Thrombocytosis

Red Flag Signs Present?
- Other CBC Abnormalities (normocytic anemia, significant leukopenia/leukocytosis)
- Splenomegaly
- History of or active thrombosis
- Bleeding symptoms
- Vasomotor symptoms: erythromelalgia, acral paresthesia
- Acute neurologic deficits or severe headache with extreme thrombocytosis (800->1000)

Yes → Urgent Hematology Referral **OR** Urgent ED Referral

No

Normal Pediatric Platelet Counts: **150-450 × 10^9/L**

Does patient have history of any of the following:
- Acutely infected or recently ill
- Recent surgery or trauma
- Chronic inflammatory condition (e.g. rheumatologic disease)
- Elevated ESR/CRP

Yes → **Reactive Thrombocytosis**

Reactive Thrombocytosis

Recheck platelet count for normalization
- Counts >750 should be rechecked for normalization.
- Counts <750 can be rechecked at the discretion of the provider

Typical time frame to normalization
- Acute infections: 1-3 weeks
- Kawasaki: 3 weeks
- Post-surgical/trauma: 4-5 weeks
- Chronic inflammatory conditions: when disorder is inactive

No → **Evidence of Iron Deficiency?**
- Ferritin <20
- Iron Saturation <20%
- Microcytosis

Anemia may or may not be present

No → **Routine heme referral**

Yes → **Thrombocytosis Secondary to Iron Deficiency**

Thrombocytosis Secondary to Iron Deficiency

Treat Iron Deficiency

Responsive to therapy or self-resolves?

No → (back to Recheck platelet count for normalization)

Yes → **No heme referral**

Other common thrombocytosis risks: CVC, prolonged hospitalization, immobilization, mechanical ventilation, recent surgery, malignancy, congenital heart disease, inherited thrombophilia, personal or family history of VTE

Key Points:
- ~98-99% of pediatric thrombocytosis is secondary to underlying inflammation or iron deficiency
- Thrombosis due to secondary thrombocytosis, even with extreme thrombocytosis (>1000 × 10^9/L), is essentially nonexistent
- Thromboprophylaxis (aspirin, anticoagulants, medications to lower the platelet count) are not recommended for secondary thrombocytosis unless there are other prothrombotic risk factors
- Thrombocytosis secondary to malignancy and myeloproliferative neoplasms is *extremely* rare in children
- Iron deficiency commonly causes platelet counts as high as 500-800 x 10^9/L and can cause extreme thrombocytosis in severe cases.