

# New Strain Of MRSA Can Kill In Just 24 Hours

**\* Cases of drug-resistant PVL likely to rise in Britain**

**\* Fear that GPs will not recognise lethal infection**

By Ian Sample  
Science Correspondent  
The Guardian - UK  
1-19-7

Scientists have unravelled the workings of a deadly superbug that attacks healthy young people and can kill within 24 hours.

PVL-producing MRSA, a highly-virulent strain of the drug-resistant superbug, methicillin-resistant staphylococcus aureus, has spread around the world and caused deaths in the UK, Europe, the US and Australia. PVL or panton-valentine leukocidin toxin destroys white blood cells and usually causes boils and other skin complaints. But if it infects open wounds it can cause necrotising pneumonia, a disease that rapidly destroys lung tissue and is lethal in 75% of cases.

Thousands of infections have been recorded across the US, but scientists believe the number is likely to rise in Britain.

In 2004 the bug claimed the life of Richard Campbell-Smith, a fit 18-year-old Royal Marine, who died three days after scratching his legs on gorse during a training exercise in Devon. In December an outbreak at Norfolk and Norwich University hospital killed a baby and infected five others. According to the Health Protection Agency there were 106 cases of PVL-MRSA in England and Wales in 2005 and one confirmed death from necrotising pneumonia caused by the infection.

Scientists at the University of Texas in Houston and Lyon University in France conducted experiments into PVL to work out why it was so lethal. They took two batches of normal staphylococcus aureus bacteria and modified one of them to produce the PVL toxin.

The researchers exposed mice to the different groups of bacteria, to see if they developed lung infections. Animals that inhaled the normal staphylococcus were unaffected, but those that inhaled the PVL-producing staphylococcus quickly developed necrotising pneumonia, with some dying within 48 hours. Further tests on the PVL-producing bacteria showed they also produced higher levels of

proteins that caused massive inflammation and made the bacteria more "sticky", helping microbes cling to people's skin and making it more easy to spread.

The study appears in Science Express, an online journal.

Gabriela Bowden, who lead the study, said: "We've shown that not only is PVL responsible for causing necrotising pneumonia, but it somehow also causes over-production of these other proteins which cause damage and help the infection spread. We now have targets to go for. We can see if we can block the activity of PVL with antibodies, for example," she added.

Mark Enright, a microbiologist at Imperial College, London, said the new PVL-MRSA strain probably evolved from a strain that first surfaced in the 1950s. The bug produced PVL toxin, but had yet to develop drug resistance. "Now it's developed resistance, it has come back. We are in the early stages of an epidemic, but this is moving very fast," he said. A fear held by many health officials is that the PVL strain will become rife in hospitals, where it could inflict a much greater death toll than the existing MRSA superbugs.

Marina Morgan, consultant medical microbiologist at Royal Devon and Exeter hospital, said PVL-MRSA was a particular threat because it was spreading outside hospitals, where doctors were not familiar with it. "A lot of patients die because it is unexpected. A doctor will probably prescribe a standard antibiotic that won't kill it, so it has time to get worse. The bottom line is it's coming and it's going to spread."

PVL-MRSA can only be tackled with treatments that attack the bacteria on three fronts. The drugs must kill the bacteria, destroy their ability to make PVL toxins, and mop up the toxins already released into the bloodstream.

Patricia A. Doyle DVM, PhD  
Bus Admin, Tropical Agricultural Economics  
Univ of West Indies

Please visit my "Emerging Diseases" message board at:

<http://www.emergingdisease.org/phpbb/index.php>

Also my new website:

<http://drpdoyle.tripod.com/>

Zhan le Devlesa tai sastimasa

Go with God and in Good Health

<http://www.guardian.co.uk/medicine/story/0,,1994012,00.html?gusrc=rss&feed=11>

[Disclaimer](#)

**MainPage**

<http://www.rense.com>

**This Site Served by TheHostPros**