



# PERCEVAL<sup>TM</sup> PLUS

AORTIC PERICARDIAL  
HEART VALVE

The optimal mix



 **CORCYM**  
WE TAKE LIFE TO HEART



## PERCEVAL™ PLUS

**An ideal solution for minimally invasive surgery, makes sutureless aortic<sup>1</sup> valve replacement available to a wide patient population<sup>\*2</sup>**



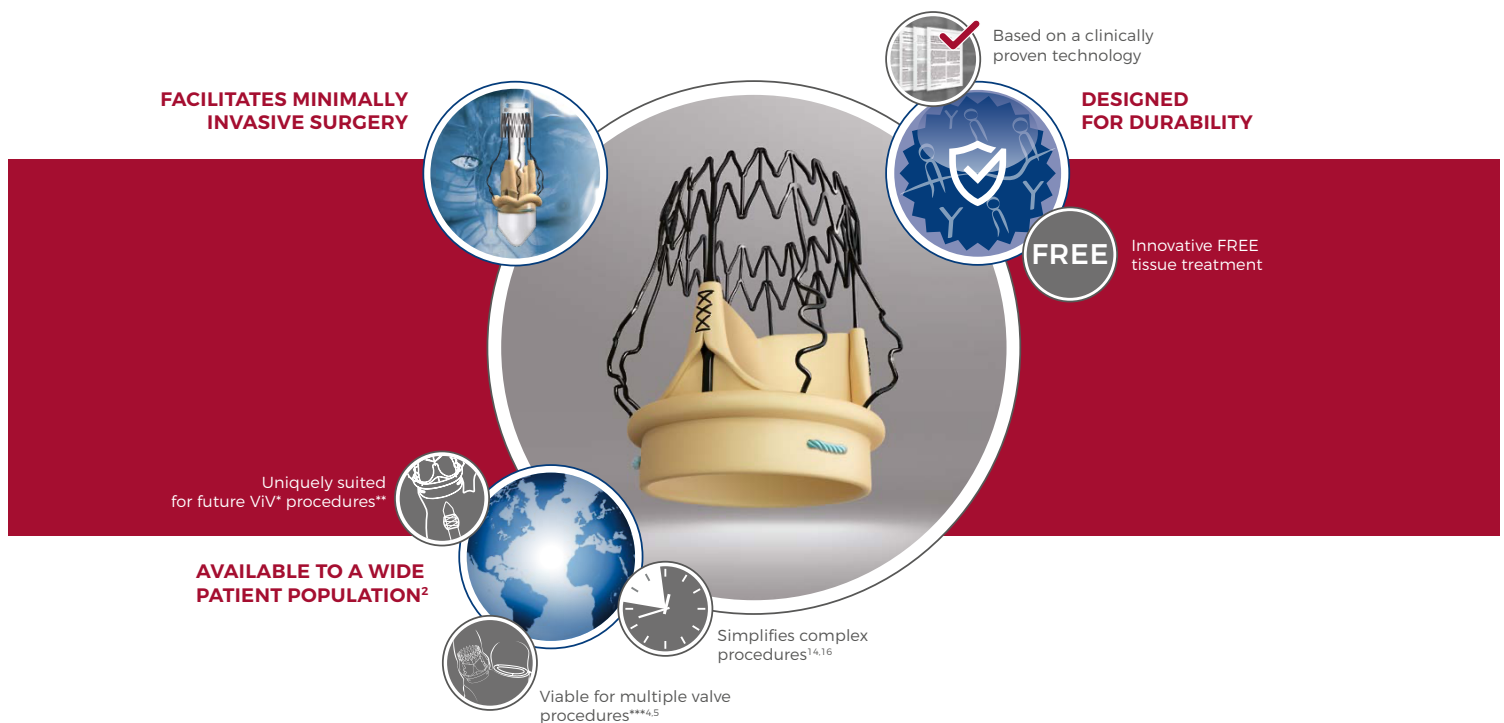
**PERCEVAL™ IS A TRUSTED PLATFORM THAT HAS ACHIEVED THE FOLLOWING MILESTONES:**

- First-in-human performed in 2007
- More than 11 years of successful clinical use<sup>3</sup>
- Solid clinical evidence
- Truly global reach

\* The Perceval Plus is an improvement of the proven Perceval technology. Perceval clinical data can be used as reference for Perceval Plus.



## THE OPTIMAL MIX - Unique Valve Design



\* Valve-in-Valve.

\*\* The decision to make a transcatheter aortic valve implantation in Perceval Plus compared to other options should be done by the Heart team based on individual assessment of the patient's conditions. The safety and efficacy of Valve-in-Valve procedures in a Perceval Plus valve have not been established. Valve-in-Valve procedures in a Perceval Plus valve should be performed according to indications provided by the transcatheter valve manufacturer.

\*\*\* The decision of using Perceval in patients should be based on a careful individual assessment and limited to cases in which the benefits of using Perceval justify the risks.

The available clinical data indicate that using Perceval in patients with other prostheses may result in intraoperative valve misplacement or insufficient leaflet coaptation leading to valve replacement, due to possible interference with the other prostheses.



## Unique Valve Design

**THE PERCEVAL VALVE DESIGN HAS A LONG CLINICAL HERITAGE.** Its proven double-sheet design has been used to manufacture biological prostheses since 1985, while the super elastic stent provides unique characteristics and mechanical behavior. With Perceval Plus, the valve is enhanced with a reduced ventricular protrusion feature, designed to further improve patient outcomes.

### PERCEVAL HERITAGE

#### DOUBLE SHEET DESIGN

An outer sheet acts as a cushion to minimize the stress transferred to the leaflets

#### CARBOFILM™ COATING

Reduces inflammatory reaction favoring a gentle endothelialization<sup>7</sup>

#### SUPER ELASTIC STENT

Reduces the stress transferred to the leaflets<sup>6</sup>

### Exclusive to PERCEVAL PLUS

#### Reduced valve ventricular protrusion

The reduction of the protrusion of the valve below the aortic annulus is expected to decrease the risk of impairment of the atrio-ventricular conduction system.



## Facilitates Minimally Invasive Surgery

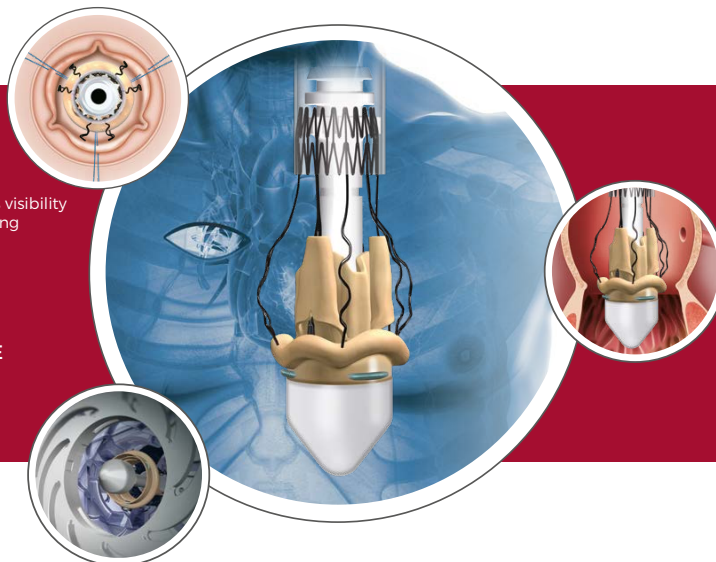
**THE ATRAUMATIC COLLAPSING DOES NOT IMPAIR LEAFLET FUNCTIONALITY,<sup>8</sup> PREVENTING POSSIBLE DAMAGE TO THE TISSUE.<sup>2</sup>** When collapsed, the valve allows the surgeon better visibility of the annulus and the anatomical structures during implantation and deployment, for greater confidence and faster, more precise positioning at the implantation site.<sup>1</sup>

### COLLAPSED PRIOR TO IMPLANTATION

Collapsible design allows visibility of critical structures during implantation<sup>1</sup>

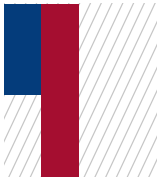
### ATRAUMATIC VALVE COLLAPSING

Does not impair leaflet functionality<sup>8</sup>



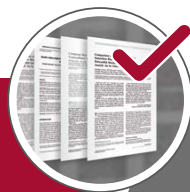
### MAXIMIZED VISIBILITY DURING IMPLANTATION<sup>4</sup>

Faster, more precise positioning<sup>1</sup>



## Designed for Durability

**BASED ON A CLINICALLY PROVEN TECHNOLOGY.** Perceval Plus is based on the trusted Perceval platform supported by more than 11 years of clinical experience that demonstrates excellent results in terms of durability.<sup>3</sup>



0.21%  
SVD  
at 11 years<sup>3</sup>



**INNOVATIVE FREE TISSUE TREATMENT.** The innovative FREE tissue treatment in Perceval Plus<sup>®</sup> addresses both major causes of valve calcification, phospholipids and aldehydes.<sup>9</sup> The technology also allows the valve to be stored in an aldehyde-free solution, resulting in negligible toxicity for the patient and a faster procedure for the surgeon as no rinsing is required.<sup>9</sup>

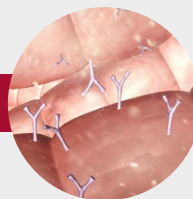
#### THE MAJOR CAUSES OF CALCIFICATION

Phospholipids and aldehydes contribute to calcification as they are calcium binding sites.<sup>10-14</sup>



##### PHOSPHOLIPIDS

Phospholipids are intrinsically present in biological tissue



##### ALDEHYDES

Aldehydes are a consequence of the fixation process

#### FREE ADDRESSES CALCIUM BINDING SITES<sup>15</sup>



##### PHOSPHOLIPIDS

During the manufacturing process phospholipids are dissolved and eliminated<sup>15</sup>



##### ALDEHYDES

Aldehydes are also "capped" and neutralized during manufacturing<sup>15</sup>

#### SUPPORTING EVIDENCE FOR THE FREE TISSUE TREATMENT

**-96%**  
phospholipid content<sup>\*9</sup>

**NEGLIGIBLE**  
aldehyde content<sup>9</sup>

<sup>\*</sup> vs control group<sup>9</sup>



## Available to a Wide Patient Population

**PERCEVAL PLUS GIVES PATIENTS EVEN BROADER TREATMENT OPTIONS FOR THEIR FUTURE.** Its exclusive stent design allows even circumferential expansion to accommodate future transcatheter valves, making Perceval Plus a unique foundation for Valve-in-Valve procedures.\*

### VALVE-IN-VALVE

#### CLEAR LANDMARKS

The sinusoidal struts enable identification of clear landmarks which may help avoid coronary ostia obstruction

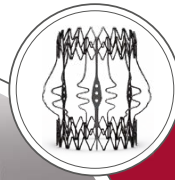
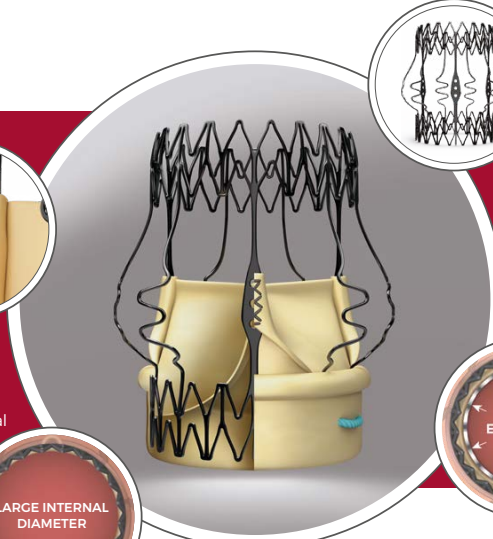


#### MORE CHOICE

Perceval Plus valves have a large internal diameter, providing more choice for future transcatheter valve selection



LARGE INTERNAL  
DIAMETER



#### CLEAR VISIBILITY

The nitinol stent provides clear visibility under fluoroscopy

#### EVEN CIRCUMFERENTIAL EXPANSION (at annulus level)

The inflow ring can be evenly and circumferentially expanded to accommodate transcatheter aortic valve placement



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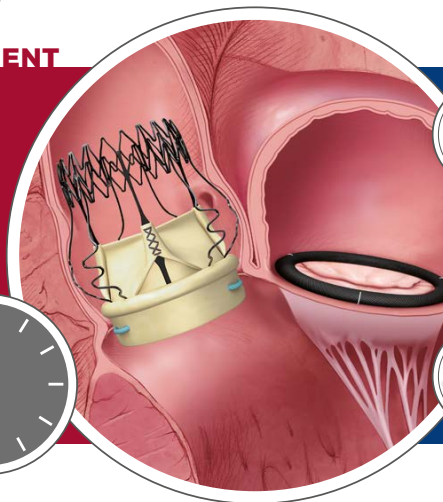
## Multiple Valve and Complex Procedures

**PERCEVAL PLUS: WHEN TIME REALLY MATTERS.** The unique characteristics of Perceval Plus make it an ideal choice in complex implantations<sup>5</sup> while extending the benefits to a wider patient population.\*\*  
Whether using an open or a minimally invasive cardiac surgery (MICS) approach, Perceval Plus enables a faster procedure and reduced cross-clamp time compared to traditional valve prostheses.<sup>5,16</sup>

### AORTIC VALVE REPLACEMENT

**25-60%**  
Faster procedures

vs traditional approaches  
Clinically significant reduction  
in cross-clamp time<sup>5,16</sup>



### MITRAL VALVE REPLACEMENT OR REPAIR



MITRAL REPAIR



TISSUE MITRAL  
REPLACEMENT



MECHANICAL MITRAL  
REPLACEMENT

Perceval Plus helps reduce complexity even in challenging and time consuming procedures, while maintaining good hemodynamic outcomes.<sup>4,5</sup>  
Perceval Plus is safe and effective, even in cases of concomitant cardiac procedures.\*\*<sup>4,5</sup>

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The available clinical data indicate that using Perceval in patients with other prostheses may result in intraoperative valve misplacement or insufficient leaflet coaptation leading to valve replacement, due to possible interference with the other prostheses.



## Providing a Professional Support Network for Surgeons

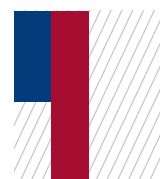
**CORCYM OFFERS A FULL RANGE OF TRAINING AND EDUCATION PROGRAMS FOR CARDIAC SURGEONS, AT ALL EXPERIENCE LEVELS TO SHARE BEST PRACTICES AND DEEPEN EXPERTISE.**

The Perceval proctorship is a unique opportunity to gain first-hand experience and exchange knowledge with a network of expert Perceval users.

Educational opportunities include: dry-labs, in-OR proctorship and lectures.

A number of online and offline training and educational resources are also available to support surgeons in each step of their experience with Perceval Plus.

**Visit our website for more details:**  
**[www.corcym.com](http://www.corcym.com)**



## PRODUCT ORDERING INFORMATION

| CODE   | DESCRIPTION           | USE        |
|--------|-----------------------|------------|
| PVF-S  | PERCEVAL PLUS size S  | Single use |
| PVF-M  | PERCEVAL PLUS size M  |            |
| PVF-L  | PERCEVAL PLUS size L  |            |
| PVF-XL | PERCEVAL PLUS size XL |            |



## ACCESSORIES ORDERING INFORMATION

| CODE     | DESCRIPTION   | USE        |
|----------|---|------------|
| ICV 1232 | Dual Collapser base S/M/L/XL  | Re-usable  |
| ICV 1219 | Sizer S/M/L/XL  | Re-usable  |
| 0218TS   | Inflation Device S/M/L/XL   | Single use |
| ICV1345  | ACCESSORY KIT<br>(Dual Collapser, Dual Holder,<br>MICS Post-dilation Catheter)              | S          |
| ICV1346  |   | M          |
| ICV1347  |   | L          |
| ICV1348  |   | XL         |
| ICV 1349 | MICS ACCESSORY KIT<br>(Dual Collapser, Dual MICS<br>Holder, MICS Post-dilation<br>Catheter) | S          |
| ICV 1350 |   | M          |
| ICV 1351 |   | L          |
| ICV 1352 |   | XL         |



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#### INTENDED USE/INDICATIONS

**EUROPE:** Perceval/Perceval Plus prosthesis is intended to replace a damaged native aortic heart valve or a malfunctioning aortic prosthesis via open heart surgery. The prosthesis is indicated for use in adult patients suffering from aortic valve stenosis or steno-insufficiency or with a previously implanted aortic valve prosthesis that is no longer functioning adequately and requires replacement. Physicians should give careful consideration to the use of this valve in patients less than 65 years of age, as sample size in clinical studies for this patient population is insufficient to demonstrate a clinical benefit.

**US:** The Perceval/Perceval Plus bioprosthesis is indicated for the replacement of diseased, damaged, or malfunctioning native or prosthetic aortic valves.

**CANADA:** The Perceval/Perceval Plus bioprosthesis is intended for use in patients aged  $\geq 65$  years in which the aortic valve pathology is in an advanced stage to require the replacement of the native or malfunctioning previously implanted prosthesis.

**AUSTRALIA:** Perceval prosthesis is indicated for the replacement of a diseased native or a malfunctioning prosthetic aortic valve via open heart surgery. The prosthesis is indicated in patients who meet the following criteria: 1) subjects of age  $\geq 65$  years 2) subjects with aortic valve stenosis or steno-insufficiency.

#### KEY CONTRAINDICATIONS

Aneurysmal dilation or dissection of the ascending aortic wall; known hypersensitivity to nickel or cobalt alloys; ratio between the sinotubular junction and the annulus diameter greater than 1.3.

#### KEY WARNINGS

Do not under or oversize the prosthesis. This could result, in possible migration, excessive compression/rupture of the aorta, suboptimal expansion or valve folding that may lead to fatal arrhythmia or hemorrhage, regurgitation or altered hemodynamics. Severe LVOT hypertrophy may prevent optimal expansion of the inflow portion of the stent.

#### TOP POTENTIAL SIDE EFFECTS

Potential adverse events associated with cardiac valve replacement with a bioprosthesis and the related surgical procedure include: bleeding, cardiac conduction disorders, endocarditis, heart failure, neurological events, non structural dysfunction, structural valve deterioration, thromboembolism.

#### MRI conditional

For professional use. Instructions for Use are available upon request through the manufacturer's website. Not approved in all geographies. Consult your labeling.



Manufactured by:

**Sorin Group Italia Srl**  
Via per Crescentino sn  
13040 Saluggia (VC) Italy  
Tel: +39 0161 487800

**LivaNova Canada Corp.**  
5005 North Fraser Way  
Burnaby, BC V5J 5M1 Canada  
Tel: +604 412-5650



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