

Top 12 Synthetic Turf Facts: What Parents Should Know

Reference: *Real is Better than Fake: Concerning the Dangers and Risks of Synthetic Turf Fields*

1. Unanswered Questions

There are a lot of questions schools need to answer for parents about what data/studies they're relying upon that synthetic turf fields are safe; how they'll prevent lead exposure, heat-related illnesses, and inhaling fine particle dust; how fields will be disinfected; and how the whole host of chemicals there are in and on the field affects children.

2. Cost

Grass is cheaper than synthetic. Actual costs from RSD as well as other studies confirm this. Ex) Rockwood School District (RSD) believed it would spend \$3.3 million, but has spent \$3.771 million for installation and infill (4 fields). They've been told they'll spend \$8,000/yr for maintenance, which is unlikely based on research. Total would be **\$3,779,129** for 2015. Rough estimate (4 fields) from local professional landscaping company for natural grass: installation and maintenance is **\$2,066,100** for 2015.

3. Extreme Temperatures

Synthetic turf reaches extreme temperatures frequently, not just on hot days. Children are less able to adapt to changes in temperature; have a greater chance of dehydration and heat stroke. Temps above 122 degrees can injure/burn skin in less than 10 min. Students are getting third degree burns on their hands from synthetic turf. Ex) Table: not considered hot days, but they're extremely hot on synthetic turf.

Sample Temperatures 2015 WWC

Air	Synthetic Turf
82 °F	150 °F
	From 86 °F to over 122 °F within 5 minutes.
77 °F	131 °F
64 °F	129 °F
77 °F	109 °F
78 °F	120 °F

4. Lead/Other Chemical Exposure

CDC states there is no safe level of lead. RSD's turf fibers contain lead, but not all fields' colors were tested, although they can contain differing amounts. In addition, field components can have even more lead than turf fibers. As fields age, they deteriorate to dust which children are breathing. Total amount of lead (in grams) is what matters – this is what children will be exposed to when playing.

5. Cancer

Currently (acc. to Dr. Brown, as of May 2015) there are 136 cases of players with cancer on Amy Griffin's list. Lymphomas are heavily influenced by environmental factors. "...the number of lymphomas in the population of athletes who played on synthetic turf collected by [soccer coach] Amy Griffin is much higher than would be normally expected." Many point to crumb rubber, but Dr. Brown notes that it could be the breakdown of the turf fibers. The bottom line is that no one knows; it has not yet been studied.

6. Staph/MRSA

Synthetic turf appears to play a role in Staph and MRSA infections due to unsanitary conditions on the field. The risk of MRSA infection is 7 times higher for players with turf burns. Fields are typically not washed or cleaned from blood, vomit, spit, other bodily fluids, and animal feces. Chemicals are not enough to kill all Staph and MRSA and can even damage the field. What is the effect of these chemicals on our children? UVC machines are available to sanitize, but cost \$14,000 each.

7. Infills: Crumb Rubber and Corkonut

It's commonly accepted that crumb rubber infill is unsafe. Numerous studies confirm it contains carcinogens (causes cancer). 10/23/2015 Congress asks EPA to make an official statement on its safety. Corkonut: no studies support that it's cooler. It's made from coconut husks and cork oak tree. When cork oak breaks down, such as in woodworking, it can cause hypersensitivity pneumonia, which can lead to permanent lung scarring. Both coconut husks and cork oak create dust. Just because something is natural doesn't mean we should be breathing it in. Testing for respiratory effects hasn't been completed by anyone.

8. **Players**

Players hate synthetic turf: NFL, MLB, MLS/FIFA. NFL players repeatedly prefer grass in surveys, believe synthetic contributes more to injury, and shortens career. All MLB fields will be grass by 2018. It's considered a competitive disadvantage to have synthetic. U.S. Women's World Cup 2015 was held on synthetic turf. FIFA likes synthetic turf, and heavily promotes its use, however, after the horrible conditions the women endured this summer, FIFA will never again hold World Cups on synthetic turf.

9. **Injury Rates**

More ACL injuries, more prevalent and perhaps more serious concussions occur on synthetic turf.

10. **Inadequate Testing/Study Shortcomings**

CPSC and EPA do not stand behind their own previous studies. Studies quoted by the synthetic turf industry are limited, outdated, out of context, not to mention the majority are funded by them. "None of [the studies] are long term, they rarely involve very young children and they only look for concentrations of chemicals and compare it to some sort of standard for what's considered acceptable," said Dr. Forman. "That doesn't really take into account subclinical effects, long-term effects, the developing brain and developing kids." We want to believe that if it's being sold to us it's safe, but time and time again from asbestos to lead to BPA in baby bottles we find out after the fact that these chemicals cause cancer or severe adverse health effects. We know enough now about synthetic turf to do something. We don't have to wait around to see what else it will do to children.

11. **Truth about Grass**

Grass is cheaper, it works and can be done without pesticides. Talk to local professional landscaping companies, Sports Turf Manager Association (STMA) members to get the facts on how grass can withstand heavy traffic, including, but not limited to drainage systems, types of turf grass best for your area, etc. Ex) Compare: Local parks department – soccer/lacrosse field 1,000 hours of activity per year Rockwood previously (through 2014, grass fields) only used fields for 60 hours per year; both of the fields were built the same: native base field with no subsurface drainage. Only difference is the soccer/lacrosse field is managed by a professional landscaping company.

12. **Precautionary Principle**

This is a more scientific way of saying it is better to be safe than sorry. When we already know so much about the dangers and risks of synthetic turf, we don't have to wait for a study. Our children should not be an experiment. And remember that grass works! "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

In this context the proponent of an activity, rather than the public, should bear the burden of proof...involve an examination of the full range of alternatives, including no action."

Videos:

- CPSC doesn't stand behind their previous study. **Video:** <http://youtu.be/7crcxR8aYjo>
- Are we treating women athletes like guinea pigs? **Video:** <http://youtu.be/Cb9uSsdAwjc>
- Children and synthetic turf: Video includes pediatricians, toxicologists and others discussing plastic turf grass in addition to other toxins. **Video:** <http://youtu.be/c3sg2BNILfU>

Top Myths Heard from Schools and/or Synthetic Turf Industry

Reference: *Real is Better than Fake: Concerning the Dangers and Risks of Synthetic Turf Fields*

Synthetic turf

1. There are over _____ studies showing it's safe: FALSE

There are no comprehensive studies showing synthetic turf fields are safe. Studies quoted by the synthetic turf industry are limited, outdated, taken out of context and/or funded by them. CPSC and EPA do not stand behind their own previous studies, for example. For more specifics on defeating lies of studies quoted by schools and/or industry, see full paper listed as reference above.

2. Is cheaper to maintain: FALSE

First, ask school to present **installation** along with maintenance costs for the total. Grass is always cheaper according to actual costs and studies. Ex) RSD believed it would spend \$3.3 million, but has spent \$3.771 million for installation and infill (4 fields). They've been told they'll spend \$8,000/yr for maintenance, which is unlikely based on research. Total would be **\$3,779,129** for 2015. Rough estimate (4 fields) from local professional landscaping company for natural grass: installation and maintenance is **\$2,066,100** for 2015.

3. Only heats up on hot days: FALSE

It isn't heating up, it's extremely hot! This increases chances for third-degree burns, heat illnesses.

4. Can be sanitized by the sun and heat: FALSE

Takes 140 degrees and the C-band of UV light (UVC) to kill Staph and MRSA. UVC is blocked by ozone layer; can only access with machine.

5. Does not harbor Staph, does not have anything to do with Staph infections: FALSE

Synthetic turf does not grow bacteria, but it can survive for up to 90 days on turf fibers. It can accumulate over time if field is not cleaned properly. In addition, players with turf burns are 7 times more likely to get MRSA infection.

6. Lead is nothing to worry about, compare to lead levels allowed in bare soil: OUT OF CONTEXT, FALSE

RSD did find lead in their test of one field's turf fibers, but keep it in the form of parts per million (ppm). According to Dr. Brown, Sc.D., it's the total amount of lead (in grams) that matters. Children will be exposed to the entire field, the entire amount of lead. RSD did not test other fields' colors, nor the entire fields' components, which have been shown to contain even more lead. There is NO safe level of lead. Children are the most at-risk population. We are definitely increasing their exposure to lead, a neurotoxin. Even low levels affect their brains. Once exposed, damage cannot be corrected. In addition, once bare soil is covered with grass, there's NO risk to lead exposure, according to EPA Lead Specialist.

7. Safer: FALSE

More ACL injuries, more prevalent and perhaps more serious concussions occur on synthetic turf. Studies and player experience confirm this.

8. Competitive Advantage: FALSE

Due to common temperatures of 120-150 degrees or higher on the fields, children are placed at risk. NFL, MLB, MLS/FIFA players and most other athletes hate it. NFL players repeatedly prefer grass in surveys, believe synthetic contributes more to injury, shortens career. All MLB fields will be grass by 2018. Considered a competitive disadvantage to have synthetic. U.S. Women's World Cup 2015 was held on synthetic turf. FIFA likes synthetic turf, and heavily promotes its use, however, after the horrible conditions the women endured this summer, FIFA will never again hold World Cups on synthetic turf.

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Grass

9. Doesn't work, can't withstand wear and tear: FALSE

Talk to local professional landscaping companies, Sports Turf Manager Association (STMA) members to get the facts on how grass can withstand heavy traffic, including, but not limited to drainage systems, types of turf grass best for your area, etc. Ex) Compare: Local parks department – soccer/lacrosse field 1,000 hours of activity per year. Rockwood previously (through 2014, grass fields) only used fields for 60 hours per year; both of the fields were built the same: native base field with no subsurface drainage. Only difference is the soccer/lacrosse field is managed by a professional landscaping company.