

What to Know About Turf Fields

Which turf fields are of concern?

Not all turf fields are constructed the same way. Second generation turf fields are layered synthetic surfaces. Of concern are the “infilled” fields, which consist of blades of plastic green grass infilled with a mixture of crumb rubber pellets and sand or just crumb rubber.

What is infill crumb rubber?

Infill crumb rubber consists of tiny black pellets or granules, approximately 1 mm in diameter. The granules are often made from recycled tires and are spread two to three inches thick over the field surface. Note that each company has its own installation method and source for crumb rubber, so there will be variation from field to field. The rubber may be ethylene propylene diene monomer rubber (EPDM), Block copolymers based on styrene and butadiene (TPE-S) or styrene butadiene rubber (SBR).

What are the proven concerns?

Proven hazards to children’s health are two: (1) Heat and (2) “turf burns” or abrasions. Temperatures on these fields have been known to get as high as 160° F. It is unsafe for children to be playing on surfaces when temperatures are this high. Athletes playing on turf fields have been shown to have more abrasions or “turf burns,” which in turn can harbor infection.

What chemicals can be released by the infill rubber?

Recycled tires are known to contain a mix of chemicals, some of which are cancer-causing, others that are known to cause birth defects. These chemicals include rubber chemicals, polycyclic aromatic hydrocarbons (PAHs) and heavy metals – lead, zinc and cadmium. What is not yet known is the extent to which these chemicals may get in to the bodies of children playing on turf fields, their associated health risks, or the extent to which they may leach from the fields into the surrounding environment, soil and groundwater.

How can people be exposed to these chemicals?

The main routes of exposure are through inhalation and ingestion. Athletes are expected to have the greatest exposure level due to high ventilation rates associated with exercise and the possibility of inhaling dust particles kicked up by their play. People on the sidelines will have lower exposures; however young children should be monitored to prevent ingestion of the rubber pellets. It is also possible for the pellets to be tracked off the fields and into homes and washer and dryers.

Tips for safer uses of turf fields:

- Do not use the turf fields on extremely hot days.
- Be sure to clean and monitor any “turf burns” obtained while playing.
- Attempt to remove all pellets from shoes and clothes prior to leaving the fields.
- At home, shake out your children’s equipment and clothes in the garage or over the garbage.
- Have your child shower and wash thoroughly after playing on the field.