

Which blood thinner works better during stent placement? It's still a toss-up

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A large, ambitious contrast of blood-thinning medications used during cardiac stent placement suggests that a very expensive drug offers no clear safety benefits over a much more affordable option, according to a prominent North Shore-LIJ researcher and cardiologist.

An insightful editorial in the Online First *New England Journal of Medicine* on Sept. 1 by Peter Berger, M.D., Senior Vice President for Clinical Research at the North Shore-LIJ Health System, addresses the controversial comparison of the [blood thinners heparin](#) and bivalirudin (known commercially as Angiomax). Both drugs are administered to avert life-threatening blood clots during cardiac stent placement, a very common [cardiac catheterization procedure](#).

But bivalirudin costs more than 400 times the price of heparin, one of the oldest drugs still in widespread clinical use, and hasn't convincingly been proven to be the superior choice, Dr. Berger said.

"Many studies have shown that bivalirudin is safer than heparin - that it causes fewer bleeding complications. But other studies have shown that heparin is every bit as safe, especially when used in lower doses," said Dr. Berger, whose editorial accompanies the MATRIX Trial. "And one recent large study actually suggested that heparin is more effective than bivalirudin."

"Which trial to believe is controversial and not entirely clear," added Dr. Berger. "But nearly everyone agrees that if the more expensive blood

thinner is not safer or better in some way, the less expensive one ought to be used."

Cardiac stents, mesh-like cages inserted into narrowed coronary arteries to help restore proper blood flow to the heart, are typically placed during angioplasty procedures. About 500,000 angioplasties are done in the United States each year, often to avoid heart attacks.

The MATRIX research, led by a team from the Swiss Cardiovascular Center Bern in Switzerland, will be published Online First in the Sept. 1 *New England Journal of Medicine* to coincide with press conferences tied to presentations at the European Society of Cardiology Congress 2015, being held in London, UK, from Aug. 29 to Sept. 2.

Like many studies, the MATRIX Trial administered other blood thinners to many participants in addition to bivalirudin or heparin, making the comparison of the two all the more complicated, Dr. Berger's editorial noted.

The MATRIX investigators also studied whether bivalirudin should be continued for four or six hours after a catheterization procedure to place a cardiac stent, or stopped when the procedure is complete. Some doctors believed that administering [bivalirudin](#) for a longer period would increase its effectiveness compared to a shorter infusion, Dr. Berger said, and also stem potentially deadly clots more effectively than heparin. But the study showed that the longer infusion offered no advantages over the shorter one.

"Many studies raise more questions than they answer," he said. "It will be interested to see whether doctors accept the results of the MATRIX Trial or wait for more studies before deciding which blood thinner they prefer."

Provided by North Shore-Long Island Jewish Health System

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