

# For embolism patients, clot-busting drug is worth risk

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When doctors encounter a patient with a massive pulmonary embolism, they face a difficult choice: Is it wise to administer a drug that could save the patient's life, even though many people suffer life-threatening bleeding as a result?

Based on new findings published in the [American Journal of Medicine](#), Michigan State University researchers are answering that question in no uncertain terms.

"The message to doctors is clear: Take the chance," said Paul D. Stein, a professor in MSU's Department of Osteopathic Medical Specialties. "It doesn't matter how old the patient is or what other [chronic diseases](#) the patient has. Administering the drug saves lives."

Pulmonary embolism is a potentially deadly blockage of arteries in the lungs caused by [blood clots](#) that travel from elsewhere in the body, usually the leg. Clot-dissolving drugs known as thrombolytic agents often can remove the blockage, but they also can cause [brain hemorrhages](#) and other major bleeding.

Stein found in an earlier study that only about a third of unstable pulmonary embolism patients—those who are in shock or require a [ventilator](#)—received thrombolytic therapy, even though the drugs decreased the risk of dying in the hospital from 50 percent to 15 percent.

"Doctors are smart," Stein said, "so why are only a third of patients getting the drug?"

To find out, Stein and Fadi Matta, MSU associate professor of osteopathic medical specialties, reviewed a [national database](#) of records from more than 1,000 hospitals. Their findings suggest that concern over the bleeding associated with thrombolytic therapy may keep doctors from giving the drug to patients who could be at higher risk.

In the study, only 20 percent of unstable patients with associated [chronic conditions](#) received the drug, compared to 80 percent of those without such conditions. Patients older than 60 also were less likely to receive the treatment.

Yet, even if patients had associated chronic conditions in addition to pulmonary embolism, the in-hospital death rate was 20 percent among those who received thrombolytic therapy, compared to 47 percent of those who did not get the clot-dissolving drug. The death rate also was lower among elderly patients who got the drug.

"Physicians apparently are afraid to give thrombolytic drugs to pulmonary embolism patients if they are elderly or have associated illnesses, and for good reason," Stein said. "Bleeding can be severe with such drugs, but the fact is, a lot more patients die if they don't get the drug than if they do."

Provided by Michigan State University

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