



Dirt is Good: The Advantage of Germs for Your Child's Developing Immune System

Review By Martha Morris

The title *Dirt is Good* may sound simple enough, but research into microbiomes is shaking up old assumptions about health. Microbiomes, the unseen collections of microorganisms that live in, on, and around us, coexist in our homes and communities. *Dirt is Good* lays out a wide array of microbe-related questions from parents anxious to support their children's development. Drs. Jack Gilbert and Rob Knight draw from well-rounded expertise as medical professionals, researchers, and parents themselves to present current hypotheses and new areas of research into how microbes may affect health, particularly for children. In the process they offer practical parenting strategies for navigating the mysteries of microbes, which in turn support planning strategies that infuse nature—of every size—into urban environments.

Immediately at birth children begin their lifelong exposure to microorganisms. Their developing immune systems must learn to recognize both beneficial and potentially harmful microbes. Studies have shown correlations between indicators of immune function, like fewer allergies, and direct contact with domesticated animals and soil early in life. The "hygiene hypothesis" holds that overly sterile environments cannot stimulate the immune system, which ultimately leaves the body more vulnerable.

Early exposure to microbial diversity kick-starts immunity.

Studies on the microbial landscape of the built environment suggest that urban homes, offices, and public spaces primarily contain dead skin bacteria shed by humans—not particularly threatening, but not so beneficial to building healthy microbiomes or immunity. Reducing excessive sterilization within buildings and adding indoor plants and animals may help bring some of the outdoors, with beneficial microbes, inside.

Dirt Is Good, while focusing on individual parenting choices, offers good takeaways for biophilic city planning. People, especially young children, need opportunities to interact with an abundance and diversity of microorganisms to keep their immune systems active and strong. Time spent outside, in nature and particularly in agricultural settings, can deliver those microbes. It turns out that fostering good 'germs' may be another important, if often invisible, benefit from city green spaces, urban farms, living walls, and other biophilic strategies. We may not completely understand microbiomes yet, but scientific research is adding evidence that beneficial microbes around us promote health, and that, yes, dirt is good.



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