

## Ascending Aortic Prosthesis

**R**esearchers at the University of South Florida have designed a prosthesis for replacement of aortic sinuses and in some applications, a replacement for an aortic valve.

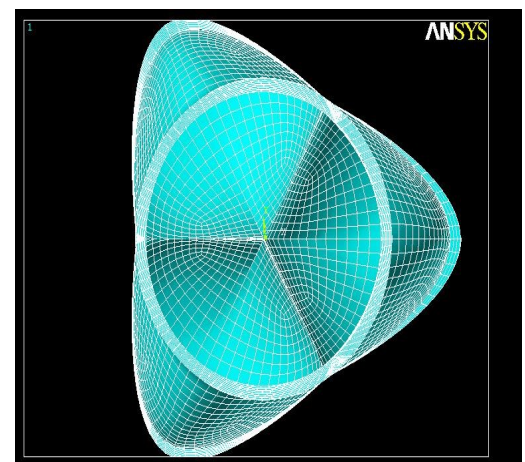
Malfunction of the aortic valve can have severe clinical consequences. Fortunately, surgical procedures and prostheses have been developed for replacing defective aortic valves. These procedures often involve excision of the sinuses of Valsalva and reattachment of the coronary arteries to the prosthesis at a convenient location. While aortic valve replacement is usually successful, the results may be less than ideal because of sinuses of Valsalva removal and suboptimal placement of the coronary artery anastomoses. It may have a negative effect on the fluid dynamics of blood flow.

This invention represents the development of a prosthesis useful in aortic valve replacement surgery or for other procedures that involve the replacement or reconstruction of the sinuses and/or the ascending aorta (e.g. aneurysm of the sinuses of Valsalva or of the ascending aorta).

### ADVANTAGES:

- Easier implantation
- Reduced operative time
- More natural fluid dynamics
- Best possible attachment site
- Compatible with existing valve designs

*Advantageous Over Straight Cylindrical Graft*



*Mesh structure of a three leaflet valve and sinuses*

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