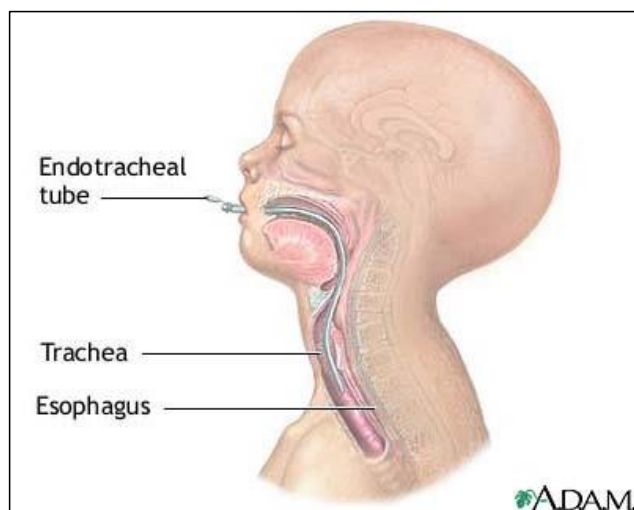




Unplanned Extubation (UE)

UNPLANNED EXTUBATION (UE): Any unintentional dislodgement of an endotracheal tube that is providing ventilation to a patient's lungs. SPS uses pediatric subject matter expertise and evidence in the literature as its guide for defining UE.



<https://medlineplus.gov/ency/imagepages/9295.htm>

UE PREVENTION BUNDLE: A prevention bundle is a set of evidence-based care practices that when performed reliably, has been proven to improve specific patient outcomes.

Central Line Associated-Blood Stream Infection (CLABSI)

CLABSI: A laboratory-confirmed bloodstream infection where an eligible bloodstream infection organism is identified, and an eligible central line is present at least

two calendar days into the patient's admission to the hospital. SPS uses the National Healthcare Safety Network (NHSN) as its guide for defining

UE Prevention Bundle – Standard Elements

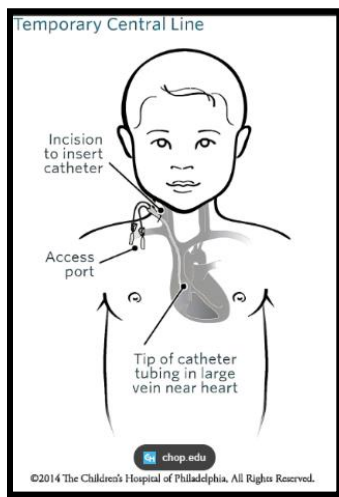
1. Use of standardized anatomic reference points and securement methods
 - a. Two licensed clinicians are present for securing, repositioning, and manipulating endotracheal tubes
 - b. Use of consistent anatomic reference points
 - c. Hospital-wide standard securement method
2. Application of protocol for high-risk situations

UE Prevention Bundle – Recommended Elements

1. Conduct a multidisciplinary apparent cause analysis for each UE event
2. Actively discuss extubation readiness of ventilated patients during multidisciplinary rounds



Central Line Associated-Blood Stream Infection (CLABSI)



CLABSI: A laboratory-confirmed bloodstream infection where an eligible bloodstream infection organism is identified, and an eligible central line is present at least two calendar days into the patient's admission to the hospital. SPS uses the National Healthcare Safety Network (NHSN) as its guide for defining CLABSI and aligns with national standards for central line care.

CLABSI PREVENTION BUNDLE: A prevention bundle is a set of evidence-based care practices that when performed reliably, has been proven to improve specific patient outcomes.

CURRENT SPS IMPROVEMENT WORK: Throughout 2024, SPS offered a network educational series focused on an in-depth review of the execution of the maintenance bundle in the lens of today's current challenges and barriers.

CLABSI Prevention Bundle Standard Elements – Insertion

1. Hand Hygiene
2. Chlorhexidine Gluconate (CHG) scrub to clean skin with an antiseptic
3. No iodine ointment
4. Prepackaged or filled insertion cart, tray, or box
5. Insertion checklist with staff empowerment to stop non-emergent procedures
6. Full sterile barrier for providers and patients
7. Insertion training for all providers

CLABSI Prevention Bundle Standard Elements – Maintenance

1. Daily discussion of line necessity, functionality, and utilization including bedside and medical care team members
2. Regular assessment of dressing to assure clean/dry/occlusive (intact)
3. Standardized access procedure
4. Standardized dressing, cap, and tubing change procedures/timing
5. Daily Chlorhexidine Gluconate (CHG) treatments

CLABSI Prevention Bundle Recommended Elements – Maintenance

1. An in-depth review of all identified CLABSI with multidisciplinary involvement
2. Daily linen changes



Ambulatory Central Line-associated Blood Stream Infection (CLABSI)

AMBULATORY CLABSI: A laboratory-confirmed bloodstream infection where an eligible bloodstream infection organism is identified, and an eligible central line is present in a patient receiving care in the ambulatory setting.

CURRENT SPS IMPROVEMENT WORK:

Beginning in October 2022, 32 hospitals within the SPS Network volunteered to join the Ambulatory CLABSI Improvement Cohort. The SPS Ambulatory CLABSI Improvement Cohort targets patients who have a central line outside of the hospital. The design of the cohort centers on caregivers (parents, family members, guardians) as the experts in their child's care in the home environment.

A Caregiver Preparedness Prevention Bundle is being tested to help build caregiver capacities as they navigate complex healthcare challenges for their child with a central line. SPS will publish results to the network after cohort testing is complete.

Ambulatory CLABSI Prevent Bundle – Caregiver Preparedness Bundle	
Elements	Descriptions
Pre-Discharge Preparation	Prior to the day of discharge, two caregivers (and patient optional) will receive central line care preparation from a clinician with subject matter expertise. Preparation includes education with demonstration of understanding and verification of supply availability.
Follow Up Post Discharge	Caregivers receive a meaningful follow-up interaction 24-48 hours after discharge with a clinician with subject matter expertise in central line care to assist with questions and concerns.
Central Line Maintenance Guideline	Caregivers use the standard steps outlined in the Central Line Maintenance Guideline when caring for their child's central line outside the hospital. The Central Line Maintenance Guideline is aligned with the Centers for Disease Control and Prevention (CDC) National Standards for central line care.
Communication Protocol to Escalate Line Issues	Caregivers are given a formalized protocol to escalate line issues. This may include a phone call or telehealth visit. Issues escalated by caregivers are returned within 24 hours, advised when to seek emergency care, and protocol is communicated clearly in the discharge preparation.



Serious Employee Harm from an Overexertion (OE)

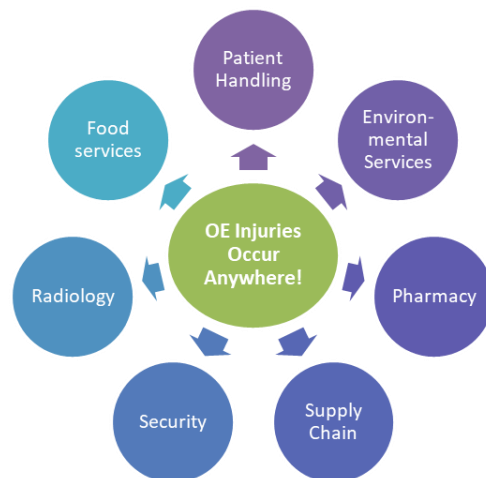
SERIOUS EMPLOYEE HARM FROM AN OVEREXERTION:

Physical injury to staff due to overexertion that results in the staff having workdays away, restricted or transferred. Overexertion injury can occur as a result of chronic or acute pushing, pulling stretching, reaching, lifting, bending, throwing, twisting, turning, awkward or static positions or repetitive motion tasks.

SPS uses the U.S. Department of Labor's Occupational Health & Safety Administration (OSHA) as its guide for defining its serious harm metric of Days Away, Restricted or Transferred (DART).

CURRENT SPS IMPROVEMENT WORK:

SPS's 2023-2024 Overexertion Improvement Cohort worked to increase reliability to and efficacy of the following local hospital leadership responsibilities for OE prevention. Collectively, the cohort had a 24.6% decrease in their Serious Employee Harm from OE rate. Learnings from the improvement cohort are informing the development of next steps in the Network-wide OE improvement approach.



Leadership Responsibilities for OE Prevention

CEOs & Top Pediatric Leaders	Directors	Microsystem Leaders
<ul style="list-style-type: none">•Prioritize employee safety through transparent goal setting•Set the tone for an organizational culture of employee safety•Create, support, and enforce employee safety oversight infrastructure	<ul style="list-style-type: none">•Understand the risks and barriers for OE prevention in respective service lines•Take ownership of reviewing, understanding, and communicating OE data to executive leadership team•Collaborate with upper leadership (directors/VPs) to design and maintain systems that optimize OE prevention	<ul style="list-style-type: none">•Advocate to leadership for unit OE needs by reviewing all current injuries, risks, and safety barriers•Empower frontline staff to make decisions that support employee safety and problem solve in real-time•Support and encourage use of safety equipment•Participate in event reviews for OE injuries



Serious Employee Harm from a Patient Behavioral Event (PBE)

SERIOUS EMPLOYEE HARM FROM A PBE: Physical or psychological injury to staff due to patient behavior that results in the staff having workdays away, restricted, or transferred. Patient behavior can include, but is not limited to, intentional or unintentional biting, spitting, pinching, hitting, scratching, pushing, punching, kicking, thrashing, throwing/swinging objects, verbal threats, threatening body language, gestures or invading personal space, physical assault or sexual harassment.

SPS uses the **U.S. Department of Labor's Occupational Health & Safety Administration** (OSHA) as its guide for defining its serious harm metric of Days Away, Restricted or Transferred (DART).

CURRENT SPS IMPROVEMENT WORK:

In 2023-2024, SPS convened network learning opportunities focused on topics relevant to prevention and mitigation of patient behavioral events including:

- Patient Behavioral Risk Identification & Screening
- Behavioral Personal Protective Equipment (BPPE)
- De-escalation Training
- Environmental Modification
- Behavioral Response Teams

In 2024, along with overall network learning on key PBE employee harm prevention topics, SPS hospitals were given the opportunity to participate in two improvement opportunities:

- The PBE Microburst Series was a 3-call series in which hospitals engaged the proactive safety tool Walk-Through, Talk-Through to jumpstart local PBE improvement efforts.
- The PBE Improvement Cohort: Focused improvement testing with a subset of network hospitals with behavioral health units. Participating hospitals have applied Learning Teams to learn from frontline teams and to help inform the next phases of improvement work.



Nephrotoxic Medication-associated Acute Kidney Injury (NAKI)

NAKI: A hospital-acquired condition resulting from exposure to medications that are toxic to the kidneys. While outcome data is only available for a subset of SPS hospitals, NAKI is estimated to be the single most frequent hospital-acquired harm detected by the SPS network. NAKI is associated with the development of chronic kidney disease, longer lengths of stay, and higher total hospital costs.

In many cases, NAKI can be minimized or prevented altogether by limiting nephrotoxic drug exposure. Organized efforts to raise NAKI awareness and implement strategies to minimize nephrotoxic drug exposure are in early stages and warrant additional focus.

CURRENT SPS IMPROVEMENT WORK:

SPS launched a voluntary improvement cohort to reduce unnecessary exposure to nephrotoxic medications to reduce or prevent nephrotoxic medication associated acute kidney injury. This cohort is focused on:

- Processes to detect and measure nephrotoxic medication exposure and duration of exposure as well as detection of NAKI events.
- Testing of improvement interventions focused on reducing unnecessary exposure to nephrotoxic medications:
 - Clinical Decision Support: Hospitals have a process in place to provide clinical decision support to alert when a patient is at risk for nephrotoxic medication exposure.
 - Hospitals have a process in place to conduct a daily assessment of nephrotoxic medication necessity for patients who have reached exposure criteria. Daily assessments should take place for the duration of the exposure event.

1. Hui-Stickle et al (2005) Pediatric ARF epidemiology in a tertiary care center from 1999-2001. American Journal of Kidney Diseases 45 (1):96-101

2. Menon et al (2014) Acute kidney injury with high nephrotoxic medication exposure leads to chronic kidney disease after 6 months. The Journal of Pediatrics 165 (3): 522-527

3. Goldstein et al (2016) A sustained quality improvement program reduces nephrotoxic medication-associated acute kidney injury. Kidney International 90:212-221



Pediatric Hospital-acquired Delirium

PEDIATRIC HOSPITAL-ACQUIRED DELIRIUM: A hospital-acquired state of acute brain dysfunction characterized by fluctuating mental status, inattention, and/or disorganized thinking that occurs as a result of the underlying illness coupled with iatrogenic effects of treatment and the abnormal hospital environment (American Psychiatric Association, 2013).

Within children's hospitals, the PICU is the most studied environment for this condition, but a growing body of evidence highlights the prevalence of the condition in other inpatient settings such as oncology wards, NICU and CICU.

It is estimated to affect 34% of children in the PICU and up to 55% of those on mechanical ventilation, equating to approximately 70,000 children annually. Patient impacts include increased length of stay, increased duration of mechanical ventilation, increased mortality, decline in cognitive status and post-discharge quality of life. Families, care providers, and health care systems are also known to be negatively impacted by hospital-acquired pediatric delirium.

CURRENT NETWORK IMPROVEMENT WORK:

SPS is currently exploring pediatric hospital-acquired delirium as a potential new area of focus in the network safety portfolio. As next steps are identified, more information will be shared with the network.