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## Aspirin could make urinary tract infections worse

New research by the Centenary Institute suggests that commonly prescribed anticoagulants – medicines, such as aspirin, that help prevent blood clots – may make urinary tract infections (UTIs) more severe.

One of the most common infections worldwide, UTIs are not normally serious or life threatening but in rare cases can progress into sepsis, also known as septicaemia.

In older people the risk of developing severe UTIs often overlaps with conditions that require anticoagulant treatment.

Researchers found that in zebrafish, the commonly prescribed anticoagulant medications – specifically aspirin and warfarin – increased UTI severity.

“We commonly use zebrafish in medical research to better understand diseases in order to find cures,” said Dr Stefan Oehlers, Head of the Centenary Institute’s Immune-Vascular Interactions Laboratory and study senior author.

“Zebrafish share 70 percent of the same genes as people and 84 percent of human genes known to be associated with human diseases have a zebrafish counterpart. This makes them perfect for study.”

Dr Oehlers said that UTI-associated sepsis is most often caused by uropathogenic *Escherichia coli* (UPEC), a bacterium that first infects the urinary system.

“We used the zebrafish to model the sepsis phase of UPEC infection,” said Dr Oehlers.

“Using this model we demonstrated that commonly used anticoagulant medicines reduced zebrafish survival and increased UPEC bacteria burden.”

The researchers believe that the administration of the anticoagulant medications prevented natural clotting that would have helped to contain bacteria in the blood.

The research was published in the journal *Microbiological Research*.

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### Publication:

Common anti-haemostatic medications increase the severity of systemic infection by uropathogenic *Escherichia coli*.

<https://www.sciencedirect.com/science/article/pii/S094450132100224X>

### Images:

Dr Stefan Oehlers.

[https://drive.google.com/file/d/1A2xE\\_B5kLN\\_kgz7PpT7IIMhEXUYNEIh/](https://drive.google.com/file/d/1A2xE_B5kLN_kgz7PpT7IIMhEXUYNEIh/)

Zebrafish.

[https://drive.google.com/file/d/1q5WzycGxgFmli-uGVNFkh9cxPejGyc\\_j/](https://drive.google.com/file/d/1q5WzycGxgFmli-uGVNFkh9cxPejGyc_j/)

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**About the Centenary Institute**

The Centenary Institute is a world-leading independent medical research institute, closely affiliated to the University of Sydney and the Royal Prince Alfred Hospital. Our research focuses on three key areas: cancer, inflammation and cardiovascular disease. Our strength lies in uncovering disease mechanisms and applying this knowledge to improve diagnostics and treatments for patients.

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