

Collaborative Relationship Between ED and ICU Nurses

Lee Ann Wurster MS, RN, TCRN, CPNP-PC
Trauma and Burn Program Manager



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Objectives

- ▶ Explain the Trauma Nurse Leader and Trauma Nurse Resource roles
- ▶ Describe the impact of the Trauma Nurse Leader and Trauma Nurse Resource roles on pediatric trauma care
- ▶ Identify resources needed to implement the collaborative roles



Disclosures

No financial interest or other relationships with commercial entities



Our Trauma Program

- ▶ Level 1 Pediatric ACS Verified Trauma Center
- ▶ ABA Verified Pediatric Burn Center
- ▶ CARF- Approved Rehabilitation Center

- ▶ 2021 Trauma Census
 - >2400 trauma registry patients
 - >700 trauma alert activations

- ▶ Emergency Department
 - 62 exam rooms and volume of >99,000
 - 4 trauma bays and 4 critical care rooms

- ▶ Pediatric Intensive Care Unit (PICU)
 - 54 bed unit
 - Approximately 125 trauma patients admitted to the ICU annually



What is a TNL and a TNR?

Trauma Nurse Leader (TNL)

- Core group of trauma care nurses
- Provides an experienced group of nurses who are consistently at the bedside
- Provide a focus group for PI review
- Facilitate trauma team cohesion and communication
- PALS, TNCC, ACLS certified

Trauma Nurse Resource (TNR)

- Trauma focused critical care role
- Management of complex-high acuity interventions
- Advanced level of critical care thinking
- Provide a focus group for PI review
- Evolved into a collaborative group to ensure continuity across the care continuum
- PALS certified



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Why?

- ▶ Right thing to do for the patient
- ▶ Inconsistencies in trauma care
- ▶ Needed trauma RN expertise
- ▶ Varied methods for team communication
- ▶ Difficult to reach all staff with specialized trauma education
- ▶ Staff satisfaction/retention



Key Functions of the Roles

TNL

- ▶ Team leader
- ▶ Documentation
- ▶ Communication
- ▶ Nurse resource
- ▶ Expedite transfer to definitive care
- ▶ Trauma education
- ▶ Collaboration with trauma team
- ▶ Focused competencies on high risk, low volume skills
- ▶ Monthly chart audits
- ▶ Trauma research
- ▶ PI follow-up

TNR

- ▶ Trauma leadership
- ▶ Develop and maintain PICU trauma care guidelines
- ▶ Unit audits
- ▶ Cervical collar compliance
- ▶ 20 minute check-ups**
- ▶ Trauma education
- ▶ Collaboration with trauma team
- ▶ Focused competencies on high risk, low volume skills
- ▶ Trauma research
- ▶ PI follow-up

Benefits to the Nurse

- ▶ Establishes a professional ladder
- ▶ Job satisfaction
- ▶ Healthy work environment
- ▶ Focused trauma education
- ▶ Empowerment
- ▶ No direct financial kickbacks
 - Conferences
 - Performance evaluation
 - Education



Benefits to the Organization

- ▶ ACS verification
- ▶ Documentation
- ▶ Nursing retention
- ▶ Magnet
- ▶ Facilitates team approach
 - Mentoring
 - Precepting
 - Communication



Benefits to the Organization

- ▶ Nursing contribution to policies and procedures
- ▶ Fosters research
- ▶ Quality indicators have improved
- ▶ Disaster preparedness
- ▶ Healthy work environment
- ▶ Enhanced care delivery
- ▶ Nurse led patient care initiatives



Trauma Nurse Leader



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Trauma Nurse Leader Application

Name: _____

Date: _____

Complete the following information:

1. Experience Requirements:

- ▶ *Minimum of 2 years of trauma nursing experience (as an FTE of 0.4 or greater if now contingent)
- ▶ * Minimum 1 year as NCH ED trauma nurse
- ▶ * If currently contingent staff, you must have averaged 16 hours a week since going contingent and agree to maintain an average of 16 hours a week.

Please list dates and places for trauma experience and contingent dates if applicable.

1. Give examples of leadership skills: (i.e. Charge Nurse, PFC, committees, projects, etc.)

▶ _____

1. I have reviewed and understand the Trauma Nurse Leader Fellowship role description:

_____ (Initial)

1. Briefly discuss why you should be considered for the Trauma Nurse Leader role:

I am interested in applying for the Trauma Nurse Leader role and will commit to work with the trauma/critical care team to consistently evaluate and improve the quality of care provided to our ill/injured patients in the Emergency Department at Nationwide Children's.

Signature: _____

TNL Program Mission:

To advocate for the most innovative, family centered care ensuring the best quality outcomes while using cutting edge technology, assessment and interventions. To contribute to pediatric trauma knowledge and education through a model of mentorship.

Vision:

The TNL Program will create an environment that ensures optimal care is provided to all trauma patients through: Ongoing education, mentorship, leadership training, process improvement, research, and collaboration across the continuum of trauma care.

Fellowship

- ▶ TNL mentor
 - Individual training of specific role responsibilities
- ▶ Education
- ▶ Focused project within 12 months
- ▶ CPEN required within 12 months



Structure

- ▶ Formalized role description
- ▶ TNL role included in staffing numbers
- ▶ Required to work a minimum of 32 hours per month
- ▶ 24 hour TNL coverage
- ▶ Meet monthly
 - Chair, co-chair and secretary
 - Minimum attendance requirement
- ▶ Trauma simulations
- ▶ Trauma boot camps/annual competencies



TITLE: Trauma Nurse Leader

The TNL is required to have experience and medical expertise in the management of the severely injured or ill patient. They must also possess excellent communication and critical thinking skills in order to effectively optimize team performance. While maintaining situational awareness and technical support for trauma and critical care patients, the TNL ensures team accountability through identification of actual or potential complications.

QUALIFICATIONS:

1. Pediatric Advanced Life Support (PALS) certification
2. Trauma Nursing Core Course (TNCC) certification
3. Advanced Cardiac Life Support (ACLS) certification
4. Minimum two years of trauma or critical care nursing experience with at least one year at Nationwide Children's Hospital
5. Certified Pediatric Emergency Nurse (CPEN) certification within one year of onboarding as trauma nurse leader

COMPETENCIES

1. Successful completion of emergency department trauma orientation
2. Successful completion of competencies listed under "Trauma Care Nurse"
3. Successful completion of emergency department annual skills assessment
4. Two hours of trauma education each year
5. Maintain PALS/TNCC/ACLS/CPEN certifications
6. Attends at least 80% of the monthly TNL meetings
7. Proficient in trauma care protocols, policies, and procedures
8. Serves as role model for equipment, procedures, and skills in the trauma room



PRE-ARRIVAL RESPONSIBILITIES

1. Immediate response to the trauma room upon activation of the trauma alert pager system
2. Identify presence upon arrival to the trauma room to documenting RN
3. Ensures all members of the trauma alert team have arrived and the inner core members are at the bedside
4. Assists in allocation of nursing team roles and supports role deficits
5. Ensures PPE is worn, including gown, gloves, lead apron and goggles
6. Assure that all equipment in the trauma room is available and operational before patient arrival

RESUSCITATION PHASE RESPONSIBILITIES

1. Assures appropriate team members have knowledge of fluids and medications given prior to arrival
2. Facilitates logistical aspects of patient care and organizes additional staff as needed
3. Assures care provided follows established care guidelines
4. Monitors that fluid resuscitation is appropriate for weight and is delivered warm and rapid
5. Collaborates with the team leader to provide oversight of patient progress, including ongoing evaluation
6. Assures warming methods are initiated and continued when appropriate
7. Delegates cardiopulmonary resuscitation (CPR) to appropriate “outer core” team members as needed
8. Anticipates medications/equipment needs and obtains prior to transport
9. Collaborates with all nurses in the room and assures effective communication between team members
10. Prioritizes and assists with nursing interventions directed by facility-established protocols, guidelines, and ongoing patient assessment
11. Assures effective communication with operating room nurse and facilitates timely transfer to the OR when indicated
12. Is available for advice and support to trauma care nurses
13. Has overall view of patient and communicates important observations with trauma team leader
14. Expedites transfer of patient to definitive care

At all times ensures good team communication through use of clear and concise statements, along with closed loop communication, and alerts trauma team leader to new information as it becomes available.



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ONGOING PROCESS IMPROVEMENT

1. Assists the team in assuring rooms are restocked and prepared for next patient after each use
2. Provides feedback to the trauma program on quality and flow and makes recommendations as needed on how to improve the process
3. Communicates system and/or patient care concerns to ED leadership or the trauma program, as applicable
4. Provides trauma education to interdisciplinary roles within emergency department
5. Mentors new trauma nurse leaders into the role
6. Participates in community outreach opportunities when available
7. Attends trauma grand rounds as an active member



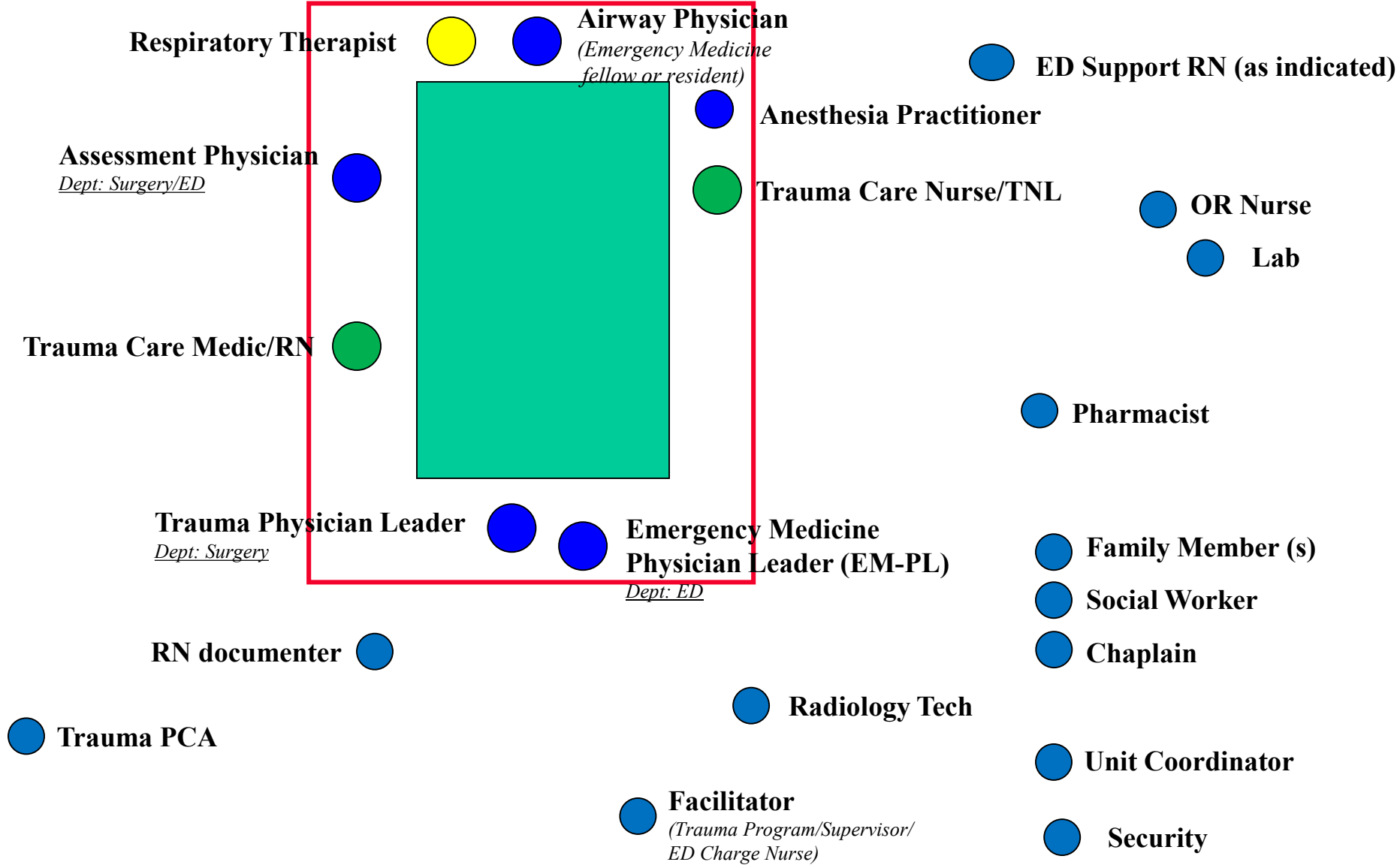
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Trauma Program Policy

Nationwide Children's Hospital
Columbus, Ohio

Level 1 Trauma Alert



Standing Agenda Items

- ▶ Current PI opportunities
- ▶ Review chart audits
- ▶ Guest speakers
- ▶ Case review
- ▶ Hands on equipment learning



Examples of Quality Initiatives

▶ Electronic Trauma Documentation

A comparison of paper documentation to electronic documentation for trauma resuscitations at a level I pediatric trauma center

Carla Coffey¹, Lee Ann Wurster², Jonathan Groner¹, Jeffrey Hoffman¹, Valerie Hendren¹, Kathy Nuss¹, Kathy Haley¹, Julie Gerberick¹, Beth Malehorn¹, Julia Covert¹

Affiliations + expand

PMID: 24996509 DOI: 10.1016/j.jen.2014.04.010

Electronic documentation of trauma resuscitations at a level 1 pediatric trauma center

Lee Ann Wurster¹, Jonathan I Groner, Jeffrey Hoffman

Affiliations + expand

PMID: 22673072 DOI: 10.1097/JTN.0b013e31825629ab



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Examples of Quality Initiatives

- ▶ Electronic Trauma Documentation
- ▶ **Mindful Moments**



Examples of Quality Initiatives

- ▶ Electronic Trauma Documentation
- ▶ Mindful Moments
- ▶ **Disaster preparedness**



Examples of Quality Initiatives

- ▶ Electronic Trauma Documentation
- ▶ Mindful Moments
- ▶ Disaster preparedness
- ▶ **Time to antibiotics for open fractures**



Examples of Quality Initiatives

- ▶ Electronic Trauma Documentation
- ▶ Mindful Moments
- ▶ Disaster preparedness
- ▶ Time to antibiotics for open fractures
- ▶ **Equipment competencies**



Examples of Quality Initiatives

- ▶ Electronic Trauma Documentation
- ▶ Mindful Moments
- ▶ Disaster preparedness
- ▶ Time to antibiotics for open fractures
- ▶ Equipment competencies
- ▶ **Communication**



Examples of Quality Initiatives

- ▶ Electronic Trauma Documentation
- ▶ Mindful Moments
- ▶ Disaster preparedness
- ▶ Time to antibiotics for open fractures
- ▶ Equipment competencies
- ▶ Communication
- ▶ **TNL/TNR collaborations**



Lessons Learned



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Trauma Nurse Resource



Trauma Nurse Resource (TNR)

- ▶ Developed by PICU and trauma program leadership
- ▶ Trauma focused critical care nursing role
- ▶ Management of complex, high acuity interventions requiring advanced level of critical thinking

- ▶ > 1 500 admissions annually
 - > 125 admitted to PICU (8%)

- ▶ 1 15 PICU nurses
 - 14 TNRs (12%)



Minimum Requirements

- ▶ Minimum of 2 years experience as a PICU nurse
- ▶ Pediatric Advance Life Support (PALS) certification
- ▶ Positive standing within the department
- ▶ Maintain minimum 0.6 FTE

- ▶ Once selected, members must complete the following:
 - Attend at least 80% of the bi-monthly TNR meetings
 - Obtain additional hours of trauma education annually
 - Pediatric Care after Resuscitation (PCAR)
 - Trauma Grand Rounds
 - Pediatric Trauma Across the Care Continuum (PTACC)



Place Patient sticker here

Trauma Patients in NCH PICU 2015

Admission Date _____

Psych Consult _____ Order Completed _____

Transfer Date or Death _____

Tertiary Survey _____

PMR Consult Placed Y/N Date _____

MTP activated _____ D'cd date _____

AOD Completed (All trauma patients 11 yrs and older) _____

Social Worker Consult _____ Order Completed _____

Urine Etoh Urine Drug CRAFFT

GCS at PICU Admission Last GCS before transfer _____

Burn (list degrees and TBSA%) _____

C-Collar cleared on _____

Complications in the PICU

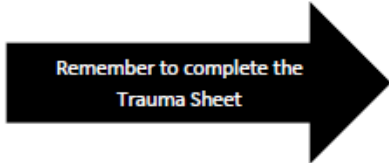
MOI _____

Injuries _____

Concerns _____

Key: PMR-physical medicine and rehabilitation MTP- Mass Transfusion Protocol AOD- Alcohol or other drug Urine Etoh- Urine alcohol MOI-mechanism of injury

Please replace sheet once completed in universal form bin located at each workstation



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ED to PICU Sign Out Place form in designated area in the unit after handoff. Do NOT place in patient's Chart.

Present (Trauma Team): Surgeon or Fellow or Involved Res _____

Present (PICU): Attending or Fellow _____; Nurse _____; RT _____; Resident/APN _____

Are we ready for hand off? (Name Game, ICU med team, ICU Nursing, Resp therapy, Room Silence)

o Patient name _____ MR# _____ Age _____ Weight _____ kg(Est/Actual)
Allergies _____ EBL: _____ Fluids In: Crystalloid _____ Colloid _____

- o **MOI:**
- o **Pertinent Past History:**
- o **Injuries:**
- o **Family/Social Issues:**

AIRWAY/RESPIRATORY N/A

- o Easy/Difficult/Critical ETT/Trach Size _____ depth _____ cm Laryngoscope Miller/Mac _____ Attempts _____ Who Intubated: (Res/Fellow/Anesthesia)
- o If Difficult why? _____ If Critical, why? _____ Placement confirmed by x-ray: (Y/N)
- o Baseline SpO2 _____ Most recent SpO2 _____ CBG/VBG/I-Stat. pH _____ /pCO2 _____ /pO2 _____ /HCO3 _____ @time: _____
- o Ventilator Settings _____ Oxygen _____ Non-Invasive _____
- o **Precautions/Problems:**

CARDIOVASCULAR N/A

- o Access: PIV _____ IO _____ CVL _____
- o ECG: NSR (Y/N)
- o Inotropic Support: None/ Dopamine mcg/kg/min _____ Epinephrine mcg/kg/min _____
- o **Precautions/Problems:**

SKIN INTEGRITY N/A

- o Abrasions _____ Lacerations _____ Rash _____
- o C-Collar _____ Limitations to movement? _____

NEUROLOGIC N/A

- o Medications & Last Dose:
- o GCS _____ Pupils equal/reactive:(Y/N) Mvmt: (Y/N) Verbal: (Y/N)
- o **Precautions/Problems:**

RENAL N/A

- o Foley _____ UOP _____
- o **Precautions/Problems:**

HEMATOLOGIC N/A

- o Blood Products Given: RBC _____ ml Plts _____ FFP _____ Cryo _____
- o Blood Type _____ (If Transfused)

SURGICAL CONCERNS N/A

- o Drains/Tubes: _____
- o **Precautions/Problems:**

ID N/A

- o Antibiotics _____ Last Dose: _____; o Temp _____; o Tetnus _____

LABS/TESTS N/A

- o X-Ray _____ CT Scan _____ AOD _____ Pregnancy _____
- o Chemistries Na _____ K _____ Ica/Ca _____ Glucose _____
- o HgB _____ Hct _____ Coags _____
- o Consults placed prior to admission to ICU:

Completed by: _____ Date/Time: _____

o **Plan:**



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Examples of Role Functions

**“20 Minute Checkups”

- ▶ Mini training sessions with the high risk, low volume equipment
 - Structure: Each skill was developed as a module for consistency between instructors
 - Process: TNR leadership team → individual TNRs → PICU nursing staff
 - Skills: Needs assessment by the unit educator and from unit based competency questions that developed from the previous year



Summer "Break"?

After PICU, Rehab "lights" the way to recovery

What is Rehab?

- Support individualized therapy
- Coordinate physical therapy, speech therapy
- Support team (social workers, PT/OT, dietitian, nurse, pharmacist, etc.)
- Monitor progress

Why Discharge Rehab Team?

- Support individualized therapy
- Coordinate physical therapy, speech therapy
- Support team (social workers, PT/OT, dietitian, nurse, pharmacist, etc.)
- Monitor progress

Rehab Therapies

- Physical therapy
- Occupational therapy
- Speech therapy
- Music therapy
- Art therapy
- Recreational therapy
- Support group
- Family therapy
- Case management

Remember this??



SUBMERSION INJURY (near DROWNING)

"Survival, at least temporarily after
aspiration of fluid into the lungs."

PULMONARY

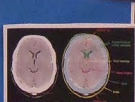
- **Water aspiration** occurs in near-drowning
- **Water aspiration** children between 1 and 6 years of age, and persons with low water-immersion status
- **Water aspiration** causes:
 - 1) Pulmonary edema
 - 2) Atelectasis
 - 3) Hypoxemia
 - 4) Hypoxemia
 - 5) Hypoxemia
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 - 5) Hypoxemia

outcomes

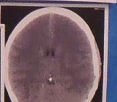
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neuro

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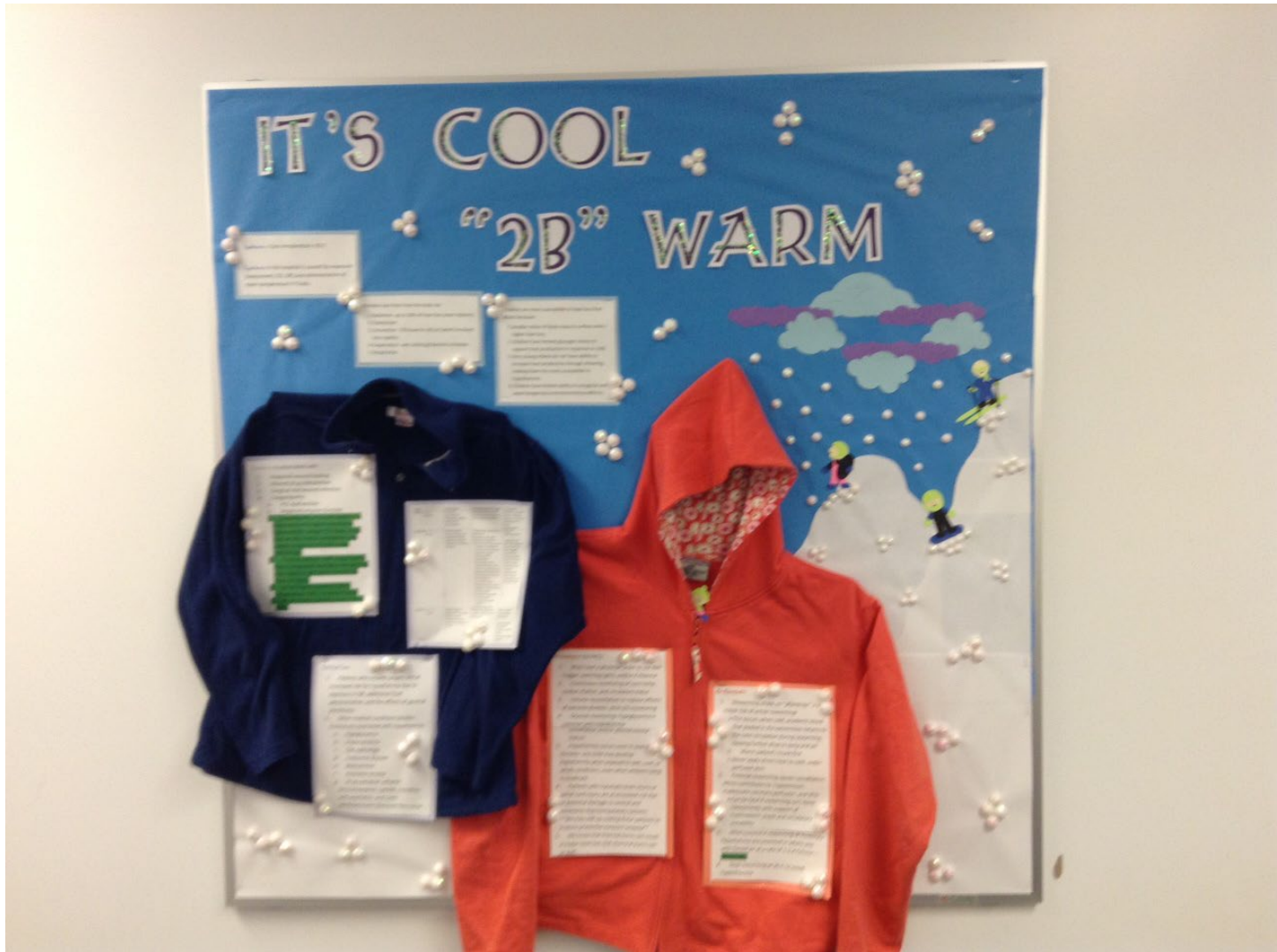


Normal CT Scan



Diffuse Cerebral Edema





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Measures of Success

- Improved efficiency of trauma education for clinical staff
- Contributed to the magnet process for Nationwide Children's Hospital
- Provided incentive for retention of nursing staff
- Enhanced quality outcomes
- Met ICU nursing education standards for trauma re-verification
- Participated in a collaborative relationship with the nurses in the Emergency Department



How the Roles Became Collaborative?

- ▶ ED and PICU nurse educators identified a need
- ▶ Shared education interests
- ▶ Equipment utilization
 - Rapid infuser
 - ICP monitoring
- ▶ Trauma program identified benefit of roles as part of the PI process



Examples of Collaborative Quality Initiatives



Education

**Process
Improvement**

Team Building



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Structure

TNL

- ▶ No additional FTE's
- ▶ TNL role included in staffing numbers
- ▶ Required to work a minimum of 32 hours per month
- ▶ 24 hour TNL coverage

TNR

- ▶ No additional FTE's
- ▶ TNR not directly assigned to role during shift
- ▶ No minimum work requirement

Financial Costs

TNL

- ▶ Trauma program support
- ▶ ED education funds
- ▶ Estimated annual cost
 - Meetings: 3 hours/month
- ▶ Attendance at monthly trauma grand rounds

TNR

- ▶ Trauma program support
- ▶ PICU education funds
- ▶ Estimated annual cost
 - Meetings: 2 hours every other month
- ▶ Attendance at monthly trauma grand rounds

Financial Costs

TNL

- ▶ 3 hours per month
- ▶ 22 TNL's
- ▶ Avg. rate \$35/hr
- ▶ Including benefits, opportunity costs and overtime

\$42,000/year

TNR

- ▶ 2 hours bi-monthly
- ▶ 14 TNRs
- ▶ Avg. rate \$35/hr
- ▶ Including benefits, opportunity costs and overtime

\$10,000/year

Cost of 1 serious safety event:

\$440,000

Brilli, RJ, McClead, RE, Crandall, WV, et al. A comprehensive patient safety program can significantly reduce preventable harm, associated costs, and hospital mortality. Available from:

<http://dx.doi.org/10.1016/j.peds.2013.06.031>. Accessed: 08/28/2014;

Published: December, 2013.



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Final Thoughts



- ▶ There will be bumps in the road
- ▶ Be thoughtful about sustainability
- ▶ Create a platform that fosters empowerment
- ▶ Collect and use data to support the value of their worth



Questions?



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