Implementing a Five Level Triage in the Emergency Department

Enhancing Safety and Satisfaction

Poster Presenter: Eileen Gallagher MSN, RN, ACNS-BC, PCCN
Title: Clinical Nurse Specialist
Objectives

- Discuss the implementation of a five level triage system that utilizes the Emergency Severity Index (ESI) triage algorithm and replacement of the current three level triage system.

- Explain the Role of Triage, and Responsibilities of the Triage Nurse.

- Evaluation of triage nurse satisfaction levels pre/post ESI system implementation

- Examine the Nursing Triage Survey Results.
Background and Significance

- Emergency Department (ED) overcrowding is a health care crisis nationwide.
- Treatment delays threaten patient safety & public health.
- Triage nurses report increased stress while considering safety and prioritizing patients.
- Overcrowded EDs increase need for a valid and reliable triage acuity system.
- Current studies question the reliability and validity of the three-level acuity rating scale used by the majority of the EDs in the United States.
Triage - Role and Responsibility

- Triage - derived from the French verb “trier”. To sort or choose.

- Originally used by the military to sort soldiers wounded in battle in order to establish priorities.

- Soldiers were sorted by severity of their injuries ranging from those that were severely injured and not salvageable, to those that can wait to be treated.

- ED’s recognized the need to implement a method to sort patients and identify those needing immediate care, and those that could safely wait to be treated.
Methods

- ED nurses participated in a two hour educational introduction to the ESI system.

- Triage nurses participated in a pre & post-test measuring satisfaction prior to and three months following implementation of ESI.

- Implementation of ESI required the support of ED nursing leadership.

- Physicians and Physician Assistant were also provided with the education available to the triage nurses.
Emergency Severity Index Algorithm

- ESI Four Main Decision Points.
  - Decision Point A: Does the patient require immediate life saving intervention?
  - Decision Point B: Is this patient a high-risk?
  - Decision Point C: How many different resources will this patient consume?
  - Decision Point D: What are the patient’s vital signs?
Emergency Severity Index Algorithm

Patient Dying?
  yes → 1

Shouldn’t Wait?
  yes → 2

How many Resources?
  None One Many
  5 4

Vital Signs-Danger Zone
  3

Consider
Research Findings: The Reliability of the ESI Triage System

- Inter-rater reliability with kappas ranging from 0.70 to 0.80 in study of triage nurses (N=200) rating 40 cases.

- Patient (N=386) triage decisions were evaluated and found to have high interrater reliability; kappas ranging from 0.69 to 0.87 in subsequent study.

- Third study measuring ESI patient triage (N=403) reliability found a kappa of 0.89.
Benefits of Implementing the ESI Triage System

- Rapid identification of patients requiring immediate attention.
- Rapid identification of patients deemed high risk.
- Identification of patients appropriate for utilization of fast-track resources.
- Improvement in effective communication of patient acuity.
Educational Program

- Revision of triage policies and procedures completed by CNS- included in ESI training.
- Two hour educational sessions developed.
- Participation of all ED nurses in sessions.
- ED nursing leadership provided additional resources during training session.
Educational Program

- Practice cases encompassing 20 patient scenarios including a variety of age groups, diagnoses and triage levels.

- Competency testing consisted of 20 cases.

- Nurse must correctly triage 18 out of 20 cases to be deemed competent.

- Re-education is mandatory for any staff falling below the standard.
ESI Triage Evaluation

- Triage nurses will participate in a pre-test evaluating satisfaction with current triage system at least one week prior to implementation of ESI system.

- Triage nurses will participate in a post-test three months after implementation of ESI system.

- Nursing staff’s competency of the ESI system will be tested annually. (Skills Fair)
### Pre-Test/Post-Test

<table>
<thead>
<tr>
<th>Triage Registered Nurses</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I feel confident when I assign a triage level to patients in the ED

2. I provide safe care to the patients I triage

3. The current triage system accurately and safely identifies patient acuity.
Pre-Test/Post-Test Outcomes

Question #1:

“I feel confident when I assign a triage level to patients in the ED”.

<table>
<thead>
<tr>
<th>Pre-Test Responses</th>
<th>(n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>5.2%</td>
</tr>
<tr>
<td>Disagree</td>
<td>5.2%</td>
</tr>
<tr>
<td>Neither Agree of Disagree</td>
<td>5.2%</td>
</tr>
<tr>
<td>Agree</td>
<td>21.05%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>63.15%</td>
</tr>
</tbody>
</table>
**Pre-Test/Post-Test**

- **Question #2:**

  "I provide safe care to the patients I triage".

<table>
<thead>
<tr>
<th>Pre-Test Responses</th>
<th>(n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>5.2%</td>
</tr>
<tr>
<td>Disagree</td>
<td>0.0%</td>
</tr>
<tr>
<td>Neither Agree of Disagree</td>
<td>0.0%</td>
</tr>
<tr>
<td>Agree</td>
<td>21.05%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>73.68%</td>
</tr>
</tbody>
</table>
Question #3:

“The current triage system accurately and safely identifies patient safety”.

<table>
<thead>
<tr>
<th>Pre-Test Responses</th>
<th>(n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>10.5%</td>
</tr>
<tr>
<td>Disagree</td>
<td>26.31%</td>
</tr>
<tr>
<td>Neither Agree of Disagree</td>
<td>21.05%</td>
</tr>
<tr>
<td>Agree</td>
<td>26.31%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>15.78%</td>
</tr>
</tbody>
</table>
Pre-Test/Post-Test

• Question #1:

“I feel confident when I assign a triage level to patients in the ED”.

Post-Test Responses

<table>
<thead>
<tr>
<th>Response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>0.0%</td>
</tr>
<tr>
<td>Disagree</td>
<td>0.0%</td>
</tr>
<tr>
<td>Neither Agree of Disagree</td>
<td>0.0%</td>
</tr>
<tr>
<td>Agree</td>
<td>26.31%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>73.69%</td>
</tr>
</tbody>
</table>
Question #2:

“I provide safe care to the patients I triage”.

Post-Test Responses

- Strongly Disagree: 0.0%
- Disagree: 0.0%
- Neither Agree nor Disagree: 0.0%
- Agree: 21.05%
- Strongly Agree: 78.95%
Question #3:

“The current triage system accurately and safely identifies patient safety.”

Post-Test Responses

- Strongly Disagree: 0.0%
- Disagree: 0.0%
- Neither Agree of Disagree: 0.0%
- Agree: 31.57%
- Strongly Agree: 68.43%
# Pre-Test/Post-Test Data

<table>
<thead>
<tr>
<th>Pre-Test</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>#1 I feel confident</td>
<td>5.20%</td>
<td>5.20%</td>
<td>5.20%</td>
<td>21.05%</td>
<td>63.15%</td>
</tr>
<tr>
<td>#2 I provide safe care</td>
<td>5.20%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>21.05%</td>
<td>73.68%</td>
</tr>
<tr>
<td>#3 The system accurately identifies acuity</td>
<td>10.50%</td>
<td>26.31%</td>
<td>21.05%</td>
<td>26.31%</td>
<td>15.78%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post-Test</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>#1 I feel confident</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>26.31%</td>
<td>73.65%</td>
</tr>
<tr>
<td>#2 I provide safe care</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>21.05%</td>
<td>78.94%</td>
</tr>
<tr>
<td>#3 The system accurately identifies acuity</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>31.51%</td>
<td>68.42%</td>
</tr>
</tbody>
</table>
In Conclusion…

- Triage nurses in the ED feel the current five level triage system accurately identifies patient acuity.
- There is an improvement in the perception of safe care delivery to patients in the ED.
- There is an improvement in the feeling of confidence in triage acuity assignment by the nurses in the ED.
References


