Preventing Playground Injuries with Synthetic Grass
Drastically reduce playground injuries

Executive Summary

Teachers, educations and school administration officials are always looking for ways to make their playgrounds safer – after all; they are responsible for the well-being of students during school hours.

Even with advancements in safety features for playground equipment, there are still more than 200,000 students ages 14 and younger treated for playground-related injuries each year according to the CDC. Over 10% of those students (more than 20,000) will be treated for traumatic brain injuries, including concussions.

While the CDC says that more research is needed to better understand what puts children most at risk for injury, they also recommend a softer material under playground equipment. Their specific suggestions are wood chips, sand or mulch – but they missed the safest option, synthetic grass.
Traditional turf options like wood chips, sand, mulch, and even rubber wear down significantly as time goes by – especially in high traffic areas like swings and the landing in front of a slide. Synthetic grass offers padding that won’t be displaced in high traffic areas, some with the ability to protect children from falls of up to 10 feet.

In this paper, we will look at a combination of statistics regarding playground-related accidents, some of the disadvantages of common surfacing options like wood chips, sand and mulch and how synthetic grass can eliminate most of these common problems.

Most Playground Related Traumatic Brain Injuries (TBIs) Involve Falling from Monkey Bars, Climbing Equipment or Swings

The last thing any parent wants to think about when sending their child to school is the odds of them getting hurt during recess or physical education – but the truth is it happens more often than it probably needs to. Back in the day sand, mulch, traditional grass or even rubber were acceptable turf for playgrounds because it was all that was available – but modern technology allows for beautiful, low maintenance synthetic grass that provides more consistent protection than any other playground turf.
Of those roughly 200,000 children injured on playgrounds each year about 56% were treated by emergency medical personnel for fractures, contusions or abrasions. 75% of those playground-related injuries occurred on public playground equipment – mostly at schools or other places of recreation like parks.

From 2005 to 2013 the number of emergency department visits to playgrounds for traumatic brain injuries has significantly increased, with two-thirds of playground related TBIs happening at school, during the school day.

Falls caused 15% of Playground Related Injuries Resulting in Death to the Playground Surface

While it may seem gruesome, it is a fact that cannot be denied – playground-related injuries are occasionally going to result in death. Between 2001 and 2008 the Consumer Product Safety Commission investigated 40 deaths associated with playground equipment, where they found that 15% of the deaths were the result of falls to the playground surface.

All children are at risk in a playground setting – but boys sustain emergency department-treated injuries (55%) at a slightly higher rate than girls (45%). Of all age groups, children ages 5 to 9 years old have the highest percentage of emergency department visits when it comes to playground-related injuries – and most result from monkey bars and climbing equipment rather than another part of the playground.
Reducing the Frequency of Playground Related Injuries Should Be A Top Priority for All Schools and Public Parks

Recess should be a time of fun and play – not one of the injuries big or small – so it is up to the people designing the playgrounds to do everything in their power to make it as safe as possible. While earlier we learned that even the CDC suggests sand, wood chips, and mulch we now know that these are not the most reliable options for your playground surface.

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While these surfaces are still commonly used there are a multitude of reasons that they are not the best option to prevent playground-related injuries. Mulch, gravel, and sand may start safe, but their ability to protect against fall-related injuries is diminished as time goes on. Simple high traffic wear-and-tear or migration and displacement of materials could expose the hard surface below – posing a higher risk if a fall were to occur.

While rubber surfaces can offer more consistent protection from falls, there are other concerns to take into consideration. Rubber, especially black rubber like that from recycled tires, tends to absorb heat at astounding rates. Walking barefoot or sitting on the ground while wearing shorts could cause burns. During the winter months, especially in places with extremely cold temperatures, the rubber can become brittle, which will reduce the amount of protection the turf can offer.

Synthetic grass is the only playground surface that can provide consistent safety standards – even in high traffic areas. Regardless of the weather, height or the type of equipment it is underneath, this synthetic grass is designed for playgrounds with safety as the number one priority.
Another benefit of synthetic grass is that with the use of “TrampleZones” – efficiently replaceable smaller segments of turf – you can easily keep your surface in the best shape, replacing high traffic areas as needed. Mostly this is used in areas like the merry-go-round, under a see-saw or swings and at the base of slides, where turf like sand and mulch sees the most displacement.

For the best protection, some synthetic grasses have been certified by the International Playground Equipment Manufacturers Association (IPEMA), ensuring that installation methods and standards meet the ASTM F1292 safety standard. With critical fall height protection varying from 5-10 feet in a variety of grasses, there is a grass to fit the needs of any part of your playground or park from soccer fields and baseball diamonds to playground equipment.
Other safety concerns – such as cuts and bruises from tripping and falls from low heights – are also a thing of the past with synthetic grass. It is non-abrasive, soft to the touch and easy on the skin, which means falls should no longer result in scratches or skinned knees.

Safety, of course, isn’t the only benefit of synthetic grass as the choice for your playground turf. It is non-allergenic, perfect for accommodating children of all health concerns. The low maintenance means that natural rains tend to wash away dirt and dust and superior drainage means the grass is always ready for use, even right after it rains.

5-9
YEAR OLD CHILDREN

have the highest percentage of emergency department visits when it comes to playground-related injuries

15%
FALLS CAUSED 15%

of playground related injuries resulting in death.
Blue Springs County Schools, Missouri, District-Wide Conversion to SYNLawn Artificial Grass

In 2013, the Blue Springs County school district in Missouri decided to try out the SYNLawn Playground System – explicitly designed to protect children from falls. Only six months with one playground installation showed them everything they needed to see to install it all their playgrounds.

“They saw the benefit of having turf because our pad is built underneath and providing a 24/7, 365-day perfect safe play environment,” said Angela Grego of SYNLawn.

Before installing their synthetic grass, the Blue Springs County school district had used wood mulch for all their playgrounds – but consistently found that it needed maintenance. It was an ongoing battle to keep their fall height requirement due to mulch migrating during daily play as children run across the playground. Some areas may end up too bare while others had more mulch than needed.

At one point a child fell on wood mulch where too much had migrated, leaving the surface under the fall height requirement – and the result was a severe neck injury and a $2 million-dollar claim.
Reduced costs

“Not only do we have problems with constant maintenance, thousands of dollars in labor and materials to provide maintenance for the wood mulch every year but another big – interesting – problem they had with their surfacing was splinters. They had splinters through all of their schools constantly in the nurse’s office,” Grego explains.

$2m
CLAIM FOR SEVERE NECK INJURY

The amount Blue Springs School District paid out on an injury claim that was the result of migrating mulch.

24/7, 365
DAY PLAYABLE, SAFE SURFACING

wood mulch migrates leaving unsafe areas on the play surface.
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Before committing to installing synthetic grass in all their schools, the district agreed to try it out in only one of their elementary schools. A courtyard playground at Thomas Ultican Elementary was the perfect candidate for their experiment – the location was tricky to maintain since you must travel through the buildings to reach it.

They intended to keep it for two years and review its performance compared to the wood mulch and decide then – but not even six months later Angela received a call from Dan Anderson, the facilities director for the Blue Springs Country school district.

“This is the greatest thing since sliced bread, we’ve got to have this in all of our schools,” he told Angela. Shortly after getting all the proper approvals every elementary school in the Blue Springs County school district was sporting one of two different SYNLawn artificial turfs.

After being referred by Anderson of Blue Springs County, Angela has also helped install synthetic grass in playgrounds and fields in many other counties including Lee’s Summit, Missouri; Kearney Missouri schools and the Blue Valley school district in Kansas.

Choosing Synthetic Grass for Your Playground or Park

Hundreds, if not thousands, of playground-related emergency room visits, could be avoided each year if more school districts and community recreational facilities used synthetic grass for their play-space surfacing. It’s clear that when it comes to preventing injuries from falling none of the traditional turf options come close to matching artificial grass in safety – but how do you choose the right artificial turf for your playground or park?
As we revolutionize our playgrounds to be safer than ever, we cannot rely solely on the manufacturers of the equipment to be working to improve the standards. The CDC may find sand, mulch or wood chips acceptable playground surfacing but that does not mean that you must settle for a high maintenance mess that could easily contribute more problems than it prevents. Synthetic grass is the future of playground safety, with the ability to protect children from falls as high as 10 feet.

If you are unsure about whether artificial grass is the right choice for your playground, park or place of recreation, consider taking the route that the Blue Springs County school district took – install the grass only in one spot to start. See how you and the children and families like it – did it protect anyone from scrapes, bruises or even broken bones? Like Blue Springs County, if you find the answers are “yes” then moving forward with synthetic grass as your new playground turf will only seem the natural next step.

Seeing as all playgrounds are different – with different equipment, heights, and risks – it seems evident that one type of grass would not be suitable for all playgrounds. Remember, these things should always be considered before deciding on synthetic grass for your playground or park:

- The height of play equipment
- Where the high traffic areas are
- Head Injury Criteria (HIC) requirements
- Any preferences in style of grass

While one type of turf might be perfect for your obstacle course, jungle gym, merry-go-round and the like, it may not be ideal for your soccer fields. Industry sales professionals should be able to help you narrow down choices for your ideal artificial grass based on safety standards, what area is being surfaced and your preference for look and feel.