Trauma PI at Level I Trauma Center

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Maricopa Medical Center
Objectives

- Review American College of Surgeons requirement
- Determine “your” facilities priorities - Surveillance
- Outline the PI process at a Level I Trauma Center - Loop Closure
- Describe use of Trauma One PI tab
Performance improvement & patient safety

- Quality issue (PI)
- Safety issue (PS)
- Both (PIPS)
College Standards

- Level I
- Level II
- Level III/IV
Mandates

- Data-surveillance
- Committees
- Members of committees
Surveillance
Committees

- Process Improvement committee
- Multidisciplinary Peer
- Trauma Program Operational Process Performance Committee
Definitions

- Complication
- Disease-related
- Provider-related
- System-related
- Nonpreventable
- Potentially preventable
- Preventable
PI Step by Step

- Where to look
- Is it a problem
- What do we do with it
Where to Look

- Registry
- M & M
- Hospital chart
- Yellow Card-reported issues
- Focused audit
Audit tool
Audit Tool

<table>
<thead>
<tr>
<th>N/A</th>
<th>Mr- // \</th>
<th>Final Check Complete</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
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<td>Final Check Complete</td>
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</tbody>
</table>

- Amputation, unanticipated
- Case by case
- Delay in care
- Delay in disengagement (found after disposition from ED/primary survey)
- Missed injury (found after discharge)
- Non-operative management of GSW to the abdomen
- Nursing issues
- Radiology Misread
- Retro admission from floor to ICU
- Splenectomy required (Pediatric ONLY?)
- System issues
- Transfer to another facility
- Transfer from floor to ICU within 24 hours of admission
- Unplanned OR
- Compartment Syndrome
- Open Frx not surgically corrected within 24 hours
- Post-admission PE
- Patient self-extubation
- Re-intubation following intentional extubation (exclude OR)
- Re-admission to the hospital within 30 days after discharge
- Pan scan justification (Pediatric Only)

| Admit Diagnosis | Discharge Diagnosis | Procedures [Bronchos, Blood bx, CRRT/HD, Lines, etc.] |
# Yellow Card

<table>
<thead>
<tr>
<th>( ) unknown</th>
<th>( ) process or system related, ( ) patient related, ( ) provider related</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Sticker</strong></td>
<td><strong>Date of Event:</strong> ____________________________</td>
</tr>
<tr>
<td></td>
<td><strong>Location of Event:</strong> ____________________________</td>
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<td></td>
<td><strong>Please Print</strong></td>
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<tr>
<td></td>
<td><strong>Your Name:</strong> ____________________________</td>
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</table>

**Event/Issue Description:**

**Intervention Performed:**

**CONFIDENTIAL MATERIALS PROTECTED under ARS § 36-445, ARS § 36-2403 and Federal Safety and Quality Improvement Act of 2005**

***Additional comments on back***
What to Look For

- Compliance with guidelines
- Delays in care
- Errors in judgment
### Maricopa Medical Center - Trauma Services

<table>
<thead>
<tr>
<th>Process Improvement Complications List 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amputation, unanticipated</strong></td>
</tr>
<tr>
<td><strong>Case by case</strong></td>
</tr>
<tr>
<td><strong>Cranietomy &gt; 4 hours post arrival</strong></td>
</tr>
<tr>
<td><strong>Death</strong></td>
</tr>
<tr>
<td><strong>Delay in care</strong></td>
</tr>
<tr>
<td><strong>Delay in diagnosis (found after disposition from ED/tertiary survey)</strong></td>
</tr>
<tr>
<td><strong>Laparotomy performed &gt; 2 hours after arrival to the ED</strong></td>
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<tr>
<td><strong>Missed injury (found after discharge)</strong></td>
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<tr>
<td><strong>Non-operative management of GSW to the abdomen</strong></td>
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<tr>
<td><strong>Nursing issues</strong></td>
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<tr>
<td><strong>Pre-hospital issues</strong></td>
</tr>
<tr>
<td><strong>Radiology mis-read</strong></td>
</tr>
<tr>
<td><strong>Readmission to the hospital within one week after discharge</strong></td>
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<tr>
<td><strong>Retro admission from floor to ICU</strong></td>
</tr>
<tr>
<td><strong>Splenectomy required (Pediatric only)</strong></td>
</tr>
<tr>
<td><strong>System Issues</strong></td>
</tr>
<tr>
<td><strong>Transfer to another facility</strong></td>
</tr>
<tr>
<td><strong>Transfer from floor to ICU within 24 hours of admission</strong></td>
</tr>
<tr>
<td><strong>Under triage</strong></td>
</tr>
<tr>
<td><strong>Unplanned OR</strong></td>
</tr>
<tr>
<td><strong>Admitted to service other than Trauma</strong></td>
</tr>
<tr>
<td><strong>Compartment Syndrome</strong></td>
</tr>
<tr>
<td><strong>CT &gt; 2 hours after arrival for head injury</strong></td>
</tr>
<tr>
<td><strong>DVT - upper extremity</strong></td>
</tr>
<tr>
<td><strong>DVT - lower extremity</strong></td>
</tr>
<tr>
<td><strong>ED LOS &gt; 2 hours for ICU or OR disposition</strong></td>
</tr>
<tr>
<td><strong>Massive Transfusion Protocol</strong></td>
</tr>
<tr>
<td><strong>Open fracture not surgically corrected within 24 hours</strong></td>
</tr>
<tr>
<td><strong>Patient self-extubation</strong></td>
</tr>
<tr>
<td><strong>Patients weight/Broslow/temperature not documented (Pediatric only)</strong></td>
</tr>
<tr>
<td><strong>Post-admission onset of PE</strong></td>
</tr>
<tr>
<td><strong>Received transfer &gt; 6 hours after arrival at other facility</strong></td>
</tr>
<tr>
<td><strong>Re-intubation following intentional extubation (excluding OR)</strong></td>
</tr>
<tr>
<td><strong>Trauma Attending &gt; 15 minutes for RED activation</strong></td>
</tr>
<tr>
<td><strong>Pan scan justification (Pediatric only)</strong></td>
</tr>
</tbody>
</table>

*Highlighted items are forwarded to Quality Management/Peer Review Coordinator*
What to Do With It

Adult & Pediatric Trauma Performance Improvement Map

Data Sources
- Reported issues
- Focused audits
- M&M
- Registry
- Yellow cards

Dept. of Surgery
Trauma M&M Monthly

Investigate Issue

Level 1 Review
Analyze and identify issues
Manage Level 1 process remediation
Refer issues for Level 2 review or any specialty/provider Peer review

Manage feedback and information for potential loop closure or tracking

Acknowledged Issue

Level 2 Review
Trauma Multidisciplinary Process/Systems
Review Conference
Discuss referred issues Suggest remediation

Trauma Multidisciplinary Peer Review/
Executive Session
Discuss referred issues Suggest remediation

Problem or Solution Identified

Level 3 Review
MHS RN or Physician PEER Review; Admin. systems review *summary provided to Division of Trauma

Action-able Issue

Responsibility for 'Action/Intervention' Assigned
Level I Review

- Analyze & identify issue
- Investigate
- Acknowledge
- Remediation-loop closure
- Refer to Level II
Level II Review

- Trauma Multidisciplinary Process/Systems Review Conference
  - Discuss referred issues
  - Suggest remediation
- Trauma Multidisciplinary PEER Review/Executive Session
  - Discuss referred issues
  - Suggest remediation
Level III Review

- Administrative system review
- Results will be sent to Trauma
Peer

- Difference between PEER and PI
- How PEER fits with hospital
Level I Review Form

### Trauma Process Level I Review Form

<table>
<thead>
<tr>
<th>Patient</th>
<th>Name</th>
<th>Age</th>
<th>Attending</th>
<th>Date of Occurrence</th>
</tr>
</thead>
</table>

#### Improvement Screen

- **Source:**
  - Trauma PI Coordinator
  - Conference/MDM
  - Pre-Hospital
  - OR/ICU
  - ED/ICU
  - OR/PACU
  - PICU
  - Yellow Card
  - Rounds/Physician
  - Radiology
  - ICU
  - Quality Management
  - Other
  - Peds ED
  - Floor
  - Other

- **Incident, Problem or Complaint:**
  - Amputation (unanticipated)
  - Case by Case
  - Cerebrovascular accident
  - Death
  - Delay in Care
  - Delay in Discharge
  - Delay in Discharge
  - Delay in ED Disposition
  - Laparotomy
  - Missed Injury (After Discharge)
  - Non-compliance of GSW to AIS
  - Nursing Issues
  - Pre-Hospital Issue
  - Radiology Mis-read
  - Readmission to hospital within 30 days
  - Retro-admit from floor to ICU
  - Splenectomy Required (Pediatric)
  - Systems Issue
  - Transfer to another Facility
  - Transfer from floor to ICU within 24 hrs of admission
  - Under Triage
  - Unplanned OR
  - Other

#### Further Explanation/Comments

- Cost Director Review
  - PR Judgement: Non-Provenutable
  - Potentially Provenutable
  - Provenutable
  - Cannot be determined
  - Track/Trend

- Determination: System
  - Disease
  - Provider
  - Cannot be determined
  - N/A

- Care Appropriateness:
  - Care appropriate/predictable event
  - Care not appropriate
    - Documentation
    - System
    - Clinical Judgment
    - Communication
    - Professionalism/Ethics

#### Medical Director Comments

#### Status/Loop Closure

- None/No Further Action
- No Referral Required
- Other:
  - Refer to Peer/PI Coordinator
- Focused Audit/Study
- Track and Trend
- Education/PI
- Letter/Discuss with Provider
- Pending

- Medical Director's Signature
- Date

*5/13 (v5)*
15 year old hits head
Dx SDH without neurological deficit
Tx: admit to ICU, Neuro consult, rescan in 4 hours
Repeat CT-increase in bleed and now displays neurological deficits
> 4 hours to craniotomy
15 year old hits head
DX: SDH with neurological deficit
Admitted to ICU; symptoms worsens
TX: taken to OR
> 4 hours to craniotomy
How it Works

- 15 year old hit head
- DX: SDH with significant neurological issues
- TX: plan to take immediately to the OR
- Delay in OR-one room going and call team not called
Your Priorities

- Required
- Focus projects
Track & Trend

ED LOS > 2 hrs
Trauma One

- How to fill out
- How to use dashboard
- Run reports
Reports

- Track & Trends
- Dashboard
## Complications

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<td>4/99</td>
<td>3/121</td>
<td>2/102</td>
<td>2/106</td>
<td>3/105</td>
<td>2/97</td>
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<tr>
<td><strong>PE</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1/99</td>
<td>0/121</td>
<td>2/102</td>
<td>1/106</td>
<td>2/105</td>
<td>0/97</td>
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<tr>
<td><strong>VAP/HAP¹</strong></td>
<td>NR</td>
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<td>0</td>
<td>5/14</td>
<td>0/13</td>
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<td><strong>Ventilator events¹</strong></td>
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<td></td>
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<td>0/13</td>
<td>3/21</td>
<td>1/14</td>
<td>1/12</td>
<td>1/14</td>
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<tr>
<td><strong>CLABSI</strong></td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>CAUTI</strong></td>
<td>NR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<tr>
<td><strong>Reintubations¹</strong></td>
<td>0</td>
<td>1/unk</td>
<td>0/32</td>
<td>0/14</td>
<td>0/13</td>
<td>1/21</td>
<td>2/14</td>
<td>1/13</td>
<td>1/14</td>
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<tr>
<td><strong>Readmit to SICU²</strong></td>
<td></td>
<td>1/55</td>
<td>1/41</td>
<td>0/56</td>
<td>1/47</td>
<td>0/41</td>
<td>2/40</td>
<td>1/36</td>
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<td><strong>Admit to non-surgical service³</strong></td>
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<td>0/108</td>
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<td><strong>ED LOS &gt; 120m for Reds to ICU/OR</strong></td>
<td>1</td>
<td>4/14</td>
<td>3/18</td>
<td>2/13</td>
<td>0/9</td>
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<td><strong>ED LOS &gt; 120m for all activations to ICU/OR²</strong></td>
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<td>7/47</td>
<td>4/41</td>
<td>8/27</td>
<td>15/36</td>
<td>12/37</td>
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<tr>
<td>**Readmit to Hospital w/in 30 days **</td>
<td>1/104</td>
<td>2/91</td>
<td>5/103</td>
<td>4/99</td>
<td>1/121</td>
<td>3/102</td>
<td>2/106</td>
<td>5/105</td>
<td>1/97</td>
<td></td>
<td></td>
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<tr>
<td><strong>Unplanned return to OR</strong></td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td></td>
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<tr>
<td><strong>DOA/Deaths</strong></td>
<td>3/6</td>
<td>1/4</td>
<td>1/3</td>
<td>3/6</td>
<td>1/5</td>
<td>2/9</td>
<td>5/6</td>
<td>0/5</td>
<td>4/8</td>
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<tr>
<td><strong>Self-extubations¹</strong></td>
<td>0</td>
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<td>0</td>
<td>1/14</td>
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<td>0/14</td>
<td>1/13</td>
<td>1/14</td>
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</tr>
</tbody>
</table>

¹ # total intubations
² Total ICU admissions
³ Total based on activations + consults + state
* Total red activations to ICU/OR (with trauma)
** Total admitted to trauma service
NR- not received

**Action Plan Required**

**Watch Closely**
Putting the PI chart together

- Parts of the chart
- Preparing for the review
- Documentation
Closing the loop

- Education
- Letter
- Referal
I need to talk to you about process improvement.

Ok, just fill out this "impromptu conversation proposal" form.
Summary

- Know the ACS/State requirements
- Pick appropriate projects
- Set the stakeholders
- Collect the data
- Use the process
- Document loop closure
Questions