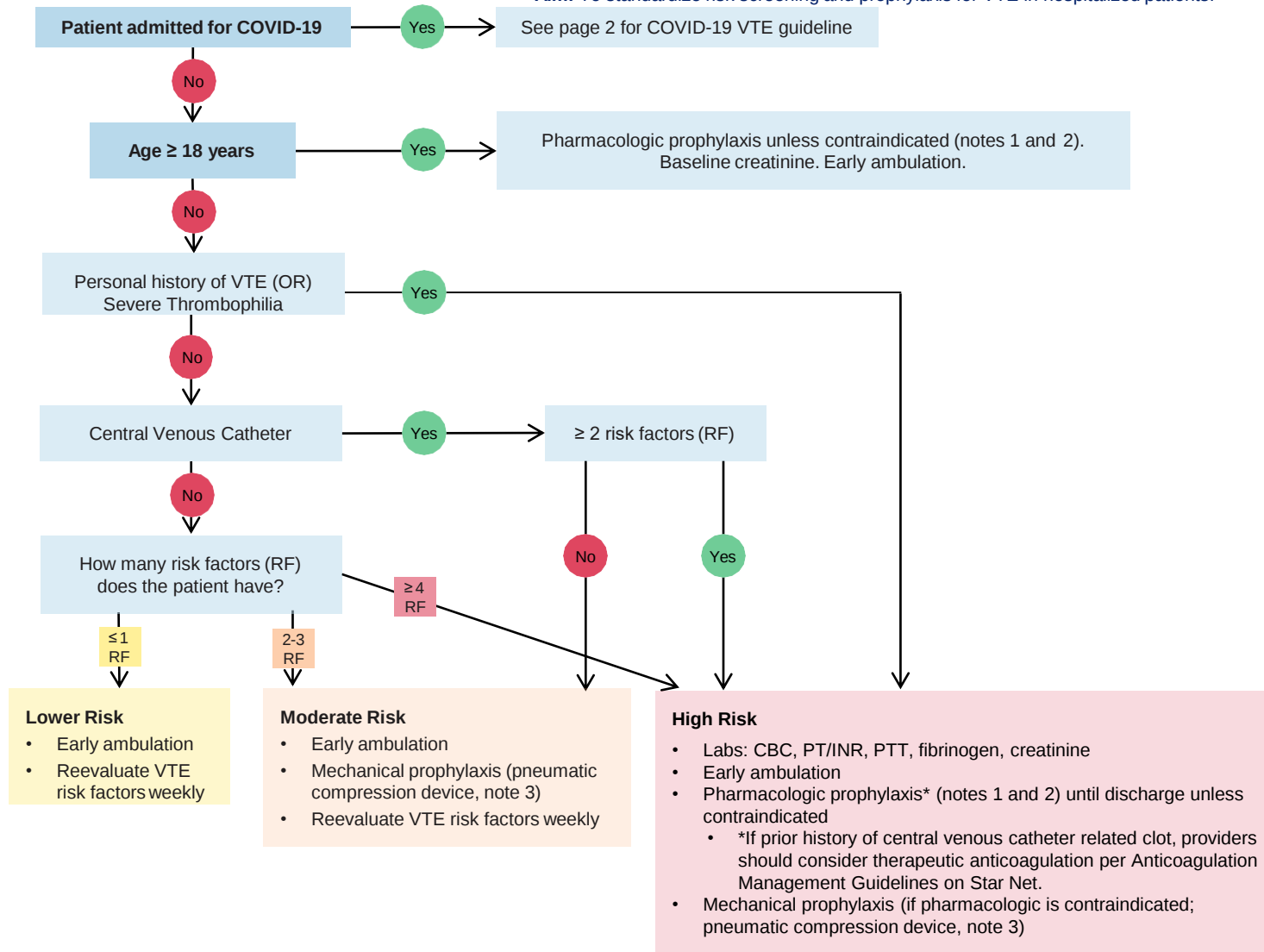


Aim: To standardize risk screening and prophylaxis for VTE in hospitalized patients.



RISK FACTORS (RF)

- 1st degree relative with VTE
- Asparaginase within 30 days
- Autoimmune disease
- Brain Injury
- Burn
- Cardiac disease (involving dilated cardiomyopathy, atrial fibrillation, single ventricle pathology, or palliative surgical shunts)
- DKA
- Estrogen-containing medications
- Glasgow Coma Score < 8
- Immobility > 3 days
- Infection (severe and active)
- Inflammatory disease
- Inotropes/Vasopressors, current
- Malignancy, active
- Mechanical ventilation/intubation
- Nephrotic syndrome
- Obesity (BMI > 30 or > 95th percentile)
- Ortho surgery involving immobility
- Smoker
- Spinal cord injury (< 6 weeks from injury)
- Stroke, personal history of
- Surgery, major and within 2 weeks
- Thrombophilia, confirmed
- TPN for more than 2 weeks

Of note, trauma is a risk factor; however, trauma patients are excluded from this guideline and provider should use "VTE Prophylaxis in Trauma Patients (>12 years)" instead.

SEVERE THROMBOPHILIA

- Antiphospholipid Antibody Syndrome
- Antithrombin deficiency
- Homozygous Factor V Leiden
- Homozygous Prothrombin mutation
- Protein C deficiency
- Protein S deficiency

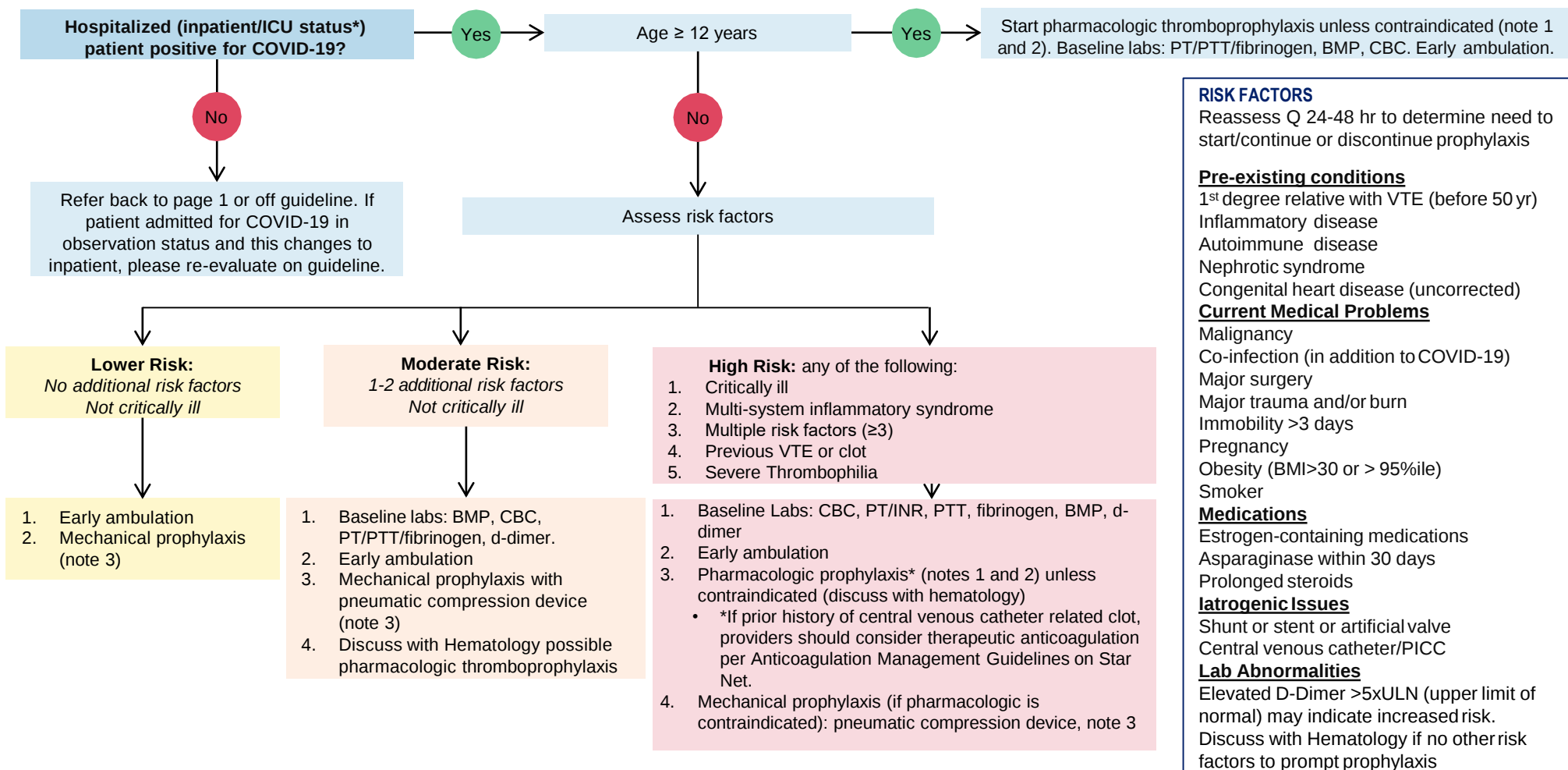
EXCLUSION GUIDELINES

Patients **excluded** from this guideline:

- Identified thrombus or VTE
- ≤ 6 months age
- NICU patients (young infants are also at risk for VTE, however this was out of scope for guideline due to lack of studies on pharmacologic interventions)
- Mental health or disordered eating (e.g., CTED program) related admissions
- Trauma admissions/consultations (see separate guideline [VTE Prophylaxis in Trauma Patients \(12 years and older\)](#))
- COVID-19 patients in OBSERVATION status with mild illness. See page 2 for non-observation status.

Disclaimer: This guideline is designed for general use with most patients; each clinician should use their own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment. ©Children's Minnesota 2026.

Aim: To standardize risk screening and prophylaxis for VTE in hospitalized patients.



RISK FACTORS

Reassess Q 24-48 hr to determine need to start/continue or discontinue prophylaxis

Pre-existing conditions

1st degree relative with VTE (before 50 yr)
Inflammatory disease
Autoimmune disease
Nephrotic syndrome
Congenital heart disease (uncorrected)

Current Medical Problems

Malignancy
Co-infection (in addition to COVID-19)
Major surgery
Major trauma and/or burn
Immobility >3 days
Pregnancy
Obesity (BMI>30 or > 95thile)
Smoker

Medications

Estrogen-containing medications
Asparaginase within 30 days
Prolonged steroids

Iatrogenic Issues

Shunt or stent or artificial valve
Central venous catheter/PICC

Lab Abnormalities

Elevated D-Dimer >5xULN (upper limit of normal) may indicate increased risk.
Discuss with Hematology if no other risk factors to prompt prophylaxis

EXCLUSION GUIDELINES

Patients **excluded** from this guideline:

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- *COVID-19 patients in OBSERVATION status with mild illness.

SEVERE THROMBOPHILIA

- Antiphospholipid Antibody Syndrome
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Aim: To standardize risk screening and prophylaxis for VTE in hospitalized patients.

NOTE 1**Pharmacologic prophylaxis options:**

LMWH-enoxaparin, or unfractionated heparin, see 322.00 Administration and Monitoring of Anticoagulation Therapy

- **< 60 kg:** Enoxaparin 0.5 mg/kg/dose subQ q12 hours. Pharmacy to monitor and titrate.
- **≥ 60 kg:**
 - ≥ 60 kg with BMI ≤ 30 kg/m² AND no renal dysfunction: Enoxaparin 40 mg subQ q24 hours. No levels.
 - ≥ 60 kg with BMI 31-40 kg/m² OR renal dysfunction: Enoxaparin 30 mg subQ q12 hours. Pharmacy to monitor and titrate
 - ≥ 60 kg with BMI > 40 kg/m² AND no renal dysfunction: Enoxaparin 40 mg subQ BID. Pharmacy to monitor and titrate
- Avoid LMWH-enoxaparin if creatinine clearance < 30, consider unfractionated heparin.
- If patients previously on aspirin, recommend discussing the addition or substitution of pharmacologic ppx with prescribing service.
- Patients with MIS-C may receive aspirin AND LMWH-enoxaparin.
- Currently insufficient evidence to recommend routine use of direct oral anticoagulants (DOAC) in pediatrics.
- Discuss with heme if needing to avoid porcine-derived products such as enoxaparin.
- If prior history of central venous catheter related clot, providers should consider therapeutic anticoagulation per Anticoagulation Management Guidelines on Star Net.

NOTE 2**Contraindications to Pharmacologic VTE Prophylaxis:**

Discuss thromboprophylaxis with any involved surgical services

Absolute contraindications:

- Active hemorrhage
- Diagnosed bleeding disorder, known or tendency
- Thrombocytopenia (platelets < 25 k)
- Neurosurgery, TBI, or major solid organ injury in last 72 hr
- Recent intracranial hemorrhage or acute stroke
- Thrombolytic therapy within last 24 hr
- Epidural or paraspinal hematoma
- Epidural catheter in place (may use unfractionated heparin)
- Lumbar puncture or epidural catheter removed in last 6 hr
- Significant uncorrected coagulopathy (e.g. INR > 2, or fibrinogen < 100, or PTT > 40):
Consult hematology in this scenario
- Heparin-induced thrombocytopenia, or other hypersensitivity to heparin or LMWH-enoxaparin

Relative contraindications:

- For LMWH-enoxaparin, renal dysfunction (may need dose adjustment)
- Significant uncontrolled hypertension with blood pressure > 99th percentile
- Pelvic fracture in last 24–48 hr
- Intracranial/spinal lesion at high risk of bleed
- Anti-platelet therapy (discuss management with primary service, e.g. cardiology)

*For invasive procedures: hold heparin x 6 hrs, hold LMWH-enoxaparin x 12–24 hrs

NOTE 3**Contraindications to mechanical prophylaxis:**

Affected extremity has acute fracture, vascular access line under location of compression device, or skin/other condition (dermatitis, burn, tumor), OR unable to achieve correct fit due to patient size (generally age < 5 yr), OR lower extremity peripheral arterial insufficiency

NOTE 4**Monitor for signs and symptoms of bleeding if on pharmacologic prophylaxis:**

- Oozing at sites (IV, surgical wounds, etc.)
- Gross hematuria
- Severe epistaxis (requiring intervention)
- Bleeding causing a drop in Hgb by 2 g/dL
- Lower GI bleeding (black tarry stools, frank blood)
- Upper GI bleeding (hemoptysis)
- Ecchymosis or petechiae

Workgroup: Garland, Lissick, Huntley, MacIver, Orioles, Morhack

References:

1. <https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation>
2. Sharathkumar AA, Faustino EVS, Takemoto CM. How we approach thrombosis risk in children with COVID-19 infection and MIS-C. *Pediatr Blood Cancer*. 2021 Jul; 68(7): e29049. Published online 2021 May 6. doi: [10.1002/pbc.29049](https://doi.org/10.1002/pbc.29049)
3. Children's Minnesota policy 322.00 Administration and Monitoring of Anticoagulation Therapy
4. [CHOP VTE-COVID Prophylaxis Pathway: COVID Disease — Anticoagulation — Clinical Pathway: All Settings | Children's Hospital of Philadelphia \(chop.edu\)](#)
5. Cuker et al. American Society of Hematology living guidelines on the use of anticoagulation for thromboprophylaxis in patients with COVID-19: May 2021 update on the use of intermediate-intensity anticoagulation in critically ill patients. *Blood Adv* (2021) 5 (20): 3951– 3959.