



# OHSU Doernbecher Injury Prevention Program

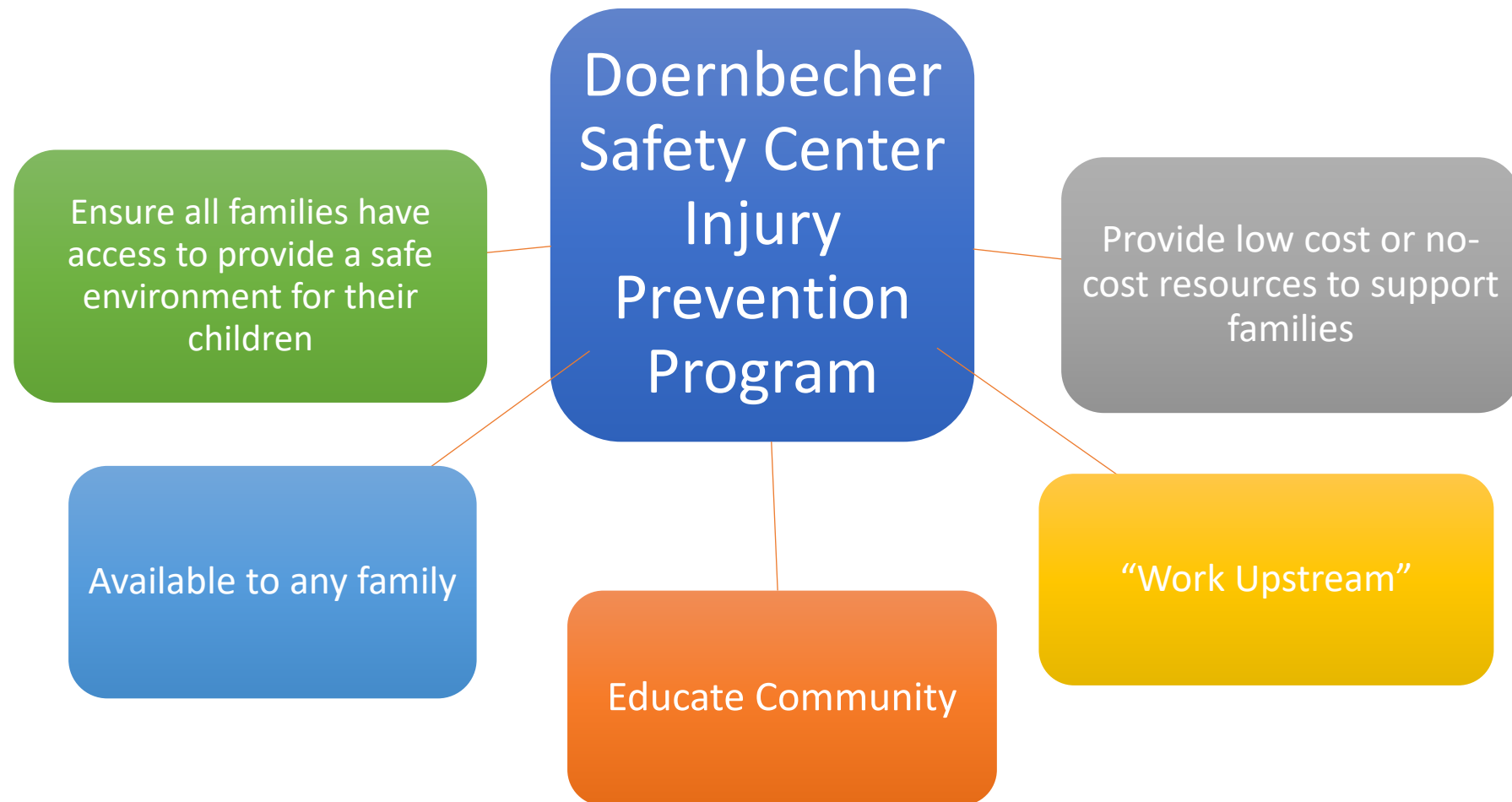
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PRESENTED BY: Adrienne Gallardo UPDATED: October 2023

# Disclosure Statement

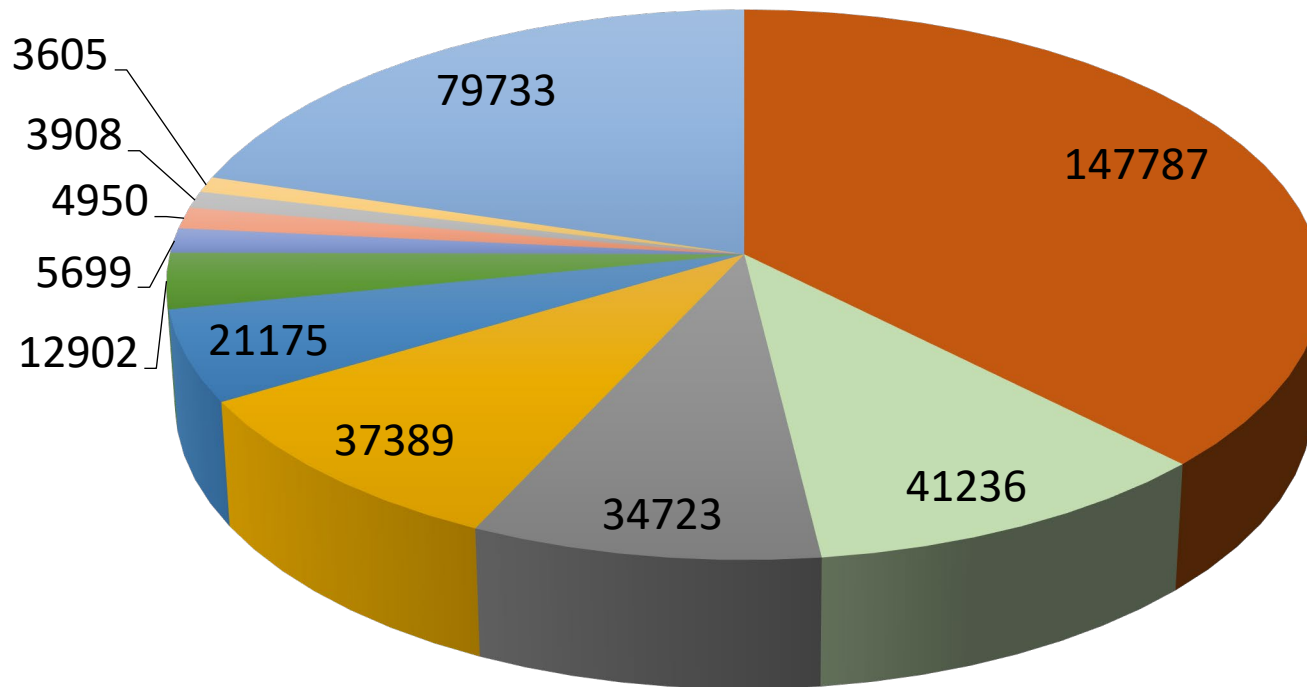
I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider of commercial services discussed in this session.

I do not intend to discuss an unapproved/investigative use of a commercial product/device in our presentation.



“Safe home, Safe Ride, Safe Sleep.”

# Deaths 1-18 year 2000-2020

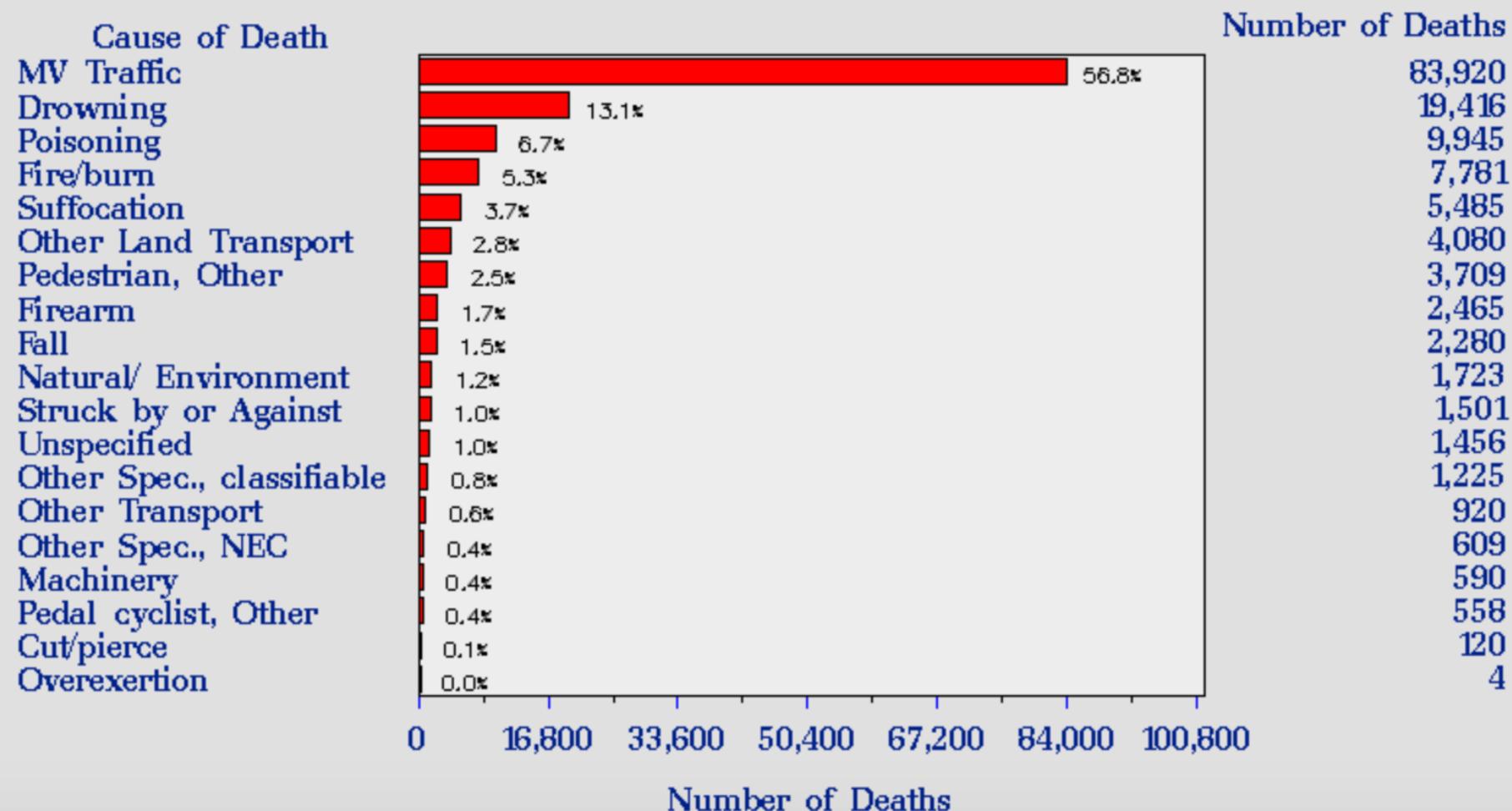


- Unintentional Inj.
- Homicide
- Suicide
- Malignancy
- Congen. Anomalies
- Heart Dz
- Flu/Pneumonia
- Chronic Resp Dz
- CV
- Sepsis
- All Others

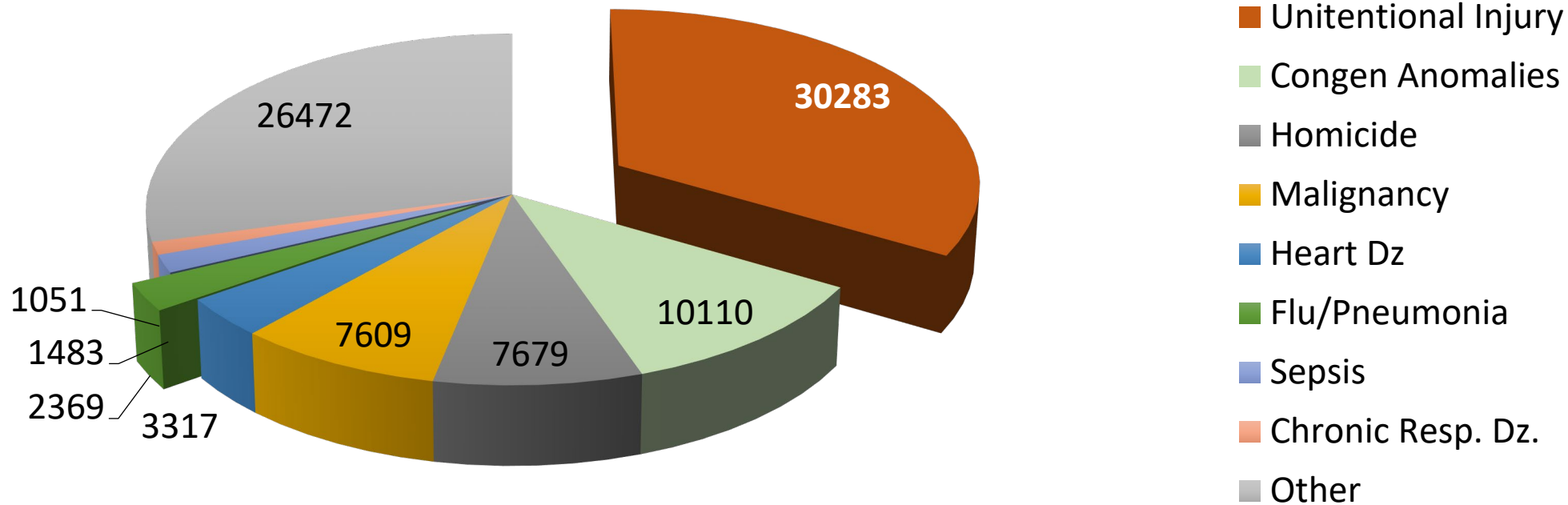
	Age Groups	
Rank	<u>&lt;1</u>	<u>1-18</u>
1	Congenital Anomalies 107,836	<b>Unintentional Injury</b> <b>147,787</b>
2	Short Gestation 89,495	<b>Homicide</b> <b>41,236</b>
3	SIDS 40,207	Malignant Neoplasms 37,389
4	Maternal Pregnancy Comp. 32,540	<b>Suicide</b> <b>34,723</b>
5	<b>Unintentional Injury</b> <b>24,024</b>	Congenital Anomalies 21,175
6	Placenta Cord Membranes 20,508	Heart Disease 12,902
7	Bacterial Sepsis 13,920	Influenza & Pneumonia 5,699
8	Respiratory Distress 13,463	Chronic Low. Respiratory Disease 4,950
9	Circulatory System Disease 10,965	Cerebro-vascular 3,908
10	Neonatal Hemorrhage 10,036	Septicemia 3,605

2000 – 2020, United States  
Unintentional Injuries  
Ages 1–18, All Races, Both Sexes  
Total Deaths: 147,787

Click on the colored bars to drill down to the ICD code level



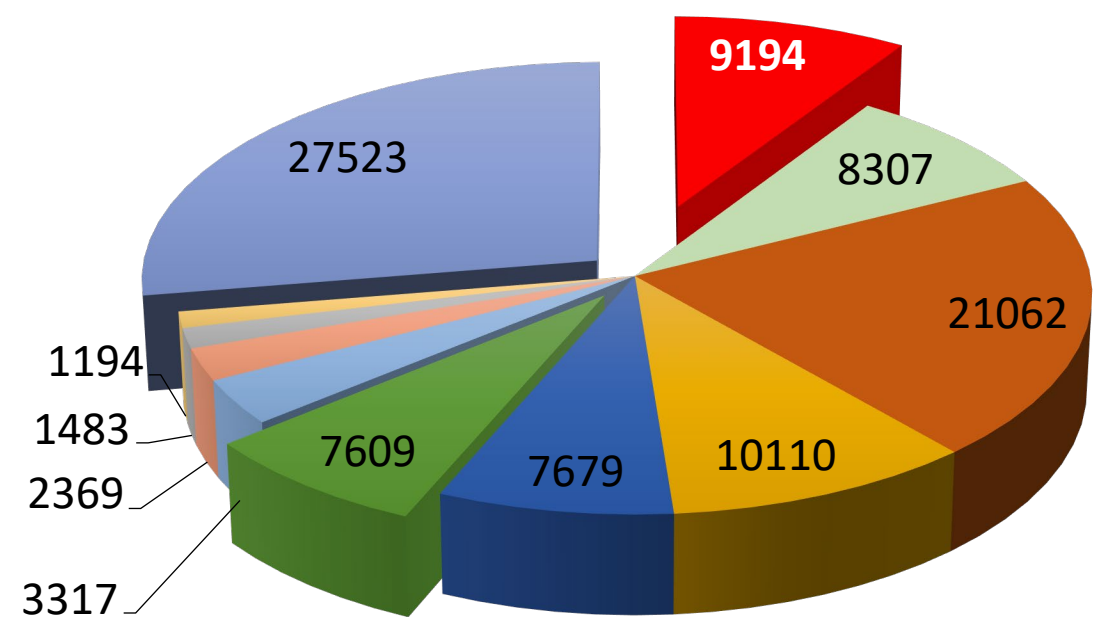
# Deaths 1-4 years 2000-2020



	Age Groups
Rank	<u>1-4</u>
1	<b>Unintentional Injury</b> 30,283
2	Congenital Anomalies 10,110
3	<b>Homicide</b> 7,679
4	Malignant Neoplasms 7,609
5	Heart Disease 3,317
6	Influenza & Pneumonia 2,369
7	Septicemia 1,483
8	Perinatal Period 1,194
9	Cerebro-vascular 1,051
10	Benign Neoplasms 1,039



# Deaths 1-4 years 2000-2020



- Drowning
- Motor Vehicle
- Unintentional Injury
- Congen Anomalies
- Homicide
- Malignancy
- Heart Dz
- Flu/Pneumonia
- Sepsis
- Perinatal Period
- Other

1-4
Unintentional Injury 14,260
Congenital Anomalies 4,932
Homicide 3,861
Malignant Neoplasms 3,757
Heart Disease 1,590
Influenza & Pneumonia 1,192
Septicemia 641
Chronic Low. Respiratory Disease 547
Perinatal Period 540
Cerebro-vascular 524

A man in a dark suit and tie is standing on a balcony or rooftop, looking out over a cityscape. He is holding a white object, possibly a cup or a small bag, in his right hand. The background shows a hazy city with buildings and a body of water under a blue sky with clouds.

# Injury Prevention Program Vision

- Unintentional Injuries to Oregon children will decrease every year
- Oregon children will grow up in safe and secure communities
- Healthcare providers families and caregivers have access to information and resources to help keep children safe
- The Doernbecher Tom Sargent Safety Center is recognized as a leader in childhood injury prevention in Portland, in Oregon, and the US.

## Programs and Services





# What's Best for Kids!

# Unsafe from the Start: Critical Misuse of Car Safety Seats for Newborns at Initial Hospital Discharge

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[https://www.jpeds.com/article/S0022-3476\(15\)01459-6/pdf](https://www.jpeds.com/article/S0022-3476(15)01459-6/pdf)

# Methods

- Nov. 2013 - May 2014
- Target population: all eligible infant-mother pairs
  - Exclusions:
    - Gest Age < 37 weeks
    - Required Angle Tolerance Test
    - NICU stay > 4 hours
- Randomly sampled up to 4 families per day
  - Mon-Fri
  - Approached for consent
  - Translation service used as needed

# Methods

- NHTSA Certified CPS-Techs
  - 3 Instructors, 1 Senior Checker
- Facilitated Survey
- Worked with Mother or Designee
  - Position infant in seat
  - Installation of seat in vehicle
- All misuses corrected
  - Per manufacturer recommendations

## CRITICAL MISUSE DEFINITIONS

**Age/fit inappropriateness:** *The child's weight or age does not meet the criteria for the CRS being used.*

**Harness strap not used:** *Self-explanatory*

**Head restraint needed:** *The child's head is above the back of the vehicle seat. (A high-back booster seat is needed.)*

**Improper fit of vehicle shoulder belt in booster seats:** *The vehicle shoulder belt is loose, or does not cross the center of the shoulder, or cuts into or crosses the neck, throat, or face. Also includes belt placed under the arm, behind the back, or not touching the torso.*

**Improper fit of vehicle lap belt in booster seats:** *The vehicle lap belt is loose and/or the lap belt is positioned across the child's stomach (instead of across the upper thighs/lower hips)*

**Improper harness belt paths/slots:** *Based on the child's size, the harness straps are not in the correct CRS harness slots.*

**Improper position of harness strap:** *Harness strap is tucked under the arm of the child.*

**Improper use of locking clip to SB:** *On vehicles with a sliding latchplate on the SBs, the locking clip is more than 1 inch away from the SB's latchplate.*

**Improper vehicle SB path/slots:** *Vehicle SB is not correctly routed through the CRS slots for the SB.*

**Incorrect seat direction:** *Self-explanatory*

**Location of CRS:** *A rear-facing CRS is installed in front of an active airbag.*

**Loose harness straps:** *The harness strap has more than 1 finger's slack.*

**Loose vehicle SB:** *The CRS can move more than 1 inch when checked at the belt path.*

**Unbuckled harness strap:** *Self-explanatory*

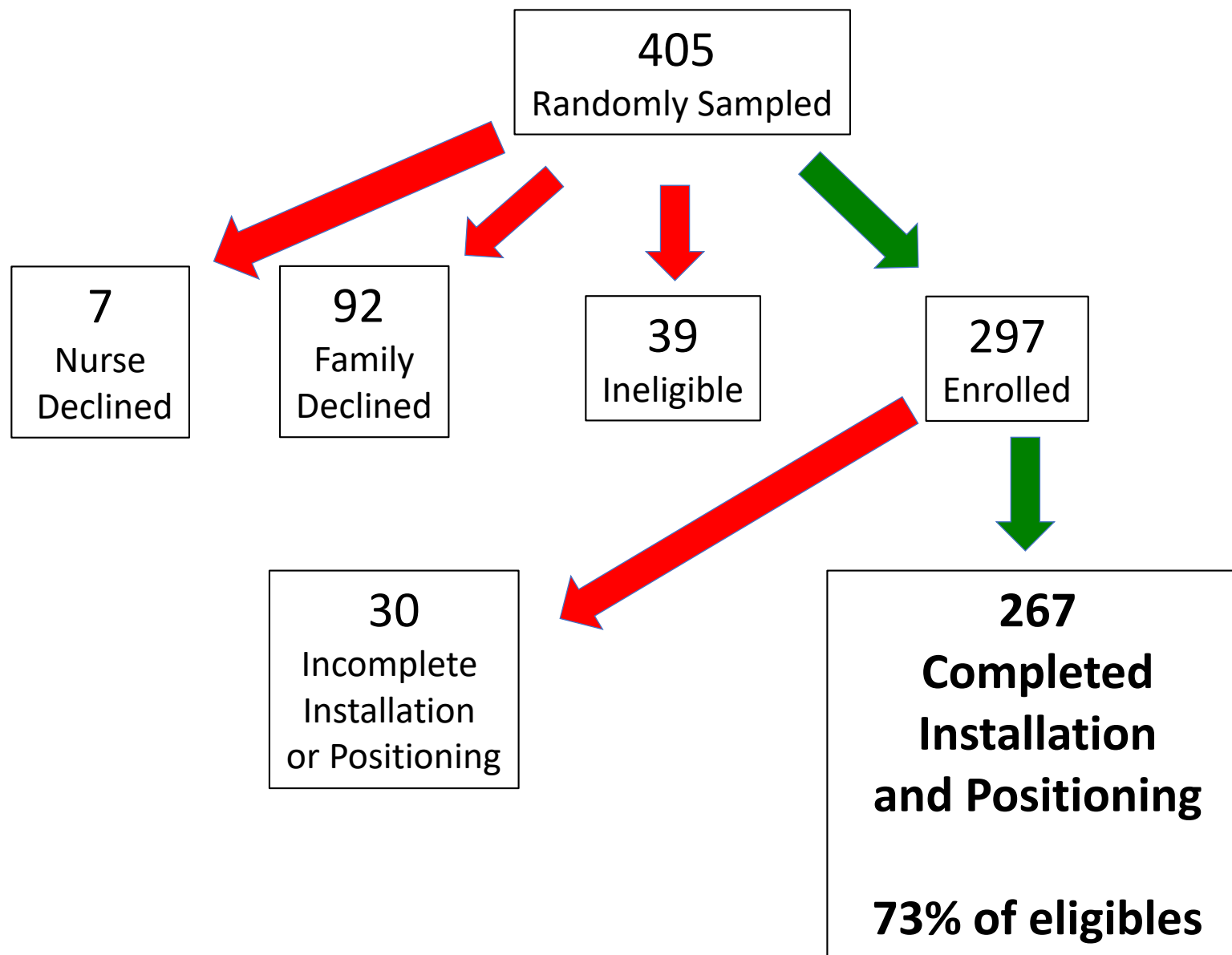
**Unbuckled vehicle SB:** *Self-explanatory*

**Visible damage to CRS:** *Crack in the shell, broken harness parts, frayed harness straps, torn padding.*

(Appendix A provides the "CRS Correct Use Definitions Guidesheet.")

## Lower Anchor Misuses





Study Enrollment 131 days, Avg. 2.1 families per day

# Characteristics of Study Population (n=267 “completers”)

Characteristic	# (%)
<b>Mothers' Age (years)</b>	
<=24	36 (13%)
25-34	162 (61%)
>=35	69 (26%)
<b>Mother's Race, Ethnicity</b>	
White Non-Hispanic	157 (59%)
Hispanic/Other	110 (41%)
<b>Language</b>	
English	196 (73%)
Spanish/Other	71 (27%)
<b>Marital Status</b>	
Married/Partnered	221 (83%)
Other	46 (17%)
<b>Education</b>	
Assoc. Degree or Less	130 (49%)
College/Prof. Degree	137 (51%)
<b>Insurance</b>	
Private	154 (59%)
Medicaid	107 (41%)
<b>Parity</b>	
0	126 (47%)
1	90 (34%)
>=2	51 (19%)

Characteristic	# (%)
<b>Car Seat Installed Prior to Delivery</b>	
Yes	175 (66%)
No	92 (34%)
<b>Worked with CPS Technician Prior to Delivery</b>	
Yes	34 (13%)
No	233 (87%)

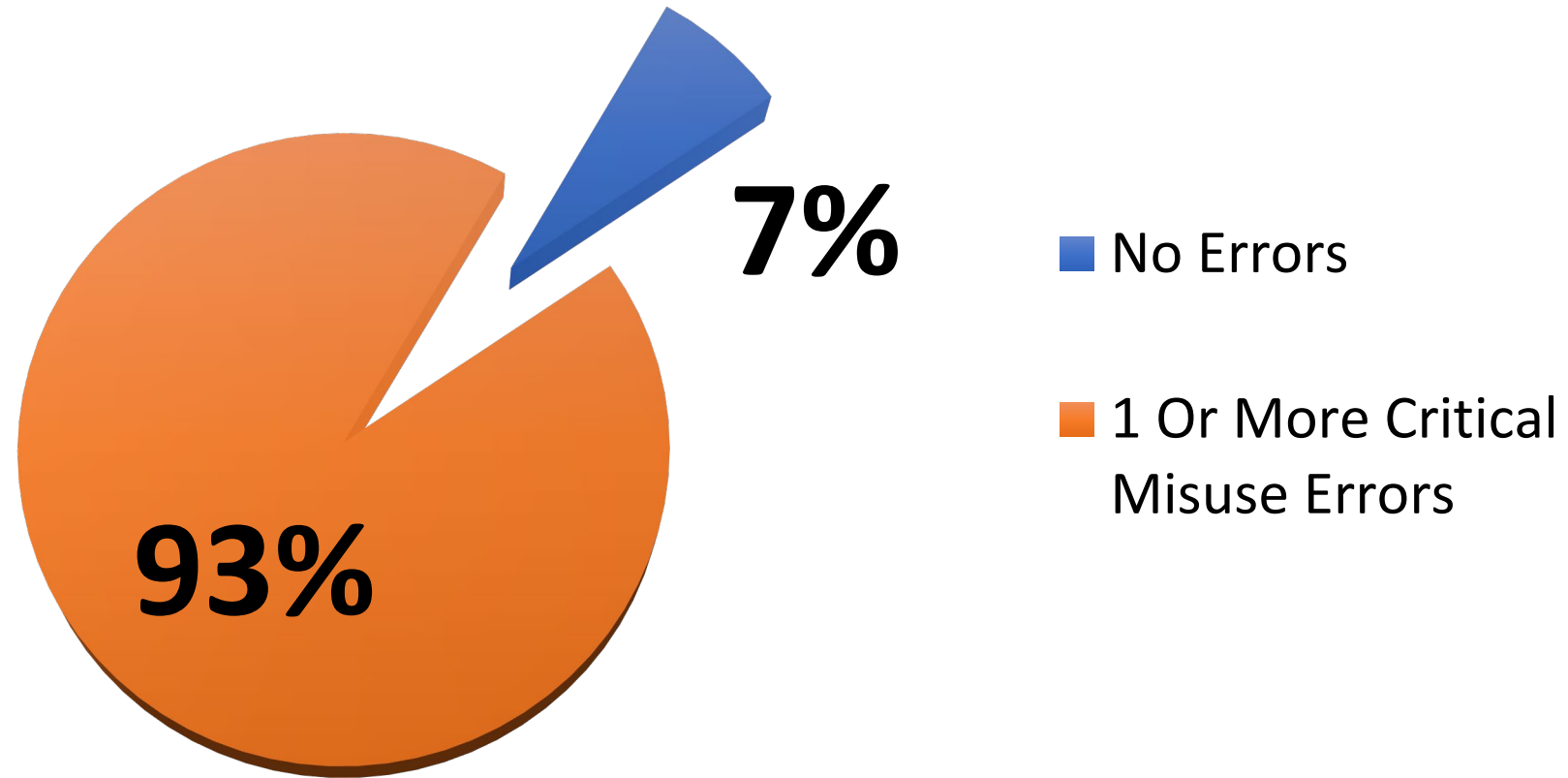
## ODDS OF MISUSE BY FAMILY CHARACTERISTICS

Characteristic	Correct Use	Critical Errors	Bivariate Odd Models	Multivariate Models
Mother's Age	%	%	AOR (95% CI)	AOR (95% CI)
<25	3	97	2.2 (0.2-20.0)	1.3 (0.1-13.5)
25-34	9	91	0.7 (0.2-2.1)	0.6(0.2-2.0)
>34	6	94	Referent	Referent
Mother's Race/Ethnicity				
White/Non-Hispanic	10	90	Referent	Referent
Hispanic/Other	3	97	<b>4.0 (1.2-14.2)</b>	<b>3.7 (1.1-13.2)</b>
Language				
English	9	91	Referent	Referent
Spanish/Other	1	99	7.1 (0.9-54)	4.4 (0.5-41.2)
Marital Status				
Married/Partnered	8	92	Referent	Referent
Other	2	98	4.0 (0.5-30.7)	2.9 (0.3-24.0)
Payment Type				
Private insurance	11	89	Referent	Referent
Medicaid	2	98	<b>6.8 (1.5-30.0)</b>	0.9 (0.7-1.0)
Education				
Associate Degree	2	98	<b>5.6 (1.6-19.7)</b>	<b>4.5 (1.1-18.4)</b>
College Degree	12	88	Referent	Referent

# Who is most at risk?

- Under 25 years of age
- Non-white
- Non English speaking
- Unmarried/other
- Medicaid
- Associate Degree or less

# 93% of Families had 1 or More Critical Misuses



9 CSS Replaced

# Frequency of Critical Misuses

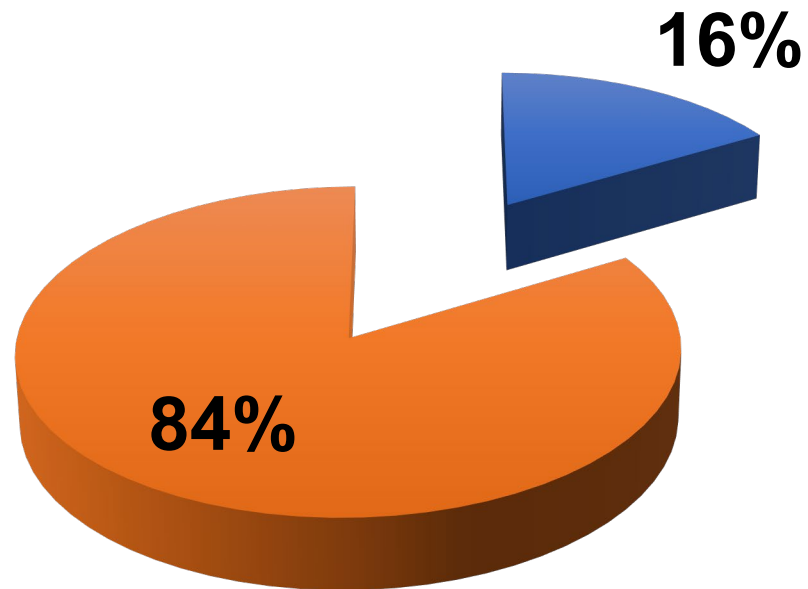
Most Common Positioning Errors	% of Total Study Population
Harness Too Loose	68%
Harness Retainer Clip Too Low	33%
Incorrect Harness Slot	28%
Non-regulated Product Used	20%
Caregiver Unable to Adjust harness	14%
Harness Webbing Twisted	10%
Buckle Not Used	8%
Harness Routed Incorrectly	7%

Most Common Installation Errors	% of Total Study Population
>1 inch Motion of CSS	43%
Incorrect Recline Angle	36%
Seat Belt Not Locked	23%
CSS/Vehicle Seat Misuse	17%
Seat Belt and Lower Anchor Both Used	10%
Incorrect Belt Path	7%
LATCH in Center Position	5%

# Mean 4.2 Misuses per Family

## Positioning Errors

Mean 2.3 per family

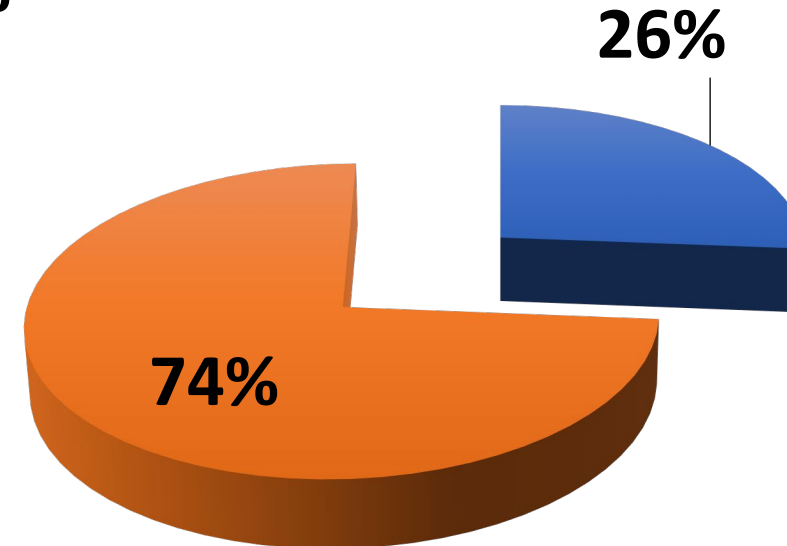


90% made 2 or more errors

50% made 5 or more errors

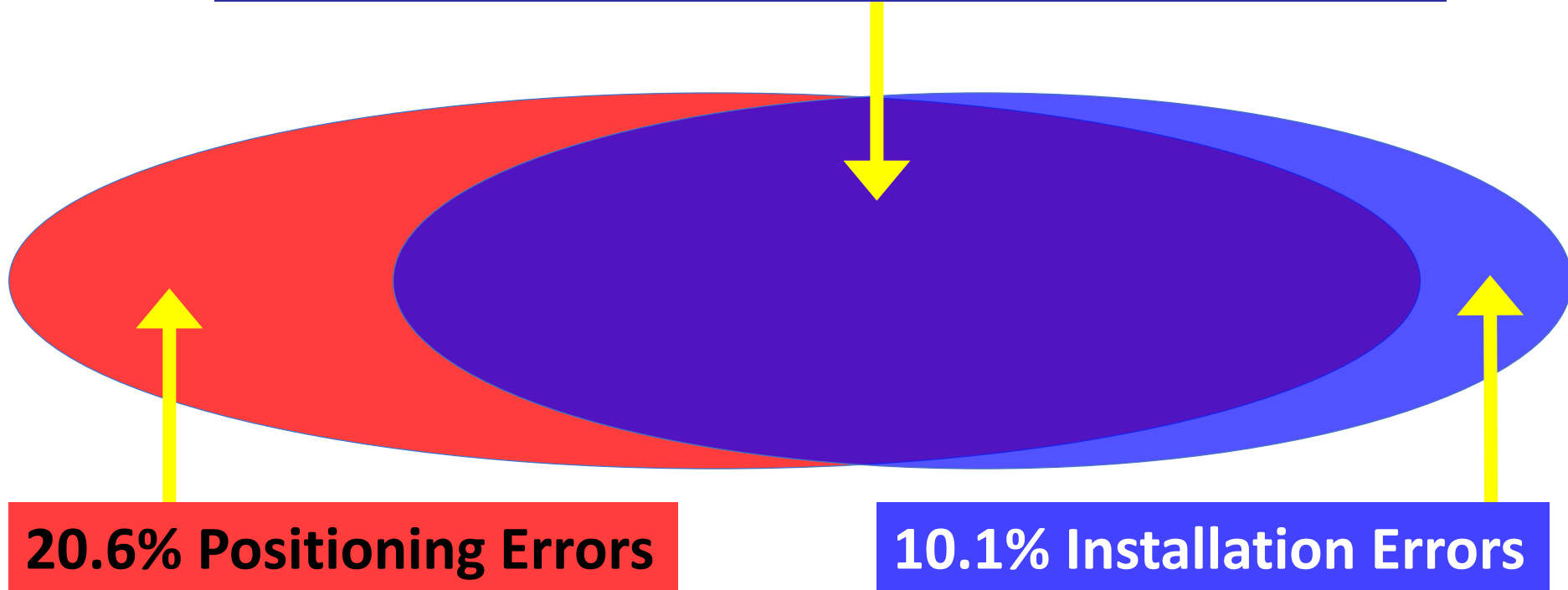
## Installation Errors

Mean 1.9 per family



■ No Errors    ■ 1 or More Critical Misuses

**69.3% Both Positioning and Installation Errors**



**20.6% Positioning Errors**

**10.1% Installation Errors**

# What Does It Mean?

- Families need assistance
  - Prenatal consultation with technician
  - CPS Technician assistance at discharge
  - Partner with community agencies
  - Reduce barriers – accessible location
  - Providing linguistically appropriate educational materials
  - Providing 1:1 hands on education
- Make car safety seats easier to use correctly
  - Vehicle manufacturers
  - CSS manufacturers



# Inpatient Services

- MBU/NICU (Infant Safety Program):
  - Child passenger safety support including transportation of children with special healthcare needs
  - Safe sleep education
  - Home safety education
  - Infant safety resources available for qualifying families-in-need
  - Injury Prevention Health Educator visits with all delivering families Monday-Friday



# Inpatient Services at DCH

- Trauma & Inpatient Consult Orders
  - Access any Injury Prevention services for a patient
  - Any unit at DCH, MBU & NICU

## Peds Injury Prevention Safety Center Order

- Child passenger safety
- Safe sleep
- Home safety
- Injury prevention resources available for qualifying families-in-need
- Follow-up with families following discharge if unable to meet need while inpatient.

DOERNBECHER SAFETY CENTER

# Trampoline Safety

"While trampolines may seem like a fun activity, they can be very dangerous. I would ask parents to carefully consider whether a trampoline would be the best choice for their family."

—Dr. Ben Hoffman, OHSU Doernbecher Pediatrician



## 6 Tips for Trampoline Safety

1. **Only one jumper at a time.** Three quarters of injuries occur when there are multiple children on the trampoline<sup>1</sup>.
2. **Children should be supervised at all times while jumping.** But remember, supervision alone does not prevent injuries.
3. **No somersaults or flips!** Risky stunts are fun but can lead to an increased risk of injury.
4. **Use of a safety net enclosure can limit unsupervised access.** All bars, tubing or springs should be padded and ensure all connections are secure and tight. Although safety nets and padding aren't a guarantee they can add a layer of protection.
5. **Ensure your trampoline is on level ground and on soft material.** Sand, pea gravel and bark chips are best—avoid concrete or other hard surfaces.
6. **Full-size trampolines are especially dangerous for small children,** and should not be used by children under six.<sup>2</sup>

1. American Academy of Pediatrics: <https://pediatrics.aappublications.org/content/138/3/e20161236>

2. American Academy of Orthopedic Surgeons: <https://www.aaos.org/aaos-home/newsroom/press-releases/trampoline-safety/>

# DCH Child & Adolescent Psychiatry Partnership

- Injury Prevention Health Educator provides:
  - Lethal Means Counseling
  - Home safety assessment to safely secure
  - Provides educational material
  - Distribution: inpatient, community, & ED

Medication lockboxes

Firearm storage items

- cable locks
- trigger locks
- 3 different lockbox options



# Medication Safety



## Teens

- Securing your medications in a lock box and keeping the lockbox in a locked cabinet is the best way to reduce access to these items. Make sure the teen cannot open the lockbox by keeping the combination secret and keys hidden.
- Teach older children and teens to read the medicine label every time before taking medicine and supervise them when they are taking medications to prevent dosing mistakes.

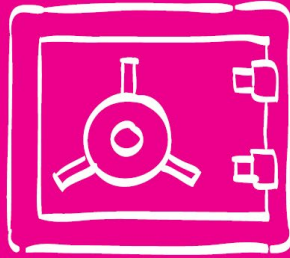
## Toddlers and young children

- Medications of all types (prescription, over the counter, vitamins, CBD products, etc.) pose a considerable risk to toddlers and young children. All medications should be stored safely out of reach of children.
- The safest way to store them is in a locked cabinet and/or lock box. Child resistant caps only slow children down and will not prevent a child from getting into medication. Caps must be secured after each use and safely storing medicine locked up provides a necessary layer of protection.
- 50% of all Emergency Room visits for medicine poisoning are due to a child having access to a visitor's medication. Relatives and other house guests may have medications in their purse, bag or suitcase. Provide a safe place for guests to store their medicine while visiting your home. This is also important to remember when you are visiting someone else's home.
- Safe dosing requires use of the appropriate dosing device and careful reading of the medicine label before each use. Use the dosing device (syringe, spoon or cup) that came with the medicine or contact your pharmacy about a replacement. Kitchen spoons and tablespoons are not safe alternatives.
- Visit [OregonPoison.org](http://OregonPoison.org) for more tips on safe storage, safe dosing and safe disposal of medications.
- Program the Nationwide Poison Control Center number into your phone: 1-800-222-1222 or text "poison" to 797979 to add their contact information directly to your mobile device.

DOERNBECHER SAFETY CENTER

# Firearm Safety

Storing firearms safely can prevent unintentional access by a child or teen.



- Young kids are curious and impulsive and should never have access to an unsecured firearm.
- EVERY firearm should be stored locked using a firearm safe, lock box, trigger lock, or cable lock.
- Ideally, all firearms should be stored unloaded with ammunition in a separate locked location.
- Teens or adults experiencing behavioral health issues such as drug and alcohol abuse, depression and anxiety can be at risk for suicide or self-harm. Having access to a firearm significantly increases their risk of serious injury or death.
- Many firearm retailers and law enforcement agencies offer temporary safe storage of firearms for homes where there may be a family member experiencing behavioral health issues or who are at risk of suicide.
- It's ALWAYS okay to ask family and friends about their firearm storage habits and practices. Parents should ask if firearms are in the home where your children visit or play.
- Talk to your children about firearms. Discuss the seriousness of not touching a firearm and the importance of telling an adult if they find one.
- Contact the National Suicide Prevention Lifeline, available 24 hours 1-800-273-8255 if you have a love one struggling with thoughts of suicide.

# Tom Sargent Safety Resource Center

- Provide access to affordable safety equipment
- Not for profit store in DCH Lobby, items sold for cost or below retail:
  - Helmets
  - Window Guards
  - Home Safety
  - Firearm Storage
  - Medication Lockboxes
  - Car seat distribution to low income families
  - Safe Sleep Resources
- Special Needs Car Seat Assessments
- Virtual Appointments
  - Car Seat Inspections
  - Home Safety Consults
  - Infant Safety Consults



Goal is to get safety equipment into as many homes as possible

# Child Passenger Safety

- High demand
- Scheduling appointments 4 weeks out
- 20 appointments offered per week
- Increasing large community events
- Needs:
  - Certified Child Passenger Safety Technicians
  - CPS Technicians who speak a language other than English



# Adaptive Needs Transportation Assessments

- **Special Needs Transportation Assessment**
  - Available to ALL families
    - Inpatient
    - Community
  - Any questions regarding how to transport a child safely as they grow
  - Age is no issue, many older children with special health care needs need support to transport safely
  - Contact Adaptive Needs Transportation at 4-5666 to refer families



# Outreach Services

## Car Seat Education Stations

- OHSU Doernbecher & Hillsboro Medical Center
- Subsidized or no-cost Car Seat Distribution for qualifying families – ODOT

## Safe Sleep

- Community Partnership Approaches for Safe Sleep (CPASS) – Healthy Birth Initiative -
- OHSU Doernbecher Tom Sargent Safety Center Safe Sleep Kit - \$20 co-pay (eligibility requirements apply)





## Car Seat Inspection Education Stations


- Available at OHSU Doernbecher & Hillsboro Medical Center
- Schedule appointment within two months prior to due date

## Safety Resource Centers

- Available at OHSU Doernbecher & Hillsboro Medical Center
- Low cost injury prevention resources available for purchase

[www.Doernbecher.com/childsafety](http://www.Doernbecher.com/childsafety)





“What we are doing today  
isn’t what we will be doing  
tomorrow.”

—Dr. Dana Braner  
Fall 2020

*Please call 503-418-5666 to access any Injury Prevention Services or email [safety@ohsu.edu](mailto:safety@ohsu.edu)*

Adrienne Gallardo MAOM, CPST-I

Injury Prevention Program Manager  
OHSU Doernbecher Injury Prevention Program



# OHSU Doernbecher Injury Prevention Program

Doernbecher Tom Sargent Safety Resource Center

Braner Family Center Safety Resource Center

Monday – Friday 8am-4:30pm (Staff Available)

Weekend coverage: On-call 9am-5pm

For consultations or immediate need

Contact a Health Educator:

503-418-5666 or page #13704

Peds Injury Prevention Safety Center Consult Order

[Safety@ohsu.edu](mailto:Safety@ohsu.edu)



DOERNBECHER  
CHILDREN'S  
Hospital

