

# Appropriate Use of Stress Ulcer Prophylaxis (SUP)

## Minimizing the Use of Proton Pump Inhibitors (PPI)

**Within the intensive care unit (ICU), prescribers may face a complex decision on whether acid-reducing therapy should be initiated for SUP. It is estimated that up to 71% of patients may be receiving SUP when it is not necessary.<sup>1</sup> Newer data supports the utilization of SUP in only certain patients at risk for stress ulcers.<sup>2</sup> This document serves as a guide to help providers determine whether a patient needs to be started on SUP and to determine which acid-reducing agent should be chosen.**

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## STRESS ULCER PROPHYLAXIS ASSESSMENT

### WHEN SHOULD SUP BE INITIATED?

- SUP is recommended for critically ill patients within the ICU who that are at high risk for gastrointestinal (GI) ulcers or bleeding (see table below for more detail).<sup>1,2</sup>
- Once risk factors are resolved or mitigated, de-escalation of SUP should be considered.<sup>3</sup>
- SUP is also not recommended in patients who are hospitalized in non-ICU settings or if they are already receiving acid-reducing therapy for other indications.<sup>1,2,4</sup>

### CRITERIA FOR SUP INITIATION IN HIGH-RISK PATIENTS\*

#### Major risk factors (requires at least 1 to initiate SUP)<sup>2</sup>:

- Positive pressure ventilation >48 hours
- Coagulopathy
- History of GI ulceration or bleeding within past year
- Acute traumatic brain injury or spinal cord injury
- Thermal injury  $\geq$  35% of total body surface area

#### Minor risk factors (requires at least 2 or more to initiate SUP)<sup>2</sup>:

- Sepsis or septic shock
- ICU stay for > 1 week
- Occult GI bleeding for  $\geq$  6 days
- Glucocorticoid therapy (>250 mg of hydrocortisone or equivalent)
- Use of antiplatelets and/or non-steroidal anti-inflammatory drugs (NSAIDs)
- Renal failure and/or hepatic failure
- History of peptic ulcer disease
- Extracorporeal life support
- Solid organ transplantation

\*The information above is for reference only and may serve as a guide in determining if SUP is needed. However, providers should reference their hospital/health system's specific policies or protocols as they may differ from the information listed above.

## THERAPY SELECTION AND DEPRESCRIBING

### THERAPY CONSIDERATIONS

- It is unclear whether histamine-2 receptor antagonists (H<sub>2</sub>RAs) or PPIs are superior at preventing stress ulcers.<sup>2</sup>
- Some evidence shows that PPIs may prevent more upper GI bleeds compared to H<sub>2</sub>RAs which may make PPIs more favorable to use in those at risk of GI bleeds.<sup>2,5,6</sup>
- However, some evidence has shown that PPIs may be associated with pneumonia and *Clostridium difficile* (*C. difficile*) and thus H<sub>2</sub>RAs may be preferred in those at risk of these infections.<sup>2,7</sup>
- In general, selection and duration of therapy should be based on patient risk factors, history of any treatment failures, hospital protocol/policy, and cost.

### MINIMIZING LONG-TERM PPI USE

There are multiple adverse effects associated with long-term PPI use (>8-12 weeks) when therapy is continued even after stress ulcer formation is no longer a concern. Adverse events can include increased risk of infections (pneumonia and *C. difficile*), bone fractures, and acute kidney injury.<sup>8,9</sup>

Although the optimal duration of SUP is unclear, ICUs are recommended to develop a process on when de-escalation of SUP should occur. PPI deprescribing should also be considered when risk factors are no longer present and members are either discharged from the hospital or are no longer receiving care in the ICU.<sup>2</sup>

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