

# Ambulance nitroglycerin patch to lower blood pressure did not improve stroke outcomes

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Lowering blood pressure in the ambulance with a nitroglycerin patch for suspected stroke didn't lessen post-stroke disability, according to late breaking science presented at the American Stroke Association's International Stroke Conference 2019.

Two previous small trials suggested that transdermal (skin patch) delivery of [nitroglycerin](#) (also called glyceryl trinitrate), a nitric oxide donor that lowers blood pressure, might improve functional outcome and reduce death if given very soon after clot-caused [stroke](#) (ischemic stroke) or bleeding in the brain (intracerebral hemorrhage).

In a multicenter prospective randomized single-masked, blinded-endpoint trial called Rapid Intervention with Glyceryl trinitrate in Hypertensive stroke Trial-2 (RIGHT-2), United Kingdom researchers investigated whether it is safe and effective for paramedics to administer nitroglycerin.

The study included 1,149 patients (average age 73, 52 percent male) with presumed stroke and systolic blood pressure above 120 mm Hg. They were randomized to receive either a nitroglycerin patch or a sham patch within four hours of symptom onset. More than half (57percent) had been diagnosed with high blood [pressure](#), 24 percent had a previous stroke, while 20 percent had diabetes or atrial fibrillation. The primary outcome was a shift in disability measured at three months.

"However, nitroglycerin did not improve overall outcome," said Philip

Bath, D.Sc., Stroke Association Professor of Stroke Medicine at University of Nottingham, Nottingham, United Kingdom. "In patients with a brain bleed, the [patch](#) appeared to worsen outcomes. So, treatment with nitroglycerin cannot be recommended very early after stroke."

The study was funded by the British Heart Foundation.

Provided by American Heart Association

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