

## VUMC Trauma Critical Care Stress Ulcer Prophylaxis Protocol

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### **Background**

Critically ill patients are at risk of GI hemorrhage primarily from gastric or duodenal ulcers. Cook and colleagues describe the risk of overt bleeding to be 4.4% and clinically significant bleeding to be 1.5%. The incidence of clinically significant bleeding appears to be dependent on severity of illness (ISS > 15 for trauma) and the type of patient population studied.

The most definitive indications for stress ulcer prophylaxis include 1) Traumatic brain injury, 2) Major burn injury, 3) Mechanical ventilation (>48 hrs), 4) Coagulopathy (INR >1.5 or platelet count < 50,000). Other risk factors for GI bleeding in the ICU setting include alcoholism, acute hepatic failure, sepsis, acute renal failure, trauma, prolonged NSAIDs, and high dose steroids.

Literature indicates that H<sub>2</sub> receptor antagonists (H2RA) and proton pump inhibitors (PPI) are equally effective in reducing stress-related gastrointestinal bleeding. Meta-analyses describing superiority of PPIs are controversial. Per the EAST Practice Management Guidelines either H2RAs or PPIs may be used for stress ulcer prophylaxis in critical ill trauma patients.

Numerous analyses describe the role of enteral nutrition (EN) in the prevention of stress-related gastrointestinal bleeding. EN prevents mucosal ischemia and ulceration by increasing splanchnic blood flow and increasing gastric pH (to a lesser degree). Pre and post-pyloric EN should provide some degree of protection against stress-related mucosal ulceration. However, data describing EN as the sole stress ulcer prophylaxis in hypersecretory states, including major head injury and burn patients, is lacking.

### **Indications for Prophylaxis**

#### **High Risk Patient:**

- All patients to receive prophylaxis

#### **Moderate Risk Patient:**

- Consider prophylaxis

#### **Low Risk Patient or Tolerating PO Diet:**

- NO prophylaxis or discontinue prophylaxis

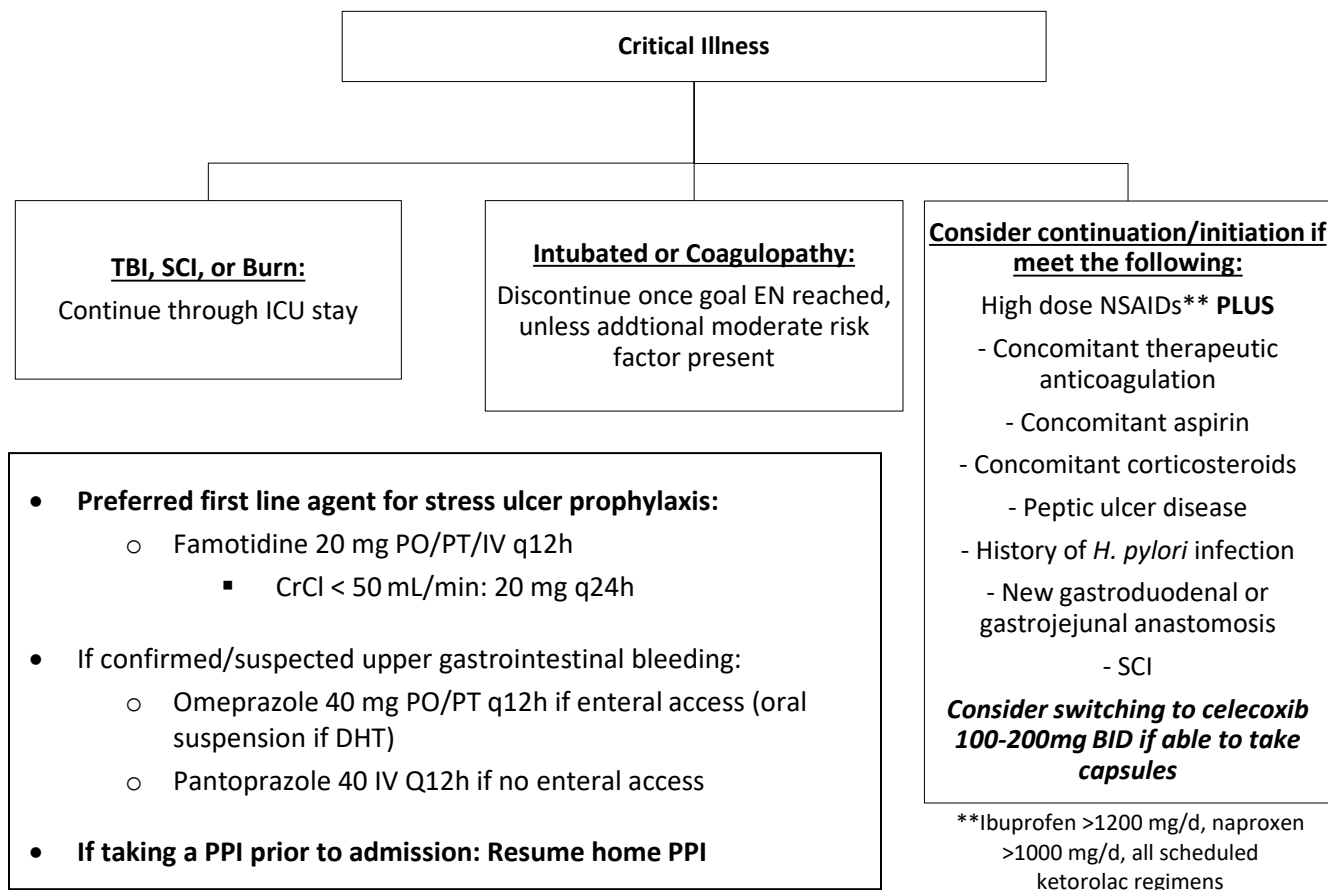
#### **HIGH RISK:**

- Mechanical ventilation >48 hours
- Coagulopathy (plt<50,000 or INR >1.5)
- Traumatic brain injury
- Spinal cord injury
- Significant burn injury (>20 % TBSA Partial + Full Thickness)
- History of previous gastrointestinal hemorrhage

#### **MODERATE RISK: (≥ 2)**

- Chronic NSAID or aspirin use
- Current high dose NSAID therapy (ibuprofen >1200 mg/day, naproxen >1000 mg/day, all scheduled ketorolac regimens)
- Sepsis
- Vasopressor/inotropic therapy
- Corticosteroid therapy (≥250 mg/d hydrocortisone equivalence)
- New gastroduodenal or gastrojejunal anastomosis

## Trauma High Risk Prophylaxis Algorithm



### References:

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