

# Atrial arrhythmias including atrial fibrillation in congenital heart disease

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In the current issue of *Cardiovascular Innovations and Applications* , Jerold S. Shinbane and Philip M. Chang from the Division of Cardiovascular Medicine, Keck School of Medicine of the University of Southern California, Los Angeles, CA, USA and the Congenital Heart Center, Departments of Pediatrics and Internal Medicine, University of Florida College of Medicine, Gainesville, FL, USA consider atrial arrhythmias in congenital heart disease.

Atrial arrhythmias, including atrial fibrillation, in the setting of [congenital heart disease](#) (CHD) are epidemiologically and mechanistically different from those encountered in the general population. These arrhythmias occur at younger ages in patients with CHD, and are frequently degenerative and progressive. The epidemiology, incidence, and prevalence of the spectrum of atrial arrhythmias, including [atrial fibrillation](#), vary according to the specific CHD type, prior treatment, and residual and ongoing structural and functional sequelae.

The combined impact of incisional scars, abnormal hemodynamics, atrial chamber dilation, and increases in atrial wall thickness and distribution of fibrosis results in a highly dynamic and continuously changing atrial substrate that is highly predisposed to arrhythmias. Given the multiple substrates, individualized therapeutic plans can include pharmacologic therapy, catheter-based ablation, and surgical therapies performed concomitantly with primary surgical intervention for hemodynamically significant sequelae of CHD.

Advanced imaging with CT or MRI can provide valuable information for decision making and procedural planning. Application of novel therapeutic technologies and pharmacologic agents necessitates special considerations when applied to the CHD population and requires greater study in specific subsets of CHD patients.

**More information:** Jerold S. Shinbane et al, Atrial Arrhythmias Including Atrial Fibrillation in Congenital Heart Disease: Mechanisms, Substrate Identification and Interventional Approaches, *Cardiovascular Innovations and Applications* (2018). [DOI: 10.15212/CVIA.2017.0053](https://doi.org/10.15212/CVIA.2017.0053)

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