

PICA BEHAVIORS AND EXPOSURES TO CONTAMINATED SOIL

The New Jersey Department of Health (NJDOH) prepared this fact sheet for people with pica behaviors living in communities with soil contamination. This issue is particularly important in residential areas where soil may be contaminated with lead, arsenic, or other hazardous substances.

What is Pica?

- Pica is an eating disorder where people crave and eat non-food items such as dirt, chalk, or plastic. Pica behaviors are typically seen in preschool aged children (18-24 months), but it has also been observed in pregnant women. Pica in pregnancy occurs most often in women in low socioeconomic groups, in rural areas, among black women, in women who practiced pica as children, and in those whose family members engage in pica behaviors.¹⁻³
- Soil pica is a behavior where people ingest unusually high amounts of soil. The specific causes of pica are not known, but some theories include nutritional deficiencies (iron, calcium, or zinc), emotional distress and developmental disorders ([NJ DHS Health Bulletin Pica](#)).

Can Pica Behaviors Be Harmful to Health?

Ingesting non-food items can lead to nutritional deficiencies, intestinal damage, and dental injuries. Eating large amounts of soil contaminated with metals like lead, arsenic, or copper can result in many harmful health effects. Exposure to lead can lead to attention, learning and behavioral problems, slower growth and development and hearing loss. Ingesting large amounts of arsenic and copper can cause nausea, vomiting and diarrhea.

What are other ways people can be exposed to contaminated soil?

People can be exposed to contaminated soil by:

- eating food grown in contaminated soil;
- tracking contaminated soil into the home on their shoes or from their pets; and
- accidentally ingesting contaminated soil while playing, eating, smoking, or gardening.



These exposures can be reduced or prevented by frequent handwashing, especially after being outside, before eating, and before bedtime. Regular home cleaning and thoroughly washing garden fruits or vegetables before eating or using raised garden beds all reduce exposures to contaminated soil. See the NJDOH links below for more on reducing exposures to soil contaminants:

- [Safe Gardening: How to Handle Produce Grown in Contaminated Soil](#)
- [Reducing Your Exposure to Lead in Soil](#)

References:

1. American Journal of Nursing. Lead Hazards for Pregnant Women and Children: Part 1. October 2008. Vol. 108. No. 10.
2. Agency for Toxic Substances and Disease Registry. 2001. Agency for Toxic Substances and Disease Registry. Summary report for the ATSDR soil-pica workshop. Available at: atsdr.cdc.gov/child/soilpica.html
3. Centers For Disease Control and Prevention: Pica Behavior and Contaminated Soil. Available at: bit.ly/PicaContaminatedSoil