



Car Seat Tethers

Essential for Safety but Consistently Overlooked

September 2017



Tethers Make a Difference

What's a tether?



It's the **strap with a hook** hanging on the back, at the top of your child's car seat.

When attached and tightened to one of the vehicle's tether **anchors**, a tether helps keep a forward-facing car seat from tipping forward.

Car Crash **Using** a Tether



Car Crash **Not Using** a Tether



Is it necessary?

Yes! A forward-facing car seat secured only at the bottom may tip dangerously forward in a crash, which can result in the child's head hitting the back of the front seat, other occupants or even the console, causing serious harm. **Using the tether could be the difference between a brain injury or no injury at all.**

How do you use a tether?

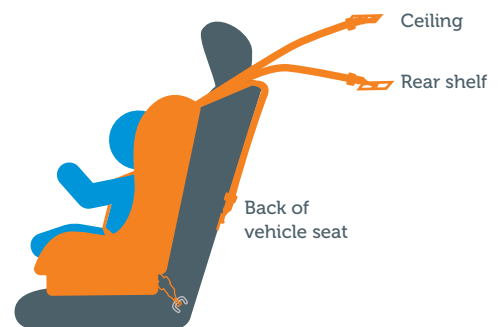
Find the tether anchor then attach the hook on the tether strap to it and tighten. Depending on the type of vehicle you have, the tether anchor will likely be found one of three places.



Check your vehicle owner's manual to find your tether anchors. Look for this symbol.

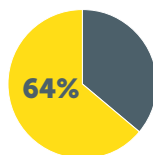


Most Common Tether **Anchor** Locations

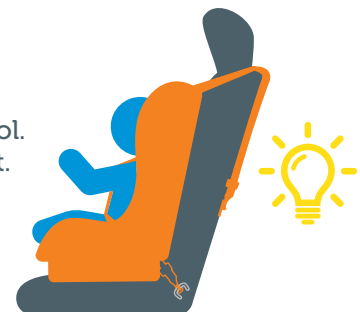


Did you know?

In our study, 64% of parents were **not** using the tether on a forward-facing seat.



Now you know – Look for the tether anchor symbol. Hook and tighten the tether on it. Safe travels!



Executive Summary

For 20 years, Safe Kids Worldwide, General Motors and Chevrolet have partnered to protect children in and around cars. This multifaceted effort includes education not only through general awareness but also working one-on-one with families at car seat checkups to make sure children are getting the best possible protection when they travel on the roads.

Despite progress over the years, there is one aspect of car seat safety that has seen no progress: top tether use. Top tethers, also referred to as tethers, are used with forward-facing car seats that have a harness.

Using a tether is essential. To understand why, think about how a car seat is installed in a vehicle. Use either the seat belt or two lower attachments on the car seat to secure it to the vehicle. That is a critical connection, but it isn't enough. A third point of contact, the tether, is a strap with a hook that secures the top of the car seat to the vehicle to keep it from pitching forward in a crash. Without it, that sudden forward motion can result in the child's head hitting the back of the front seat, other occupants or even the console, causing serious harm. Clearly the tether is a critical element of installation.

But, surprisingly, many families don't realize the importance of the tether. From October 2015 to December 2016, 64 percent of caregivers who came to a Safe Kids Buckle Up checkup event with a child in a forward-facing car seat were not using the tether. Our Safe Kids coalitions took that opportunity to educate them, so when they left the event, their children were fully protected.

That one-on-one education is what we do best and how parents learn the most. Further, our research shows that parents who attend car seat checkup events gain the knowledge and skills needed to safely install their child's car seat, including tethers. When we re-checked car seats six weeks after parents attended a car seat checkup event, the majority continued to use the tether.

Our goal is for every child to ride safely, so we need families and caregivers to understand the importance of using a tether when installing their forward-facing car seat. This report examines previous research on tethers and offers tips on how to help parents understand the importance of using tethers to increase child passenger safety.



Background

Motor vehicle crashes are a leading cause of death in children under 8 years of age.¹ In 2015, these crashes claimed the lives of 488 child passengers 8 years and under and led to more than 3,700 hospitalizations and more than 72,000 emergency department visits in that age group.²⁻³ Of those 488 children who died, a quarter were unrestrained.⁴ This is a far cry from the almost 3 children per day in this age group who were dying in vehicles 20 years ago, 48 percent of whom were riding unrestrained at the time of death. But the fatalities in 2015 are particularly concerning because they represent a 6 percent increase over the previous year.⁴

For 20 years, Safe Kids Worldwide has partnered with General Motors to provide education to caregivers and parents on child passenger safety, with a particular focus on children under age 8. During that time, certified child passenger safety technicians (CPSTs) have worked one-on-one with parents and caregivers to check more than 2 million car seats at Safe Kids Buckle Up events held at GM dealerships, hospitals, retail outlets, fire departments and other community venues. Today there are approximately 40,000 active CPSTs around the country working to keep children appropriately restrained for their age, weight and height.



The Problem

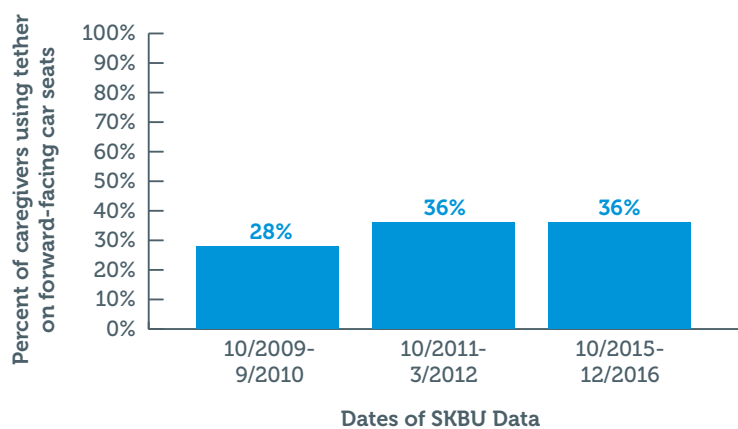
Despite progress overall in car seat use and knowledge over the past 20 years, there are some areas where little change has been observed. One of these problem areas is the use of the top tether. When attached and tightened to one of the vehicle tether anchors, a tether keeps a forward-facing car seat from tipping forward in a crash or sudden stop, providing extra protection to the forward-facing child.⁵ Without the top of the car seat secured, the car seat can pitch forward in a vehicle crash or sudden stop, and a child's head can move an additional 4-6 inches further than it would if the car seat was secure at both the top and bottom. This means the child's head could strike the seat in front of them, the console or another occupant, any of which could result in a serious head injury.

Tethers are required to be present on every forward-facing car seat model with a harness manufactured after 2001, and every passenger vehicle manufactured during that same time period has to have at least three tether anchor points. Despite this, nearly 20 years after their introduction, tethers are underutilized on car seats and still appear to be greatly misunderstood by caregivers.

Non-Use

A look at historical data from the Safe Kids Buckle Up (SKBU) program suggests that the majority of parents who put their child in a forward-facing car seat are not using the tether to secure the car seat (Figure 1). We compared the proportion of caregivers who arrived at a SKBU inspection event without using a tether to secure a forward-facing seat during three time periods and found that use varied from 28 percent in 2009/2010 to 36 percent in both 2011/2012 and 2015/2016.⁶⁻⁷ While there has been a slight increase in use from 2009, less than 4 out of 10 caregivers whose child arrived at a car seat inspection in a forward-facing seat were using a tether. To say it another way, in 2015/2016, 64 percent of caregivers were not using the tether to secure their car seat.

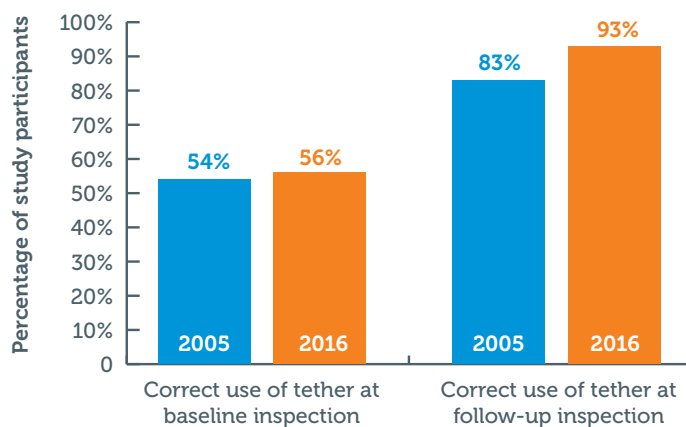
Figure 1. Tether use on forward-facing car seats at arrival to check up events is consistently low.



Misuse

Even when the tether is used, oftentimes it is not used correctly. For example, we have frequently seen it attached to cargo hooks, wrapped around the vehicle head restraint or improperly routed and attached to lower anchors. Each misuse may reduce child protection. A comparison of two evaluations of Safe Kids Buckle Up child passenger safety inspections conducted eleven years apart suggests that there has been little progress on correct tether use by caregivers (Figure 2). The first study collected baseline data during checkup inspection events during February 2005 and brought back the same parents to collect follow-up data at a second inspection six weeks later. At the baseline inspection events, correct tether use was consistently low. Of those who were using the tether, only half of caregivers were using it correctly, regardless of type of seat.⁸ The study was replicated in 2016, collecting data over a nine-month period from April to December. At baseline inspection, only 56 percent of caregivers were correctly using tethers.⁹ To summarize, in both 2005 and 2016, about half of caregivers were incorrectly using the tether, putting the child at risk for harm. The findings make it clear that there is a lack of caregiver knowledge when it comes to correctly using tethers.

Figure 2. Of study participants who used a tether on any car seat, only about half used it correctly, a statistic that remained flat between the two studies. Checkup events make a difference in tether use.



After attending the car seat check event, however, parents and caregivers seem to better understand the importance of using the tether, and continue using it after they leave. In 2005, while only 54 percent of caregivers came in using the tether correctly, 83 percent were using it correctly six weeks later. This improvement was even greater in 2016. While only 56 percent were using the tether correctly when they came to the first checkup event, 93 percent were correctly using the tether at the follow-up event.⁹ This shows that car seat checks with caregivers are successful in explaining the importance of tethers and result in increased safety behavior by caregivers six weeks later.



The Solution

Tethers on car seats and tether anchors in vehicles are now standard equipment, so there is no additional cost for families. Parents and caregivers need to install forward-facing car seats using a tether to secure the top of the car seat to the vehicle and prevent the car seat from pitching forward in a crash or sudden stop.

Here are suggestions on how to use the tether correctly.

Where to Find the Tether on your Car Seat

- If your car seat has a harness and can be used in the forward-facing position, your car seat has a tether.
- Look for the tether strap on the back of your child's car seat behind where your child's head would be.
- The tether is a strap that has a hook on the end of it. Sometimes it is wound up and held with a twist tie or rubber band. It may also be in a small pouch.

Where to Find the Tether Anchor on your Vehicle

- All vehicles that are newer than 2001 will have at least three tether anchors in the vehicle.
- The tether anchor symbol looks like a ship's anchor. It might be stamped on plastic, on a cover or next to a cloth label. This anchor symbol marks where the tether anchor is located.
- The anchor may be on the back of the vehicle seat, on the rear shelf or on the ceiling. Just look for the anchor, so you will know you are using the tether anchor and not a cargo hook!
- If you cannot find where to attach the tether in your vehicle, check your owner's manual. It will show you where the tether anchors are.

How to Use the Tether and Tether Anchor Together

The tether helps even a car seat that is poorly attached to the vehicle do better in a crash. By holding the top of the car seat tight against the vehicle seat, you will be amazed at how tight your car seat feels when you test it.

- After you have attached the car seat to the vehicle with the tightened and locked seat belt or lower attachments, find and attach the tether hook to the tether anchor, and tighten the tether strap.
- Give a good tug on the car seat at the place where the seat belt or lower attachments go through the seat. The car seat should not move more than one inch side-to-side or front-to-back.
- The tether makes the car seat very secure if you have tightened it enough. If the car seat moves, keep tightening.
- If there is excess material from the tether strap, roll it up and tuck it behind the car seat so kids do not play with it.

Safe travels!



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