

# Angioplasty at hospitals without on-site cardiac surgery safe, effective

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Non-emergency angioplasty performed at hospitals without on-site cardiac surgery capability is no less safe and effective than angioplasty performed at hospitals with cardiac surgery services, according to research presented today at the American College of Cardiology's 62nd Annual Scientific Session.

[Emergency surgery](#) has become an increasingly rare event following percutaneous [coronary intervention](#) (PCI) or [angioplasty](#)—a non-surgical procedure used to open narrow or blocked coronary arteries and restore blood flow to the heart. This study adds to the growing body of evidence supporting [favorable outcomes](#) for patients undergoing elective or non-emergency angioplasty at hospitals without cardiac surgery on-site. Researchers say there are several reasons why expansion of non-emergency PCI to hospitals without cardiac surgery programs may be viewed favorably.

"Among them are patient choice and patient and physician convenience afforded by providing the ability to remain in a local and familiar community. In addition, the added volume of PCI procedures at these hospitals could help to provide resources to support active primary PCI programs," said Alice Jacobs, MD, professor of medicine at Boston University School of Medicine, and the study's lead investigator.

"However, controversy continues to exist surrounding this expansion of services to treat patients in non-emergency settings, where timely access to angioplasty is less important to [cardiovascular outcomes](#) and the risk to benefit ratio may differ from the emergency setting."

Dr. Jacobs and her team conducted a prospective, randomized trial comparing the safety and effectiveness of non-emergency angioplasty at 10 hospitals in Massachusetts without on-site cardiac surgery services and seven hospitals with on-site cardiac surgery services. A total of 3,691 patients were randomly assigned in a 3:1 ratio to undergo angioplasty: 2,774 at hospitals without on-site cardiac surgery and 917 at hospitals with surgical backup. The mean age of study subjects was 64 years, 32 percent were women, 32 percent had diabetes and 61 percent presented with an acute coronary syndrome.

Rates of major adverse cardiac events, including death, heart attack, repeat angioplasty and stroke, were assessed at 30 days and 12 months post-angioplasty. Rates at 30 days were 9.5 percent for sites without on-site cardiac surgery compared to 9.4 percent for those with surgical services. Outcomes did not differ significantly between the non-surgical and surgical groups for all-cause mortality, heart attack, repeat angioplasty or stroke. At the 12-month follow up, major adverse cardiac events rates were 17.3 percent for sites without on-site surgery compared to 17.8 percent for sites with surgical services available, and rates of mortality, heart attack, repeat angioplasty and stroke did not differ between groups.

A random sample of 376 study subjects was selected to monitor clinical practice patterns between hospitals with and without cardiac surgery on-site. There were no significant differences between the two treatment groups with respect to procedure success rates, completeness of angioplasty or the proportion of lesions classified as meeting ACCF/AHA/SCAI PCI guidelines Class I or II recommendations for anatomic indications to perform PCI.

"While we did not directly compare all PCI procedures at hospitals with and without cardiac surgery, our results suggest that performance of angioplasty in hospitals without [cardiac surgery](#) but with the appropriate

experience, established angioplasty programs and the required [hospital](#) and operator volume, is an acceptable option for patients presenting to these hospitals for care," Dr. Jacobs said.

**More information:** This study will be simultaneously published online in the *New England Journal of Medicine* at the time of presentation.

Provided by American College of Cardiology

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