Killer “Superbugs” No Match For College Researcher

While antibiotics can’t kill deadly “superbug” bacteria, a researcher at Texas A&M University- Corpus Christi has developed an amazing new technology that can. The Center for Disease Control (CDC) says antibiotic resistant “superbugs” are the single greatest health threat of our time. The CDC even goes as far as to warn of an impending “antibiotic apocalypse.” Just one of the so-called “superbugs,” MRSA, kills more Americans every year than HIV/AIDS, emphysema, Parkinson’s disease, and homicide combined.

According to the CDC, Nearly 2 million people, every year, get sick from antibiotic resistant bacteria, and 100,000 of those people will die. Unfortunately, once the “superbug” is in your body, it is hard to fight. Using new “cold plasma” technology, which he developed in the Plasma Engineering Research Lab (PERL) at Texas A&M University-Corpus Christi, Dr. Magesh Thiyagarajan is stopping these killer bacteria, before they find a host.

Traditional plasma is made by heating up gas molecules to form what looks like a colored ray of light. We see it every day in plasma televisions and fluorescent lights. In a recent study published in the Journal of Applied Physics, Thiyagarajan explains that his research team has developed a way to make this happen without using heat and he says when he directs that ray of light called cold plasma at bacteria, what happens is magical.

“This is an extremely powerful technology that produces, what are called, reactive oxygen species. They react with bacteria pathogens, killing them in a matter of seconds,” said Thiyagarajan. “Because of the higher efficiency, compared to current technologies for sterilization, the cost is much lower.”

Traditional hospital sterilization methods included moist-based heat treatments that can take hours to produce required sterilization results. The time involved and the use of heat makes it impossible to treat every surface in a hospital. Thiyagarajan says cold plasma does not have the same constraints at traditional methods of sterilization.

Doctors say, the good news is, healthy people usually do not get “superbug” infections. In healthcare settings, the infections most commonly occur among patients who are receiving treatment for other conditions. Patients whose care requires devices like ventilators, urinary catheters, or intravenous catheters, and patients who are taking long courses of certain antibiotics are most at risk for “superbug” infections.

What healthy people do need to worry about is getting sick from the food they eat. According to the CDC, one in six people will get sick this year from food borne

illness. These illnesses, which come from bacteria such as E. coli and salmonella, can cause vomiting, diarrhea and even death.

“This cold plasma technology can also be used for food sterilization,” said Thiyagarajan. “Almost daily, you hear about food recalls on the news. From poultry to produce, this new technology can be used to sterilize all of these food products.”

Just like in a hospital setting, cold plasma is more effective at killing the bacteria on food and is also cheaper than current methods being used.

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