Superbug: The Fatal Menace of MRSA

Maryn McKenna
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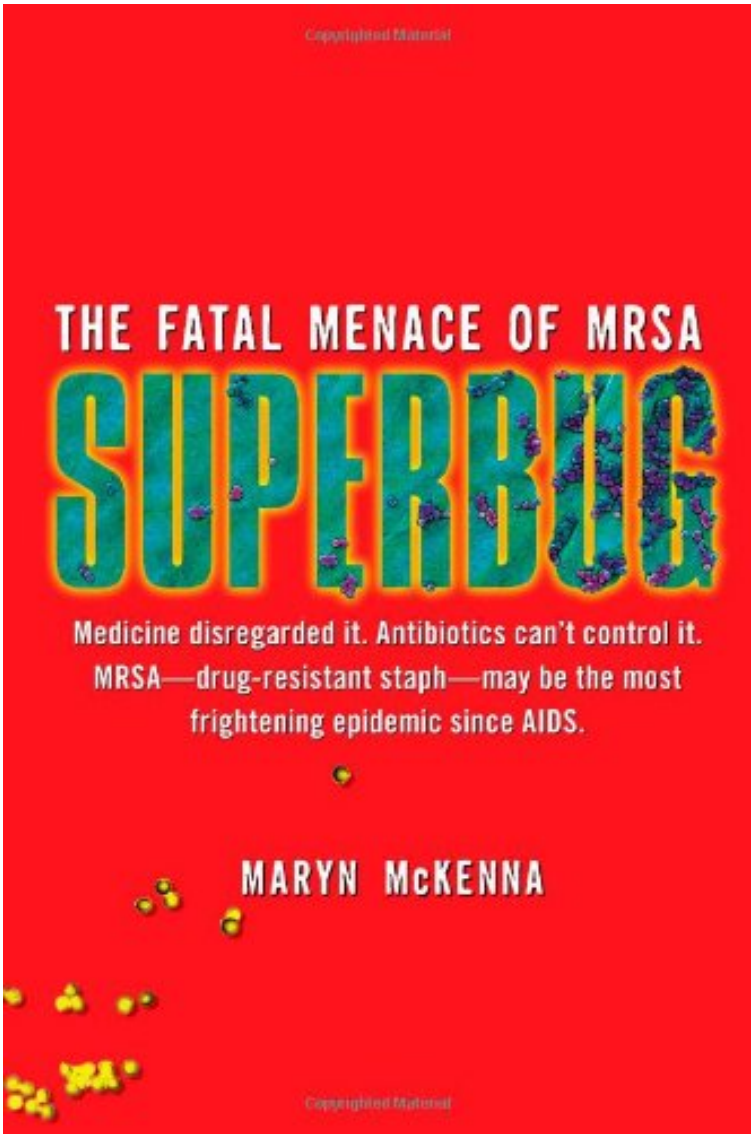

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Maryn McKenna : Superbug: The Fatal Menace of MRSA before purchasing it in order to gage whether or not it would be worth my time, and all praised Superbug: The Fatal Menace of MRSA:

0 of 0 people found the following review helpful. handwashing education was pretty serious at my workplace 17 years agoBy Tone FordMakes you wonder what the system can do, handwashing education was pretty serious at my workplace 17 years ago, but that education has quietened down since then. This book will ensure that handwashing is done properly wherever I am, and I might lessen hospital visits to only necessary ones! What I really wanted to find

out while reading the cases on MRSA was how was it spreading so fast, and that was not really satisfactorily satisfied, ah well. Good book, well done Maryn.1 of 1 people found the following review helpful. Will scare you and educate youBy facade2uThis book covers the history of MRSA. it also explains what is happening now in the communities, hospitals, prisons and Concentrated Animal Feeding Operations (CAFOs) in regards to MRSA's. Even if you think you know about MRSA, this is a read that may save your life or someone you know or care for. Medications that work or don't have an affect are discussed, as well as signs and symptoms. Knowledge is power and this book definitely empowers the reader. MRSA very well could be the next epidemic - turned pandemic.0 of 0 people found the following review helpful. Kept me up at night, turning pagesBy Linda San DiegoAmazing book. Kept me up until 1 a.m. several nights. . . I couldn't turn the pages fast enough. I always think I'll find this kind of riveting story in fiction but I think non-fiction often has the most interesting stories. McKenna's writing style is flawless journalistic story telling. I want more like this. Reminded me of reading The Hot Zone.

LURKING in our homes, hospitals, schools, and farms is a terrifying pathogen that is evolving faster than the medical community can track it or drug developers can create antibiotics to quell it. That pathogen is MRSAmethicillin-resistant Staphyloccocus aureusand Superbug is the first book to tell the story of its shocking spread and the alarming danger it poses to us all. Doctors long thought that MRSA was confined to hospitals and clinics, infecting almost exclusively those who were either already ill or old. But through remarkable reporting, including hundreds of interviews with the leading researchers and doctors tracking the deadly bacterium, acclaimed science journalist Maryn McKenna reveals the hidden history of MRSAs relentless advancehow it has overwhelmed hospitals, assaulted families, and infiltrated agriculture and livestock, moving inexorably into the food chain. Taking readers into the medical centers where frustrated physicians must discard drug after drug as they struggle to keep patients alive, she discloses an explosion of cases that demonstrate how MRSA is growing more virulent, while evolving resistance to antibiotics with astonishing speed. It may infect us at any time, no matter how healthy we are; it is carried by a stunning number of our household pets; and it has been detected in food animals from cows to chickens to pigs. With the sensitivity of a novelist, McKenna portrays the emotional and financial devastation endured by MRSAs victims, vividly describing the many stealthy ways in which the pathogen overtakes the body and the shock and grief of parents whose healthy children were felled by infection in just hours. Through dogged detective work, she discloses the unheard warnings that predicted the current crisis and lays bare the flaws that have allowed MRSA to rage out of control: misplaced government spending, inadequate public health surveillance, misguided agricultural practices, and vast overuse of the few precious drugs we have left. Empowering readers with the knowledge they need for self-defense, Superbug sounds an alarm: MRSA has evolved into a global emergency that touches almost every aspect of modern life. It is, as one deeply concerned researcher tells McKenna, "the biggest thing since AIDS."

From BooklistVia several real-life firsthand accounts, public-health journalist McKenna lays bare, often all too graphically, the ravages of a disease with the potential to do grievous international harm because there is virtually no known treatment for it. Although humans and staphylococci have been close travelling companions virtually forever, and those pesky germs occasionally make our travels difficult, once upon a time scientists believed they had discovered the key to stifling staph infections forever: antibiotics. Case closed. But not so fast. There is a particularly feisty, methicillin-resistant strain, staphylococcus aureus, aka MRSA, that apparently has plans to outlast and outlive by outsmarting just about every known antibiotic thrown at it. First thought to reside solely within the walls of hospitals and to affect those with severely compromised immune systems, MRSA surreptitiously evolved a street persona. With the bacterias quick-changing, deadly brothers lurking in hospitals, gyms, and locker rooms, experts at the epicenter of research report that the hunt for a vaccine may be a last-ditch strategy to fend off a wily predator. --Donna ChavezAbout the AuthorMaryn McKenna is an award-winning science and medical writer and author of Beating Back the Devil: On the Front Lines with the Disease Detectives of the Epidemic Intelligence Service (named one of the top 10 science books of 2004 by). She currently works as a contributing writer for the Center for Infectious Disease Research and Policy at the University of Minnesota and is a media fellow at the Henry J. Kaiser Family Foundation. She is a graduate of Georgetown University and the Medill School of Journalism at Northwestern University, and has also studied at Harvard Medical School. She lives in Minneapolis.Excerpt. Reprinted by permission. All rights reserved. CHAPTER 1THE FIRST ALERT Tony Loves knee ached. The rangy, round-headed thirteen-year-old had banged into a friend a week ago while they were playing volleyball in the school gym. They crashed to the floor together, arms and untied shoelaces flying, and Tony scraped his elbow. After school, he and his mother and his grandmother had bandaged the cut and shrugged it off. He was a teenager, after all; Clarissa Love, his mother, expected her son to be rambunctious. It was mid-September 2007. The weather was still hot south of Chicago and Tony was still in summer mode, twitching behind his desk at school until the bell rang and he could burst out and work it off. The scratch was no big deal, and Tony was tough; he was the second child of six, and the only boy until his baby brother, the youngest, had come along. Tony saw himself as the man of the family, keeping his sisters in line while Clarissa, who was thirty, worked as an aide for the disabled. The elbow had healed up after a few days, but then

his left knee started to hurt. Now it was hot and so swollen he couldnt bend his leg. When he tried to put his weight on it, it throbbed like his heart had gone down behind his kneecap. Clarissa had gone away for a few days, so her mother Sandra put the oldest sister in charge of the other children, hooked Tonys arm around her shoulder, and steered him out to the car. He leaned on her heavily, hopping on his good leg and wincing when the other foot hit the ground. At the little local hospital, the emergency room doctor listened to Tonys story and shrugged. It was probably a sprain, he said; take the boy home, give him Motrin, wrap the knee in hot towels, and it would be better in a few days. They staggered home. It did not get better. Four days later, Tonys left knee still hurt, and his left foot and both of his hands did too. His hip joints ached so much he didnt want to walk, not even to the bathroom. He didnt want to eat, either. A thirteen-year-old boy with no appetite; to his grandmother, that was the biggest warning sign of all. She checked his temperature and found it was 104. Frightened, she hauled him out to the car and took him to the next-biggest local hospital, a few miles further south. The ER staff there checked his vital signs and listened to his story: the scrape, the fever, the lethargy, the joint pain for more than a week, the not wanting to eat or pee. They were a little worried, they told his grandmother. Tonys pulse and blood pressure looked normal and his breathing was fine, but the fever indicated an infection, and his kidneys werent working as well as they should. The hospital was willing to admit him, but to be safe, the ER staff thought they ought to take him to a childrens hospital. There was a very good one, they said, back toward the city, at the University of Chicago, and they called an ambulance.1 It was the end of the workday, and Clarissa met Tony and her mother at Comer Childrens Hospital, a gleaming new glass pile just off the universitys park-like main boulevard. The ambulance crew that brought them rolled Tony straight up to the medical floor, and the nursing staff began admitting him, checking his vital signs again and going over his paperwork from the smaller hospital. The ER staff there had suspected that Tony had osteomyelitis, a bone infection that could be caused by several kinds of bacteria. It was a serious condition, but not rare, and it was treatable, requiring that he get the right drugs for whichever bacteria were infecting him and be monitored by someone who understood the disease in children. But while they were talking, Tonys condition abruptly got worse. He became agitated and confused; then he began breathing fast and deep. His skin had been radiating heat from the fever, but it turned cold as quickly as if someone had parked him in front of an air conditioner. The medical staff around him recognized the signs: the bacterial infection was spilling over into his bloodstream, and his immune systems spiraling reaction was slowing his pulse and crashing his blood pressure. In half an hour, he had gone from a sick kid to a kid in crisis. A nurse phoned urgently upstairs to the pediatric intensive care unit, checking for an open bed that had all the monitoring equipment they would need. The technicians kicked the gurneys brake locks and got him rolling, skidding past the curvy computer stations and the kid-friendly bright red columns. Tony was sliding into septic shock, and that was an emergency. Inside his body, chemicals released by his immune system were triggering a cascade like dominos falling. They were stretching the firm walls of his blood vessels, making them porous, and fluid was leaking out into his tissues. Blood cells were clumping and clogging his capillaries, and his oxygen-starved organs were beginning to fail. Clarissa felt her stomach cramp in fear. In front of her eyes, her son was dying. In the ICU, the staff sedated Tony and slid a tube down his throat, turning the hard work of breathing over to a ventilator. They threaded IVs into his veins and hooked him to bags of fluids, plugging in four drugs to bring back his blood pressure and stimulate and stabilize his heart rate, and four more drugs to contain whatever bacteria were revving his immune system into overdrive. To his bewildered mother and grandmother, the swirl of controlled chaos around Tony was as inexplicable as his sudden collapse; the ICU staff seemed to be trying everything, hoping it would bring him back from the brink. No diagnosis was possible yet. They had been in the hospital barely an hour, not long enough for test results to make it down to the lab and back. But the medical staff had a strong suspicion of what could bring a healthy boy down so quickly, and the clue lay in one of the drugs they ordered pushed into his veins. It was called vancomycin, and it was famous in hospitals as a drug of last resort. They used it against a bacterium that had learned to protect itself against most of the other drugs thrown at it, a particularly dangerous variety of staph called methicillin-resistant Staphylococcus aureusMRSA, for short. Staph, the short form of the family name Staphylococcus, is an ancient organism with a vast arsenal of tricks and defenses, some of them newly learned, others as old as man. It is unpredictable, dynamic, potentially deadlyand for more than a decade, it had been the obsession of a small group of University of Chicago researchers. Geographic accident had brought Tony to a place that understood how to help him, but it was far too soon to know whether he had arrived in time. Orthopedic surgeons and plastic surgeons converged on the room Tony had been hastily stashed in. The fever, the septic shock, the pain in his legs and jointsall the symptoms indicated the infection was making abscesses that would need to be opened and drained immediately. The teams ran him quickly through radiology for a CT scan, peering at the screen for the bright white spots that indicate infection, and then to the operating room to get him prepped and anesthetized. Plastic surgeons are the watchmakers of medicine, practiced at maneuvering in tight areas packed with crucial interconnected parts. They went to work on Tonys left hand, cutting carefully through ligaments and tendons to preserve as much function as possible. Inside his fingers, they found pockets of pus the size of nickels. There was one in the center of his hand; it was the size of a golf ball. There were others in his right hand, too, and more hidden beneath the bones of his right foot. Orthopedic surgeons are cabinetmakers, trusted to protect the strength of the bodys scaffolding and the smooth function of its joints. They probed Tonys hips and shoulders with a long wide-

bore needle, looking for infection trapped behind the joints cartilaginous sheaths. His left knee, the one he couldnt bend, was rigid and swollen. When they slid the needle in, pus pushed out under pressure, forcing back the base of the syringe. They got out enough to fill a baseball. One of the orthopedic surgeons sliced into Tonys left thigh and eased apart the muscles. There was pus underneath them, creamy and dull. There was too much to evacuate through the small incision they had cut, so they kept cutting, looking for the end of the pocket. They laid his thigh open from his knee almost to his hip joint; wherever they cut, they found a dense deposit of pus wrapped around the bone. They used a tool like a dentists jet to work it free, rinsing the cavity between bone and muscle with high-pressure water and sucking the slurry away. The abscess was so deep that they could not trust they had cleaned out all the infection, and so they left the gash open. They wrapped it in dressings that would let the mess drain, and rolled him back to the ICU. They brought Tony back to a room at the center of the unit, as close as they could put him to the nurses who would monitor his every moment. He was still sedated and intubated and teetering on the verge of shock. He had pneumonia, and his liver was not clearing waste products from his blood. The intensive-care team pumped him with drugs and fluids: antibiotics to kill the still-unidentified bacteria, immune globulin to neutralize toxins, vasopressors to keep his blood pressure up. The drug doses had to be maintained in a delicate, shifting balance. Too much or too little could send his heart into an off-kilter rhythm, or scatter small clots through his bloodstream, or clamp down the small vessels in his extremities and kill a finger or toe. Not long after Tony came back to the ICU, the units computer pinged with the first report from the hospitals microbiology lab. The results validated the intuition of the health care workers who had ordered him onto vancomycin many hours earlier. Tony did have MRSA. They told me he was ...