



Supports natural
annular motion

SimuPlus™ Band

SimuPlus annuloplasty band

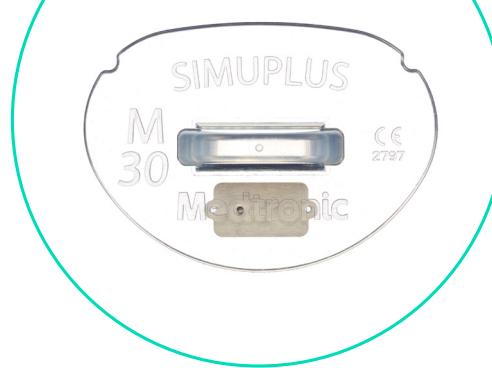


Enables physiologic motion

- Stabilizes the annulus without the use of rigidity
- Supports the posterior and anterior portions of the annulus when flexibility is needed

Permits firm trigonal anchoring

- The band is sized to the trigones and provides complete posterior support around the annular circumference
- Supports the posterior circumferential portion of the annulus



Ease of implant

Braided polyester material

- Resists stretching and reduces crimping¹
- Enables low-resistance, smooth needle penetration along entire width of band

Highly visible markers

- Assist in precise suture placement and positioning of the device with the trigone and midline posterior markers

Various sizes

- SimuPlus bands are available in sizes 26-42 mm to accommodate varying procedural needs

Silicone sizers

- Help facilitate minimally invasive and robotic procedures

Restoring natural annular physiology



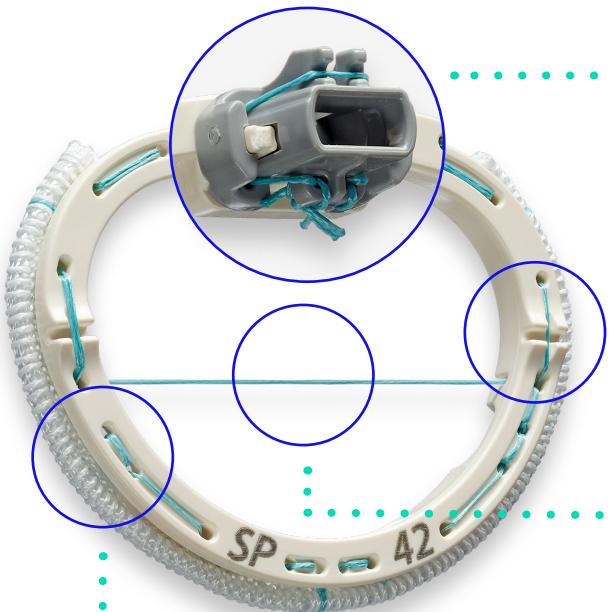
Results from a single-center, prospective study including 32 patients with degenerative mitral regurgitation undergoing mitral valve repair with SimuPlus band platform show²:

- A **more physiological annular saddle shape** and mobility was reinstated post-op
- **Annular dilation was significantly reduced** post-op and similar to 20 patients with no valvular heart disease
- **Similar post-operative annulus geometry compared to patients with no valvular heart disease**
- Annuloplasty with the positioning of a flexible band (SimuPlus band) restored normal annulus geometry by **reducing the annular dimensional parameters** and by normalizing the sphericity index, **significantly improving the leaflet coaptation**.

	Pre-op (n = 32) Mean, SD	Post-op (n = 32) Mean, SD	P-value
Annulus area 2-D (cm ²)	13.3 ± 3.18	6.56 ± 1.37	0.001
Annulus area 3-D (cm ³)	14.6 ± 3.2	7.5 ± 1.7	0.001
Annulus perimeter (cm)	13.74 ± 1.6	9.83 ± 1.13	0.001
AP diameter (cm)	3.56 ± 0.43	2.33 ± 0.36	0.001
PM/AL diameter	4.50 ± 0.56	3.29 ± 0.47	0.001
Intertrigonal distance (cm)	2.99 ± 0.62	2.08 ± 0.54	0.001
Sphericity index (cm/cm)	0.84 ± 0.1	0.70 ± 0.14	0.001
IC diameter (cm)	4.4 ± 0.52	3.31 ± 0.44	0.001
Annulus height (mm)	8.3 ± 2.4	6.06 ± 1.63	0.001
AHCWR (%)	16.3 ± 3.4	17.8 ± 4.1	0.35
Nonplanar angle (°)	143 ± 11.4	137.4 ± 8.8	0.033
Mitral annular excursion (mm)	6.9 ± 2.8	4.9 ± 2.3	0.002
Mitral annular max velocity (mm/s)	40.21 ± 20.28	36.98 ± 17.43	0.41
Mitral-aortic angle (°)	123.37 ± 11.48	120.84 ± 8.2	0.186
Anterior leaflet length (cm)	2.25 ± 0.35	2.03 ± 0.34	0.06
Posterior leaflet length (cm)	2.12 ± 0.53	1.51 ± 0.85	0.001
Posterior leaflet length area (cm ²)	9 ± 2.5	4.37 ± 1.42	0.001
Anterior leaflet area (cm ²)	7.22 ± 1.49	5.1 ± 1.31	0.001
Tenting height (cm)	0.46 ± 0.27	0.77 ± 0.30	0.001
Tenting area (cm ²)	1.39 ± 0.6	0.98 ± 0.32	0.001

Abbreviations: AHCWR, annular height to the commissural width; AL, antero-lateral; AP, anteroposterior; PM, postero-medial; IC, inter-commissural

Accessory enhancements



Stable handle-to-holder connection

Allows for low-force, single-cut release, and remains securely attached during suturing



Clearly marked cut towers

Easily identify the two cut towers on the holder, which enables quick release of the band



Visual chordal reference line

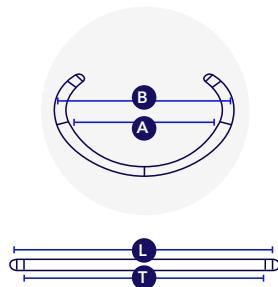
Provides visual reference of annular plane when performing chordal repair

Low profile, open holder

- Place sutures along the entire flexible band while fully accessing anatomy

Ordering information

Order Number	Components and accessories
T7700P	SimuPlus Polysulfone Sizer Tray
T7700F	SimuPlus Flexible Silicone Sizer Tray
7700PS	Set of 9 SimuPlus Polysulfone Sizers
7700FS	Set of 9 Silicone SimuPlus Sizers
	Annuloplasty Handles in Assorted Lengths
7686	Annuloplasty handle (216 mm length)
7686L	Annuloplasty handle (254 mm length)
7686XL	Annuloplasty handle (373 mm length)



A: Inner band diameter
B: Outer band diameter
T: Band trigone to trigone straight length
L: Band total straight length

Product information

Size (mm)	Product codes	"A" (mm)	"B" (mm) with 3 mm band	Inter trigonal length (mm)	Total band length (mm)
26	7700FB26	26	32	53	59
28	7700FB28	28	34	57	63
30	7700FB30	30	36	61	67
32	7700FB32	32	38	65	73
34	7700FB34	34	40	69	77
36	7700FB36	36	42	73	81
38	7700FB38	38	44	77	85
40	7700FB40	40	46	81.3	89.3
42	7700FB42	42	48	85	93

SimuPlus™
Sizers Silicone Tray



References

¹ Cheng W, Fontana GP, De Robertis MA, et al. Is robotic mitral valve repair a reproducible approach? *J Thorac Cardiovasc Surg.* March 2010;139(3):628-633.

² Pingitore A, Polizzi V, Cardillo I, et al. 3D mitral annulus echocardiography assessment in patients affected by degenerative mitral regurgitation who underwent mitral valve repair with flexible band. *J Card Surg.* December 2022;37(12):4269-4277.

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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