



The Next Generation of Prosthetic Heart Valves

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Message from the Guest Editor

Mitral regurgitation is one of the most common forms of heart valve disorders and occurs when blood leaks back into the left atrium from the left ventricle during heart contraction. This is a result of an apposition failure between the valve leaflets from a functional or congenital cause.

Mechanical heart valves are used to replace diseased human heart valves in approximately 50% of cases. Bioprosthetic heart valves are used in the other 45% of cases. Pulmonary autograft valves and human cryopreserved homograft valves represent the remainder of implanted valves. Autografts and homografts exhibit excellent durability after implantation but are not readily available for all patients. Catheter-based, also known as transcatheter or percutaneous, heart valves have already had successful implantation into the aortic and pulmonary valve position and are commercially available.

This Special Issue will discuss all the concerns that are important to be taken into consideration for the design and development of the next generation of heart valve prostheses.





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Message from the Editor-in-Chief

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