I. INTRODUCTION

In the critically ill patient, stress gastritis or ulceration is a source of significant morbidity and mortality. Within the first 24 hours of admission to an ICU, 75% - 100% of critically ill patients will demonstrate evidence of stress-related mucosal damage. Based on a large, multi-center, prospective trial of critically ill patients, patients with coagulopathy or requiring mechanical ventilation for a period exceeding 48 hours are at a significantly increased risk for stress bleeding. Other situations arise in which the clinician may feel the patient is at higher than usual risk for stress bleeding (e.g. CNS injury, severe multi-system trauma, prior history of gastroduodenal ulcers, burns, etc.), and consideration of stress bleeding prophylaxis is warranted. If used indiscriminately, prophylaxis can be expensive and clinically detrimental.

Many prophylactic regimens have been developed, utilized, and debated. Cost of enteral and intravenous PPIs vs enteral and intervenous H₂-blockers should be considered.

II. PURPOSE

To reduce the incidence of stress bleeding by the application of cost effective prophylactic measures in selected surgical critical care patients based on established risk factors and to decrease the indiscriminant use of stress bleeding prophylaxis.

III. INTERVENTION

A. Stress bleeding prophylaxis is indicated based on the following risk factors:
   1. Coagulopathy (plt < 50,000, INR > 1.5 or ptt >2x)
   2. Mechanical ventilation anticipated to be > 48 hours
   3. Spinal Cord Injury
   4. Prior history of maintenance therapy (H₂ antagonist or proton pump inhibitor)
   5. History of gastrointestinal bleeding

B. The clinician may consider stress bleeding prophylaxis in individual patients based on the following criteria:
   1. Multi-system organ failure
   2. History of cirrhosis / hepatic failure
   3. CNS injury
<table>
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<th>ADMINISTRATIVE</th>
<th>SUBJECT: STRESS BLEEDING PROPHYLAXIS IN THE SURGICAL CRITICAL CARE PATIENT</th>
<th>NUMBER CC.03</th>
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<td>X</td>
<td>CLINICAL</td>
<td>Reference: Surgical Critical Care Policy Manual</td>
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4. Burns  
5. Corticosteroid therapy  
6. Vasopressor therapy  
7. History of peptic ulcer disease  
8. Multiple organ injuries  
9. Sepsis  
10. Shock  
11. Organ Transplantation  

C. If (+) risk factors, pt has enteral access, and enterals are not contraindicated, begin Ranitidine 150 mg PO/per enteral tube every 12 hours, or if patient is on PPI at home, begin home medication or equivalent dose of lansoprazole.  
D. If (+) risk factors, no enteral access, or enterals are contraindicated, begin Famotidine 20mg IV every 12 hours*.  
E. If (-) risk factors, no prophylaxis is necessary.  
F. Restart same medication for patients on home maintenance therapy.  
G. Reassess risk factors and need for prophylaxis daily.  
H. If there is a change in the risk factor analysis, patient is tolerating po’s, or enteral nutrition is at goal, discontinue prophylaxis.  
I. If patient being fed via small bowel route, continue GI prophylaxis.  
J. If a patient sustains a gastrointestinal (GI) bleed, consult GI and begin a proton pump inhibitor (PPI) via the intravenous route.  

*Dose adjustments for Famotidine may be necessary if the patient has renal failure.

**IV. BIBLIOGRAPHY**


Developed by: Corinna Sicoutris, MSN, CRNP / Vicente H. Gracias, MD
Reviewed by: Surgical Critical Care faculty
Clinical Practice Guidelines (CPG) are meant to standardize and optimize care and decrease variability in practice. They are intended to be used as framework for the delivery of patient care in the surgical critical care units. CPG’s are a combination of evidence-based medicine and accepted practices in critical care medicine. CPG’s are intended to provide decision support for the management of the majority of patients, and are not proposed as directives, rules, or policies. They are not substitutes for clinical judgement. Deviations from the CPG’s are expected when deemed medically necessary; all exceptions should be documented in the medical record and require discussion between the Surgical Critical Care attending and the attending of the primary or consulting service.

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Prior history of therapy

Yes

Restart home medication

No

Risk Factors (A)

Yes

Enteral Access (C)

Yes

Ranitidine 150 mg q 12 hours PO/enteral

No

Reassess for risk factors daily

Clinical indications (B)

No

Famotidine 20 mg IV q 12 hours

No treatment

Continue regimen

Yes

+ GI bleed

No

Discontinue prophylaxis

Consult GI
Start IV PPI