

Melioidosis found in stormwater

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During Northern Queensland's wet season, many people know to avoid driving or walking through floodwater for safety reasons, but researchers have found they should also avoid it to protect their health.

Research conducted by James Cook University's Environmental and Public Microbiology Health Research group, within JCU's School of Veterinary and Biomedical Science in Townsville have found the infectious disease [melioidosis](#) linked to run-off and stormwater.

Melioidosis is an environmental-based tropical disease caused by the bacterium *Burkholderia pseudomallei*.

It is a disease that lives naturally in soil around Northern Queensland, with most cases occurring in the Torres Strait, Mornington Island and Townsville, but it has not been reported from groundwater before.

Symptoms include high fevers, pneumonia and sepsis, which cannot be transmitted through human contact.

According to JCU Associate Professor in microbiology, Dr Jeff Warner, the discovery has linked groundwater to transmission of disease in Townsville for the first time.

"This finding may help explain the reported infection peak during the wet season and after periods of extreme weather," he said.

Associate Professor Warner said globally, the mortality rate (those that

die after they contract the illness) was between 11 – 40 percent, and in Townsville it is reported to be about 20 percent, or 1 in 5.

“We are fortunate we have doctors that can recognise and treat the disease here, but prevention is always better than cure.”

Anthony Baker is the lead author and PhD student within the group who has published results that for the first time implicated groundwater in the potential transmission of the disease in Townsville.

Mr Baker’s paper, Groundwater Seeps Facilitate Exposure to *Burkholderia pseudomallei*, was published in the journal *Applied and Environmental Microbiology* late last year.

“We have found the organism, linked to clinical disease in ground water, not just soil.

“Whether inhaling the organism through aerosols or contracting it through cuts and abrasions, water is now implicated in disease transmission in Townsville,” he said.

“With collaborators at the CSIRO and Jessica Ezzahir, a JCU honours student, we are going to be looking at different aspects of the water and the environment to see what influences survival or persistence of the organism. This may help us understand the ecology of the disease a bit better,” he said.

Associate Professor Warner said he believed that thanks to Anthony’s research findings, they may be able to help a public health campaign to ‘avoiding soil in the wet season is good, but avoiding runoff or storm water, perhaps even better’.

Provided by James Cook University

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