

# Stick with simple antibiotics for pneumonia to avoid super bugs, says researcher

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Australian hospitals should avoid prescribing expensive broad-spectrum antibiotics for pneumonia to avoid the development of more drug-resistant super bugs, according to a University of Melbourne study.

The study, by PhD researcher and Austin Health Infectious Diseases consultant, Dr Patrick Charles, shows that only 5 per cent of people admitted to hospital with community-acquired pneumonia had infections caused by organisms that could not be successfully treated with penicillin combined with an "atypical" antibiotic such as doxycycline or erythromycin.

In the world's largest study of its kind, Dr Charles studied almost 900 people admitted to six Australian hospitals over 28 months from 2004 to 2006.

Dr Charles' research analysed samples of blood, urine, sputum and viral swabs of the nose and throat taken from 885 patients at the Austin, Alfred, Monash and West Gippsland hospitals in Victoria, the Royal Perth Hospital and Princess Alexandra Hospital, Brisbane.

He found that most cases of pneumonia were caused by easy to treat bacteria such as the pneumococcus or Mycoplasma, or alternatively by respiratory viruses that do not require antibiotic therapy.

Only five per cent of cases were caused by organisms that would require more expensive and broad-spectrum antibiotics, and these cases were

nearly all in patients who'd had frequent hospital admissions or were residents of nursing homes.

"The study results show that current Australian guidelines for prescribing antibiotics for pneumonia are appropriate," Dr Charles said.

"It shows that Australian doctors should resist the push which is occurring in some parts of the world – particularly the US - to prescribe broad spectrum antibiotics to treat essentially all possible causes."

Dr Charles said the trend towards broad-spectrum antibiotics was being driven by laboratory-based studies of resistance rates in bacteria sent to the labs, rather than clinical studies of patients with pneumonia.

In the laboratory-based studies, the bacterial isolates often come from highly selected patients with more difficult to treat disease.

In addition, the fear of litigation made some doctors unnecessarily opt for more aggressive treatments.

However, the more frequently these broad-spectrum antibiotics were used, the more likely it was that bacteria would be become resistant to them.

"The emergence of antibiotic-resistant bacterial pathogens is one of the biggest threats to Australian health care standards and is closely linked to the inappropriate use of antibiotics," Dr Charles said.

"By continuing to use more traditional antibiotics to treat most cases of pneumonia, Australian doctors can limit or delay the emergence of more resistant strains of bacteria.

"By using the broad-spectrum antibiotics less often, we can also prolong

the effective lifespan of these drugs.

"Furthermore, in the US, Canada and some parts of Europe, they are seeing some serious complications which appear to be related to the overuse of some classes of broad-spectrum antibiotics that are frequently used there to treat respiratory infections."

Source: University of Melbourne

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