

## Don't Miss the Next Webinar!

Mark your calendars!

The *next AVNeo webinar* is set to air in **January 2023!**

AVNeo & TAVR will be the topic of discussion between Dr. Markus Krane, Dr. Randy Martin, and a special guest.

## Join the AVNeo 2022 Survey!



## Are you interested in training for the AVNeo® procedure?


Training is fundamental for the AVNeo procedure. JOMDD is supported by a network of ten (10) proctors worldwide who are responsible for supporting cardiac surgeons through their learning journey.

We look forward to supporting all your training needs!

[training@jomdd.com](mailto:training@jomdd.com)

## What's New in Research – New AVNeo® Meta-Analysis

### Aortic Valve Neocuspidization Using the Ozaki Technique: A Meta-analysis of Reconstructed Patient-level Data

Study population	Long-term hemodynamics	At a mean follow up of 38.1 ± 23.8 months
1,891 adult and pediatric patients	Mean effective orifice = 2.08 ± 0.5cm <sup>2</sup> /m <sup>2</sup>	1.91% (95% CI 0.19–4.72) <i>Late mortality</i>
	Peak gradient = 15.7 ± 7.4 mmHg	96.7% (95% CI 94.0 - 98.7) <i>Freedom from reintervention</i>
<b>Procedure</b> Aortic valve neocuspidization using the Ozaki technique	Moderate aortic insufficiency = 0.25%	

Mylonas et al. (2022) conducted a systematic review analyzing 1,891 patients from 22 studies (7 publications on pediatric patients). Mean age = 65 years in adults and 12 years in pediatrics.

#### AVNeo offers several benefits:

- preserves the natural expansion of the aortic root during systole
- does not require implanting any fixed ring
- achieves maximum effective orifice area
- results low transvalvular gradients
- uses autologous pericardium
- long-term anticoagulation is not required
- applicable to the full spectrum of aortic valve pathology
- ideal for small aortic annulus
- reduces risk of PPM and complex aortic procedures

#### AVNeo results in excellent hemodynamic results:

- indexed EOA comparable to native, non-diseased aortic valves.
- AVNeo outperformed commercially available bioprosthesis
  - AVNeo = 2.1 ± 0.5cm<sup>2</sup>/m<sup>2</sup>
  - Magana ease = 1.1-1.1cm<sup>2</sup>/m<sup>2</sup>
  - Freestyle (stentless bioprosthesis) = 0.9-1.0cm<sup>2</sup>/m<sup>2</sup>
- Freedom from Reoperation
  - Adults = 96.7% (mean f/u = 38 mo. (max = 9.8 years))
  - Pediatrics, = 91.3% (mean f/u = 13.9 months)
- no reported cases of severe AI
- late mortality <2%
- endocarditis risk = 0.5%/patient year
- PPI (Permanent Pacemaker Implantation) = 0.7% (compared to 6% of the general AVR population or 20-50% with aortic root enlargement)

*Mylonas et al. purport that although all bioprosthesis will be prone to degeneration, the onset of critical stenosis may be delayed in AVNeo due to physiologic EOA which is exciting for young active patients who will benefit from low transvalvular gradients and individuals who wish to remain free of anticoagulation (such as women of childbearing age).*

Mylonas KS, Tasoudis PT, Pavlopoulos D, Kanakis M, Stavridis GT, Avgerinos DV. Aortic valve neocuspidization using the Ozaki technique: A meta-analysis of reconstructed patient-level data [published online ahead of print, 2022 Sep 14]. *American Heart Journal.* 2022;255:1-11. doi:10.1016/j.ahj.2022.09.003



Dr. Markus Krane is an adult cardiovascular surgeon and currently serves as the Associate Professor of Surgery, the Division of Cardiac Surgery at Yale and the Director of the Aortic Valve Reconstruction. Dr. Krane received his training at The German Heart Center Munich and worked as a Consultant in Cardiac Surgery after he received his board certification in 2015. Dr. Krane became the Deputy Director of the Department of Cardiovascular Surgery at the German Heart Center Munich in 2016 and the Head of the

Institute for Translational Cardiac Surgery at the German Heart Center Munich in 2017.

With more than 170 procedures, he is one of the world's most experienced cardiac surgeons in performing the AVNeo procedure for the treatment of aortic valve disease, using autologous pericardium.

JOMDD offers training courses worldwide, so please let us know if you need assistance.



*Dr. Markus Krane  
Yale University  
New Haven, CT, USA*

### *Upcoming 2022 2-Day AVNeo Training Courses*

Training Dates - Location - Course Director

November 21<sup>st</sup> & 22<sup>nd</sup> - Modena, Italy - Dr. Albertini

November 28<sup>th</sup> - Harrisburg, PA - Dr. Mumtaz

December 12<sup>th</sup> & 13<sup>th</sup> - Modena, Italy - Dr. Albertini

December TBD - New Haven, CT, USA —Dr. Krane

December/January TBD— Pittsburgh, PA, USA – Dr. Chu

Contact [training@jomdd.com](mailto:training@jomdd.com) to reserve your spot