

Infection linked to dangerous blood clots in veins and lungs, study shows

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Research shows older adults who get infections of any kind – such as urinary, skin, or respiratory tract infections – are nearly three times more likely to be hospitalized for a dangerous blood clot in their deep veins or lungs, University of Michigan Health System research shows.

The most common predictor of hospitalization for venous thromboembolism – a potentially life-threatening condition that includes both deep-vein and lung [blood clots](#) – was recent exposure to an infection, according to the study released April 3 ahead of print in *Circulation*.

"Over half of older Americans who were hospitalized for such blood clots had an infection in the 90 days prior to the hospitalization," says lead author Mary Rogers, Ph.D., M.S., research assistant professor in Internal Medicine at the University of Michigan Medical School and research director of the Patient Safety Enhancement Program at the U-M Health System and the VA Ann Arbor Healthcare System.

"This is important because infections are common and many people do not link infections with developing blood clots. In fact, many educational websites do not list infections as a risk factor for blood clots – but they are."

The study comes as the rate of hospitalization for venous thromboembolism steadily increases in the United States, with more than 330,000 hospital admissions for this condition a year.

"We would like to decrease the number of preventable hospitalizations, both for the benefit of the patient and to help bring down the cost of medicine," says Rogers, pictured left. "We wanted to study the triggers of hospitalization to help us understand what is driving such admissions and to think about actions we can take in order to prevent these hospitalizations."

If the infection occurred during a previous hospital or nursing home stay, patients were nearly seven times more likely to be admitted for a blood clot. Those who got the infection at home were nearly three times more likely to be sent to the hospital for a blood clot within 90 days.

The study also found that other strong predictors of hospitalization for blood clots included blood transfusions and drugs prescribed to stimulate red blood cell production (known as erythropoiesis-stimulating agents), which are sometimes given to treat anemia. The risk of hospitalization for blood clots was nine times greater after the use of these drugs.

Rogers and her colleagues conducted the study using participants in the Health and Retirement Study, a nationally-representative sample of older Americans, and combined their information with Medicare files. The Health and Retirement Study is conducted by the U-M Institute for Social Research on behalf of the National Institute of Aging.

"There is a national effort to decrease infections in hospitals but we need to pay attention to prevention regardless of where we are. Older Americans can help out by keeping up-to-date with their immunizations and practicing good hygiene such as hand washing," Rogers says. "This is particularly important for people who are already at higher risk of blood clots. This includes smokers, people who are overweight, and those individuals who are immobile."

"Often we don't think about the downstream consequences of infection,"

Rogers adds "The infection itself may trigger blood clots in your deep veins which may travel to your lungs and block the arteries there. This can be fatal. It's a risk both patients and physicians need to be aware of."

More information: [DOI: 10.1161/CIRCULATIONAHA.111.08446](https://doi.org/10.1161/CIRCULATIONAHA.111.08446)

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