

Allina Health heart procedure complications reduced with simple tool

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Every year in the U.S., 600,000 heart procedures are performed by threading thin tubes through patients' arteries to access their hearts. Percutaneous coronary intervention – or PCI – is an alternative to open heart surgery for many common heart problems.

But bleeding from the insertion site from blood thinners used during the procedure is a common complication of PCI, occurring two to six percent of the time.

"That might not sound serious, but bleeding is associated with adverse events, including death," said Craig Strauss, MD, MPH, a cardiologist with Minneapolis Heart Institute at Abbott Northwestern Hospital and researcher with the Minneapolis Heart Institute Foundation.

Based on data from the National Cardiovascular Data Registry (NCDR) Cath-PCI Registry, a screening tool was developed that calculates a patient's bleeding risk based on nine clinical variables. When high-risk patients are identified before their procedures, strategies to avoid bleeding can be put in place to use afterward.

But Strauss says the screening tool is not widely used. So, he and cardiologists from other Allina Health hospitals including United Heart and Vascular Clinic at United in St. Paul, Minn. and Metropolitan Heart and Vascular Institute at Mercy in Coon Rapids, Minn. worked together to improve their respective PCI complication rates.

Data collection and analysis were simplified because the hospitals have a unified [electronic medical record](#) and participate in NCDR.

Researchers looked at data from all their PCI patients from July 1, 2009, to December 31, 2011. Retrospectively, they verified the NCDR's [screening tool](#)'s ability to predict patients with high, intermediate and low bleeding risks.

Based on the bleeding risk tool, they created a data dashboard for all Allina Health cardiac catheterization staff to use before PCI procedures. They also held learning sessions about the importance and benefits of using the tool.

Within one month, more than 75 percent of patients were being screened before procedures, resulting in a 5.3 percent decrease in all post-procedure complications, including the need for blood transfusions.

Strauss says achieving these improvements should lead to significant reductions including costs associated with hospital readmissions. The American Heart Association published the study in *Circulation: Cardiovascular Quality Outcomes*.

Provided by Minneapolis Heart Institute Foundation

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