Sandboxes

Worms & Germs
Promoting Safe Pet Ownership

Sandboxes can provide hours of outdoor entertainment for children. While the infectious disease risks associated with sandboxes are generally thought to be low there are concerns about a few serious diseases. Proper sandbox design and supervision can greatly reduce these concerns and allow sandbox play to be an enjoyable and safe activity for children.

Potential Problems

- Sandboxes can be used as large litter boxes by cats and wildlife such as raccoons. Various bacteria and parasites that can cause disease in people can be present in feces of these animals. Sandboxes can also attract spiders and other insects, and act as a breeding site for mosquitoes.

Sandbox Design

Sandboxes should be designed to keep animals out. Drainage holes should be provided to prevent water from accumulating in the sandbox. Wet sand can be a breeding ground for mosquitoes.

Keep It Covered!

Keeping your sandbox covered is the most important measure you can take to reduce the risk of disease. A proper cover will prevent fecal contamination from cats, raccoons and other animals. Most contamination occurs at night, and cats tend to bury feces, so not seeing anything in the sandbox does not mean it has not been contaminated. Many sandboxes available for purchase come with covers, and those are ideal. Otherwise, sandboxes can be covered with plywood, a tarp or some other secure cover. The cover must be secure enough that wind or curious animals cannot dislodge it. **Covering is critical for sandboxes used by young children or other children that are likely to put sand in their mouths.**

Sandbox Care

- The sandbox should be regularly inspected for the presence of animal feces or insects. This is particularly important if the sandbox is not covered or if the cover has been left off. If stool is identified in a sandbox, it (and adjacent sand) should be removed with a shovel or other implement to avoid direct contact with the hands.
- For many of the diseases of concern, feces are not infectious for 24 hours or greater after being passed. Therefore, daily inspection and removal of feces can *reduce* the risk, but only if all feces and neighbouring sand that has been contaminated are removed…this may not be easy.
- If animals feces are found in a sandbox used by young children or children that are likely to put sand in their mouths, it is prudent to change the sand before allowing them in. Sand should be periodically replaced. If the sandbox is uncovered, more regular changing of the sand (a few times a year) is warranted.

Hygiene

- Children (and anyone else having contact with sand) should always wash their hands immediately after playing in a sandbox or having contact with sand outdoors.
- Food or drink should never be consumed in a sandbox.

Other areas with sand exposure

- In some situations, children will play in sand that cannot be covered, such as beaches or playgrounds that have a sand base.
- The same hygiene practices should be used at the beach as are used in an outdoor sandbox…parasites don't take a holiday!
- Sand should not be used as an impact-absorbing material for playgrounds because it is almost impossible to cover those areas.

Diseases

The following diseases are particularly important in terms of sandbox exposure.

Cutaneous larval migrans

- This condition can be caused by various species of parasites that can infect animals such as cats and dogs. Eggs of the parasites are passed in the feces of infected animals and release larvae, which can penetrate a person's skin, causing irritation and inflammation. A playground sandbox contaminated with cat feces was implicated as the cause of an outbreak of cutaneous larval migrans at a day sports camp in the southern United States. *This condition is very rare in northern areas such as Canada*.

Visceral and ocular larval migrans

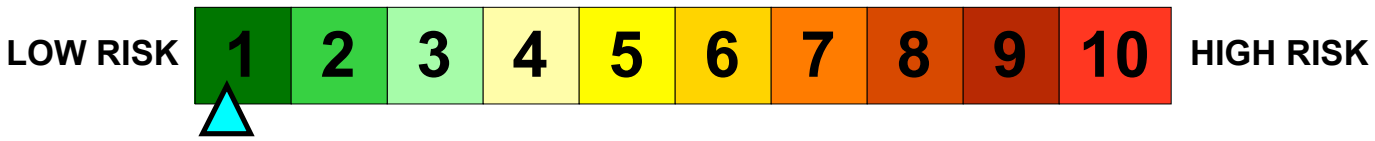
- These are caused by parasites that can infect animals like cats, dogs and raccoons. Disease occurs in people through ingestion of parasite eggs that are passed in the animal's feces. The eggs then hatch inside the body and the larvae then migrate through various internal organs (visceral) and occasionally the eye or brain (ocular or neurological).
- Frequent playing in a sandbox was associated with the presence of antibodies against the parasite *Toxocara* in a study of children in Brazil.
- Visceral and ocular larval migrans are very rare in northern climates such as Canada, but devastating disease can occur.

Toxoplasmosis

- An infection caused by the protozoal parasite *Toxoplasma gondii*. Cats shed parasite eggs in their feces. These eggs become infective after a minimum of 24 hours.

Bacterial diarrhea

- Various bacteria that can cause diarrhea in people can be passed in the stool of animals. These include *Salmonella, E. coli* and *Campylobacter*. The role of sandboxes in transmission of these is unclear.

Zoonotic Disease Risk

The zoonotic risk posed by exposure to a **properly maintained sandbox**: