

# Types and selection of valves for transcatheter aortic valve implantation

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Since its introduction at the turn of the century, transcatheter aortic valve implantation (TAVI) has created a revolution in the treatment of patients with symptomatic aortic valve stenosis. In the early days of TAVI we used only two different devices with limited sizes and access options, but now we have a wide range of commercially available transcatheter aortic heart valves. These valves differ significantly in design, configuration, and mechanism. They may be balloon-expandable, self-expanding, or mechanically expanded, and bioprosthetic leaflets may be intra- or supra-annular. Frame cell size and configuration, frame height, size range, and the design and profile of the delivery system and access sheath all differ.<sup>1</sup> Although many patients are often successfully treated with any of variety of valves, yet there are nuances that may lead to one valve being more suitable than another in a specific patient and anatomic subgroups, like younger patients, those with degenerative surgical bioprostheses (valve-in-valve TAVI), bicuspid aortic valves, severe left ventricular outflow tract and annular calcification or coronary artery disease.

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## LITERATURE

1. Claessen BE, Tang GHL, Kini AS, Sharma SK. Considerations for Optimal Device Selection in Transcatheter Aortic Valve Replacement: A Review. *JAMA Cardiol.* 2021 Jan 1;6(1):102-112. <https://doi.org/10.1001/jamacardio.2020.3682>