Shoreline School Board

Synthetic Turf Information

Presented by: Don Dalziel
Director of Athletics, School Safety & Facility Use

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Introduction

This information was requested by the board to provide an update on the health and safety of our synthetic turf.

This request followed the Dateline NBC story published in October of 2014 featuring a University of Washington Assistant Women's Soccer coach questioning the possible link between Crumb Rubber infill and cancer and its potential relationship specifically to soccer goal keepers.

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Overview of Presentation

1. Breakdown of synthetic turf inventory
   - Shoreline School District
   - Washington State, National and International
2. Investigation background & science studies
   - Student Athlete/Child Safety Concerns
   - Environmental Concerns
3. Position statements
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Synthetic Turf Inventory

Shoreline School District Football/Soccer Fields:

Field	Installation Date	Warranty end date
Shoreline Stadium	September 2006	2014
Shorecrest	September 2007	2015
Kellogg	September 2008	2016
Einstein	July 2009	2017
Shorewood	September 2014	2022

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Synthetic Turf Inventory

Shoreline School District Baseball/Softball Fields:

Field	Installation Date	Warranty end date
Shorecrest Baseball	September 2007	2015
Shorecrest Softball	September 2007	2015

(NOTE: SC baseball/softball slated for new construction starting June of 2015).

Meridian Park Baseball	February 2015	2020
Meridian Park Softball	February 2015	2020
Shorewood Baseball	March 2015	2023
Shorewood Softball	March 2015	2023

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Synthetic Turf Inventory

Shoreline School District Elementary Field Synthetic "Turf" Cutouts:

Field	Installation Date	Warranty end date
Syre	September 2010	2018
Highland Terrace	September 2010	2018
Lake Forest Park	September 2010	2018
Meridian Park	September 2012	2020
Briarcrest	September 2013	2021
Parkwood	September 2014	2022

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Synthetic Turf Inventory

Washington State – National - International :

	Washington	US.	International
FieldTurf	300	5000	9000
Total Fields (Including FieldTurf)	420	10,000	20,000

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Investigation Background

The concern regarding crumb rubber and synthetic turf is not a new issue – The question was first raised more than six years ago. Once the science studies were done and showed there was no direct link, the issue receded.

Over the past two decades, there have been more than 60 technical studies and reports that review the health effects of crumb rubber pertaining to a host of circumstances or conditions – including cancer.

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Investigation Background

Synthetic turf companies, including FieldTurf have encouraged the rigorous work from third-parties that has **taken place over decades** to confirm there are no negative health effects connected to synthetic turf.

Scientific research from academic, federal and state government organizations has **unequivocally failed to find any link between synthetic turf and cancer** – as acknowledged by NBC in their report.

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THE SCIENCE

Student Athlete and Child Safety Concerns

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Student Athlete and Child Safety Concerns

"The majority of the studies have been on higher surface area particles and have concluded they are currently acceptable. Therefore the larger granules used in artificial turf will have even less potential for emissions. For example a study undertaken by the Danish Ministry of the Environment concluded that ***the health risk on children's playgrounds that contained both worn tires and granulate rubber was insignificant.*** *The available body of research does not substantiate the assumption that cancer resulting from exposure to granulate infills in artificial turf could potentially occur."*

Federation International Football Association (FIFA), Prof. Dr. Jiri Dvorak
An open letter concerning the potential cancer risk from certain granulate infills from artificial turf (July 2006)

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Student Athlete and Child Safety Concerns

"The uptake of Polycyclic Aromatic Hydro Carbons (PAH) by football players active on synthetic fields with rubber crumb infill is minimal. If there is any exposure, then ***the uptake is very limited and within the range of uptake of PAH from environmental sources and/or diet."***

(Testing was done by checking levels of Hydroxypyrene in urine of football players after playing on artificial sports field with tire crumb infill)

International Archives of Occupational Environmental Health (2009)

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Student Athlete and Child Safety Concerns

"Eleven different risk assessments applied various available concentrations of COPCs [Contaminants of Potential Concern] and ***none identified an increased risk for human health effects*** *as a result of ingestion, dermal or inhalation exposure to crumb rubber."*

New York City Department of Health and Mental Hygiene

A review of the potential health and safety risks from synthetic turf fields containing crumb rubber infill (May 2008)

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Student Athlete and Child Safety Concerns

*"In summary, an analysis of the air in the breathing zones of children above synthetic turf fields do not show appreciable impacts from COPCs [Contaminants of Potential Concern] contained in the crumb rubber. Therefore, **a risk assessment was not warranted** from the inhalation route of exposure."*

New York City Department of Health and Mental Hygiene

Air quality survey of synthetic turf fields containing crumb rubber infill (March 2009)

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Student Athlete and Child Safety Concerns

"Genotoxicity testing of tire crumb samples following solvent extraction ***concluded that no DNA or chromosome-damaging chemicals were present.*** *This suggests that ingestion of small amounts of tire crumb by small children will not result in an unacceptable hazard of contracting cancer."*

Enviro-Test Laboratories, Alberta Centre for Injury Control and Research, Department of Public Health Sciences

Toxicological evaluation for the hazard assessment of tire crumb for use in public playgrounds (July 2008)

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THE SCIENCE

Environmental Concerns

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Environmental Concerns

"Levels of chemicals in the air at synthetic turf fields do not raise a significant health concern." - There is no significant threat from chemicals leaching into surface water and groundwater. While some chemicals can be released from crumb rubber over time, they are in small concentrations and are reduced by absorption, degradation and dilution ***- resulting in no significant impact on groundwater or surface water****."*

New York State Department of Environmental Conservation & New York State Department of Health

An assessment of chemical leaching, releases to air and temperature at crumb-rubber infilled synthetic fields (May 2009)

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Environmental Concerns

"An analysis of the concentration of metals in the actual drainage water indicates that metals do not leach in amounts that would be considered a risk to aquatic life as compared to existing water quality standards. Analysis of the laboratory based leaching potential of metals in accordance with acceptable EPA methods indicates that ***metals will leach from the crumb rubber but in concentrations that are within ranges that could be expected to leach from native soil."***

Milone & MacBroom firm hired by State of Connecticut

Evaluation of the environmental effects of synthetic turf athletic fields (December 2008)

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Environmental Concerns

*"Based on the minimal concentrations detected, it is considered very **unlikely that any significant adverse vapor (inhalation)exposures** would occur to humans in close proximity to where crumb rubber is used in outdoor applications."*

New Jersey Department of Environmental protection, Division of Science, Research and Technology

Environment Assessment and Risk Analysis, Preliminary assessment of toxicity from exposure to crumb rubber; its use in playgrounds and artificial playing fields (2008)

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The Experts

Commentary and Position Statements

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Position Statement

Synthetic Turf Council

The numerous scientific studies conducted by federal agencies including the EPA and CPSC, and the state departments of health and the environment all validate the human health and environmental safety of synthetic turf and crumb rubber.

As a result, synthetic turf enables a tremendous increase in sports and play activity. Furthermore, every year it saves billions of gallons of water, eliminates the use of pesticides and fertilizers, and recycles 25 million used tires.

The Synthetic Turf Council is committed to community wellness and environmental responsibility through the use of synthetic turf, the Synthetic Turf Council is the industry's voice for promoting the highest ethical and professional standards, education, legislative and community advocacy.

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Position Statement

FieldTurf

FieldTurf is committed as a company and as an industry to the safety of our fields and the athletes that compete on them.

Volumes of research and testing from academics, federal and state governments like California, Massachusetts and Connecticut, and school systems have examined everything called into question about synthetic turf. The results have been consistent across the board in showing that there is no evidence that synthetic turf poses a human health or environmental risk.

There can always be more research done, and we are willing to support any additional scientific studies in any way we can, but we are 100 percent confident in what all the available data tells us - that our customers should rest assured there are no valid health concerns tied to our products.

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Position Statement

D.A. Hogan and Associates

In light of recent national news reporting on the possibility of a connection between exposure to SBR crumb rubber infill materials used in synthetic turf surfacing and an elevated risk for a variety of human cancers (blood cancers in particular), DA Hogan & Associates has been asked by the majority of our clients what our understanding of the situation is. We are neither chemists nor public health experts so we cannot interpret or summarize all of the available data, but we do know that many forms of SBR rubber materials have been commonly used in playgrounds and running tracks long before they were first used for synthetic turf infill beginning in the late 1990's. SBR crumb rubber infill materials are used on the overwhelming majority of the 1000 +/- synthetic turf fields that have been installed each year since then.

D.A. Hogan and Associates are landscape architects, and have worked with the Shoreline School District on recent field projects

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Questions?

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