

THE HUFFINGTON POST



[Amazon Conservation Team](#)

The Medicine Man and the Microchip

10/29/13

Some of the biggest, strongest and seemingly most indestructible members of our society belong to the National Football League. Yet recent headlines reveal that that even some of these physical elites have been diagnosed with a sometimes incurable medical scourge: methicillin-resistant *Staphylococcus aureus* bacteria, or MRSA. *S. aureus* is one of the deadliest creatures on our planet. It was Sir Alexander Fleming, the discoverer of penicillin, who first noted penicillin resistance in *S. aureus*, [declaring publicly](#) in a 1945 *New York Times* editorial -- only two years after the drug had reached the market -- that indiscriminate use of penicillin would lead to widespread resistance among Gram-positive bacteria. How right he was.

In September, the [Centers for Disease Control and Prevention released a report](#) that paints a grim picture of the ongoing war against these so-called "superbugs"-pathogens that are becoming increasingly resistant to antibiotics. The report states that annually more than two million people in the United States suffer infections that are resistant to antibiotics, and at least 23,000 people die as a result.

We were once able to kill these bugs. But, through our ignorance and greed, we have abused one of Mother Nature's greatest medical gifts: antibiotics. In an age where new life forms may be synthesized in a laboratory, 80 percent of our antibiotics still come from nature. One of them, the so-called "big gun" used to treat drug-resistant bacteria in the past, is [vancomycin](#), which comes from the mud of Indonesia. For the most part, most tropical organisms remain unstudied and unevaluated.

Diverse tropical ecosystems like rainforests and coral reefs may harbor microorganisms able to produce compounds that -- when made less toxic, more effective or used as inspiration to develop new medicines -- may give us new antibiotics, new treatments for cancer and new treatments for stress. Western medicine, in spite of the superlative nature of its success, does have its holes. While we can't give up on synthetic chemistry, we also shouldn't turn our backs on nature; much of the most promising leads, I predict, will be found in the meeting of the Medicine Man and the microchip.

Dr. John Rex, Vice President of Clinical Research at AstraZeneca, called drug-resistant bacteria [one of the great catastrophes](#) of our age, emphasizing that if we don't have a vibrant, diverse pipeline of new antibiotics soon, we're going to be in trouble.

"Modern medicine grinds to a halt if you do not have appropriate, effective antibacterial agents," he said.

We are seeing now the emergence globally of some forms of bacteria that are effectively untreatable with anything that we know how to use right now. We need to nurture every molecule that looks like it might be an antibiotic that needs to be taken care of.

The bottom line is that it makes perfect sense to protect Mother Nature, still the greatest biological engineer we have. By protecting nature, we keep our options open. Yet most experts agree that [we lose close to 80,000 acres of tropical rainforest each day](#) and approximately 50,000 plant and animal species a year through destructive activities such as logging and mining.

When the milk we drink and the food we eat are [laced with antibiotics](#), and when the mighty NFL player and the innocent child in the hospital for minor surgery are both besieged by drug-resistant bacteria, it is time to address this threat both to us and to future generations.

The Amazon Conservation Team partners with indigenous peoples to protect the world's largest rainforest, helping preserve not only the plants, animals and other organisms that live there, but also the medicinal knowledge that is unique to these sacred lands.

You can join in the Amazon Conservation Team's efforts by visiting [here](#).

Dr. Mark Plotkin is a renowned ethnobotanist who has spent almost three decades studying traditional plant use with traditional healers of tropical America