



MOUNT SINAI
SCHOOL OF
MEDICINE

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The Board of Education
Irvington Union Free School District
Irvington, NY

Re: Call for a moratorium on installation of new synthetic turf fields

Dear Ms. Hunt and the Board Members:

I am a pediatrician and Director of the Children's Environmental Health Center at the Mount Sinai School of Medicine.

I am writing to call for a moratorium on installation of new synthetic turf fields until a careful, competent, independent study of their potential hazards to children has been conducted and reported to the public.

Synthetic turf fields have proliferated in recent years, and there are now more than several hundred of these installations in New York and in other states up and down the East Coast. Almost no assessment of the potential hazards to children's health of synthetic turf fields was undertaken before these fields were constructed. The stated need for their installation was a desire to improve the quality and enhance the drainage of playing fields coupled with a strong impetus to get more kids out and exercising as a way to combat the obesity epidemic.

These are laudable goals. The problem is that they were pursued without any consideration of alternatives or analysis of potential negative consequences. There was insufficient due diligence. The result now is that we are in a situation in which a number of these very expensive fields have been installed, and we are suddenly and belatedly beginning to realize that they may lead to health problems.

Two health problems have already been associated with synthetic turf fields:

1. **Extreme Heat.** On hot summer days, temperatures of over 150 degrees Fahrenheit have been recorded a few feet above the surface of synthetic turf fields- precisely at the altitude where children play. Vigorous play in these conditions conveys a very real risk of heat stress and even heat stroke.

2. **MRSA Skin Infections.** Outbreaks of skin infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA) have been documented in children who play on synthetic turf fields (New England Journal of Medicine, February 2005). Apparently what happens is that the turf surface creates large skin abrasions when children fall or slide on it, and these abrasions have a high potential to become infected, because they are greater in area than the abrasions caused by dirt playgrounds.

A third health problem with synthetic turf fields which is very worrisome, but insufficiently studied is that of chemical hazards. The crumb rubber which is a major constituent of the current generation of synthetic turf fields is in many instances made from ground-up, recycled car and truck tires. These recycled tires contain styrene and 1,3-butadiene, the major constituents of synthetic rubber. Butadiene is a known human carcinogen. They also contain cadmium, polycyclic aromatic hydrocarbons' and other toxic and carcinogenic materials that are either added to tires during construction or picked up on the highways. And finally there is lead, which has recently surfaced in synthetic turf fields in New Jersey, as a previously unrecognized hazard. Lead levels in several synthetic turf fields in New Jersey were found to be so high that the fields have had to be closed and decommissioned.

The need is urgent to characterize and quantify the chemical hazards of synthetic turf fields. Careful independent study will inform all of us whether the suspected chemical hazards are real and will frame discussion of whether these chemicals pose hazards to human health or to the environment

I strongly recommend the following action:

A moratorium on installation of new synthetic turf fields until a careful, competent, independent study of their potential hazards has been conducted and reported to the public.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip J. Landrigan". The signature is fluid and cursive, with a long horizontal stroke at the end.

Philip J. Landrigan, MD, MSc
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Professor of Pediatrics
Director, Children's Environmental Health Center
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