Liberation From Physical Restraint In Surgical Intensive Care Unit

Hamad General Hospital is the largest, academic tertiary care center (JCI accredited) in Doha, Qatar. Surgical intensive care unit (SICU) is a 12-bedded facility with more than 1000 admissions per year. Our case mix includes Neurosurgery, General Surgery, Orthopedics, OB-Gynec, Bariatric, Transplant and Medical Cases. Most of our patients have one or more of the following devices such as endotracheal tube, tracheostomy tube, external ventricular drain and ICP monitor, central/arterial Lines, Foleys surgical drains. Before this project we had all our intubated patients and majority of our patients with catheters and invasive lines were physically restrained. One of the important reason for the prevalence of restraint use was cited as patient safety. In the contrary evidence suggests restraint use would contribute to agitation, delirium, unpleasant experiences and increased risk of device removal. As a part of our quality improvement program we agreed to liberate our patients from Physical Restraint for better patient experience, safety outcome using an evidence based approach.

Aim
To reduce the use of physical restraint in SICU from 61% to 10% by March 31, 2015 and then to maintain it to less than 10% by December 2017.
To maintain the sedation level of 2-3 in 50% of SICU patients from June’16 to June’17 and 70% by December 2017

Intervention
- Established Proper Communication: That led to clear understanding and cooperation from the patient and families.
- Daily Spontaneous Breathing Trial: It promotes early extubation and help in discontinuing physical restraint.
- Replace Restraint to Hand mittens: Without restricting the gross mobility of upper limbs, reduced the accidental removal of tubes and lines and reduced patient agitations.
- Promote Early Mobilization: Through sedation vacation , minimal sedation and proper communication and cooperation with patients achieved early mobilization that resulted in early extubation and shortened the length of stay in SICU.
- Change in Sedation Management: Through accurate pain management and sedation vacation achieved minimum sedation that helped in keeping the patient more awake and gained more cooperation from the patient without compromising the respiratory functions.

Decision Tree to Restraint

Complications

<table>
<thead>
<tr>
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<th>Cases in 25 months</th>
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<tbody>
<tr>
<td>Self Exubation</td>
<td>7</td>
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<tr>
<td>Removal of lines and Catheters</td>
<td>13</td>
</tr>
<tr>
<td>Patient Falls</td>
<td>0</td>
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Future Plans
- Improving early mobilization of intubated patient.
- Implement RASS and CAM-ICU Scoring system in the Cerner.
- 50% reduction in use of hand mittens.
- Minimizing sedation requirements to achieve sedation scale of 2 to 3.
- Choice of restraint must be the least invasive options.

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Result

Sedation Level of Unrestrained Intubated Patient

Access for potential harm to self and others

No restraint

Manage abnormality

Pain

Language barrier

Communicate with patient

Yes

No restraint

Nurse to assess

Hypoxia

No

Yes

Abnormal Behavior

No restraint

Escalate to Physician temporary restraint (Physical/Chemical)