

Good germs bad germs

[Literature](#), [Russian Literature](#)



Good Germs Bad Germs Author: Jessica Snyder Sachs January 21, 2013 We live in a world full of bacteria, in fact, bacteria is all around us. They are tiny, one celled creatures that get nutrients from their environments in order to live. In some cases that environment is a human body. But not all bacteria are bad. Some bacteria are good for our bodies; they help keep belongings in balance. Good bacteria live in our intestines and help us use the nutrients in the food we eat and make waste from what is left over. We could not make the most of a healthy meal without these important helpful germs! Scientists in labs produce medicines and vaccines, which also use some bacteria. The novel *Good Germs Bad Germs*, by Jessica Snyder Sachs, gives an insight look into a future in which antibiotics will be designed and used more wisely, and beyond that, to a day when we may replace antibacterial drugs and cleansers with bacterial ones (each custom-designed for maximum health benefits). The novel starts off with an example of the cost of our war with microbes, a college football player, Ricky Lanetti whose death was caused by methicillin-resistant *Staphylococcus* (MRSA). MRSA is a bug that could shrug off not only the methicillin family of antibiotics, but also a half dozen others. Worse, this particular strain of MRSA-now known to specialist as USA300- also carried genes for an array of toxins, some of which triggered the deadly internal storms known as septic shock, with its signature symptoms of dropping blood pressure, massive blood clotting, and organ failure. Like Rickey's killer, the USA300 staph strain is now circulation throughout North America; some of these supergerms combine multidrug resistance with extreme virulence. The novel progresses to Rohan Kremer Guha's story. A New Jersey boy with a shy smile and soft black hair who knows not to touch

the crumbs and dribbles those other kids leave behind at parties. Rohan knows of plenty of other kids with allergies, though none are quite as wide-ranging as his. When he was six months old, his soft baby skin became severely red and scaly with eczema. When Rohan was two years old, a kiss from his grandfather produced quarter-sized welts over half his face. Just a half hour ago his grandfather had some sweets, which contained nuts, butter and milk. Six months later, Rohan's brother, Zubin began developing severe allergies. The boys were not able to get immunized because the flu vaccine contained eggs, one of the foods to which they remain severely allergic.

Throughout the developed world, allergies, asthma, and other types of inflammatory disorders have gone from virtually unknown to commonplace in modern times. All involve a destructive immune system response to a harmless substance such as food, pollen, the normal bacteria of the colon, or even the body's own healthy cells. An immune attack on the latter cell can result in autoimmune disorders such as type 1 diabetes, multiple sclerosis, lupus, and many others. Studies on this matter have led to the hygiene hypothesis. The hygiene hypothesis is a dispute that links the over-sanitation of modern life to now-epidemic increases in immune and other disorders. In a section in the novel, Jessica explains what went terribly wrong in our war on germs. She explores our developing understanding of the mutual relationship between the human body and its resident microbes, which outnumber its human cells by a factor of nine to one. Immunologists were weighing in a possible mechanism to explain the apparent protection conveyed by early childhood infections. Their studies of the immune cells circulation in the blood of the allergy-prone showed an imbalance in two

newly discovered subsets of " helper T cells". The immune system's major generals, T cells respond to antigens by discharging a complex blend of signaling molecules called cytokines. For disease-fighting purposes, an antigen consists of an identifying piece of a virus, a bacterium, or a diseased/damaged cell that requires elimination. In allergies, the antigen is part of a substance that the immune system mistakes as dangerous. In the case of autoimmunity, the antigen may sit on the surface of a specific type of cell that the immune system mistakenly marks for destruction. The novel describes trying to reverse the symptoms of some diseases that are thought to have an autoimmune element, for example the research done at the University of Iowa using pig whipworm eggs to cure Crohn's disease and ulcerative colitis. Pig whipworms were used, because they appeared to activate cells that regulate the immune system so that it did not overreact and they did not cause diseases inside humans. Jessica investigates other unfamiliar treatments, such as bacteriophages to fight the " superbugs" and Mycobacterial, which are used to extract cancer-fighting agents. The story of this novel will get the reader thinking into how real it is, because it gives a great overview of the generation of the " bad germs" and our overuse of antibiotics. What I really enjoyed in this novel was how Jessica discussed the " hygiene hypothesis" and how antibiotic use can not only lead to antibiotic resistance, but potentially to a host of other chronic diseases in those who receive antibiotics frequently. She connects her research between asthma, autoimmune diseases, allergies and our normal flora- the bacteria that helps us by competing with pathogens, helps us by providing vitamins or elimination toxins and harms us by promoting diseases. In conclusion, the

novel *Good Germs, Bad Germs*, by Jessica Snyder Sachs is a well-researched book. Sachs believes, as do many doctors, that focusing so intently on eliminating all bacteria has harmed us, and has made people more exposed to some serious illnesses. *Good Germs, Bad Germs* is full of examples of past and current problems, future problems, and cures that work or might work. This novel is recommended for ages sixteen and up, due to the high vocabulary and is a fantastic book for people who always question " why? "

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