

New study compares different approaches for stroke prevention in patients with non-valvular atrial fibrillation

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A recent study from University of Alabama at Birmingham researchers published in *PLOS ONE* compares different available treatments for stroke prevention in patients with non-valvular atrial fibrillation.

The group identified six [clinical trials](#) with 59,627 patients comparing six different FDA-approved treatment alternatives. The study combined all phase-three randomized controlled clinical trials comparing different novel oral blood thinners, left atrial appendage closure devices, known as WATCHMAN devices, and Coumadin (warfarin) for [stroke prevention](#) in patients with non-valvular atrial fibrillation. Investigators reported data on ischemic stroke, major bleeding and primary safety endpoint from these clinical trials.

WATCHMAN left atrial appendage devices are used as an alternative to long-term warfarin therapy for stroke risk-reduction patients with non-valvular atrial fibrillation.

UAB doctors say too many options may not be a good thing.

"The occurrence of multiple treatment pathways has presented dilemmas for the clinicians," said Navkaranbir S. Bajaj, M.D., the first author of the *PLOS ONE* study who designed and conducted the analyses for the study.

"We exploited the fact that no direct comparisons from trials were available between WATCHMAN and novel oral anti-coagulants," said Bajaj, instructor fellow in the division of [cardiovascular disease](#).

The study explains that, while direct evidence from [randomized controlled trials](#) is lacking, indirect comparisons using systematic network meta-analyses can provide useful complementary information that may be less biased than the direct evidence.

Researchers have found that all treatments had comparable efficacy in reducing stroke rates. However, Apixaban, one of the novel oral blood thinners, was a clear winner in terms of safety profile, and the WATCHMAN device was ranked last due to a higher number of procedural adverse events.

"In an era of precision medicine, we need to individualize treatment for our patients," said senior author Pankaj Arora, M.D., assistant professor in the Division of Cardiovascular Disease. "Our current analysis gives insight into how one can do that to prevent stroke in patients with atrial fibrillation."

Arora says one size does not fit all, and his clinical translational research group is actively working to apply this order to all cardiovascular diseases. The authors concluded that the trade-off between safety and efficacy should be the driving force, and the hierarchical ranking presented in this paper can serve as a clinical tool to guide selection of therapy in patients with atrial fibrillation.

More information: Navkaranbir S. Bajaj et al. Comparison of Approaches for Stroke Prophylaxis in Patients with Non-Valvular Atrial Fibrillation: Network Meta-Analyses of Randomized Controlled Trials, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0163608](https://doi.org/10.1371/journal.pone.0163608)

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