECTION GUIDANCE

APPROVED: October 2025

### BOX 2: Examples of clinical presentations NOT LIKELY to require haematological investigations:

- A child in whom a diagnosis of probable accidental injury is made and there is NO clinical suspicion of an underlying haemostatic disorder (personal or familial)
- A child with bruising of an imprint of a hand, ligature or implement
- An independently mobile child with no previous history of bruising with minor trauma
- A single bruise on the ears, neck, cheeks, eyes, or genitalia in a fully mobile child
- A history of major haemostatic challenge with no excessive bleeding (e.g.

### BOX 3: Examples of clinical presentations LIKELY to require haematological investigations:

- Bruising in a pre-mobile child
- Unusual pattern of bruising or bleeding, out of proportion to (reported) mechanism
- Bleeding at critical sites
  - Intracranial haemorrhage\*, Retinal haemorrhage, Gastrointestinal haemorrhage, Intraspinal haemorrhage or Haemarthrosis
- History suggestive of bleeding disorder

*\*For small amounts of intracranial bleeding associated with a skull fracture discuss with radiology whether the amount is in keeping with trauma secondary to the fracture*

## NATIONAL CHILD PROTECTION GUIDANCE

APPROVED: October 2025

### 5. Which Investigations to do?

Children fitting into one of the categories in **Box 3** should be considered for **First line Investigations (Box 4)**. **Second line investigations** are divided in part one and part two investigations (**Box 5**). See the flow chart below to help guide whether to do second line part one investigation simultaneously with first line investigations.

Second line part two investigations should only be done **after discussion with paediatric haematology**. This can be with the registrar (who would be expected to discuss all child protection cases with the on-call consultant). In cases of high suspicion of a bleeding disorder, it may be appropriate to do all second line tests simultaneously with first line tests after discussion with a haematologist, to avoid multiple sampling attempts. Insert local Paed Haematology contact.

Second line tests often have additional sampling requirements (specific bottles/day test is run etc) so need careful planning so as not to unnecessarily bleed a child repeatedly and waste laboratory resources. Repeated sampling due to inappropriately ordered and handled tests can cause unnecessary pain and stress for the child and their family.

Please see next section for important information around logistics around ordering and handling samples for second line tests. Several of the tests have similar names so it is important the correct test is ordered for the correct patient.

#### **Box 4: First line investigations:**

- Full blood count
- Blood film
- Coagulation screen INCLUDING fibrinogen

## NATIONAL CHILD PROTECTION GUIDANCE

APPROVED: October 2025

### Box 5: Second line investigations:

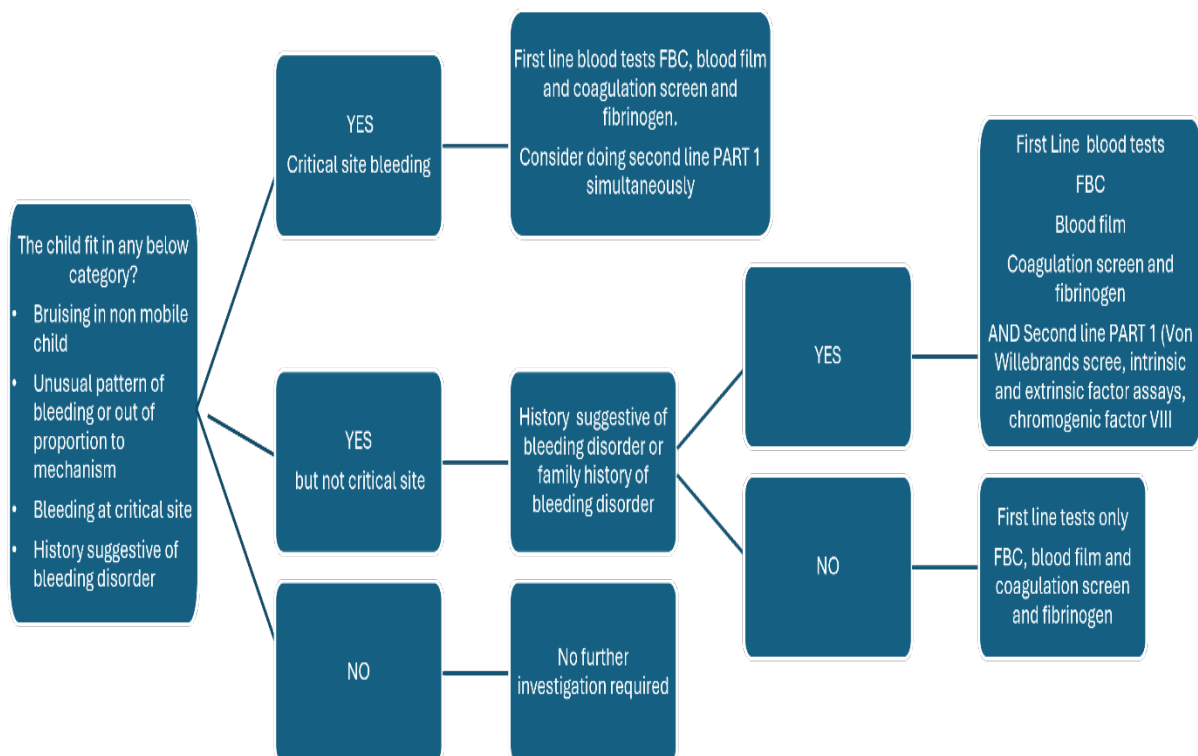
#### PART ONE

- Von Willebrand screen (antigen and activity)
- Factor assays (intrinsic and extrinsic pathways)  
Including 1 stage and chromogenic FVIII, FIX

#### PART TWO (following discussion with haematology)

- FXIII
- Platelet membrane glycoproteins
- Platelet nucleotides
- (Platelet function tests)

### Chart 1: Pathway to guide Haematological Investigations



If clinically you feel this child may have a bleeding disorder, please discuss with the non- malignant haematology team for further advice.





## Child Protection Network

### **NATIONAL CHILD PROTECTION GUIDANCE**

**APPROVED: October 2025**

#### **6. Logistics for second line tests**

##### **Platelet membrane glycoproteins**

- 
- Add your own local protocol for requesting platelet membrane glycoproteins

##### **Chromogenic factor VIII levels**

- Add your own local protocol for requesting

##### **Von Willebrand screen**

- Important to remember this test can give a falsely high reading if a patient is particularly unwell or in a heightened emotional state/upset, if there is a high clinical suspicion of this, a second sample is always recommended
- If two normal results and high clinical suspicion of vWD, suggest further discussion with haematology
- Add your own requesting protocol

##### **Platelet nucleotides**

- Add your own protocol but:
- discussed with Haematologist
- Samples are run in Edinburgh, the haematology team can liaise with the Edinburgh lab in terms of results if urgent or high clinical suspicion

##### **Platelet function tests**

- While this test can pick up severe bleeding disorders (Bernard Soulier and Glanzmann's), these should hopefully be identified via platelet membrane glycoproteins.
- The vast majority of bleeding disorders picked up via platelet function tests or platelet nucleotides would be classed as mild bleeding disorders and you might see e.g. aspirin-like platelet defects.
- **We do not routinely perform these in patients under two years old**

NATIONAL CP GUIDELINE – Haematology Investigations in Suspected Physical Abuse in Children	APPROVED: October 2025
CHILD PROTECTION GUIDELINES GROUP	VERSION: 0.1
REVIEW DATE: October 2028 PAGE NUMBER: 9 of 10	COPIES AVAILABLE: <a href="http://www.cpscottishclinicalguidelines.scot.nhs.uk">www.cpscottishclinicalguidelines.scot.nhs.uk</a>



## Child Protection Network

### **NATIONAL CHILD PROTECTION GUIDANCE**

**APPROVED: October 2025**

- Please check with your own departments how this test should be undertaken and by whom.

If there are concerns or any questions about the practicalities of undertaking these investigations or results please contact the your local Haematology contact.

#### **Related Resources for further information**

- RCPCH Child Protection Companion. Chapter 9: Recognition of Physical Abuse. Most up to date version available on RCPCH website: [www.childprotection.rcpch.ac.uk](http://www.childprotection.rcpch.ac.uk)
- RCPCH Child Protection Evidence. Systematic Review on Bruising. Most up to date version available on RCPCH website: [www.childprotection.rcpch.ac.uk](http://www.childprotection.rcpch.ac.uk)
- Child Protection Guidelines on NHSGGC Paediatric Guidelines webpage. [www.clinicalguidelines.scot.nhs.uk/](http://www.clinicalguidelines.scot.nhs.uk/)
- Appendix 2 of the BSH Good Practice Paper (reference one below) contains some example cases illustrating many of the issues highlighted in the paper.
- The International Society for Haemostasis and Thrombosis have created a bleeding assessment tool (ISTH-BAT) which is validated in assessing probability of von Willebrand's disease in adults. It has not been validated for use in children undergoing child protection investigations but the questions asked as part of the score are useful.

#### **References**

1. Biss T, Sibson K, Baker P, Macartney C, Grayson C, Grainger J, et al Haematological evaluation of bruising and bleeding in children undergoing child protection investigation for possible physical maltreatment: A British Society for Haematology Good Practice Paper. Br J Haematol. 2022;199(1):45–53.
2. RCPCH Child Protection Companion. Chapter 9: Recognition of Physical Abuse. Most up to date version available on RCPCH website. [www.childprotection.rcpch.ac.uk](http://www.childprotection.rcpch.ac.uk)

Review date: October 2028

NATIONAL CP GUIDELINE – Haematology Investigations in Suspected Physical Abuse in Children	APPROVED: October 2025
CHILD PROTECTION GUIDELINES GROUP	VERSION: 0.1
REVIEW DATE: October 2028 PAGE NUMBER: 10 of 10	COPIES AVAILABLE: <a href="http://www.cpsscottishclinicalguidelines.scot.nhs.uk">www.cpsscottishclinicalguidelines.scot.nhs.uk</a>