

Question: Does artificial turf pose a cancer risk?

Reader @notoxturf group and others on Twitter have asked: 'Are the materials used in artificial turfs of playgrounds toxic?'



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Concerns over artificial turf have been growing at a rapid clip following an NBC investigation in October that suggested it could pose a cancer risk.

The controversy centres on crumb rubber, the tiny black specks that are made from used car tires and spread around the turf. Artificial turf is used on everything from soccer fields to playgrounds to baseball diamonds and the rubber used can contain dozens of volatile organic compounds.

The NBC investigation featured a veteran soccer coach who has made a list of nearly 40 young American soccer players – the vast majority of them goalies – who have been diagnosed with cancer in recent years. Goalies, who are frequently making contact with the ground, are believed to be at a heightened risk because they would have a much greater exposure to crumb rubber than their teammates. How can it be a coincidence that so many of them are being diagnosed with cancer as adolescents and young adults, the report asks.

For its part, the synthetic-turf



There has been no long-term research into the potential health impacts of artificial turf. ELAINE THOMPSON/AP

industry defends its reputation, saying that no long-term studies have found a link between crumb rubber and cancer or other serious health problems.

However, the majority of the studies measured air quality or the environmental impacts of artificial grass. There is no long-term, in-depth research studying the potential health impacts of artificial turf.

One 2010 study by the California Department of Resources Recycling and Recovery, cited by the industry as proof that artificial

turf is safe, doesn't actually make that conclusion. The report found that levels of volatile organic compounds above outdoor artificial-turf fields did not exceed acceptable limits, but the report did not look at indoor artificial-turf fields, and says the air there could have much higher levels of VOCs. The report also states that it's not known how the age of the field, the methods of processing the tires, or a variety of other factors affect the chemicals that are released.

Meanwhile, the U.S. Centers for

Disease Control and Prevention says that tests of artificial-turf fields in New Jersey have found "unhealthy levels of lead dust."

There are no clear answers on what exact risks artificial turf could pose. But it does appear that heightened public attention to the issue could push government agencies and researchers to scrutinize artificial turf much more closely to get to the bottom of it.

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Visualize your way to a more relaxed holiday season

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Most people, when asked, are able to quickly list the stressors they face heading into the holidays. Some wear this list like a badge of honour and are motivated by it. Others collapse under its weight. Consider for a moment the stressor at the top of your holiday list: Is it the pace, or the financial stretch that accompanies the season? The loneliness, or the impending arrival of a difficult visitor that triggers anxiety? Changes in diet, exercise routine and sleep habits can also throw you off your game. So can the egg nog.

What if there were an instant solution to your stress? What if this solution magically arrived at your doorstep tomorrow morning, instantly eliminating No. 1 on your stress list? How would that change things for you?

This is the scenario presented by Dr. Richard Earle, a clinical psychologist who is also director of the Canadian Institute of Stress and the Hans Selye Foundation. Selye's work forms the basis of all modern discussions of biological stress.

Earle uses the scenario above to help people visualize their "better," when life and its pace are manageable, even enjoyable. As the holiday approaches, we can get so overwhelmed that our "better holiday season" becomes impossible to see. According to Statistics Canada, daily stress rates are highest in the core working ages (35 to 54),



Our inherent 'fight or flight' response can kick in when facing stressful situations in big-box stores. JONATHAN ALCORN/REUTERS

peaking at about 30 per cent. The holidays can add to this load, as we juggle multiple responsibilities with career and family.

The first step to building an effective defence against stress lies in your visualization of what a "better holiday" would actually look like in action. Once you have it, ask yourself these questions:

- » What specific things would you (and others) be doing?
- » What would you be saying, wearing, enjoying?
- » What would be different about your outlook and attitude? Answers to these questions

provide insight into how stress is affecting your quality of life, health and performance. Our thoughts and emotions have a profound effect on our stress level, which directly affects our health:

- » An estimated 80 to 90 per cent of all disease is strongly influenced by stress.
- » 70 to 90 per cent of family doctor visits are due to stress-related issues.

To give you a better sense of the power stress has over the body, it drives somewhere in the neighbourhood of 1,500 biochemical reactions within fractions of seconds of you facing

the stress. Neurotransmitters are activated, hormones are released and nutrients are metabolized. You likely know this as the "fight or flight" stress response.

The purpose of this powerful reaction is to prepare our body to protect itself, regardless of the threat. "Fight or flight" came in pretty handy in prehistoric times when our ancestors faced a charging lion. And it still shows up today, except the scenario isn't sprawling grasslands, but sprawling big-box stores and the giant lineup that stands between you and the toy at the top of your kid's wish list.

In modern times, most human stress is psycho-social, so the need to respond physically is unnecessary in most cases. But our brains are still hardwired for the lion – when confronted with a stressor, physical or emotional, our internal chemistry changes fast. And your body will attempt to maintain an elevated level of performance until your mind tells you that the stressful situation has passed. The whole process takes roughly 30 to 60 minutes – a return to your normal baseline isn't instantaneous.

To compound things, if you encounter a second stressor before the first one is fully resolved, you have a pile-on effect. Stress is cumulative. Returning to the giant lineup in the big-box store, imagine you strike out there only to try another store and strike out again. Feel your blood pressure rising just thinking about it?

As you head into the holidays,

pay attention to these common signs and symptoms of stress: headache; fatigue and trouble sleeping; back, shoulder and neck pain; anxiety and depression; digestive trouble; irritability and mood swings; dizziness and/or light-headedness.

Making a choice to be strategic about how you use your energy over the holidays will improve your stress resiliency and capacity. Think of your energy as a precious resource you have to use every day. It is finite. Do you really need to attend two different holiday parties on the same night at opposite ends of town? You have choices. Be smart about them. Or, try to do everything at your own peril.

The good news is that the body is brilliant at letting us know when we are struggling to keep pace. Listen and react. Proactively take control of the holiday calendar and schedule recovery time. By learning how to intentionally harness the power of the stress response, you can elevate your resiliency this holiday to levels that may surprise you while limiting the negative impacts of chronic stress. Invest your energy wisely. Bring on the lions, whatever form they may take.

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First Nations, culture clash and the role of the Consent and Capacity Board



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Two weeks ago I met the mother of J.J., the Six Nations child suffering from leukemia, who had won a court battle to treat her daughter with traditional plant-based native medicines. Speaking at a hastily arranged late-afternoon session at the inaugural Indigenous Health Conference at the University of Toronto, she was powerful, articulate, intelligent and ferocious in her pride.

Speaking first in her own language before a sympathetic audience, as one might expect at a conference subtitled Challenging Health Inequities, she explained that she was a mother

of 12 children and a healer, who knew what was best for her family. Three of her daughters, including J.J., were there to support her.

From the beginning I had been troubled by the hospital trying to set up a confrontation between the family and the Children's Aid Society, because it raised the horrific spectre of residential schools.

To me, this case was about respect and culture clash, not simply a situation in which a sick child needed protection from a neglectful, abusive or incompetent parent.

After all, J.J. was undergoing chemotherapy in hospital before the mother balked, took offence at what she felt were dismissals of aboriginal knowledge and powers, and withdrew her child.

The potential tragedy for J.J. is she might not get the life-saving treatment she needs in time for it to be effective. That is compounded by all the future aboriginal children who might be caught in a similar situation because of Jus-

tice Gethin Edward's precedent-setting legal decision acknowledging the constitutional rights of First Nations to practise traditional healing, not only on themselves, but their minor children. Is there a way to move forward?

In challenging J.J.'s mother's decision to end her daughter's medical treatment, I thought the pediatric oncologist should have gone to the Consent and Capacity Board instead of the local Children's Aid Society.

Established under Ontario's Health Care Consent Act, the CCB is unique in Canada as a third-party arbitration panel for disputes among incapacitated patients, their substitute decision makers and health-care providers. When the CCB became briefly famous two critical-care doctors at Sunnybrook Hospital determined further treatment of a patient named Hassan Rasouli was futile and wanted to remove him from life support against the wishes of his wife.

The case went all the way to the Supreme Court of Canada in 2013, where the doctors lost in a 5-2 decision because they had not taken the dispute to the CCB.

In fact, the Children's Aid Society agreed that the J.J. case should have gone to the CCB. Mark Handelman, the lawyer for the CAS, argued that very point before Edward in Family Court. The judge disagreed and instead made his now famous ruling. It is possible that somebody could appeal that part of the judge's ruling and take the case to a higher court.

More likely, says lawyer Anita Szigeti, an expert in consent and capacity law, is an appeal based on another part of Edward's "thoughtful, lengthy and complex" ruling. "This is an extremely complicated case in law, on the facts," she said in an e-mail, "because of the friable atmosphere of the politics of First Nations communities and aboriginal rights." However, she thinks, Edward in effect "struck down" a

section of Ontario's Child and Family Services Act in relation to a First Nations parent or guardian choosing traditional healing or treatment, and he did so without inviting or allowing legal arguments on the issue or giving notice to the provincial Attorney-General that part of the legislation was being challenged. The "most efficient and definitive way" for these legal issues to be resolved, she says, would be for the Attorney-General, who has been silent in the wake of the decision, to refer the issue to the Court of Appeal for Ontario.

Meanwhile, J.J.'s mother, has agreed to consult with a new pediatric oncologist at a different hospital about the little girl's cancer treatment.

"This time," she told a small group session at the end of the conference, "I will be respected. The Court decision gave that to me."

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