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## Toxins pose grave threat in battle

By Dave Moniz, USA TODAY

WASHINGTON — In the most detailed look yet at the deadly biological weapons Iraq could unleash against an invasion by U.S. troops, a top Army scientist warned Wednesday that U.S. forces have little or no defense against some of Iraq's most lethal toxins.

Col. Erik Henchal, chief of diagnostic systems at the Army's Medical Research Institute of Infectious Diseases at Fort Detrick, Md., said the most serious threat to American forces would be an attack with botulinum toxin.

The toxin, which Iraq experimented with after the 1991 Persian Gulf War, is the most deadly substance on Earth, according to the *Journal of the American Medical Association*. It kills by paralyzing its victims and rendering them unable to breathe.

Henchal said U.S. forces have no vaccine to counter the toxin, which can be delivered by aircraft, boats or ground vehicles equipped with foggers and spray nozzles. There is an antitoxin for people who have been exposed to botulinum toxin, but supplies are scant, and even then, victims may have to use ventilators to breathe for weeks or months afterward.

"We don't have effective defenses," Henchal said. "It's a pretty serious threat."



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Iraq claims to have destroyed 2,100 gallons of botulinum toxin since 1991, but U.S. strategists worry that it could have kept a supply.

Henchal discussed several "holes" in U.S. chemical and biological defenses, including the lack of a vaccine to counter plague.

The Army's Medical Research Institute of Infectious Diseases is one of the world's top authorities on lethal agents that include botulinum toxin, anthrax and Ebola virus.

Henchal spoke about threats to U.S. forces during a breakfast with Pentagon reporters. He said he was confident that the U.S. military could detect most chemical and biological weapons on the battlefield, but he highlighted a number of potential problems:

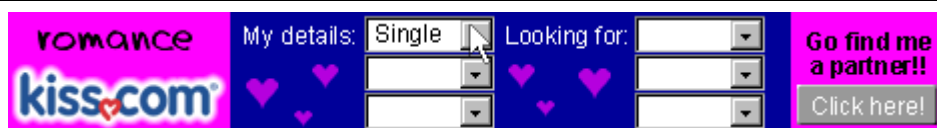
- A chemical or biological attack against ports or airfields in the Persian Gulf could have a paralyzing effect on military operations. Iraq has missiles and artillery shells that could reach troops in Kuwait or Saudi Arabia.
- Given potential threats from anthrax, botulinum toxin and smallpox, it's likely that large numbers of U.S. troops would have to fight in cumbersome protective suits designed to scout out biological and chemical agents. That could slow soldiers' movements by as much as a third.
- One doomsday scenario, Henchal said, would involve Saddam unleashing smallpox virus at a civilian airport in Europe or elsewhere, creating chaos and terror among U.S. allies.

Because of fears that Iraq has maintained supplies of chemical and biological weapons — including rare germ agents that resist antibiotics — the United States has taken unusual steps to safeguard the military. The Pentagon has been inoculating troops against anthrax since the mid-1990s. The Bush administration recently announced it would begin vaccinating health care providers and military personnel against smallpox.

A war with Iraq, one senior Pentagon official said recently, would put U.S. troops at the highest risk of chemical or biological weapons attacks since World War I, when troops routinely carried gas masks.

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