

# 2016 EACVI Prosthetic Valve Guidelines

**Philippe Pibarot, DVM, PhD, FACC, FAHA, FASE FESC**

**Canada Research Chair in Valvular Heart Diseases**



**Université  
LAVAL**

# *Disclosure Statement*

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- Edwards Life Science: Research grant  
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Echo Core Lab Heart failure

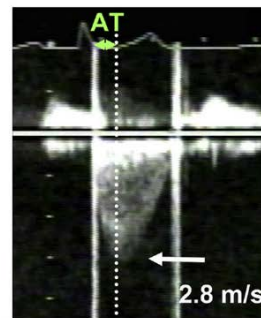
# *Doppler-Echo Criteria to Assess the Severity of Prosthetic Aortic Valve Regurgitation*

	Mild	Moderate	Severe
<b>2D/3D echocardiography</b>			
Valve structure / leaflet mobility	Normal	Often abnormal	Abnormal
<b>Doppler qualitative or semi-quantitative parameters</b>			
Vena contracta width	<3	3-6	>6
Jet width in central jets (% LVOT diameter)	≤25	26-64	≥65
Pressure half time (ms)	Slow >500	200-500	Steep <200
Diastolic flow reversal in descending aorta	Absent- brief	Intermediate	Holodiastolic
Qp:Qs	>1.2	>1.5	>1.8
Circumferential extent (paravalvular) (%)	<10	10-30	>30
<b>Doppler quantitative parameters</b>			
Regurgitant volume (ml)	<30	30-59	≥60
Regurgitant fraction (%)	<30	30-49	≥50

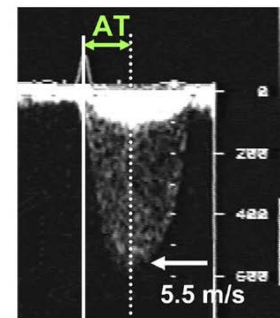
# Doppler-Echo Criteria to Assess the Severity of Prosthetic Aortic Valve Stenosis

	Normal	Possible Stenosis	Significant Stenosis
<b>2D/3D echocardiography</b>			
Valve structure / leaflet mobility	Normal	Often abnormal	Abnormal
<b>Doppler quantitative parameters</b>			
Peak velocity (m/s)	<3	3-3.5	>3.5
Mean gradient (mmHg)	<20	20-35	≥35
Doppler velocity index	>0.30	0.25-0.30	<0.25
Effective orifice area (cm <sup>2</sup> )	>1.1	0.8-1.1	<0.8
Acceleration time (ms)	<80	80-100	>100
<b>Changes in echo parameters during FU</b>			
Increase in mean gradient (mmHg)	<10	10-19	≥20

CW Doppler  
Prosthetic AV



MG = 22 mmHg  
DVI = 0.4  
AT = 75 ms



MG = 80 mmHg  
DVI = 0.18  
AT = 180 ms

Zoghbi JASE 2009

Kappetein Eur Heart J 2012

# *Criteria for Definition of Aortic Prosthesis-Patient Mismatch*

	None/Mild	Moderate	Severe
Indexed EOA (cm <sup>2</sup> /m <sup>2</sup> )	>0.85	0.85-0.65	<0.65
Indexed EOA (cm <sup>2</sup> /m <sup>2</sup> ) in obese patients (BMI ≥30 kg/m <sup>2</sup> )	>0.70	0.70-0.60	<0.60