Immune Thrombocytopenia (ITP)

Clinical Management Guideline

Document code	MHA-ITP-2025-v1.2
Division	Haematology — Haemostasis & Immune Cytopenias
Guideline type	Evidence-based clinical guideline
Scope	Adult ITP (primary and secondary); all phases of care
Aligned with	ASH 2019 guidelines; BSH ITP guideline; NICE TA221, TA853
GRADE framework	Evidence quality: High / Moderate / Low / Very Low Recommendation strength: Strong / Conditional
Date approved	April 2025
Review due	April 2027 (or sooner if major evidence emerges)
Version history	v1.0 Oct 2024 — initial; v1.1 Jan 2025 — GRADE badges added; v1.2 Apr 2025 — audit standards, patient information updated

Clinical Key Points

• ITP is a diagnosis of exclusion — blood film review and exclusion of secondary causes is mandatory before initiating treatment.

• Platelets ≥30×10■/L with no/minimal bleeding: observation alone is appropriate in most adults.

• First-line: corticosteroids (prednisolone 1 mg/kg/day × 2–4 weeks OR dexamethasone 40 mg/day × 4 days). Do NOT extend beyond 6 weeks (ASH 2019).

• Test and treat H. pylori in all newly diagnosed patients (Strong recommendation).

• Second-line TPO receptor agonists (romiplostim NICE TA221, avatrombopag NICE TA853) are preferred over splenectomy where possible.

• Splenectomy should be deferred to ≥12 months after diagnosis.

• Life-threatening bleeding: IV methylprednisolone 1 g/day + IVIG 1 g/kg + platelet transfusion + tranexamic acid — urgent haematology input.

1. Scope and Purpose

This guideline covers the diagnosis, risk stratification, and management of immune thrombocytopenia (ITP) in adults aged ≥18 years. It addresses primary ITP and secondary ITP arising from identifiable causes (e.g., SLE, antiphospholipid syndrome, chronic lymphocytic leukaemia, medications). Neonatal and paediatric ITP are excluded.

The guideline applies across acute hospital, ambulatory haematology, and outpatient settings. It is intended for haematologists, general physicians, and emergency physicians caring for patients with thrombocytopenia.

2. Clinical Overview

ITP is an autoimmune disorder characterised by accelerated platelet destruction and reduced platelet production, resulting in isolated thrombocytopenia (platelet count <100×10■/L). Autoantibodies — predominantly against platelet glycoproteins IIb/IIIa and Ib/IX — drive phagocytic clearance in the spleen and impair megakaryocyte function in the bone marrow.

Table 1. ITP Phase Definitions (ASH 2019)

Phase	Duration	Notes
Newly diagnosed	<3 months	No prior treatment distinction
Persistent	3–12 months	Incomplete remission after 1st-line Rx
Chronic	>12 months	No spontaneous or treatment-induced remission
Refractory	>12 months, post-splenectomy	Failure of splenectomy + relapse or contraindication

Prevalence is approximately 5–10 per 100,000 adults. The condition can affect any age group but shows a bimodal distribution (young women and elderly men). Spontaneous remission is more common in children than adults.

3. Methodology

This guideline was developed using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) framework. Evidence was identified through systematic searches of MEDLINE, EMBASE, and the Cochrane Database of Systematic Reviews. Primary sources include the ASH 2019 ITP guidelines (Neunert et al., Blood Advances 2019), the BSH ITP guideline update (2023), and NICE technology appraisals TA221 (romiplostim) and TA853 (avatrombopag).

Table 2. GRADE Evidence Quality Summary

Evidence Quality	Meaning	Typical Sources
High	Very confident the true effect lies close to the estimate	RCTs, meta-analyses
Moderate	Moderately confident; the true effect is likely close to the estimate	RCTs with limitations, observational with strong effects
Low	Limited confidence; true effect may be substantially different	Observational studies
Very Low	Very little confidence in the estimate	Case series, expert opinion

PICO Framework

PICO Component	Definition
P — Population	Adults (≥18 years) with confirmed or suspected primary or secondary ITP presenting at any disease phase.
I — Intervention	Active treatment: corticosteroids, IVIG, TPO receptor agonists (romiplostim, avatrombopag), rituximab, splenectomy, or observation.
C — Comparator	Placebo, alternative treatment, or watchful waiting.
O — Outcomes	Complete response (platelets >100×10■/L), overall response (>30×10■/L), bleeding events (grades 1–4), QoL, treatment-related adverse events, mortality.

4. Diagnosis and Initial Work-up

ITP remains a diagnosis of exclusion. No single test confirms the diagnosis; the diagnosis is made by excluding other causes of thrombocytopenia in a patient with an otherwise normal blood count and film.

Table 3. Mandatory Investigations

Investigation	Purpose	Key Finding
Full Blood Count + film	Confirm isolated thrombocytopenia; exclude pseudo-thrombocytopenia (EDTA clumping); identify blast cells or dysplasia	Isolated low platelet count; normal red cell and white cell morphology
Reticulocyte count	Exclude haemolytic process	Normal
Coagulation screen	Exclude DIC; baseline before treatment	Normal PT/APTT in ITP
Blood film review	Exclude TTP (schistocytes), HUS, inherited thrombocytopenia, leukaemia	Normal morphology except reduced platelets
ANA / dsDNA / APLA	Exclude connective tissue disease / APS	Positive in secondary ITP
H. pylori testing	Treat as potential ITP trigger	Stool antigen or UBT preferred
HIV, HCV, HBV serology	Secondary causes; essential before immunosuppression	Exclude viral aetiology
Immunoglobulins	Exclude CVID / lymphoproliferative	May be reduced in secondary
Thyroid function (TSH)	Hyper/hypothyroidism can cause thrombocytopenia	Abnormal in thyroid-related ITP
Bone marrow biopsy	Not mandatory; consider if atypical features, age >60, treatment failure, MDS concern	Normal megakaryocytes or increased (compensatory)

5. Bleeding Risk Assessment

Bleeding severity is assessed using the WHO/ITP-BAT (Bleeding Assessment Tool) or the simplified WHO scale. Bleeding risk in ITP is influenced not only by platelet count but also by patient age, comorbidities, concurrent medications (especially antiplatelet agents and anticoagulants), and history of prior bleeding.

High Bleeding Risk Indicators	Reduced Risk / Observation Criteria
• Platelet count <10×10■/L	• Platelet count ≥30×10■/L
• Age >60 years	• No / minimal bleeding (dry purpura only)
• Prior significant bleeding	• Young patient, no comorbidity
• Concurrent anticoagulation or antiplatelet therapy	• No haemostatic challenge planned
• Planned surgical procedure	• No concurrent haemostatic drugs
• Wet purpura / mucosal bleeding	
• Intracranial haemorrhage history	

6. Emergency Management — Life-Threatening Bleeding

EMERGENCY PROTOCOL — Activate immediately for life-threatening bleeding

- IV methylprednisolone 1 g/day × 3 days (or dexamethasone 40 mg/day × 4 days)
- IVIG 1 g/kg/day × 1–2 days (faster platelet rise than steroids alone)
- Platelet transfusion — continuous infusion in severe haemorrhage; not for routine ITP
- Tranexamic acid 1 g TDS IV (antifibrinolytic cover for mucosal sites)
- Activated recombinant Factor VII (NovoSeven®) or anti-D immunoglobulin considered in refractory haemorrhage
- Urgent haematology SpR/consultant review MANDATORY
- Consider ICU admission for intracranial, GI or retroperitoneal bleeding
- Emergency splenectomy only as life-saving last resort

Evidence basis: ASH 2019 guidelines; expert consensus. No randomised trial evidence exists for this specific scenario — recommendations are based on pharmacological rationale and case series data (GRADE: Very Low evidence, Strong recommendation due to benefit-risk balance).

7. First-Line Treatment

First-line treatment is indicated when the platelet count is <30×10■/L OR when bleeding is present regardless of platelet count, OR when there is a haemostatic challenge (surgery, trauma, childbirth).

Corticosteroids remain the standard first-line treatment. Two regimens have comparable efficacy in adults:

Prednisolone	1 mg/kg/day orally (maximum 80 mg/day) × 2–4 weeks, then taper. Do NOT extend beyond 6 weeks — prolonged corticosteroids do not improve long-term outcome and increase toxicity.	High Strong
Dexamethasone	40 mg/day orally × 4 days (high-dose pulse). Can be repeated monthly for up to 6 cycles. Faster initial response than prednisolone; may achieve higher sustained response rates.	Moderate Strong
IVIG	1 g/kg IV × 1–2 days — add to steroids when rapid platelet rise is needed (surgery, severe bleeding, delivery). Response is temporary (2–4 weeks). Not for routine maintenance.	High Strong

Anti-D immunoglobulin	75 mcg/kg IV in Rh(D)-positive non-splenectomised patients. Avoid in patients with haemolytic anaemia, Evans syndrome, or low Hb. Mechanism: Fc receptor saturation.	Moderate / Conditional

Steroid Safety — Mandatory Co-prescribing

- Proton pump inhibitor (e.g., lansoprazole 30 mg OD) for GI protection throughout steroid course
- Bone protection: calcium + vitamin D supplementation if steroids expected >3 months; consider bisphosphonate
- Blood glucose monitoring — especially in diabetes and pre-diabetic patients
- BP monitoring — hypertension common with high-dose prednisolone
- Warn about: mood changes, insomnia, increased appetite, fluid retention
- Osteoporosis risk assessment (FRAX score) if prolonged course anticipated

8. H. pylori — Test and Treat

Rationale	H. pylori infection is associated with ITP in a subgroup of patients. Eradication leads to platelet count improvement in ~50% of infected patients — possibly through cross-reactive antibody reduction or innate immune modulation. Response may take several months.	Moderate / Strong

All newly diagnosed ITP patients should be tested for H. pylori. Preferred testing methods are the ^{13}C-urea breath test (UBT) or stool antigen test. Serology is less reliable due to poor specificity in the UK background population. If positive, standard triple therapy (PPI + clarithromycin + amoxicillin × 7 days) is recommended. Confirm eradication with UBT 4–6 weeks post-completion.

9. Second-Line Treatment Options

Second-line treatment is indicated after failure of first-line corticosteroids (no response at 4 weeks) or after relapse following steroid taper. The choice between options depends on age, comorbidities, preference, urgency, and NICE commissioning status.

Romiplostim	TPO receptor agonist — subcutaneous injection once weekly. Starting dose 1 mcg/kg, titrate to target platelets 50–150×10■/L. NICE TA221 commissioned for chronic ITP ≥12 months failing ≥1 prior therapy. CR rate 50–80% in clinical trials. Monitor weekly until stable.	High / Strong
Avatrombopag	TPO receptor agonist — oral tablet once daily. 20 mg OD, adjust to response. NICE TA853 (2024) commissioned as alternative to romiplostim for chronic ITP. Comparable efficacy; oral route preferred by some patients. No dose adjustment required for renal impairment.	Moderate / Strong
Rituximab	Anti-CD20 monoclonal antibody — 375 mg/m² IV weekly × 4 doses OR 1000 mg × 2 doses (split dosing). Overall response ~60%; complete response ~40%. Median duration of response ~1–2 years. Consider in younger patients or those wishing to avoid splenectomy. Screen HBV/HCV/HIV before use.	Low / Conditional

Splenectomy	Definitive cure in ~66% of patients. Curative benefit must be balanced against surgical risk and lifelong OPSI (overwhelming post-splenectomy infection) risk. Defer to ≥12 months after diagnosis to allow spontaneous remission. Pre-operative vaccinations (pneumococcal, MenACWY, Hib) mandatory ≥2 weeks before. Lifelong penicillin V prophylaxis (or alternative) post-splenectomy.	Moderate / Conditional

10. Special Populations

Pregnancy and ITP

- First-line: IVIG ± prednisolone (safer than other agents)
- Target platelet count: ≥50×10■/L for vaginal delivery; ≥80×10■/L for regional anaesthesia; ≥80×10■/L for caesarean section
- Avoid: splenectomy (2nd trimester if essential), azathioprine, MMF
- Neonatal thrombocytopenia in 15–20% of neonates — check cord blood platelet count
- Multidisciplinary team: haematology + obstetrics + neonatology
- TPO-RAs: not licensed in pregnancy (teratogenicity potential)

Elderly Patients (≥70 years)

- Higher bleeding risk at any platelet count
- Corticosteroid adverse effects more pronounced (falls, delirium, hyperglycaemia)
- Prefer dexamethasone pulse over prolonged prednisolone
- Consider TPO-RA as earlier second-line option to reduce steroid exposure
- Splenectomy: higher surgical risk; laparoscopic approach preferred if indicated
- Bone marrow biopsy more strongly indicated to exclude MDS

Refractory ITP

Refractory ITP is defined as ITP failing splenectomy (or splenectomy contraindicated) with continued risk of bleeding. Management should involve a specialist haematology centre. Options include: combination TPO-RA therapy, fostamatinib (SYK inhibitor — NICE appraisal pending at time of writing), mycophenolate mofetil, dapsone, danazol, vinca alkaloids, or eltrombopag (where funded).

11. Patient Information and Shared Decision-Making

Patient education is integral to ITP management. All patients should receive verbal and written information covering:

- The nature of ITP — autoimmune cause, typically not due to bone marrow disease
- Platelet count thresholds and their relationship to bleeding risk
- Bleeding precautions: avoid NSAIDs, aspirin, and antiplatelet agents; contact sport restriction at low platelet counts
- When to seek urgent medical review: spontaneous bruising, wet purpura (blisters in mouth), headache, visual changes, prolonged bleeding from minor cuts
- Treatment options, their side effects, and the importance of not stopping steroids abruptly
- Travel precautions and the need to carry a medical alert card or letter
- ITP Support Association (ITPSA) — patient support group resources
- Driver and Vehicle Licensing Agency (DVLA) — notification requirements if severe thrombocytopenia affects ability to drive

12. Monitoring Protocol

Phase / Scenario	Frequency	Parameters
Newly diagnosed, observation	FBC weekly × 4, then 2–4 weekly	Platelet count, bleeding symptoms
Active steroid treatment	FBC weekly; glucose weekly	Platelet response, steroid side effects
TPO-RA initiation (romiplostim/avatrombopag)	FBC weekly until stable, then 4 weekly	Platelet count target 50–150×10■/L; bone marrow fibrosis if long-term
Post-splenectomy	FBC 4–6 weekly for 3 months, then annually	Platelet count, OPSI awareness
Chronic stable ITP	FBC every 3 months	Platelet count, quality of life, bleeding diary
Pregnancy	FBC fortnightly; more frequent near term	Platelet count, fetal assessment

13. Audit Standards

The following quality indicators can be used to audit adherence to this guideline. Target performance levels are set at thresholds consistent with ASH 2019 and BSH quality improvement frameworks.

Audit Standard	Data Source	Target	Rationale
Blood film reviewed and secondary causes excluded at diagnosis	Clinic letters, MDT records	≥95%	ASH 2019 diagnostic requirement
H. pylori testing documented in all newly diagnosed cases	Electronic prescribing / microbiology	≥90%	Strong recommendation ASH 2019 / BSH
Corticosteroid duration not exceeding 6 weeks without documented rationale	Prescribing records	≥95%	ASH 2019 recommendation; avoids steroid toxicity
PPI co-prescribed with steroids	Prescribing data	≥98%	UK prescribing safety guidance
TPO-RA initiated within 3 months of failed 1st-line treatment in eligible patients	Clinic letters, Blueteq approvals	≥80%	NICE TA221/TA853 commissioning
Pre-splenectomy vaccination documented ≥2 weeks before surgery	Vaccination records	100%	OPSI prevention — mandatory
Platelet count target (50–150×10■/L) achieved and documented on TPO-RA	FBC results audit	≥75%	Supports dose titration per NICE TA221/TA853

14. Limitations and Update Plan

This guideline has the following recognised limitations:

- The evidence base for ITP management consists predominantly of small RCTs and single-arm trials — large head-to-head comparisons between TPO-RAs are lacking.
- Optimal duration of TPO-RA therapy and the long-term safety of bone marrow reticulin change with extended use are areas of ongoing research.
- Management in special populations (elderly, pregnancy, paediatrics, renal impairment) is extrapolated largely from case series and expert opinion rather than prospective trial data.

- Health economic modelling supporting NICE TA853 (avatrombopag) was based on UK-specific cost estimates; applicability to resource-limited settings should be assessed locally.
- Secondary ITP (e.g., SLE-associated, HCV-associated) may respond differently to treatment; recommendations here are based primarily on primary ITP evidence.

Update schedule: This guideline will be reviewed in April 2027 or earlier if any of the following occur: publication of updated ASH or BSH ITP guidelines; NICE appraisal of fostamatinib or other novel agents; significant safety signals emerging from post-marketing surveillance of TPO-RAs.

15. References

[1] Neunert C et al. American Society of Hematology 2019 guidelines for immune thrombocytopenia. Blood Advances. 2019;3(23):3829–3866. [PMID: 31794604] — **A1: High-quality guideline with systematic review basis**

[2] NICE Technology Appraisal TA221: Romiplostim for the treatment of chronic immune (idiopathic) thrombocytopenic purpura. National Institute for Health and Care Excellence, 2011 (updated 2019). — **A2: UK regulatory health technology assessment**

[3] NICE Technology Appraisal TA853: Avatrombopag for treating thrombocytopenia in people with chronic immune thrombocytopenia. NICE, 2024. — **A2: UK regulatory health technology assessment**

[4] Hill QA, Newland AC. BSH guideline for the investigation and management of ITP in adults. British Society for Haematology. 2023 update. — **A1: UK national haematology society guideline**

[5] Provan D et al. Updated international consensus report on the investigation and management of primary immune thrombocytopenia. Blood Advances. 2019;3(2):47–34. [PMID: 30642916] — **A1: International expert consensus with systematic review**

16. Versioning and Governance

Version	Date	Author	Change
v1.0	Oct 2024	Dr M Mohsin	Initial guideline published on Mohsin Haematology Academy
v1.1	Jan 2025	Dr M Mohsin	GRADE evidence quality and strength badges added to all recommendations
v1.2	Apr 2025	Dr M Mohsin	Audit standards (Section 13) and patient information updated; visual algorithm (SVG/Excalidraw) added