

# EUROVALVE

CROWNE PLAZA LINATE



**MILAN**  
**SEPTEMBER**  
**21 & 22, 2023**



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# Phenotyping/Staging MR: Beyond prognosis

Dr. Lukas Stolz

Medizinische Klinik und Poliklinik I, Ludwig-Maximilians Universität München

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## FACULTY DISCLOSURE

Dr. Lukas Stolz received speaker honoraria from Edwards Lifesciences

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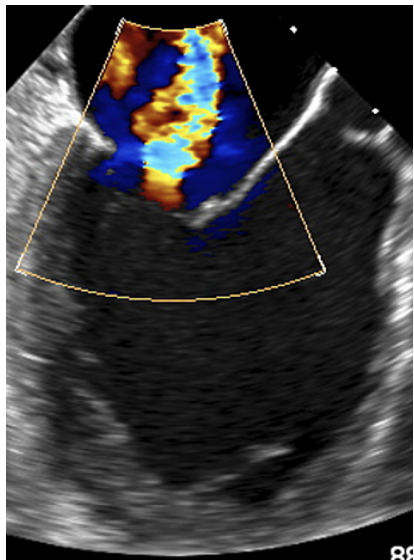
## AGENDA

1. COAPT vs. MITRA-FR - who profits most from M-TEER?
2. Stages of ventricular SMR according to extramitral cardiac damage
3. The SMR proportionality concept
4. Individual risk prediction: Beyond phenotyping

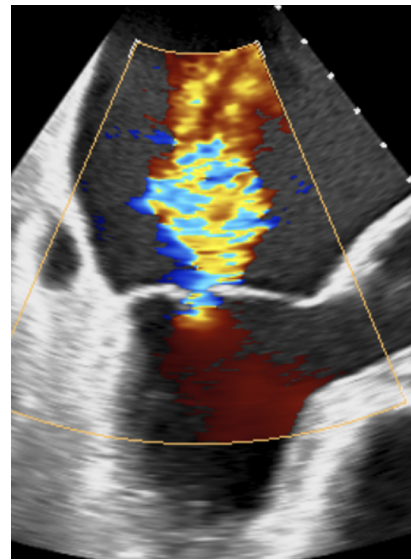
# Mitral regurgitation - more than one disease

## Secondary mitral regurgitation

### Ventricular SMR

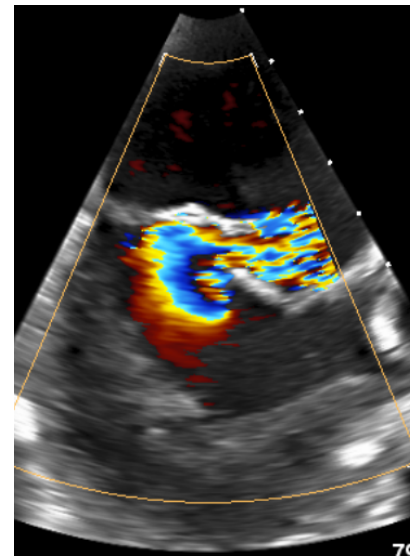


### Atrial SMR

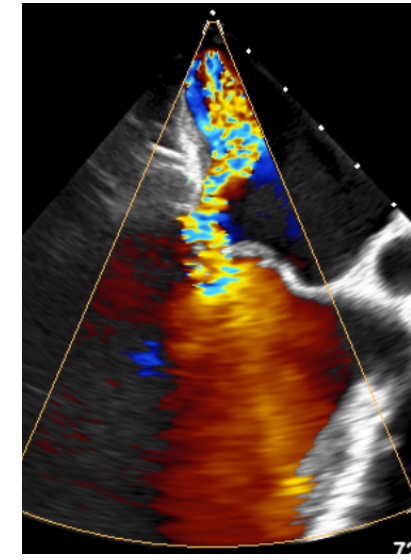


## Primary mitral regurgitation

### PMR – Flail



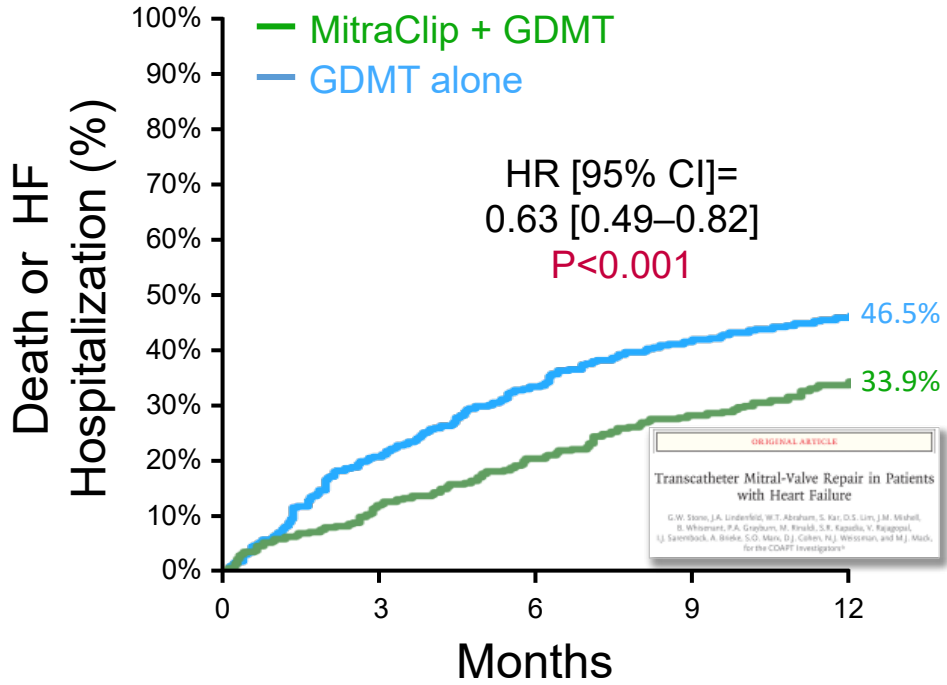
### PMR – Prolaps



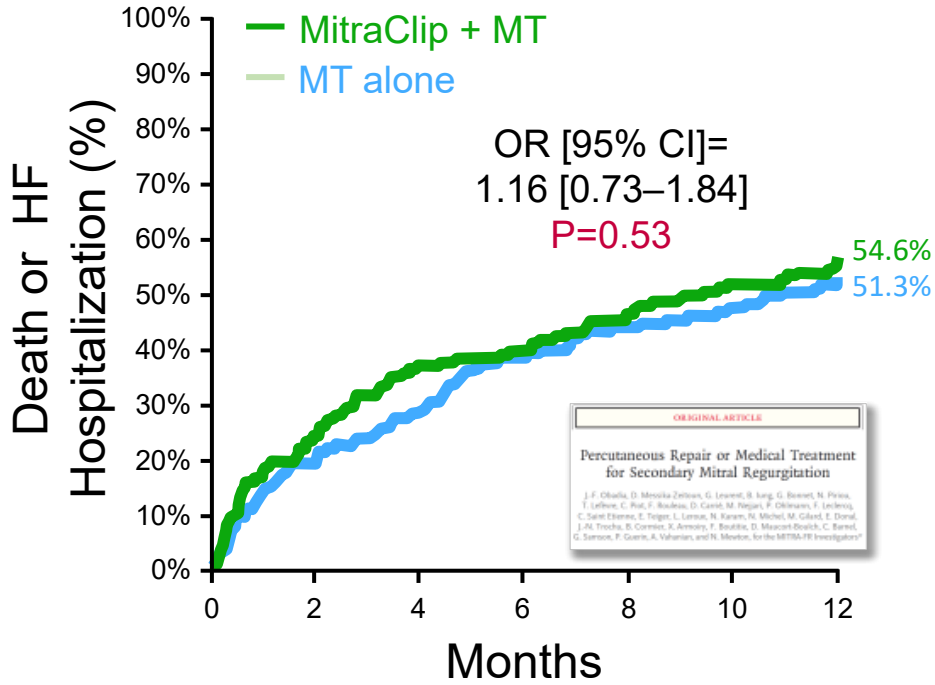
# Ventricular Secondary mitral regurgitation

## - Two large M-TEER trials -

**COAPT**



**MITRA-FR**



# Ventricular Secondary mitral regurgitation - Two large M-TEER trials -

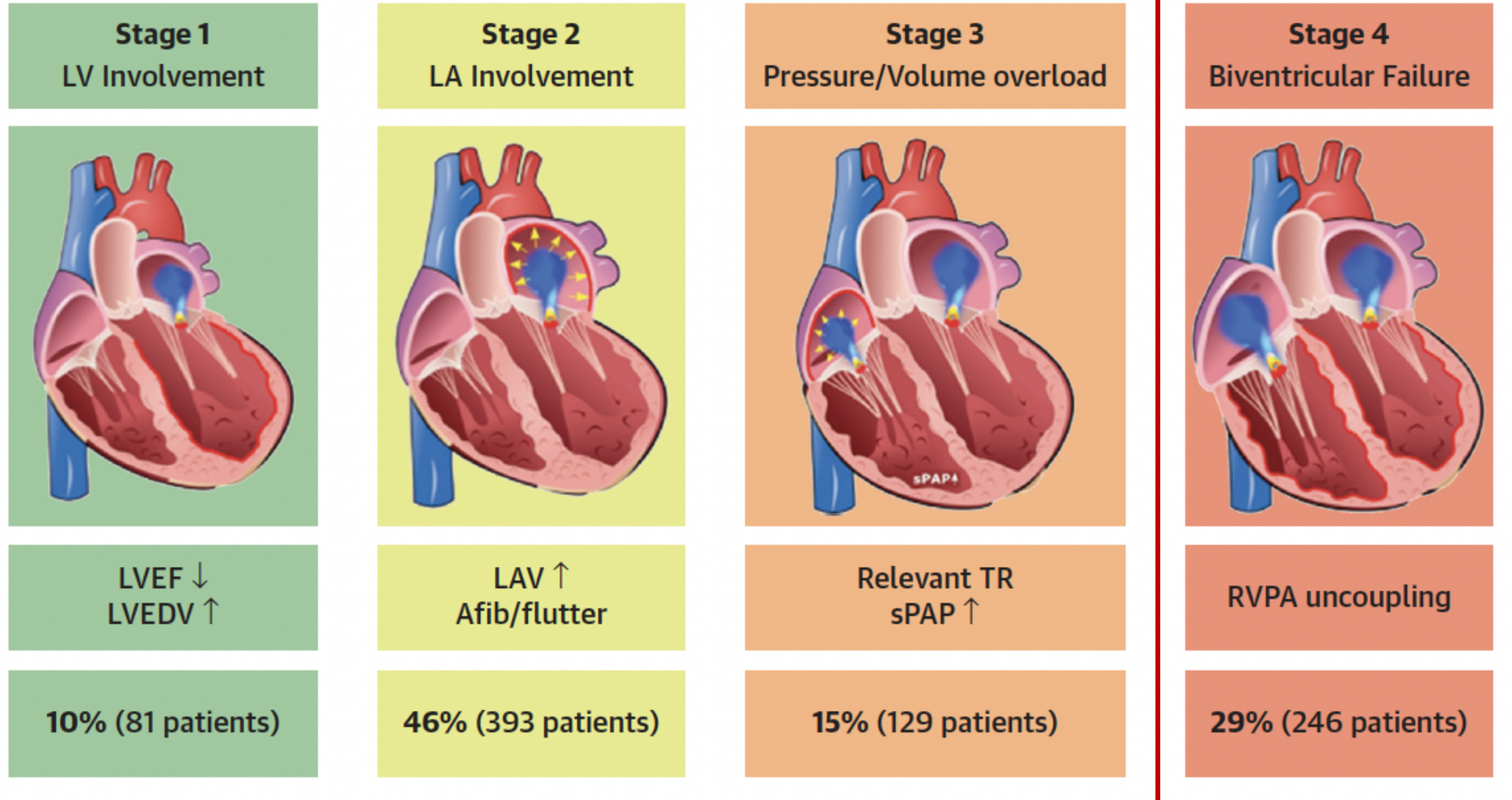
	COAPT (n=614)	MITRA-FR (n=304)
EROA, mm <sup>2</sup>	41 ± 15	31 ± 10
LVEDV, ml/m <sup>2</sup>	101 ± 34	135 ± 35

**LV dilation in MITRA-FR is not representative of  
current US and EU practice!**



**What about biventricular failure?**

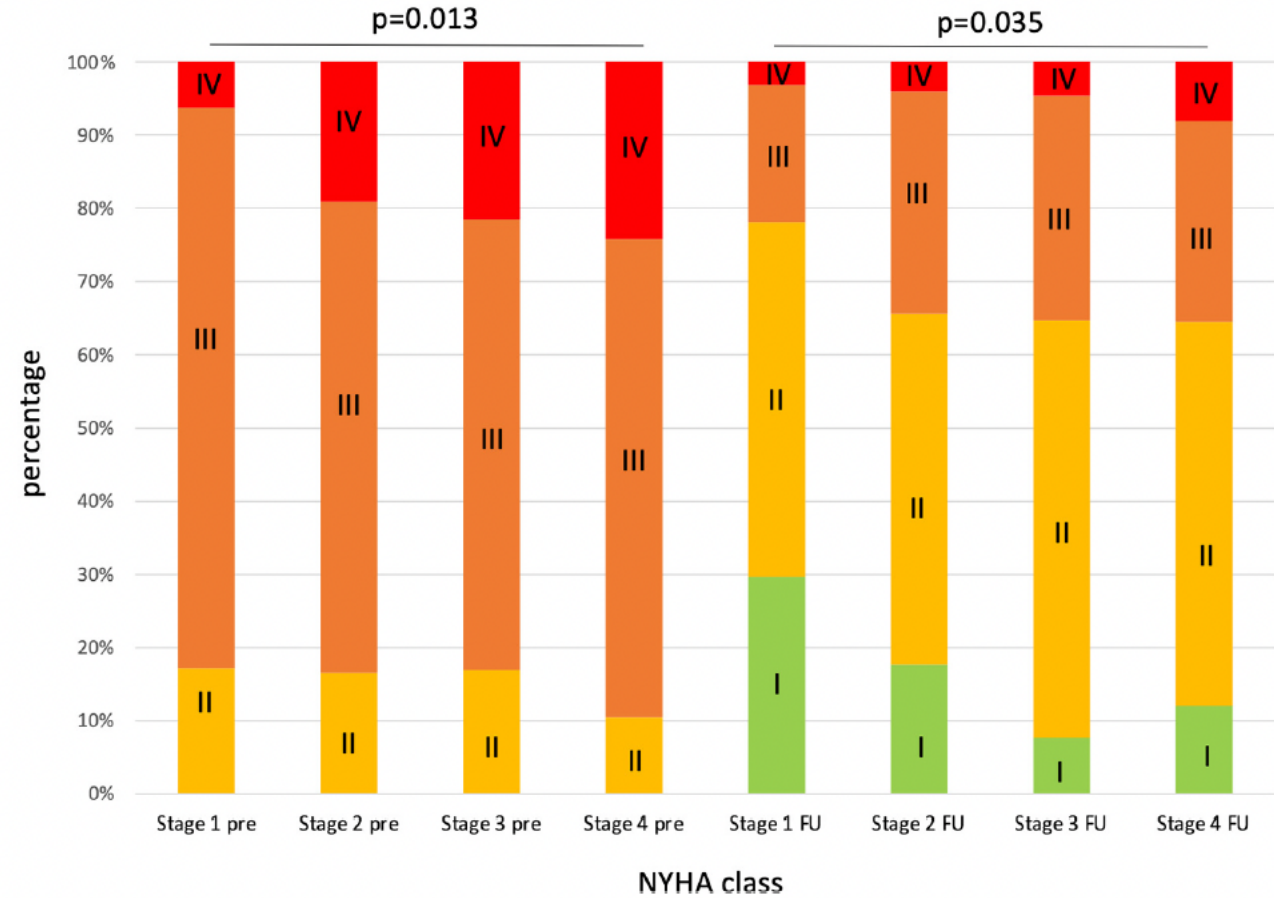
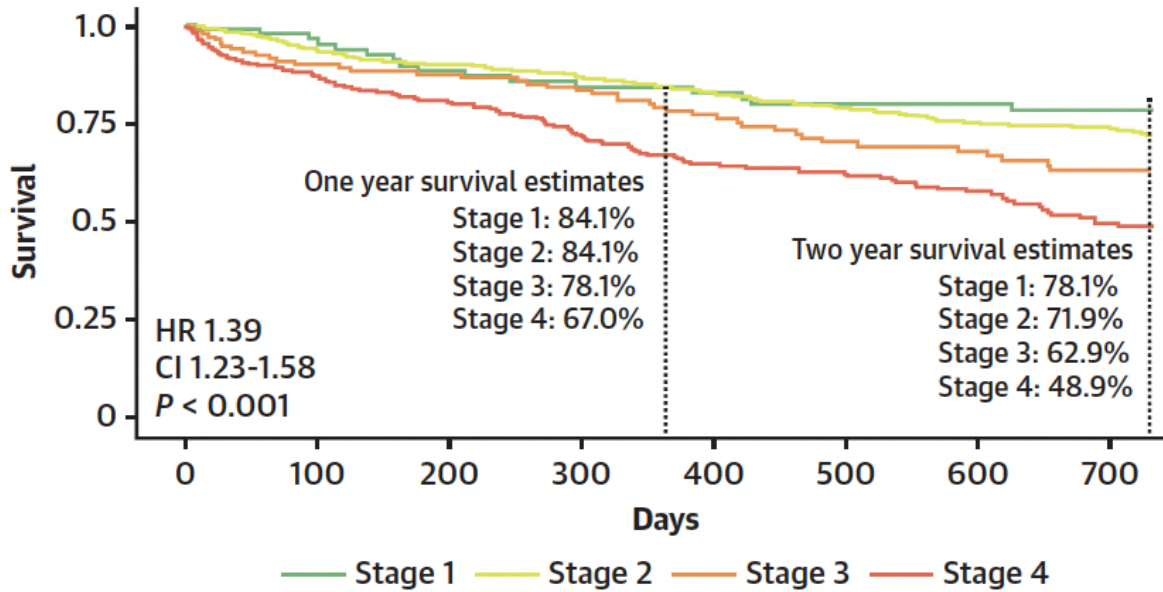
# RV failure: A sign of end-stage SMR?



Stolz et al., JACC Interventions 2023



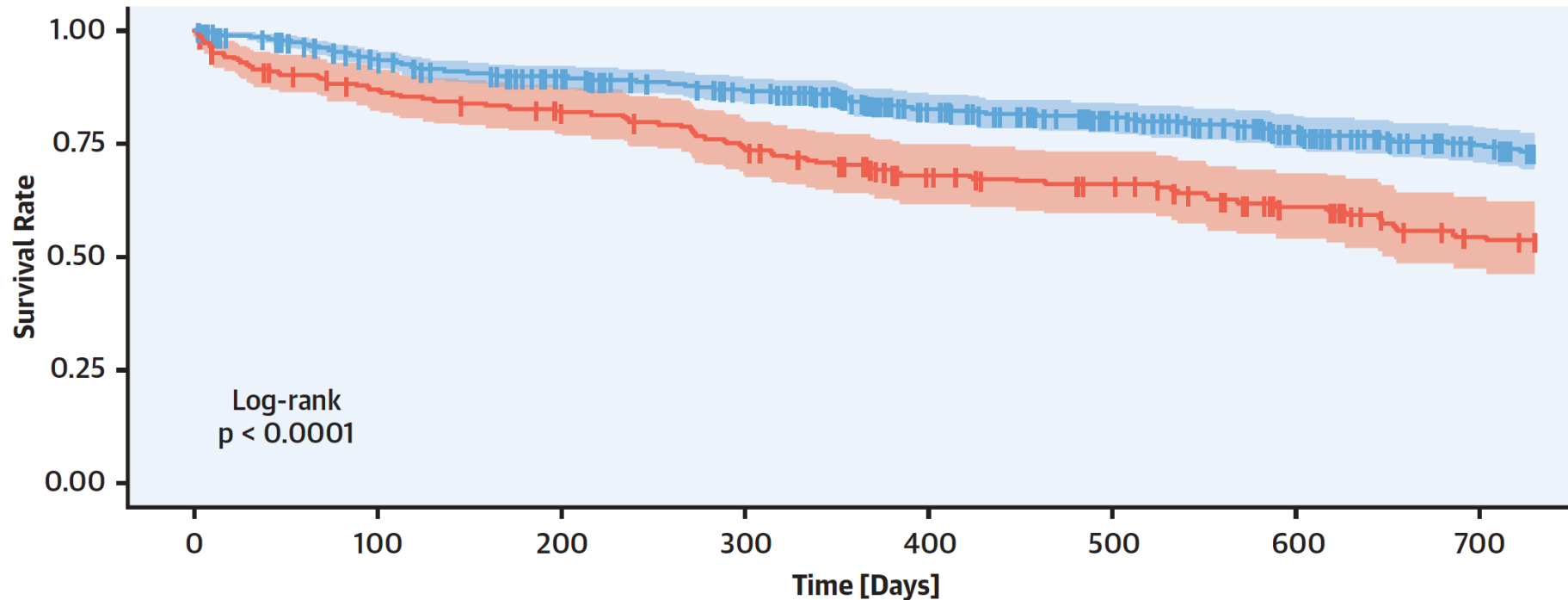
# RV failure: A sign of end-stage SMR?



Stolz et al., JACC Interventions 2023

# Ventricular Secondary mitral regurgitation - What about RV (dys)function -

**CENTRAL ILLUSTRATION** Kaplan-Meier Curve for Survival-Free According to RV-PA Coupling

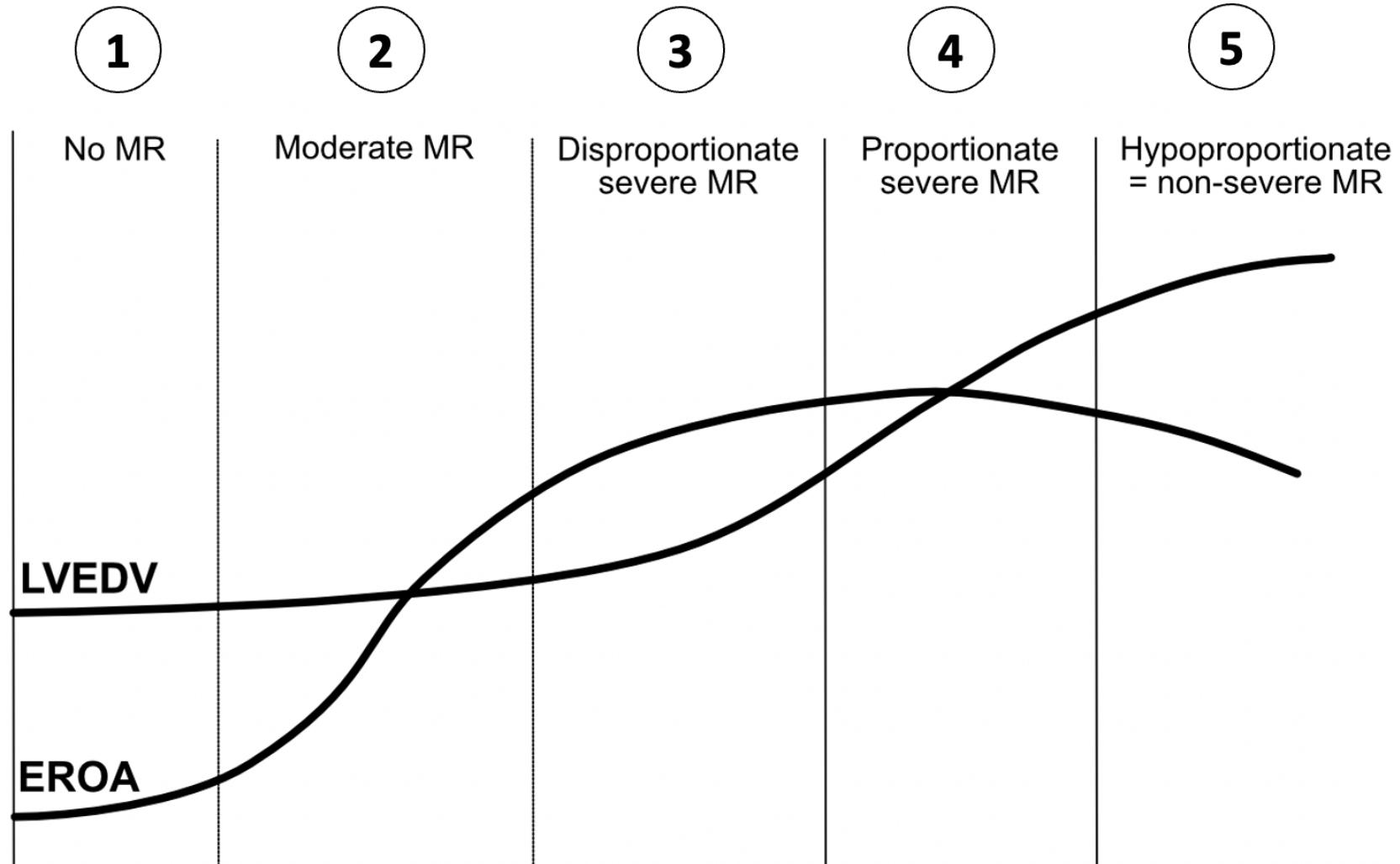


Number at risk: n (%)

+	Normal Coupling	606 (100)	541 (89)	496 (82)	460 (76)	372 (61)	330 (54)	284 (47)	242 (40)
+	Impaired Coupling	209 (100)	172 (82)	160 (77)	143 (68)	109 (52)	97 (46)	75 (36)	57 (27)

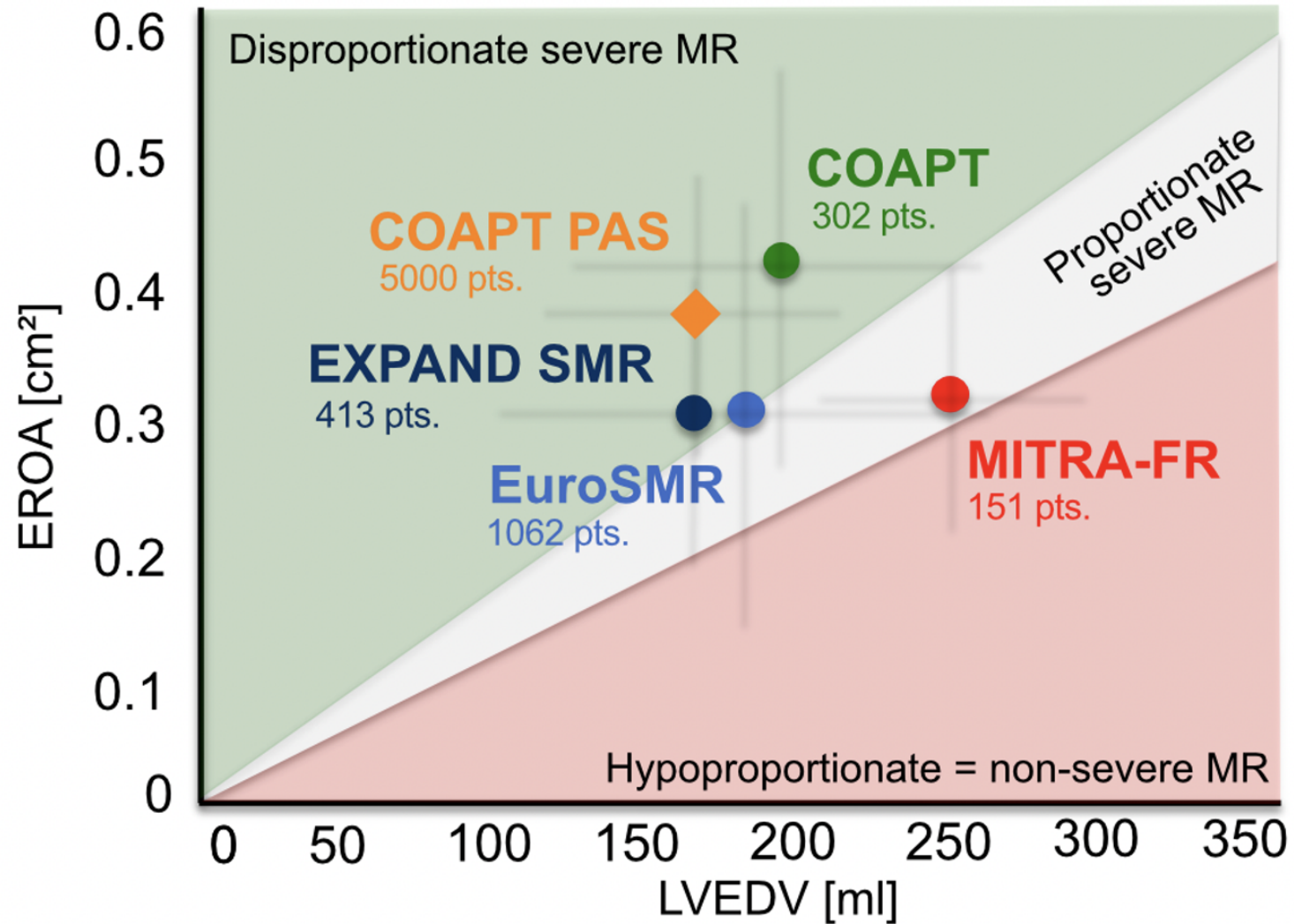
Karam et al.– JACC Imaging 2021

# Ventricular Secondary mitral regurgitation - Proportionality of MR and LV Dilation -



Stolz, Hausleiter, Grayburn et al. – unpublished data

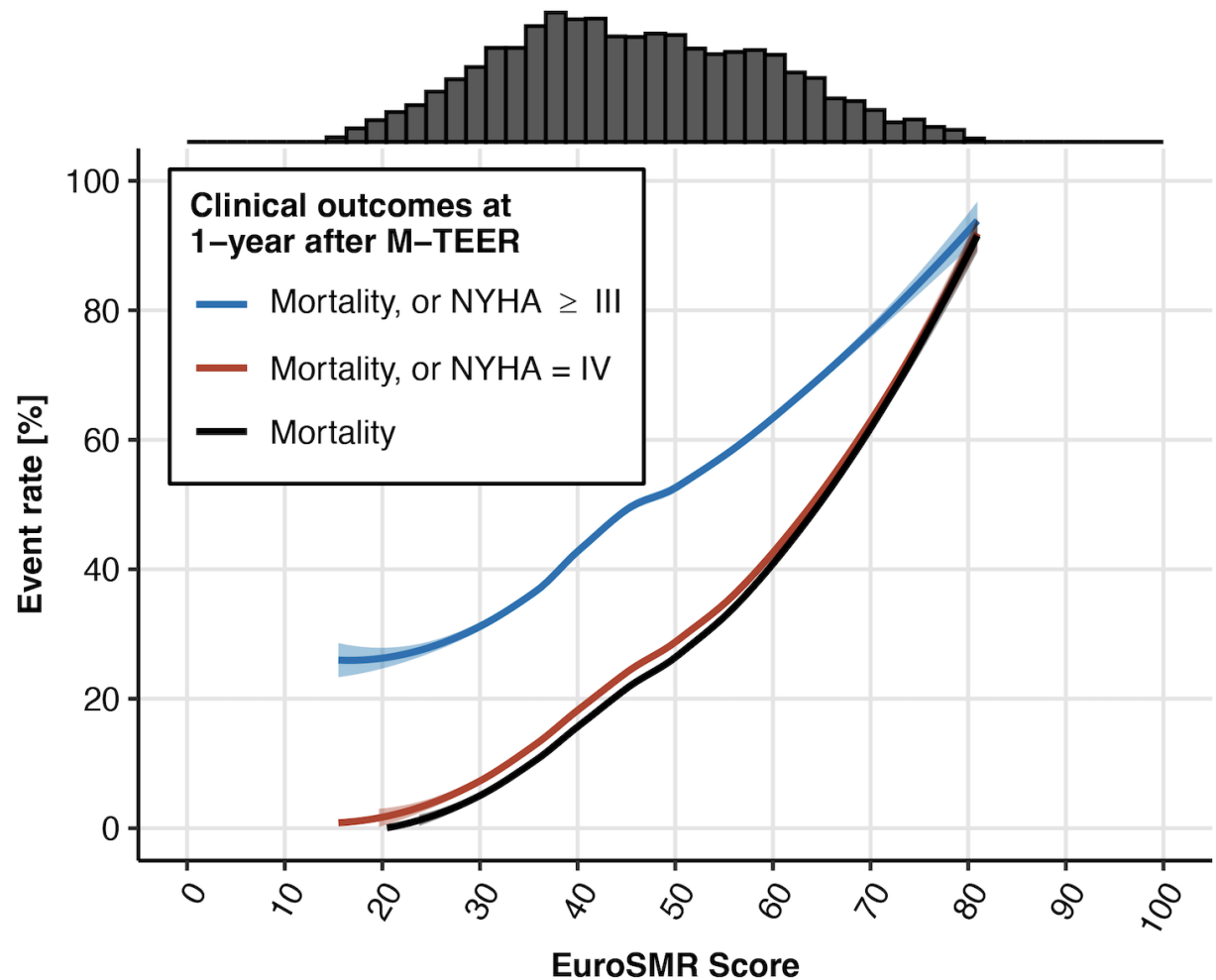
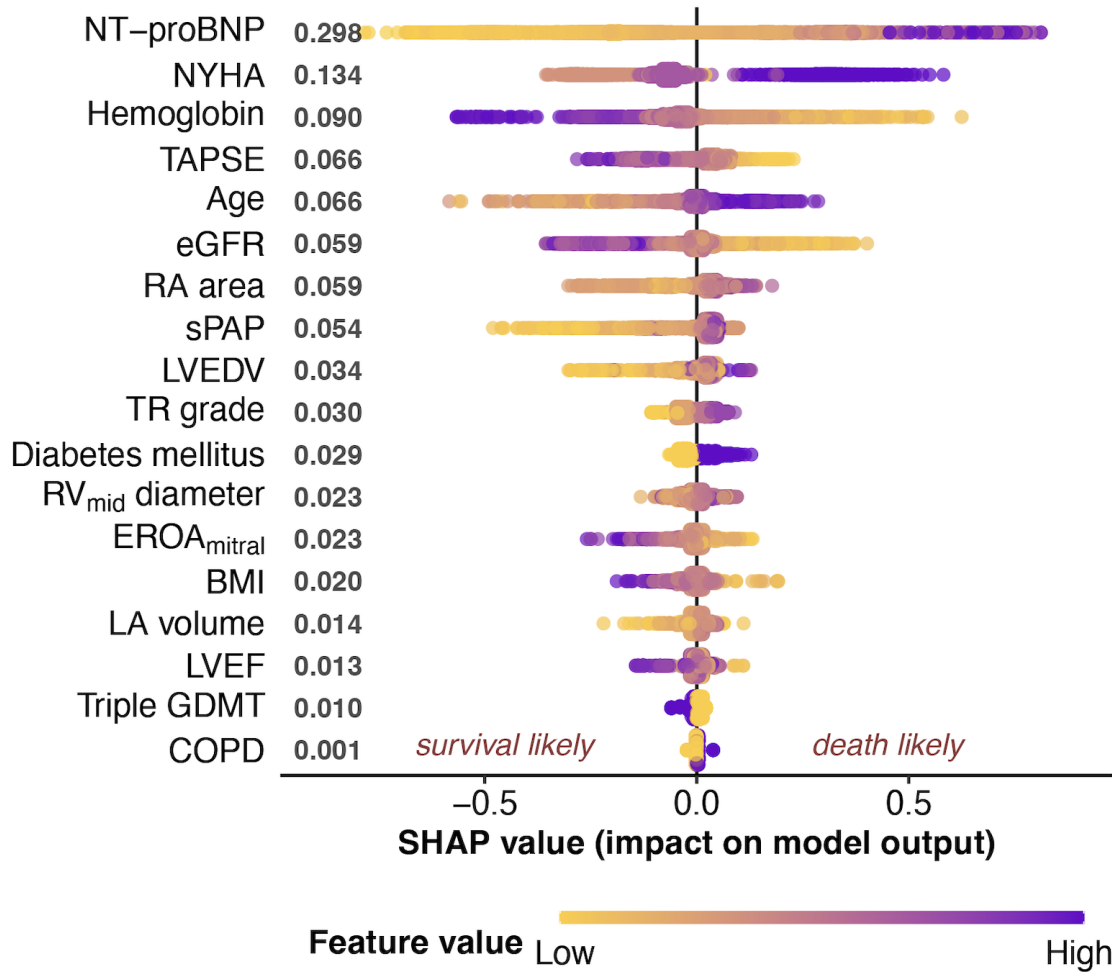
# Ventricular Secondary mitral regurgitation - Proportionality of MR and LV Dilation -



Stolz, Hausleiter, Grayburn – unpublished data

# Individual risk prediction: Beyond phenotyping

## - The EuroSMR Score -



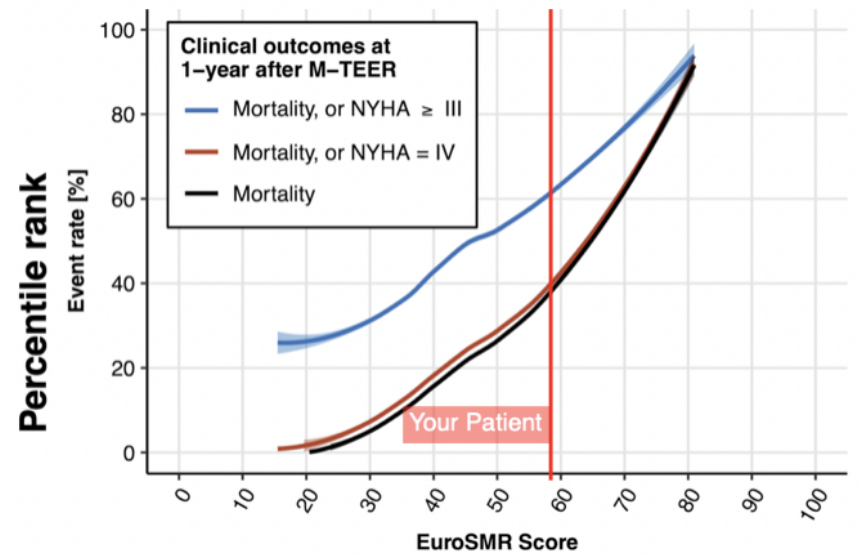
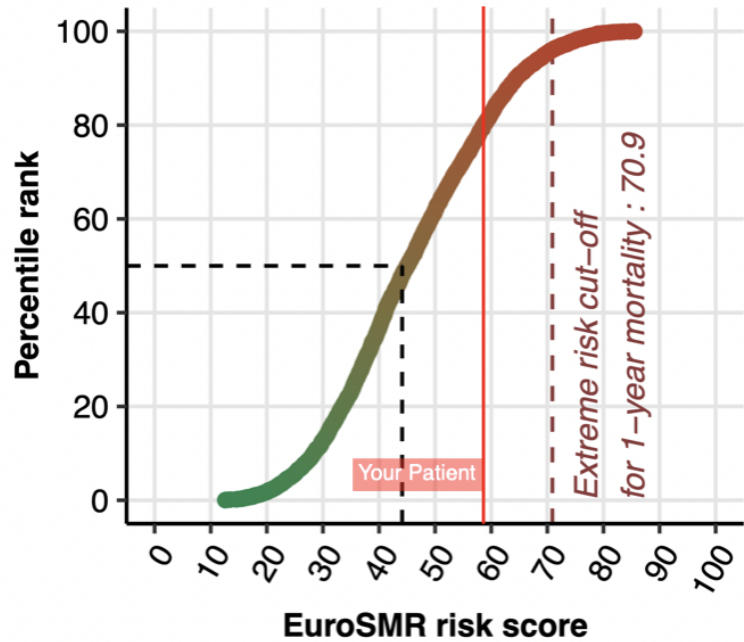
# The EuroSMR Score: Online Calculator

## SCORE Widget

Age [years]	<input type="range" value="77"/>	<input type="text" value="77"/>
NYHA	<input type="text" value="Please select..."/>	<input type="text" value="3"/>
BMI kg/m <sup>2</sup>	<input type="range" value="25.4"/>	<input type="text" value="25,4"/>
COPD	<input checked="" type="radio"/> yes <input type="radio"/> no <input type="radio"/> n/a	<input type="text" value="1"/>
Diabetes mellitus	<input type="radio"/> yes <input checked="" type="radio"/> no <input type="radio"/> n/a	<input type="text" value="0"/>
Triple GDMT	<input checked="" type="radio"/> yes <input type="radio"/> no <input type="radio"/> n/a	<input type="text" value="1"/>
NT-proBNP [pg/ml]	<input type="range" value="17787"/>	<input type="text" value="17787"/>
GFR [mL/min]	<input type="range" value="36"/>	<input type="text" value="36"/>
Hemoglobin [g/dL]	<input type="range" value="10.4"/>	<input type="text" value="10,4"/>
LVEF [%]	<input type="range" value="34.7"/>	<input type="text" value="34,7"/>
LVEDV [mL]	<input type="range" value="184"/>	<input type="text" value="184"/>
MV EROA [cm <sup>2</sup> ]	<input type="range" value="0.4"/>	<input type="text" value="0,4"/>
LA Volumen [mL]	<input type="range" value="132"/>	<input type="text" value="132"/>
sPAP [mmHg]	<input type="range" value="49"/>	<input type="text" value="49"/>
Right midventricular diameter [mm]	<input type="range" value="30.9"/>	<input type="text" value="30,9"/>
TAPSE [mm]	<input type="range" value="19"/>	<input type="text" value="19"/>
TR severity	<input type="text" value="Please select..."/>	<input type="text" value="2"/>
RA Fläche [cm]	<input type="range" value="29"/>	<input type="text" value="29"/>

Your EuroSMR risk score

# 58.48





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Herzklappenzentrum