



Trauma Services

2025 Annual Report

Children's[®]
MINNESOTA

The Kid Experts[®]

Level I Pediatric Trauma Center







“

Now that the dust has settled, the wounds are healing, the bullets removed, and those who are lost mourned — I have one final reflection...

Dear America, cut it out. Stop making school shootings political. The children of this country are the best of us. And it's up to the rest of us to keep them safe. Now let's solve this problem together and find a way to be nice about it along the way. With love. And hope."

— Asitha Jayawardena, MD, Medical Director, ear, nose, throat (ENT) and facial plastic surgery

Jayawardena, A. (2025, Sept. 20). I operated on a boy from Annunciation. Here's what he taught me. *The Minnesota Star Tribune*.

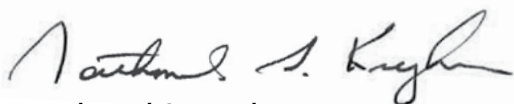
A message from the Medical Director

Now in its 13th year as a verified Level I Pediatric Trauma Center, Children's Minnesota maintains a high level of clinical activity and is once again the busiest pediatric trauma center in the region. This sustained volume reflects both the trust of our referring partners and the reliability of our trauma system.

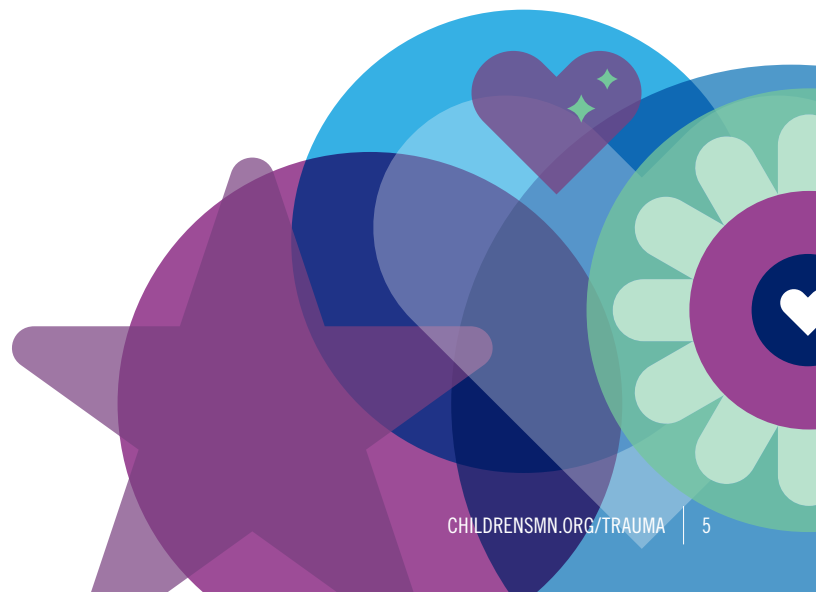
Looking back, 2025 was a trying and defining year in many ways. Children's Minnesota played a significant role in the community's response and recovery following a pediatric mass casualty incident at a local school, providing exceptional, compassionate care to patients and families during an extraordinarily challenging time. Beyond the bedside, providers and staff demonstrated meaningful advocacy, lending their voices to discussions around firearm access and safety expectations to help prevent future tragedies. The program continued its commitment to preparedness and regional leadership through ongoing pediatric disaster planning initiatives within Children's Minnesota, and through participation in the federally funded Region V for Kids collaborative, strengthening readiness for mass casualty and disaster events across the region.

Education, research and injury prevention remain central pillars of the mission of Children's Minnesota's as a Level I Pediatric Trauma Center. In 2025, the injury prevention team's expertise was recognized through invited presentations and teaching engagements at local, regional and national conferences. The organization participated in multicenter studies examining best practices for cervical spine clearance and pancreatic injury management, alongside robust research efforts in neurosciences, otolaryngology and orthopedics. A strong commitment to education was evident through its Trauma Speaker Series, Acute Wound Management and Suturing Workshop, and numerous internal offerings including simulation and nursing education. Finally, the program continued to prioritize patient and caregiver voices through initiatives such as the Beads of Courage program, reinforcing a culture of empathy, partnership and healing.

We look forward to building on these initiatives to meet the needs of patients, families and our community in 2026.



Nathaniel S. Kreykes, MD
Trauma Medical Director



Children's Minnesota trauma services overview



Children's Minnesota Hospital – Minneapolis

As the busiest pediatric trauma center and the only freestanding Level I pediatric trauma center in the region, Children's Minnesota Hospital in Minneapolis provides care for children of all ages. We see more than 90,000 patients annually in our two emergency departments. More than 800 patients are admitted with traumatic injuries on our two campuses, ranging from fractures and concussions to life-threatening head and abdominal injuries. From the moment an injured child enters the emergency department, the trauma team works together to provide the best possible care to promote healing and recovery.

Children's Minnesota Hospital in Minneapolis was reverified by the American College of Surgeons in 2023 as a Level I pediatric trauma center. Children's Minnesota Hospital in St. Paul is a designated Level 4 trauma center and provides trauma care to children in an effort to manage simple injuries and to expedite access to additional resources when necessary. Children's Minnesota Hospital in St. Paul was redesignated as a Level 4 trauma center in October 2022.



Children's Minnesota Hospital – St. Paul

CHILDREN'S MINNESOTA MISSION STATEMENT

We champion the health needs of children and families. We are committed to improving children's health by providing the highest-quality, family-centered care, advanced through research and education.

WE TREAT
1,200+
PEDIATRIC TRAUMA REGISTRY
PATIENTS ANNUALLY FROM
AROUND THE REGION

**DEDICATED
SOLELY TO KIDS**
AS THE ONLY STAND-ALONE
LEVEL I PEDIATRIC TRAUMA
CENTER IN MINNESOTA

**LARGEST PEDIATRIC TRAUMA
TEAM WITH PEDIATRIC
SURGEONS AND CRITICAL
CARE EXPERTS IN-HOUSE**
24/7



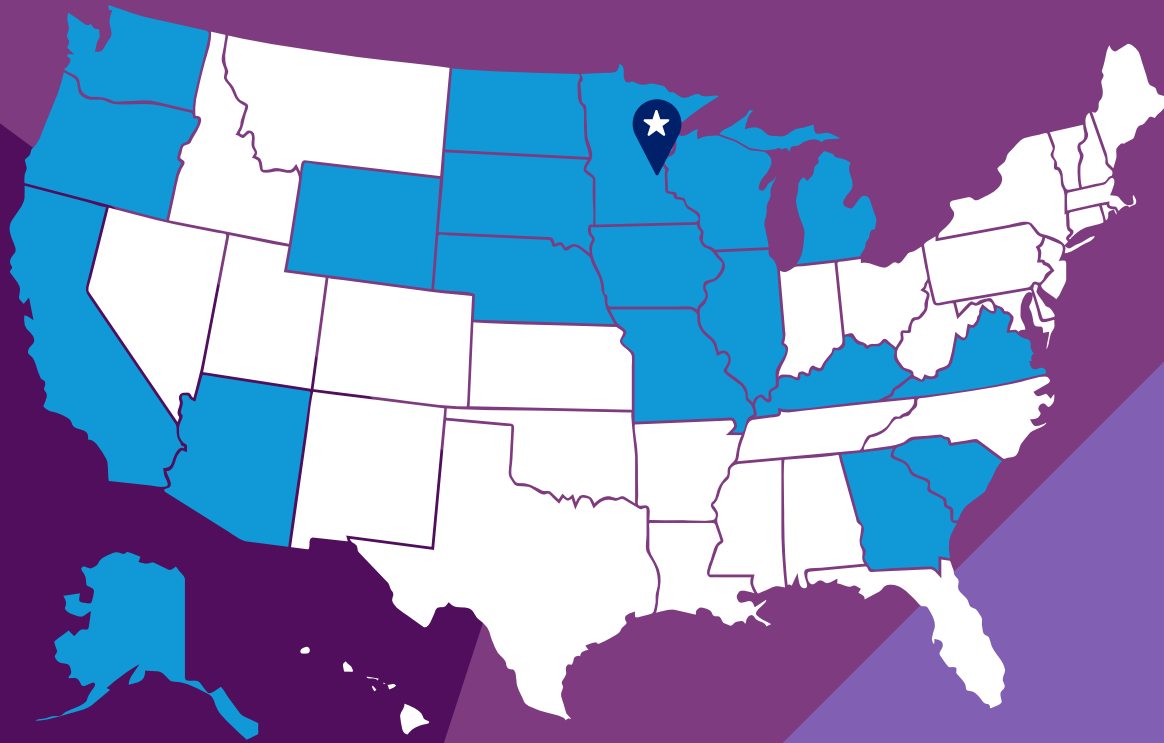
THE
**COMMITTEE
ON TRAUMA**



Minnesota and beyond

Children’s Minnesota is one of the largest pediatric health systems in the United States and the only health system in Minnesota to provide care exclusively to children — from before birth through young adulthood.

The Children’s Minnesota trauma program treats patients from all over the country.* Whether they are visiting family, on vacation or participating in Minnesota sports, we provide trauma services to any child in need.



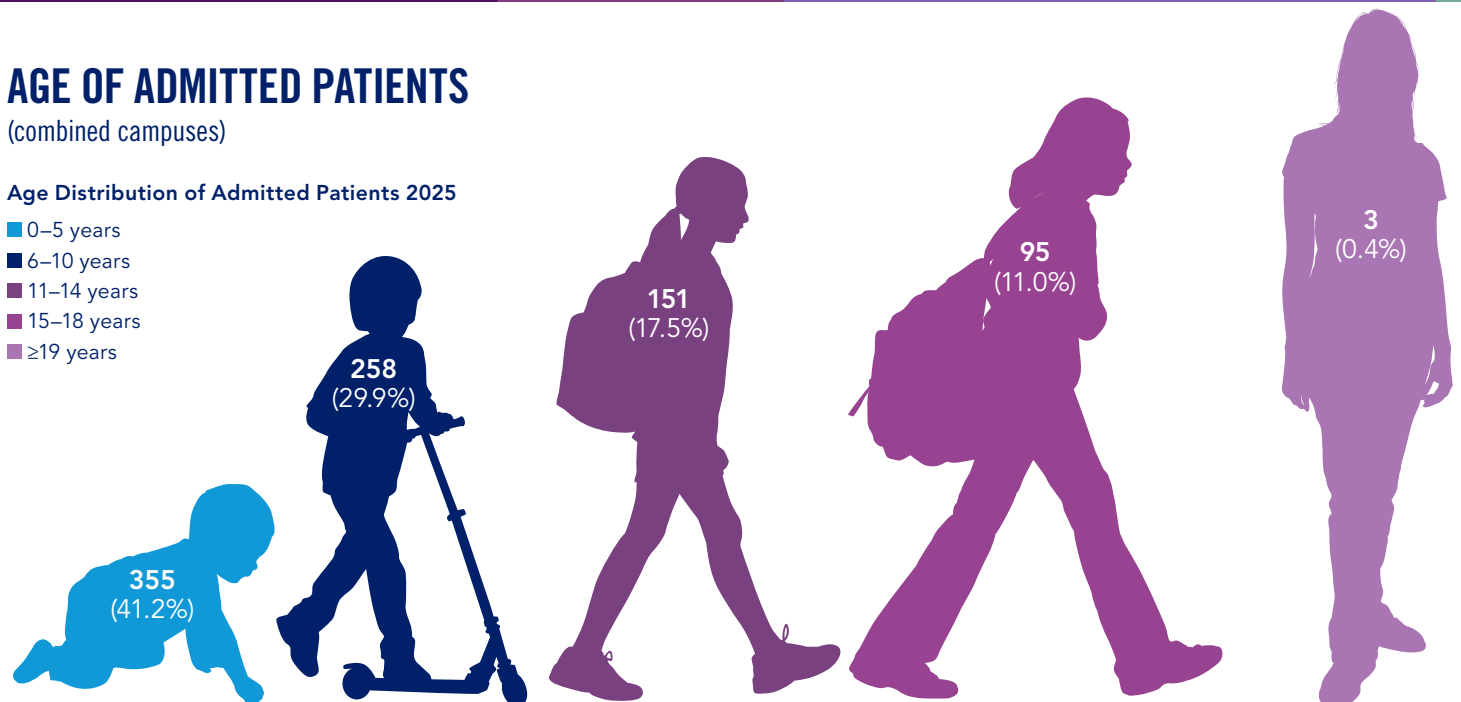
*States pictured in blue represent the residence of at least one trauma patient treated at Children’s Minnesota in 2025.

AGE OF ADMITTED PATIENTS

(combined campuses)

Age Distribution of Admitted Patients 2025

- 0–5 years
- 6–10 years
- 11–14 years
- 15–18 years
- ≥19 years



Trauma care is a team effort

■ PHYSICIANS AND ADVANCED PRACTICE PROVIDERS
■ CLINICAL SERVICES

CASE MANAGEMENT	ADOLESCENT ORTHOPEDIC SURGERY	CHILD LIFE	ANESTHESIOLOGY	INTERPRETER SERVICES	CHILD ABUSE AND NEGLECT (MIDWEST CHILDREN'S RESOURCE CENTER)
CRITICAL CARE	LABORATORY SERVICES AND BLOOD BANK	EMERGENCY MEDICINE	MUSIC THERAPY	GYNECOLOGY	NURSING
NUTRITION SERVICES	HOSPITAL MEDICINE	OCCUPATIONAL THERAPY	INTERVENTIONAL RADIOLOGY	PATIENT REGISTRATION	NEUROLOGY
NEUROSURGERY	PHARMACY	OPHTHALMOLOGY	PHYSICAL THERAPY	ORAL AND MAXILLOFACIAL SURGERY	QUALITY AND PATIENT SAFETY
RESPIRATORY THERAPY	OTOLARYNGOLOGY	RADIOLOGY	PAIN, PALLIATIVE CARE AND INTEGRATIVE MEDICINE	SECURITY	PEDIATRIC ORTHOPEDIC SURGERY
PHYSICAL MEDICINE AND REHABILITATION	SIMULATION	PLASTIC AND HAND SURGERY	SOCIAL WORK	PSYCHOLOGICAL SERVICES	SPEECH LANGUAGE THERAPY
SPIRITUAL CARE	RADIOLOGY	TRANSPORT SERVICES	WOUND OSTOMY CARE	VASCULAR ACCESS	

Meet the team

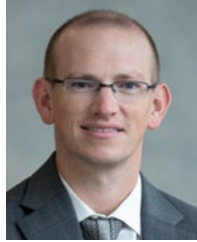
TRAUMA SURGEONS*



Nathaniel Kreykes, MD
Trauma Medical Director,
Minneapolis



Bethany Farr, MD



James Fisher, MD



Brad Linden, MD



Joshua Short, MD



Patricia Valusek, MD



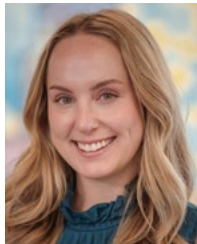
David Wahoff, MD

* These providers are independent providers who provide some services at Children's Minnesota. These providers are not employees of Children's Minnesota.

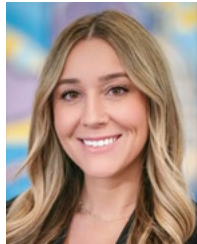
TRAUMA ADVANCED PRACTICE PROVIDERS (TAPPS)



Mariya Bowen, DNP, CPNP-AC/PC



Ariana Effenbein, PA-C



Samantha Johnson, APRN, FNP-C, ENP-C



Tana Lukes, DNP, PNP-AC/PC



Noelle Noah, PA-C



Anne-Marie Perry, PA-C; Associate Medical Director



Krista Renschen, PA-C

NOT PICTURED

Valerie Ross, PA-C

Nicole Setterlund, MBA, MPAS, PA-C

TRAUMA PROGRAM

Emilie Christensen, CPST

Child Passenger Safety Coordinator

Esther DeLaCruz, CPST-I

Child Passenger Safety Coordinator

Vicky Douglas

Trauma Registrar, Sr. Administrative Assistant

Kristen Dubiski, MSN, RN, CEN, TCRN, CPEN, CFRN, CTRN

Trauma Clinical Resource Specialist

Lauren Gravelle, RN, BAN, CPN

Acute Care and Trauma Liaison

David Hirschman, MD

St. Paul Trauma Medical Director

Kati Kiely, MSW, LICSW-Provisional

Trauma Social Worker

Laura Plasencia, MPH, RN, TCRN

Trauma Services Manager, Minneapolis

Lyndsey Reece, DHA, NBC-HWC, CPST-I

Child Passenger Safety Coordinator

Michael Rhodes, CSTR, CAISS

Trauma Registrar

Amanda Schafter, CPST-I

Child Passenger Safety Coordinator

Nicole Setterlund, MBA, MPAS, PA-C

Trauma Program Lead, Minneapolis

Laura Sietsema, RHIT

Trauma Registrar

Meghan Simpson, BA, EMT, CHSOS, EMS DOT-I

Trauma Program Lead, St Paul

Dex Tuttle, MEd, CPST-I

Injury Prevention Program Manager

Providing a full spectrum of pediatric and adolescent surgical care.

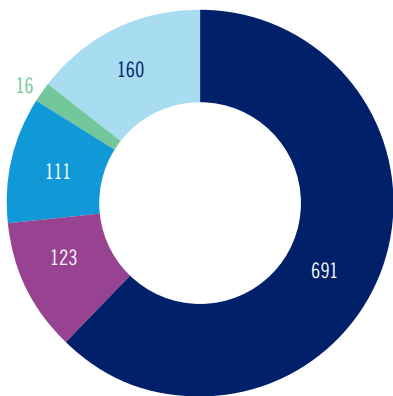
2025 at a glance

Children’s Minnesota Hospital in Minneapolis finished 2025 by caring for the highest number of injured children in its 13 years as a Level I Pediatric Trauma Center. Collaboration with EMS and referring hospitals ensured a smooth transition of care for patients and their caregivers. Children’s Minnesota Hospital in St. Paul remains a Level 4 trauma center and plays an important role in the care of children in the East Metro area.

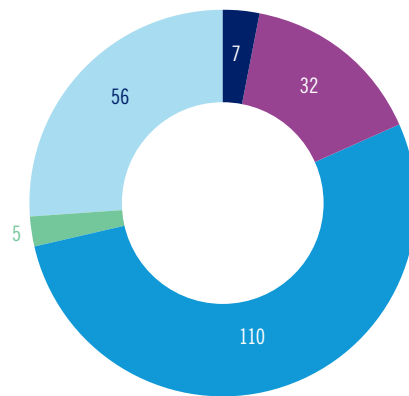
WHERE OUR PATIENTS COME FROM

- Transfers from another hospital
- Direct admission
- From scene by EMS
- Other (police, urgent care, clinics, etc.)
- Private vehicle/walk-in

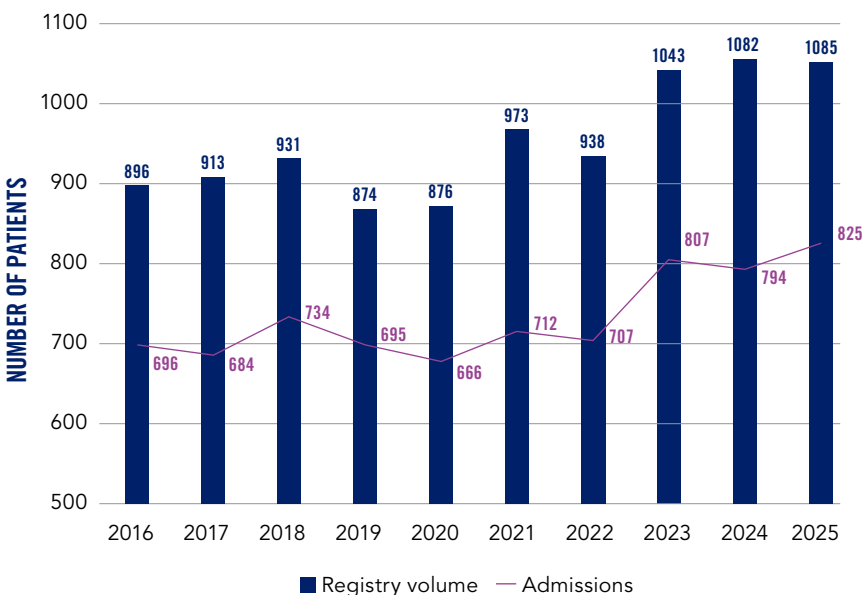
CHILDREN’S MINNESOTA HOSPITAL – MINNEAPOLIS



CHILDREN’S MINNESOTA HOSPITAL – ST. PAUL



CHILDREN’S MINNESOTA HOSPITAL – MINNEAPOLIS ANNUAL VOLUME TREND (10-YEAR)



1,290

TRAUMA REGISTRY PATIENTS
Minneapolis: 1085 | St. Paul: 205

862

ADMITTED TRAUMA PATIENTS
Minneapolis: 825 | St. Paul: 37

44

LEVEL 1 TTAS
Minneapolis: 41 | St. Paul: 3

233

LEVEL 2 TTAS
Minneapolis: 169 | St. Paul: 64

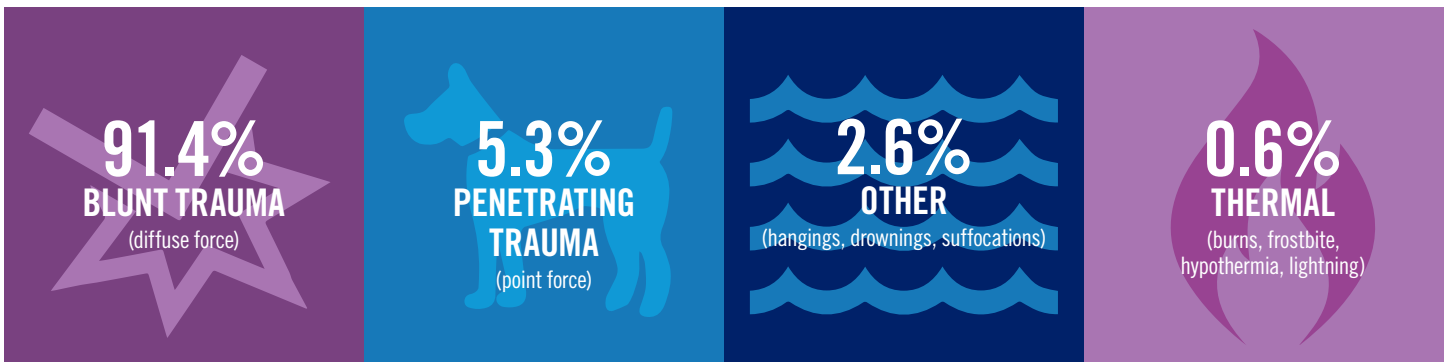
MECHANISMS OF INJURY

(combined campuses)



TYPES OF INJURY

(combined campuses)



FATAL MECHANISMS OF INJURY

(combined campuses)

- MOTOR VEHICLE COLLISION
- DROWNING IN A LAKE
- COLLISION BETWEEN BICYCLE AND TRUCK
- PHYSICAL CHILD ABUSE
- ASPHYXIATION WHILE CO-SLEEPING



SUPERVISION

IS THE MOST IMPORTANT WAY TO PREVENT CHILDHOOD INJURIES.

VIEW OUR FALL PREVENTION RESOURCES AT CHILDRENSMN.ORG/MAKINGSAFESIMPLE.

Injury prevention highlights

The injury prevention program at Children’s Minnesota continues to grow in partnerships and in opportunities to share its expertise. In 2025, the injury prevention team led education courses and spoke at various forums throughout Minnesota and around the United States.

The team also continued its focus on child passenger safety. Both hybrid and in-person child passenger safety technician courses were offered, resulting in the certification of 81 new technicians and one new instructor. Education and training were offered for a variety of audiences, including foster parents, day care providers, caregivers, school transport officials, rehabilitation specialists and nurses. This work fills a gap in our community resources and helps caregivers and professionals alike feel more competent when transporting children.

Metro child passenger safety liaison grant

The injury prevention program at Children’s Minnesota was awarded the Metro CPS Liaison Grant by the Minnesota Office of Traffic Safety (OTS). The CPS liaisons work on behalf of OTS to strengthen overall safety of transporting children. They are public-facing subject matter experts in child passenger safety. There are five liaisons throughout Minnesota. As part of this work, Dex Tuttle, who leads the program, and colleagues focus on increasing resources in the metro area for families living in areas with elevated Social Vulnerability Index (SVI), whose kids may be exhibiting escaping behavior while traveling in a vehicle, and increasing resources for child passenger safety education in areas where English is not the primary language spoken.

Head injury prevention

The CPS team also continued efforts to prevent head injuries through the distribution of bike helmets and sharing of expertise at community events and safety fairs. More than 600 helmets were distributed through Children’s Minnesota and the injury prevention program’s many partners. Information about head injury prevention as well as summer safety was shared at multiple community events in a variety of settings to reach people closest to children where they play and grow.

BY THE NUMBERS

Head injury prevention



608

HELMETS
DISTRIBUTED

13

COMMUNITY EVENTS THAT
INCLUDED HEAD INJURY
PREVENTION INFORMATION,
REACHING 1,600+ PEOPLE

12,000+

PEOPLE ATTENDED EVENTS THAT
INCLUDED SUMMER SAFETY
PRESENTATIONS



81

NEW CHILD PASSENGER
SAFETY TECHNICIANS
(CPSTs) CERTIFIED

BY THE NUMBERS

Child passenger safety



10

CPST CLASSES
CONDUCTED
6 HYBRID, 4 IN-PERSON

355
CAR SEATS
CHECKED

17
GRANT-FUNDED
CAR SEATS, DONATED TO
COMMUNITY PARTNERS

23
COMMUNITY EVENTS
THAT INCLUDED CHILD
PASSENGER SAFETY,
REACHING
1,600+ PEOPLE

175+
PEOPLE TRAINED THROUGH
BASIC EDUCATION
FOR SAFE TRAVEL (BEST)
PROGRAM

Course is required by the MN Department of Public Safety for licensed daycare and foster care providers transporting children under the age of 9 years.

240
PARTICIPANTS WERE
TRAINED IN ADAPTIVE
TRAVEL NEEDS, INCLUDING
THE SAFE TRAVEL FOR ALL
CHILDREN COURSE

Caring for our community in times of crisis

We never want children to experience senseless acts of violence like what occurred at Annunciation Catholic Church and School on Aug. 27, 2025. When they do occur, though, as a Level I pediatric trauma center our teams at Children’s Minnesota are trained and fully prepared to provide the highest level of care for the most critically injured children. We also continue to provide ongoing care for many of the children and families impacted by the events at Annunciation.

Care for children in times of a tragedy involves a holistic approach that meets each child and family member where they’re at in that moment. It also means advocating for common-sense policy change to prevent such tragedies from happening again.

Asitha Jayawardena, MD, Medical Director, ear, nose, throat (ENT) and facial plastic surgery, wrote a piece in The Minnesota Star Tribune about his experience caring for a child injured in the shooting.

Jennifer Argentieri, MD, Minneapolis Emergency Department Medical Director, Tom Skrypek, MD, St. Paul Emergency Department Medical Director, and Rachel Weigert, MD, pediatric emergency medicine physician, shared their experiences providing care to injured children and supporting one another with KARE 11.

Patricia Valusek, MD, a pediatric surgeon practicing at Children’s Minnesota, shared her experience and the grim realities of mass shootings impacting children with WCCO.

Dr. Weigert and Dr. Valusek also participated in events at the Minnesota State Capitol, advocating for lawmakers to treat gun violence as a public health crisis by passing common-sense gun violence prevention policies.

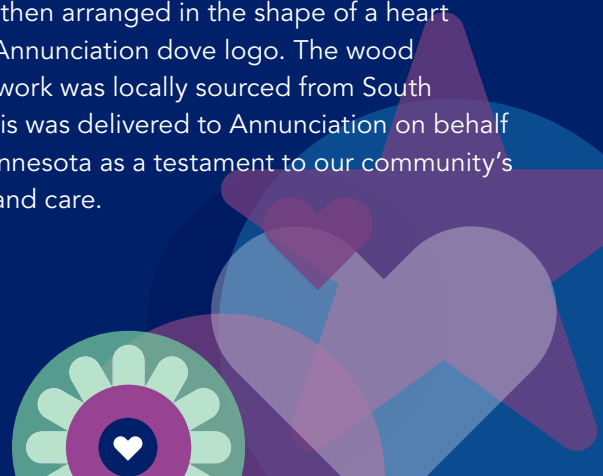
Children’s Minnesota also led efforts to send a letter to the Governor and Minnesota legislative leaders. This letter was signed by more than 60 organizations that provide services and advocacy for children, and called for gun-related legislation and critical investments in mental health resources.

Nita Gupta, MD, Medical Director, emergency preparedness, Carissa Bunke, MD, pediatric emergency medicine physician, Laura Plasencia, MPH, RN, trauma services manager, presented to the Mayo Clinic’s emergency preparedness committee members on the lessons learned from this event related to pediatric mass casualty response, family reunification and staff wellbeing.

As a Level I Pediatric Trauma Center, we provide the highest level of trauma care for our community at a moment’s notice. We also advocate for meaningful change so that all kids can grow to be their best selves, free from violence.



A vigil was held at Children’s Minnesota for all impacted by the tragedy at Annunciation Church and School. Participants were invited to write messages for the members of the Annunciation community. These messages were then arranged in the shape of a heart embracing the Annunciation dove logo. The wood used for the artwork was locally sourced from South Minneapolis. This was delivered to Annunciation on behalf of Children’s Minnesota as a testament to our community’s enduring spirit and care.





Overcoming trauma: Asa's remarkable recovery

On Sept. 27, 2024, after finishing hockey practice, 13-year-old Asa joined friends for an e-bike ride along the Lakewalk in Duluth. In an instant, a bump in the path sent Asa crashing into his handlebars and onto the ground. The accident resulted in life-threatening abdominal injuries — including a severed pancreas. Asa was airlifted to Children's Minnesota, the state's only Level I pediatric trauma care center dedicated solely to kids, where he would receive life-saving treatment for more than 50 days.

Asa's care journey

Asa's treatment included 11 procedures and enrollment in an experimental clinical trial — making Asa one of only 23 children in the country enrolled. The trial helped him avoid more invasive surgeries that could have ended his dreams of going out on the ice rink again. It would, however, be a difficult, long hospitalization that included prolonged fasting and countless challenges along the way. But Asa was resilient through it all.

"Asa's rare injury required a dedicated, multi-specialty team to optimize his recovery. I'm deeply grateful for Asa's remarkable resilience and his family's unwavering faith in our treatment team as we guided them through his complex recovery process," said Nathaniel Kreykes, MD, director of trauma services at Children's Minnesota. During Asa's 54-day stay in the hospital, the wraparound care offered at Children's Minnesota became a critical part of his family's journey, providing emotional support and compassion when they needed it most.

On Nov. 13, 2025, Asa was honored at the Minnesota Wild Foundation Gala, where a portion of the proceeds benefited Children's Minnesota's child and family services

program. "Working with Asa during his recovery was truly inspiring. From the beginning, Asa's resilience and positivity shone through, even on the toughest days," said Kharissa Maehren, Asa's child life specialist. "My goal was to be a consistent support for Asa and his family, someone who could help make his long hospital stay a little brighter. Seeing Asa thriving with his team today is nothing short of amazing."

Today, Asa is back on the ice, playing hockey with his team, the Duluth East Bantams. His team and coaches recently voted Asa team captain! Because of his experience, Asa aspires to enter the medical field.



Caring for ourselves and our health care teams

No matter what area of health care, the emotional toll of the work is both unavoidable and profound. Witnessing unexpected events, near misses, patient harm or medical errors can leave health care workers replaying scenarios, questioning decisions, and even reconsidering their career paths. This experience — often called “second victimhood” — is common, yet it can feel deeply isolating, with a range of reactions and responses felt.

In roles where caring for others is our priority, it's essential to recognize that the care we provide can deeply affect us. Creating dedicated spaces for reflection and peer support allows us to process these experiences together. By doing so, we reduce the risk of burnout and foster a culture of well-being, resilience and mutual support across our health care teams.

What does a peer support program look like?

Peer support programs like the one at Children's Minnesota provide emotional first aid to those impacted and help strengthen a culture of safety. Through confidential conversations that normalize and validate these responses and reactions to their experiences, staff build individual resilience while collectively supporting one another. This shared commitment helps identify and address situations that could lead to second victimhood, fostering a more supportive workplace, and enhancing the overall culture of safety.

At Children's Minnesota, all staff are welcome to attend our peer support classes. Each class offered focuses on a different approach to providing support for their peers. Participants learn the science behind processing stressful events and develop active listening skills to support peers in conversation. Whether these conversations happen one-on-one or in small groups, the goal remains the same: peer supporters acknowledge and affirm their colleagues' thoughts, feelings and reactions. Tools like our S.E.L.F. Care worksheet help increase awareness of stress responses and provide a proactive, personalized plan for processing stressful events.

1. de Witte M, Pinho ADS, Stams GJ, Moonen X, Bos AER, van Hooren S. Music therapy for stress reduction: a systematic review and meta-analysis. *Health Psychol Rev.* 2022 Mar;16(1):134-159. doi: 10.1080/17437199.2020.1846580. Epub 2020 Nov 27. PMID: 33176590.

Stress and our stress response

Stress is a well-known risk factor for a range of physical and emotional problems, including anxiety disorders, depression, and burnout. To cope with stress and the demands of life, people use a variety of ways to feel better, some of which have negative outcomes and side effects, such as substance dependence. Therefore, it is important to examine the effects of non-pharmacological therapeutic interventions for the prevention and management of stress¹.


A stressor can be anything you see, hear, taste, smell, touch or imagine that may cause physical, emotional or psychological harm. A stress response is the cascade of neurological, physiologic and hormonal shift that causes a shift inside the body, preparing it for fight or flight.

Once the threat passes, the body's goal is to return to equilibrium. Dealing with the stressor — what is happening outside the body — is separate from dealing with the stress response — what is happening inside the body. Learning how to help your body to feel safe will allow you to complete the stress response cycle and minimize the harmful effects of stress.

In these worksheets, you are encouraged to create a proactive plan to support completing the stress response cycle, both at home and at work.

Going home checklist

- Take a moment to think about today
- Be proud of the care you provided
- Acknowledge **one** thing that was difficult today
- Consider **three** things that went well
- Are you okay? Your Peer Support team is here to listen and support you.
- Check on your colleagues. Is there anyone who might benefit from individual/team Peer Support.
- Now switch your attention — **Rest and recharge**

RESOURCES FOR IMMEDIATE CRISIS ASSISTANCE		INTENDED AUDIENCE
988 Suicide and Crisis Lifeline	Call or text 988, or chat online at 988lifeline.org	Anyone
Crisis Text Line	Text HOME or BADGE to 741741 to connect with a trained counselor	HOME is for anyone, BADGE is for first responders and their families
Minnesota Warmline	Peer-to-peer support, call 651-288-0400 or text SUPPORT to 85511.	Anyone
Safe Call Now	Call 206-459-3020 for support from first responders trained to help with mental health and substance use challenges	Public Safety Employees
Frontline Helpline	Call 1-866-676-7500 for confidential 24/7 support	First Responders
Veterans Crisis Line	Call 1-800-273-8255, option 1, or text 838255	Veterans
MnFIRE Helpline	Call 888-784-6634 for confidential, free crisis services	Active volunteer, paid-on-call, part-time, or full-time firefighters
Physician and Medical Student Crisis Line	Call 1-888-409-0141 M-F 8am-11pm ET, free, confidential, anonymous help from psychiatrists.	Physicians, medical students, those involved in providing medical services
Mental and Substance Use Disorders Helpline	Call 1-800-662-HELP (4357) or text your zip code to 435748 (HELP4U) to find help near you	Anyone
Disaster Helpline	Call 1-800-985-5990 toll free available 24/7.	For anyone experiencing emotional distress related to disasters, including survivors of disasters; loved ones of victims; first responders; rescue, recovery, and relief workers; clergy; and parents and caregivers.
Children's Minnesota Caregiver Wellbeing Video	www.childremsmn.org/blog/translates-injury-prevention-videos-make-household-safety-tips-accessible-equitable/ 	Caregivers

Team peer support

Team peer support goals	Team peer support should	PHASE 1: Introduction	PHASE 2: Exploration	PHASE 3: Information	Self-care over next 24 hours
<ul style="list-style-type: none"> To provide a safe place for staff to share reactions and emotions To allow staff to create a more complete story of the event To provide immediate validation To emphasize importance of self-care 	<ul style="list-style-type: none"> Be held at the discretion of staff Be before the end of the shift Include all team members that provided direct care during the incident Take 15-20 min. 	<ul style="list-style-type: none"> State purpose Get buy-in Set ground rules 	<ul style="list-style-type: none"> Begin with open-ended questions Identify themes/concerns Assess need for more resources 	<ul style="list-style-type: none"> Summarize discussion Normalize experiences and reactions Emphasize self-care Offer additional resources 	<ul style="list-style-type: none"> Drink lots of water Structure your time Engage in physical activity Prioritize rest & sleep Return to routine Talk about the incident, if needed Avoid excessive amounts of sugar, caffeine or alcohol

S.E.L.F. CARE

Stop. Evaluate. Learn. Find your path.

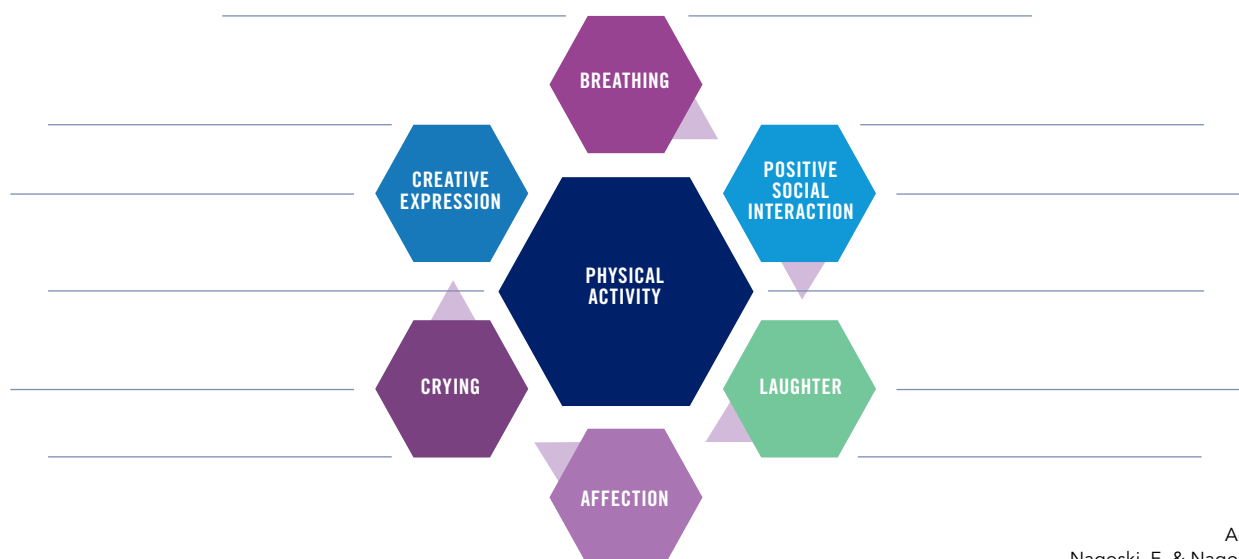
The health care environment exposes health care workers to unexpected and near miss events, including patient harm and medical errors. Completing the stress response cycle can decrease the risk of burnout and improve overall well-being. Create a proactive plan by first identifying your common stress reactions to support completing the stress response cycle.

Part 1: Identify your common stress reaction from the list below

PHYSICAL*	COGNITIVE	EMOTIONAL	BEHAVIORAL
<ul style="list-style-type: none"> • Chills • Thirst • Fatigue • Nausea • Fainting • Twitches • Vomiting • Dizziness • Weakness • Chest pain • Headaches • Elevated blood pressure • Rapid heart rate • Muscle tremors • Shock symptoms • Grinding of teeth • Visual difficulties • Profuse sweating • Difficulty breathing 	<ul style="list-style-type: none"> • Confusion • Nightmares • Uncertainty • Hypervigilance • Suspiciousness • Intrusive images • Blaming someone • Poor problem solving • Poor abstract thinking • Poor attention/decisions • Poor concentration/memory • Disorientation of time/person/place • Difficulty identifying objects or people • Heightened or lowered alertness • Increase/decrease awareness of surroundings 	<ul style="list-style-type: none"> • Fear • Guilt • Grief • Panic • Denial • Anxiety • Agitation • Irritability • Depression • Intense anger • Apprehension • Emotional outbursts • Loss of emotional control • Inappropriate emotional response • Emotional shock • Feeling overwhelmed 	<ul style="list-style-type: none"> • Withdrawal • Antisocial acts • Inability to rest • Intensified pacing • Erratic movements • Change in social activity • Change in speech patterns • Change in appetite • Hyper-alert to environment • Increased alcohol consumption • Change in usual communications <p>Adapted from ICSF Critical Incident stress information sheets.</p>

*Any of these symptoms may indicate the need for medical evaluation.

Part 2: Identify activities to support completing your stress response cycle, both at home and at work.



Adapted from Nagoski, E. & Nagoski, A. (2019)



Beads of Courage®: Making visible the otherwise invisible aspects of trauma care

The Beads of Courage® Program is a program of Beads of Courage, Inc., whose mission is to provide innovative Arts-in-Medicine programs for children coping with serious illness, their families and the clinicians who care for them.

Through the Beads of Courage® Program, children receive colorful beads that symbolize each step of their treatment journey. The beads they receive provide a powerful dose of narrative medicine that visually translates their treatment experience and helps them cope with the many uncertainties of their treatment journey.

Every bead makes visible the otherwise invisible. Beads of Courage® serve as metaphors that help the child derive meaning from their experience, and help them connect to others in their life that might otherwise never comprehend all that they have been through.

From research, we know that the Beads of Courage® Program makes children who participate happy, provides a new coping strategy that helps them get through the day to day treatments, and restores their confidence and self-worth, helping them stand strong and be proud of what they accomplish while receiving treatment for a serious illness.



Education and conferences

Injury prevention presentations and conferences

Minnesota Association for Pupil Transport, St. Cloud, Minn. Dex Tuttle, M.Ed., CPST-I, injury prevention program manager, presented alongside Jillian Nelson, policy director at the Autism Society of Minnesota, strategies for the safe transport of children with escaping behavior.

Toward Zero Deaths Conference, Prior Lake, Minn.:

Toward Zero Deaths annual conference is held every October in Minnesota. Led by the Minnesota Office of Traffic Safety, this event gathers law enforcement personnel, EMS agencies, and child passenger safety professionals to identify opportunities to improve traffic safety and celebrate successes in eliminating traffic-related injuries and fatalities. **Dex Tuttle and Lyndsey Reece, DHA, NBC-HWC, CPST-I, child passenger safety coordinator**, presented “When words don’t word right: Communication strategies for CPSTs.” This presentation focused on bias, cultural competency, language differences, and intentionality. Dex also worked with **Amanda Schafter, CPST-I**, to provide education for school and daycare staff who transport children.

UnityPoint Health Preventing Childhood Injury

Conference, Des Moines, Iowa: This annual conference focuses on childhood injury prevention and interventions for injury prevention advocates, public health and public safety professionals, and others interested in the field.

Dex Tuttle presented “When words don’t word right,” focusing on a broader range of implications for cultural competency, bias awareness, and intentionality in injury prevention, and identifying strategies to address these challenges on limited budgets.

Injury Free Coalition for Kids Conference, Fort Lauderdale, Fla.

Injury Free Coalition for Kids brings together injury prevention professionals from programs based at trauma centers across the country to protect children and families from preventable injuries through evidence-based research, education and advocacy.

Dex Tuttle and Lyndsey Reece presented “Deciphering CPST Lingo — communication strategies and lessons learned delivering CPS content to multilingual families.”

Dex Tuttle also presented with Shea Buckley from the Marcus Autism Center in Atlanta on “When kids outsmart car seats: Understanding autism and implications for safe transportation.”

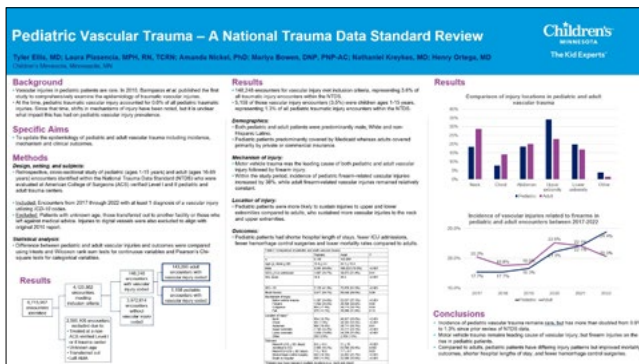
Sharing the expertise of Children’s Minnesota with others

The trauma services team represented Children’s Minnesota at several events throughout the region in 2025, sharing resources to improve the care of injured children in those communities as well as to foster collaboration in the event children need a higher level of care. Events included:

- 44th annual Arrowhead EMS Conference, which is Minnesota’s largest gathering of EMS providers, held every January in Duluth, Minn.
- Minnesota EMS Medical Directors Conference in Duluth in October. This event brings together leaders of EMS agencies throughout the state to discuss emerging trends and to share best practices.
- North Dakota Trauma Foundation Annual Conference, held in Minot, North Dakota. This is a collaborative effort between the four verified Level I and II trauma centers in North Dakota and provides an educational opportunity for EMS and hospital personnel focused on trauma care of both adults and children.
- Emergency Nurses Association, Greater Twin Cities Chapter hosts the annual Cornerstones in Emergency Nursing conference. **Erin Taylor, DNP, APRN, CPNP-PC, Associate Medical Director, ED; Krista Majerus, Child Life Supervisor, and Michael Scribner-O’Pray, RN, Minneapolis ED**, presented “Do no harm: Protecting Kids from Procedural Trauma.”

They are passionate about using developmentally appropriate strategies to reduce or eliminate procedural pain and distress for laceration repair, needle sticks, and other procedures. They reviewed evidence-based practices and tips on how to best engage children and their caregivers.

- Pediatric Trauma Society is a professional organization for all health care professionals interested in improving outcomes for injured children through guideline development, education, research, and advocacy. **Manu Madhok, MD, pediatric emergency medicine physician**, served as faculty for two pre-conference events focused on pediatric simulation: “Developing and delivering successful pediatric trauma simulations: A train-the-trainer course” and “JumpStart to pediatric disaster triage education: An immersive simulation-based workshop.” He also mentored Mira Jayant, a high school student at Minnetonka High School, who delivered a Quick Shot presentation, “Design and Development of HOPE (Hemorrhage Control for Pediatric Firearm Emergencies): a novel device for bystanders to rapidly control hemorrhage from a gunshot wound.”
- The Western Pediatric Trauma Conference is an annual conference supported by Children’s Minnesota. It brings together pediatric trauma professionals, pediatric surgical subspecialties, critical care, emergency medicine and pre-hospital care professionals to highlight valuable insights, education and research in pediatric trauma.



The poster “Pediatric Vascular Trauma — A National Trauma Data Standard Review” from **Tyler Ellis, MD; Laura Plasencia, MPH, RN, TCRN; Amanda Nickel, PhD; Mariya Bowen, DNP, PNP-AC; Nathaniel Kreykes, MD; Henry Ortega, MD**, was presented by **Laura Plasencia**.

Benjamin Best, MD, presents at EMS Medical Directors

Benjamin Best, MD, a pediatric neurosurgeon, joined Children’s Minnesota in 2025. He represented Children’s Minnesota at the Minnesota EMS Medical Directors Conference in October 2025, where he presented, “Approach to pediatric neurotrauma in the field — updates and case illustrations.”

His presentation focused on increasing the comfortability of both rural and metro EMS caring for pediatric patients with suspected spinal cord injuries. Whether EMS are transporting this patient population from the scene or between facilities, knowledge of pediatric physiology and the nuanced way they present is crucial to providing the best care.

His lecture referenced the Pediatric Emergency Care Applied Research Network (PECARN) study aimed at creating a prediction rule to guide imaging recommendations (X-ray, CT, or no imaging) for these patients. Dr. Best and attendees then applied this study to clinical scenarios and cases. As the region’s largest pediatric program, we’re proud to partner with EMS across the Midwest to bring world-class care to all children.

Trauma and medical simulations in the ED

Interdisciplinary simulation continued in 2025, with clinicians from the trauma service, emergency departments, critical care services, anesthesiology, respiratory therapy, social work, radiology, laboratory services, child life and many more disciplines joining together in both Minneapolis and St. Paul to strengthen teamwork and communication and practice clinical skills. These scenarios are developed in collaboration with the simulation team and clinical educators, and ensure staff are prepared for any patient that arrives in the emergency departments at Children’s Minnesota. To make these simulations as immersive as possible, the simulation team utilizes several high-fidelity manikins as well as simulated patients.

Seven unique trauma scenarios based on real patient cases were simulated in both Minneapolis and St. Paul throughout the year. Topics covered in the simulations included orthopedic injuries, multi-system trauma, solid organ injuries, head injuries, spinal trauma, drowning, dog bites and penetrating trauma, and child physical abuse, among others.

Snapshot into collaborative education and simulation — April 2025

Last spring, an interdisciplinary team of Children’s Minnesota professionals and outside experts gathered to discuss managing a pediatric death in the emergency department, including reporting requirements, handling of forensic evidence, and supporting grieving family members. After the education session, a simulation occurred to give staff the opportunity to practice the steps of interacting with external agencies, providing resources and information to loved ones, and process their own reaction to an unexpected death in the emergency department. Peer support and mental health resources were available to ensure the psychological safety of all participants and to provide information on available resources for clinicians. Representatives participating in this educational opportunity included:

- Hennepin County Medical Examiner’s Office
- Ramsey County Medical Examiner’s Office
- Minneapolis Police Department
- St. Paul Police Department
- Emergency Department nursing
- Emergency medicine
- Social work
- Spiritual care
- Security
- Child Life
- Hospital Nursing Supervisors
- Trauma Services
- Simulation
- And many others

Workshops and courses

To meet the needs of internal providers and external partners, Children’s Minnesota hosts the Acute Wound Management and Suturing Workshop. This has evolved into a hybrid course consisting of virtual presentations by specialists at Children’s Minnesota, covering a wide variety of topics related to acute wound management, laceration repair, tools and techniques for repairs, pain management, and strategies for caring for children in this setting. An optional in-person workshop is led twice per year by **Erin Taylor, DNP, APRN, CPNP-PC, Michael Scribner-O’Pray, RN, Minneapolis ED, and Scott Baker, APRN, CPNP-AC**, where providers can receive additional proctored training on suture technique using simulated skin as well as strategies for providing wound care for children at different developmental levels, including neurodivergent children.

Nursing Education:

Trauma Nursing Core Course

This is a 1.5-day course designed to provide core-level trauma knowledge and to develop psychomotor skills necessary to deliver emergency nursing care to injured patients. In 2025, a new TNCC 1-day renewal class option was added. Nurses certified in TNCC are available to care for injured children in the St. Paul and Minneapolis emergency departments.

Essentials of Critical Care: Trauma Workshop

This course is designed to prepare critical care nurses to treat injured children in the PICU setting. Course topics include those set forth by the American College of Surgeons and Minnesota Department of Health, and content is taught by clinical educators of the Minneapolis PICU, staff from the Center for Professional Development and Practice, and Trauma Services.



Education opportunities

Trauma Speaker Series V: Caring for children in disasters

Trauma Services completed the fifth speaker series in 2025, highlighting the care of injured children during a disaster situation. Series V was held in partnership with Region V for Kids, a federally funded consortium of pediatric hospitals and other public and private entities within the states of Ohio, Michigan, Illinois, Indiana, Minnesota and Wisconsin. Several staff members of Children's Minnesota participate in various Region V for Kids workgroups, including **Bryan Pender, emergency preparedness program manager; Nita Gupta, MD, Medical Director for Disaster and Emergency Preparedness and Pediatric Emergency Medicine Physician, Children's Minnesota; Laura Plasencia, MPH, RN, trauma services manager, Saydi Chahla, MD, pediatric emergency medicine physician; and Elizabeth Collins-Dippel, senior clinical research coordinator.**

Using case-based scenarios, presenters highlight best practices and considerations for caring for injured children on scene, during transport, and upon arrival at an emergency department following a disaster. Presentations included:

- Emergency care of children during a disaster, with Nathan Timm, MD, Medical Director, Emergency Management and pediatric emergency medicine physician, Cincinnati Children's Hospital, and Ronald Ruffing, MD, Children's Hospital of Michigan
- Family reunification during a disaster, with **Nita Gupta, MD, Medical Director for Disaster and Emergency Preparedness and pediatric emergency medicine physician, Children's Minnesota, Pediatric Pandemic Network 2025 Disaster Science Scholar**
- Strategies for assisting children with special needs during a disaster, with Kara Kowalczyk, MD, Pediatric Emergency Medicine, Indiana University Health, and Patricia Frost, RN, PHN, MS, PNP
- Recovery of first responders and hospital clinicians following a mass casualty incident, with Kimble Richardson, MS, LMHC, LCSW, LMFT, LCAC

Trauma Speaker Series VI: Trauma from the patient and family perspective

Series VI began in the fall of 2025 and will continue through spring of 2026. In this series, **Nathaniel Kreykes, MD, pediatric surgeon at Children's Minnesota and trauma medical director,** moderates discussions on patients' clinical care and lived experiences shared from the perspectives of both the clinical team and the patient and/or their family. This series aims to bring together a patient and/or family member and a member of their care team to review the patient's clinical course and to share their experiences of resuscitation and recovery. Presentations include:

- Recovery from a spinal cord injury with **Amy Bruzek, MD, MS** and parents of a 17-year-old patient
- Recovery from a pancreatic injury with **Nathaniel Kreykes, MD** and parents of a 13-year-old patient
- Recovery from an orthopedic injury with compartment syndrome with **Nickolas Nahm, MD** and parents of a 10-year-old patient
- Recovery from penetrating head trauma: arrow to the face with **Kenneth Maslonka, MD, Meysam Kebriaei, MD,** and parents of a 9-year-old
- Recovery from a pelvic fracture with **Kamil Bober, MD,** and parents of a 14-year-old patient
- Recovery from complex dog bites with **Nathaniel Kreykes, MD** and parents of a 9-year-old patient
- Recovery from abusive head injuries and neurosurgical trauma with **Becky VonBank, DNP, APRN, CPNP-AC, CPEN, CEN**

2025 publications

All studies listed have at least one professional staff member or employee from Children's Minnesota (in bold) included.

1. Marker M, Meyer C, **Chinnadurai S**, Redmann A, **Roby BB**. Examining the Utility of Lateral Neck X-Rays in Pediatric Otolaryngology. *Ann Otol Rhinol Laryngol*. 2025 Jan 23;34894251315335. doi: 10.1177/00034894251315335. Epub ahead of print. PMID: 39846085.
2. Roper B, Purtell SR, De S, McLaughlin D, **Truong WH**, Miller ML, Swarup I, Ramalingam W, Sanders JS; Children's Orthopaedic Trauma and Infection Consortium for Evidence-Based Studies (CORTICES). Practice Patterns Vary Widely in the Care of Pediatric and Adolescent Pelvic and Acetabular Fractures: A CORTICES Survey. *J Pediatr Orthop*. 2025 Mar 1;45(3):e229-e235. doi: 10.1097/BPO.0000000000002847. Epub 2024 Oct 21. PMID: 39428588.
3. Sheno RP, Crowe JE, Dorfman SR, **Bergmann KR**, Mistry RD, Hariharan S, Tavarez MM, Wai S, Jones JL, Langhan ML, Ward CE, McCallin TE, Sethuraman U, Shah N, Mendez D, Wolpert KH, Santos-Malave C, Ruttan T, Quayle KS, Okada P, Bubolz B, Buscher JF, McKee R, Mangold K, Wendt WJ, Thompson AD, Hom J, Brayer AF, Blackstone MM, Brennan C, Russell WS, Agarwal M, Khanna K, Louie J, Sheridan D, Camp EA; Pediatric Emergency Medicine Collaborative Research Committee. Factors Associated with Pediatric Drowning-Associated Lung Injury. *J Pediatr*. 2025 Apr; 279:114459. doi: 10.1016/j.jpeds.2024.114459. Epub 2024 Dec 28. PMID: 39736377.
4. Weykamp L, Lunos S, Ebert B, **Roby BB**, **Chinnadurai S**. Eye Tracking to Determine Noticeability of Pediatric Facial Scar Characteristics to Adult Observers. *Otolaryngol Head Neck Surg*. 2025 May;172(5):1748-1755. doi: 10.1002/ohn.1134. Epub 2025 Jan 22. PMID: 39838918.
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6. Ruest SM, Hanson HR, **Kiragu A**, Lee LK, Zonfrillo MR, Pomerantz WJ. The Impact of COVID-19 on Patterns of Fractures Presenting to Pediatric Emergency Departments. *Pediatr Emerg Care*. 2025 Jan 1;41(1):17-23. doi: 10.1097/PEC.0000000000003294. Epub 2024 Nov 6. PMID: 39499116; PMCID: PMC11693463.
7. Haasz M, Doh KF, Hanson HR, Pomerantz WJ, Agrawal N, Beckworth K, Chaudhary S, Clukies L, Fleegler EW, Formica MK, Gallardo A, **Kiragu A**, Laraque-Arena D, Levas MN, Levine MC, McKay S, McFadden T, Monroe K, Lee LK. Pediatric firearm injuries and socioeconomic vulnerability before and during the COVID-19 pandemic. *Am J Emerg Med*. 2025 Feb;88:84-90. doi: 10.1016/j.ajem.2024.11.028. Epub 2024 Nov 18. PMID: 39608312.
8. Gariti A, Berkman E, Clark J, Derrington S, Dudzinski D, Madrigal V, Mann D, Walter J, **Wolfe I**. Normothermic Regional Perfusion in Pediatric Organ Recovery-Guidelines for Its Ethical Implementation. *Pediatr Transplant*. 2025 Aug;29(5):e70101. doi: 10.1111/petr.70101. PMID: 40445903.
9. **Stein AB**, **Lammers SM**, **Ortega HW**, **Reid SR**. At-home Administration of Opioid Analgesia in Children After Reduction of Forearm Fracture. *Pediatr Emerg Care*. 2025 Jan 1;41(1):1-5. doi: 10.1097/PEC.0000000000003282. Epub 2024 Oct 30. PMID: 39471307.
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17. Quanbeck Z, Bhatt E, Quanbeck D, **Schiffen A.** The Impact of a Resident, Fellow, or Physician Assistant on Operative Time and Complication Rate in Closed Reduction and Percutaneous Pin Fixation of Pediatric Distal Humerus Supracondylar Fractures. *J Surg Educ.* 2025 Jan;82(1):103353. doi: 10.1016/j.jsurg.2024.103353. Epub 2024 Nov 30. PMID: 39616973.
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Open IRB studies related to trauma care

1. Amanda Lee, MD: Disaster Preparedness of Technology-Dependent Children. IRB #2025-069.
2. Amy Linabery PhD, MPH, MS: Brief RCT for Elevated Anxiety Sensitivity after Trauma to the Head (BREATHe) Study. Also: A brief psychological intervention following concussion for children and adolescents with heightened anxiety sensitivity: A pilot randomized controlled trial. IRB #2022-028.
3. Amy Linabery PhD, MPH, MS: Objective Measurement of Sleep and Physical Activity as Predictors of Recovery After Concussion: A Prospective Pilot Study. IRB #1708-116.
4. Amy Linabery PhD, MPH, MS: Combined Clinical/Research Concussion Database. IRB #1806-067.
5. Amy Linabery PhD, MPH, MS: Examining Microhemorrhages in Pediatric and Adolescent Concussion Patients with Extended Symptoms. IRB #1807-082.
6. Amy Linabery PhD, MPH, MS: Yoga-based intervention following concussion in youth: A pilot randomized controlled trial. IRB #2022-033.
7. Amy Linabery PhD, MPH, MS: Use of an Electronic Eye Tracking Device to Predict Concussion in the Pediatric Emergency and Specialty Clinic Setting after Traumatic Brain Injury. IRB #2023-088.
8. Andrew Kiragu, MD: Adopting Comprehensive Training for FireArm Safety in Trauma Centers (ACTFAST). IRB #2024-064.
9. Jennifer Laine, MD: Pediatric Orthopedic Trauma and Infection (CORTICES Registry). IRB #2021-030.
10. Kelly Bergmann, DO: Distal Radius Interventions for Fracture Treatment (DRIFT) Trial. IRB #2023-029.
11. Kelly Bergmann, DO: Cast or Operation for Medial Epicondyle Fracture Treatment in Children (COMET Trial). IRB #2023-030.
12. Kyle Halvorson, MD: Evaluating a Novel MRI Biomarker to Identify Retinal Hemorrhage: A Pediatric Chart Review Study. IRB #1812-140.
13. Laura Plasencia, MPH, BSN, RN, TCRN: Pediatric Cervical Spine Clearance: A Multi-Center Prospective Observational Study. IRB #2023-071.
14. Meghan Simpson, BA, EMT: Efficacy of Deliberate Practice and Enhancement of Pediatric Trauma Preparedness in Low Volume Healthcare Settings by Utilizing Mobile Simulation. IRB #1908-103.
15. Nathaniel Kreykes, MD: Prospective Longitudinal Trial Evaluating Operative vs. Non-Operative Management of Pancreatic Injuries in the Pediatric Population. IRB #1906-060.
16. Robert Doss, PsyD LP: The Use of Magnetoencephalography & Magnetic Resonance Spectroscopy to Investigate Potential Biomarkers of Pediatric Concussion: A Multi-Modal Imaging Pilot Project. IRB #1411-109.
17. Robert Doss, PsyD LP: Differences in Rate of Recovery from Concussion in Children Injured During the School Year vs. Summer Months. IRB #1057-082.
18. Robert Doss, PsyD LP: Characteristics of Vision Deficits in Pediatric Concussion Patients. IRB #1063-033.
19. Saydi Chahla, MD: Social Media Preferences for Caregivers during a Mass Casualty Incident. IRB #2024-129.
20. Shea Lammers, MS: Evaluating the Feasibility of Administering an Acute Stress Screener among Children Who Experience Traumatic Injuries. IRB #2024-025.
21. Brianne Barnett Roby, MD: Pediatric Facial Scarring: An evaluation of the most visually noticeable location of facial scarring based on peers. IRB #2025-041.
22. Brianne Barnett Roby, MD; Siva Chinnadurai, MD: Children's Minnesota ENT and Facial Plastic Surgery Program Patient Registry. IRB #2020-54.
23. Sivakumar Chinnadurai, MD, MPH: Pediatric Facial Scarring: An evaluation of the most visually noticeable locations of facial scarring and validation of a caregiver reported scar assessment scale for pediatric facial scars. IRB #2021-016.
24. Nathaniel Kreykes, MD: Prehospital Procedures in Pediatric Trauma Patients: 3PT Multi-Center Study. IRB #2024-102.
25. Tyler Ellis, MD: Pediatric vs Adult Vascular Trauma: An Update to a National Trauma Databank Review. IRB #2024-130.



Locations



MINNEAPOLIS

**Children's Minnesota Hospital – Minneapolis:
UnitedHealthcare Pediatric Emergency Department**
2525 Chicago Avenue South | Minneapolis, MN 55404
612-813-6000

Our pediatric emergency department with Level I trauma center in Minneapolis is Minnesota's only Level I pediatric trauma center in a hospital dedicated solely to kids.

Drop-off and pick-up is located on E. 25th Street.



ST. PAUL

**Children's Minnesota Hospital – St. Paul:
Peter J. King Pediatric Emergency Department**
345 North Smith Avenue | St. Paul, MN 55102
651-220-6000

The Peter J. King Emergency Department in St. Paul is a Level 4 trauma center, with resources for emergency resuscitation and care of injured patients. Patients may require transfer to the Minneapolis campus for care by the trauma care team and other specialists.

Drop-off and pick-up is located on Smith Avenue.

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