60 Seconds of Silence
Safety Behaviors in the Trauma Bay

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Pediatric Trauma Program Manager
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Objectives

Identify safety behaviors that can be implemented during trauma hand-offs.

Review how simulation can be used to improve safety and reliability in the trauma bay.
A chaotic environment…

- Variable team composition
- Complex patients
- Multiple handoffs
- Large crowds and noise
- Brownian motion
- Diffusion of responsibility
…which led to…

- Communication fails
- Misses in handoffs
- Derailing of process flow
- Errors
- Mass confusion

“All great changes are preceded by chaos.”
Deepak Chopra
Pre-implementation Survey

- 197 respondents from all disciplines
- Role delineation
- Preparation
- Prioritization
- Teamwork
- Safety
Safety Behavior Expectations

Support the Team
I will demonstrate a personal and peer (200 percent) commitment to safety.
- Use peer checking and coaching (5:1).
- Speak up for safety using the ARCC method: Ask a question. Make a Request. Voice a Concern. If no response, use the Chain of command.

Pay Attention to Detail
I will attend carefully to all of the important details.

Use a Questioning Attitude
I will both ask questions and question answers.
- Validate and verify.

Communicate Clearly
I am personally responsible for professional, accurate, clear and timely verbal and written communications.
- Use three-way repeat back and read back.
- Ask clarifying questions.
- Use phonetic and numeric clarifications.
Trauma Time Out

- Phase 1 – Pre-Arrival
  - Trauma team badges in, signs board, PPE on
  - Trauma RN provides pre-hospital briefing of patient to team
  - Team Lead identifies themselves, “role” call
    - All present and ready, excuses extras
    - Minimizes noise
  - Team Lead shares plan and potential problems
Roles and Responsibilities

Trauma Team Activation Essential Personnel

- **PEM Attending**
  - TTL until relieved
  - Supervise resident TTL until PALS arrives
  - Supervise Airway/FAST MD
  - Manage any ACLS if needed
  - Advise additional management

- **Primary RN**
  - Obtain Weight
  - Attach monitor devices
  - Obtain vitals, report q5-15 min
  - Ensure patency of current IV
  - Monitor patient assessment
  - Hang IVF and Blood as needed

- **Second MD**
  - Primary Survey – call out exam
  - Femoral stick if indicated
  - Secondary Survey
  - Conduct AMPLEx history
  - Foley placement if indicated

- **Pediatric Trauma Surgeon**
  - Assumes supervisor role of TTL from PEM Attending when arrives
  - Supervise & support resident TTL
  - Maintains ownership of the trauma patient
  - Communicates emergent consults to attending MDs
  - Arranges OR if needed

- **Third MD/CPDE**
  - Bed assignment
  - Enter orders, delegate H&P
  - Pull up x-rays
  - Send films to radiology for read
  - Notify consultants

- **Airway/FAST MD**
  - Assess airway
  - Ensure C-spine precautions
  - Intubate, O2/NG as needed
  - Calculate GCS
  - FAST exam after airway stable

- **Pediatric Patient**

- **Second RN**
  - Give medications
  - Place 2nd IV if needed
  - Assist with MTP/Belmont
  - Setup central line/a-line

- **PICU MD**
  - Advise critical care management
  - Central/a-line placement

- **Support Team**
  - Pre-check equipment
  - Place pt ID band
  - Exposure/Blankets/Bair hugger
  - Procedure Setup

- **Medical Student**
  - Remove clothes
  - Assist Second MD

- **Pharmacy**
  - Calculate/prepare RSI and other medications
  - Verify med dosing

- **Charge Nurse**
  - Crowd and noise control
  - Secure & direct additional resources

- **Trauma Team Leader (TTL)**
  - Lead Trauma Time Out
  - Give all orders
  - Manage code, directs all members
  - Delegate procedures/tasks
  - Prioritize (x-ray, FAST, CT, OR)
  - Decide consults and disposition

- **Scribe RN**
  - Record clinical information on flowsheet
  - Record/monitor I & Os
  - Obtain and verify MRN
  - Any other documentation needs

**Respiratory Therapist**
- Assist with airway mgmt
- Set up suction, O2, vent, EtCO2
- Manage ventilation

**Child Life Specialist**
- Support awake patients
- Provide ONE VOICE
- Other duties as needed

**HDVCH Trauma Roles and Responsibilities, Version Date 1/22/15**
TRAUMA TEAM

Adult Trauma Att: Zadwinski
Ped Trauma Att: DeCou

Trauma Res: Yoo
Trauma Intern: Knoll
Primary RN: Cheryl
Secondary RN: Tim
Respiratory: Kort
Pharmacy: Brad
Tech: Mike

Date: 1/31
Pager: 3971
Pager: 1304

PATIENT INFO:

Age, gender, mech: 14 yo Male MVC
ETA: 10 min
Airway: ETT
Breathing: bagged
Circulation: weak pulses
GCS: 12
Injuries: head, neck, chest
Vital Signs: 115, 90%, 14, 92%
Trauma Time Out

- Phase 2 – Arrival
  - “60 seconds of silence” for EMS report, Q&A
  - Team follows ATLS protocol
  - Communication
  - Voice concerns
Trauma Time Out

- Phase 3 – Post resuscitation
  - Team leader communicates to the team
    - Current diagnoses
    - Patient disposition
    - Any change in status
  - Physician and nurse handoffs
Trauma Time Out Quick Reference

Pre-Arrival Brief – “Time Out”
- Trauma Team badge in, sign white board, PPE and lead on
- Team Leader is identified:
  1. Roll Call with names & assigns CPOE MD, maintains crowd and noise control
  2. ED RN provides pre-hospital report to team
  3. Establishes a plan for patient arrival, shares the plan & potential problems

Arrival
- “60 Seconds of Silence” for EMS to report and answer questions
- Follow ATLS protocol
- Team Leader maintains control of resuscitation
- Closed-loop communication and safety behaviors
- Team members voice any concerns
- Charge Nurse to ensure workload & resource allocation

Post Resuscitation Team Communication
Complete prior to transport to unit disposition
- Team Leader communicates current diagnoses, CT results, patient disposition and/or change of status to Trauma Team (trauma attending, consultants, nurses, OR, etc.) AND patient family
- Team Leader handoff report of clinical status and plan of care to physician providers (Anesthesiologist, Intensivist, etc.)
- Primary RN handoff report to receiving unit
Trauma Time Out
Team Lead Script

Pre-arrival Brief – Time Out

- [Ask everyone to quietly badge in, sign stickers, put PPE on]
- Take position by the stretcher
- “My name is [name], I am the trauma team leader, please each state your name and your role.” Roll call.
- “Are we missing anyone?” [assign a CPOE physician, green triangle]
- To Charge Nurse: “Please give the report.” Charge nurse report
- “To keep the code quiet, all non-essential personnel please step out. The charge nurse will continue to maintain crowd and noise control during the code.”
- [Describe any plans for patient arrival – planned intubation, anticipated supplies, medications, consultants, etc]

Arrival (“60 seconds of silence”)

- “Everyone quiet please for report.” EMS reports
- Continue with ATLS

Post Resuscitation

- Answer the following to the team:
  - What do we know?
  - Where are we going?
  - What/who do we need?
Simulation

- In Situ
- Multidisciplinary
- Adult and pediatric
Simulation

- Objectives:
  - Non-technical skills
  - Technical skills
Simulation

- Non-Technical Skills:
  - Communication and interaction
  - Leadership
  - Cooperation and resource management
  - Assessment and decision making
  - Situational awareness and coping with stress


*ACS/APDS Surgical Skills Curriculum for Residents, Phase III

Faculty Evaluation

Topic: Pediatric Trauma Simulation

Please rate the following behaviors, and identify the safety behaviors:

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<tbody>
<tr>
<td>Leadership</td>
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<td>Clearly defined Team Leader, good time management, all tasks completed, non-hierarchical</td>
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<td>Observed:</td>
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<td>Cooperation and Resource Management</td>
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<td>All team members clearly fill a role and perform all designated tasks</td>
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<td>Identity of all members not clear, some do not perform assigned tasks</td>
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<td>Observed:</td>
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<td>Communication and Interaction</td>
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<td>Clear communication with Team Leader as a hub, related to scribe</td>
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<tr>
<td>Communication not always through Team Leader, or not related rapidly to scribe</td>
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<td>Observed:</td>
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<tr>
<td>Assessment and Decision Making</td>
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<td>Orderly and complete Primary and Secondary surveys, plan is communicated to team</td>
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<td>Assessment somewhat out of order, all major tasks complete</td>
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<td>Observed:</td>
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<td>Situation Awareness/Coping with Stress</td>
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<td>Unexpected findings and distractions did not upset systematic and orderly flow, Team is calm and plans ahead</td>
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<td>Unexpected findings caused disruption but did not prevent task completion</td>
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<td>Observed:</td>
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Additional Comments:

*Adapted from Steinmann et al. Assessing teamwork in the trauma bay: Introduction of a modified “NOTECHS” scale for trauma, AJST 2012(203)69-75.
Simulation

Technical Skills:
- Primary survey (ATLS)
- Non-assisted intubation
- Diagnostic interpretation (FAST, iStat, radiographs, etc)
- IO placement
- Fluid resuscitation
- Blood administration/massive transfusion
- Chest tube placement
Video here, hopefully…
Simulation

- Faculty teamwork evaluation
- Facilitated debriefing
- Key learning points emphasized
Auditing

Lean methodology

- Kimishibai cards
- Pareto analysis
- Flowsheet changes
Auditing
Post-implementation Survey

- N=122
- Role delineation
- Preparation
- Prioritization
- Teamwork
- Safety

![Bar chart showing responses to questions pre and post implementation.]
Post-implementation Survey

- N=122
- TTO
- Simulation
- TTO occurs
- TTO positive

![Bar Chart](chart.png)

- Q1: 92%
- Q2: 53%
- Q3: 85%
- Q4: 89%

- No/False
- Yes/True
ED LOS – Level 1 Activations

2011 1s
2012 1s
2013 1s
2014 1s
2015 1s
ED LOS (2014)

- MD A: Avg ED LOS 1s, 89.1
- MD B: Avg ED LOS 1s, 94.3
- MD C: Avg ED LOS 1s, 121.1
- MD D: Avg ED LOS, 43.5
- MD E: Avg ED LOS, 167.3

Legend:
- Green: Avg Response
- Blue: AVG ED LOS 1s
- Red: Avg ED LOS
Auditing

- For PI only
- Password protected
- DVR overwriting
- Legal/risk approved
- Analytics
- Checklist
Future state...

- Continued monitoring
- Involvement of EMS
- Expanded role of SIM in ICU, HDVCH ED curriculums
Special Thanks to…

Amy Koestner, RN
James DeCou, MD
Gaby Iskander, MD
Emily Durkin, MD
Ken Minks, MD
Andrea Rocafort, RN
Matthew Denenberg, MD
AND MANY OTHERS!
Thank You!

It was once said that if you took all of the people who fell asleep in church and laid them end to end they would be more comfortable.

(Anonymous)

izquotes.com