

Research uncovers potential preventive for central line infection

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A team of researchers at Cincinnati Children's Hospital Medical Center has developed an antibody that could prevent *Candida* infections that often afflict hospitalized patients who receive central lines.

Margaret Hostetter, MD, director of infectious diseases at Cincinnati Children's, and her team developed the antibody, which prevents *Candida albicans* from binding to heparin, thereby stopping the formation of [biofilm](#) in a rat model of catheter-associated infection. A biofilm is a multi-layered buildup of millions of microorganisms that coat the inside of the catheter

The study was published online in July in the *Journal of Infectious Diseases*.

Earlier research by Hostetter's team showed that heparin binds to *Candida albicans*, a yeast that resides on our skin and in our [gastrointestinal tract](#). *Candida* uses its ability to bind heparin to elude the body's immune response and to form biofilms. When biofilms form on the inside of catheters, groups of microorganisms can break off into the bloodstream and cause serious infections.

"Standard anticoagulants used in catheters may facilitate biofilm formation by microbes," says Dr. Hostetter. "Understanding this process can lead to new strategies for prevention of line infections."

In hospitalized patients with [central venous catheters](#), *Candida albicans*

may gain entrance to the body and form a biofilm in a central venous catheter. When a biofilm disperses, the yeast will enter the bloodstream and may be carried to other organs, such as the kidneys, the liver, or the spleen.

When the antibody is modified to be compatible with humans, clinical trials of the treatment can begin in humans, says Dr. Hostetter.

Collaborators on the study included researchers from Duke University Medical Center, the University of Cincinnati and the University of Wisconsin.

Provided by Cincinnati Children's Hospital Medical Center

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