

Medtronic

# Elevating mitral repair

Designed  
like no  
other



**SimuForm™** Semi-rigid Ring

# Dynamic shape matters

SimuForm rings dynamically change shape from a flat "O" in diastole to a flexible, elevated saddle in systole. Physio™ II rings are saddle-shaped throughout the cardiac cycle.

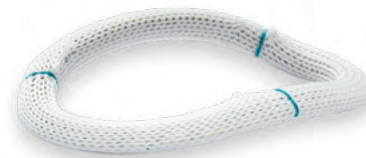
SimuForm semi-rigid rings provide posterior remodeling while offering a flexible saddle shape to accommodate anterior motion of the mitral valve.

In three different imaging studies, complete rings with a rigid anterior segment have been associated with restricted aortic annulus motion, disturbed aortic outflow patterns, and LVOT obstruction when compared to healthy mitral annuli or other annuloplasty platforms at mid-term follow-up.<sup>2-4</sup>



## **SimuForm Ring**

Dynamic semi-rigid saddle shape

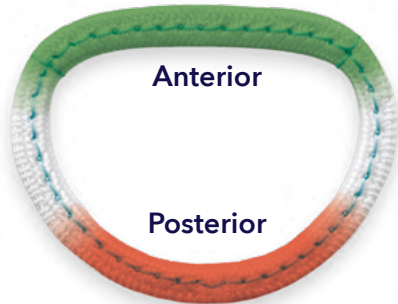


## **Physio II Ring**

Fixed semi-rigid saddle shape

# Different design – different results

Flexible

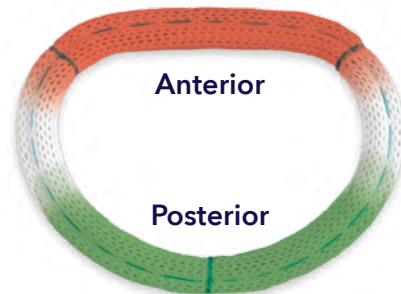


Posterior

Rigid

**SimuForm rings** provide posterior remodeling and accommodate anterior motion. The SimuForm platform has demonstrated high repair success rates, very low rates of reoperation, and reduced risk for systolic anterior motion (SAM) at mid-term follow-up.<sup>1</sup>

Rigid



Anterior

Posterior

Flexible

**Physio II rings** have a rigid saddle shape throughout the entire cardiac cycle. Unlike SimuForm, they do not have a flexible anterior segment, which was designed to reduce the risk of systolic anterior motion (SAM).<sup>1</sup>

## References

- <sup>1</sup> Lange R. First mid-term clinical evidence on physiological Simulus annuloplasty ring. Presented at EACTS 2021 annual meeting. Mean follow-up  $2.4 \pm 1.4$  years.
- <sup>2</sup> Morichi H, Itatani K, Yamazaki S, et al. Influences of mitral annuloplasty on left ventricular flow dynamics assessed with 3-dimensional cine phase-contrast flow magnetic resonance imaging. J Thorac Cardiovasc Surg. March 2022;163(3):947-959.
- <sup>3</sup> Caimmi PP, Diterlizzi M, Grossini E, et al. Impact of prosthetic mitral rings on aortomitral apparatus function: a cardiac magnetic resonance imaging study. Ann Thorac Surg. September 2009;88(3):740-744.
- <sup>4</sup> Nishi H, Toda K, Miyagawa S, et al. Annular dynamics after mitral valve repair with different prosthetic rings: A real-time three-dimensional transesophageal echocardiography study. Surg Today. September 2016;46(9):1083-1090.

This material should not be considered the exclusive source of information, it does not replace or supersede information contained in the device manual(s).

Please note that the intended use of a product may vary depending on geographical approvals.

See the device manual(s) for detailed information regarding the intended use, the (implant) procedure, indications, contraindications, warnings, precautions, and potential adverse events.

For a MRI compatible device(s), consult the MRI information in the device manual(s) before performing a MRI.

If a device is eligible for eIFU usage, instructions for use can be found at Medtronic's website manuals.medtronic.com.

Manuals can be viewed using a current version of any major internet browser. For best results, use Adobe Acrobat® Reader with the browser.

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