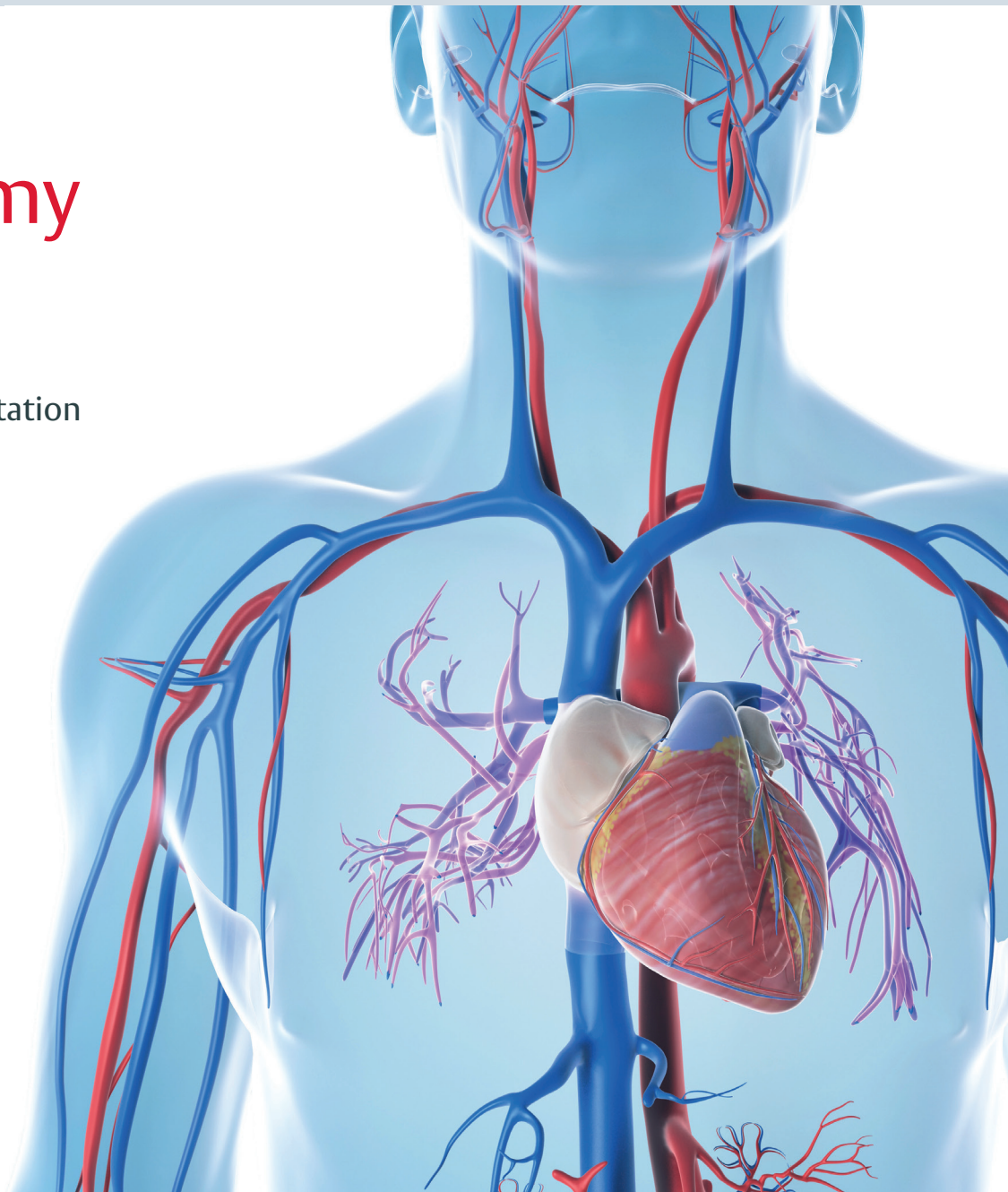


# Heart Anatomy Guide

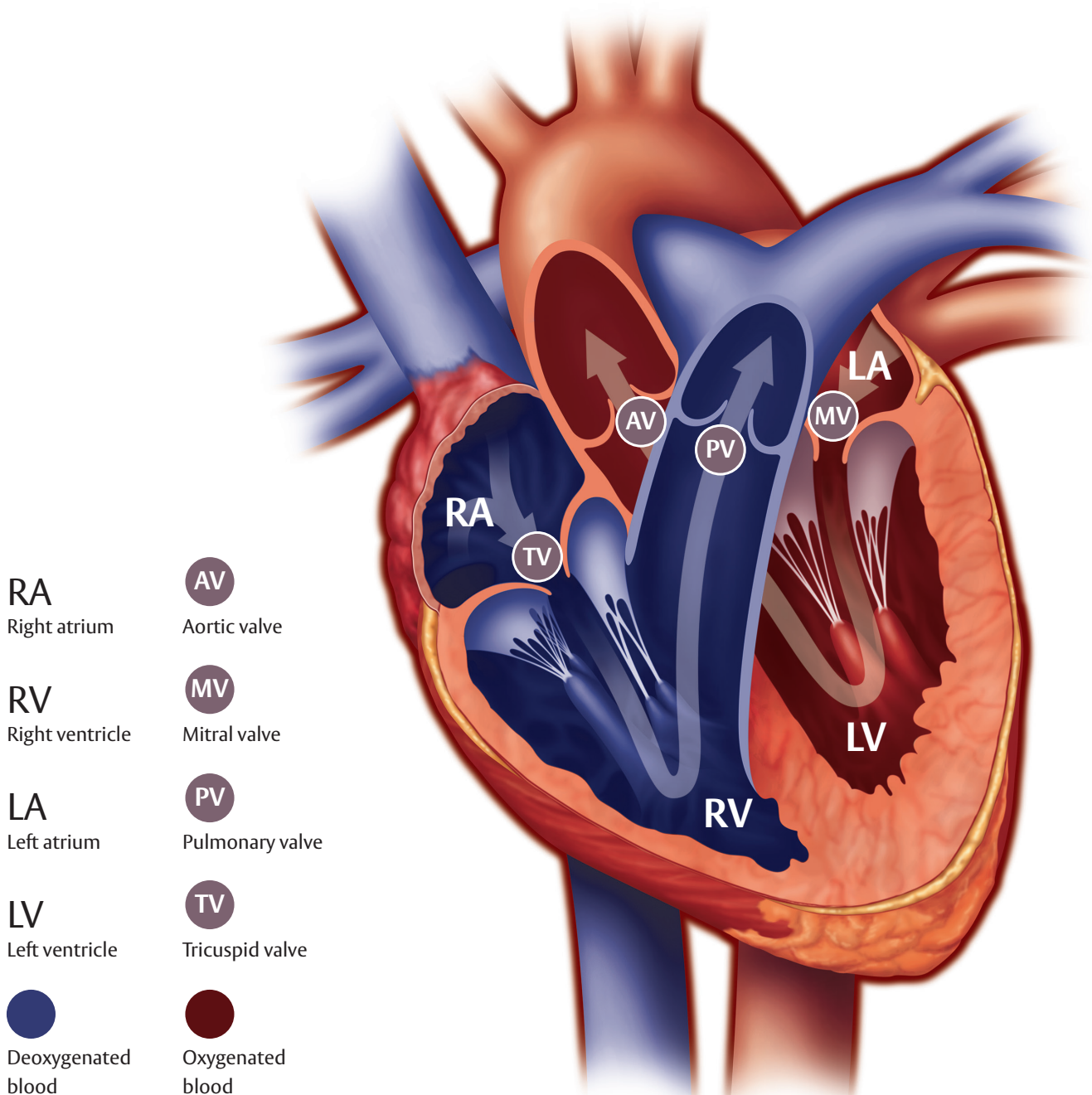
A patient consultation  
reference tool



# Heart basics: Anatomy and cardiac cycle

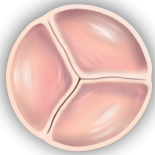
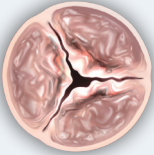
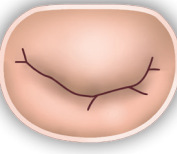
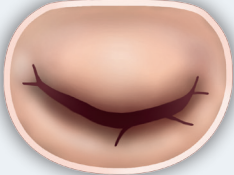
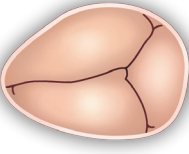
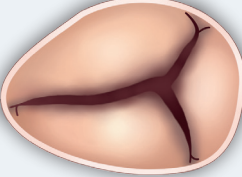
## The cardiac cycle

- Deoxygenated blood returns from the body into the right atrium, crosses the tricuspid valve to reach the right ventricle, and is pumped through the pulmonary valve to the lungs in order to be reoxygenated.
- Simultaneously, oxygenated blood received back from the lungs into the left atrium crosses the mitral valve to reach the left ventricle, and is pumped to the aorta and the body through the aortic valve.
- The role of heart valves is to ensure that blood can only flow in the correct direction, thereby maintaining appropriate pressure levels in each heart chamber.



# Common heart valve diseases

- The most common heart valve diseases are aortic stenosis, mitral regurgitation, and tricuspid regurgitation.<sup>1</sup>
- Aortic stenosis is a narrowing of the aortic valve opening, most commonly occurring in the elderly due to age-related aortic valve calcification. Severe symptomatic aortic stenosis is a life threatening heart valve disease.<sup>2,3</sup>
- Mitral or tricuspid regurgitation is a leakage of blood backward through the mitral or tricuspid valve.
- Malfunctioning heart valves alter pressure levels inside heart chambers. If the heart valves are damaged, then less oxygenated blood may reach the tissues, resulting in common symptoms of heart valve disease<sup>4</sup>:

	Healthy	Heart valve diseases		Main symptoms
<b>Aortic valve</b>			<b>Aortic stenosis</b>	<ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Shortness of breath</li> <li>• Palpitations</li> <li>• Dizziness</li> <li>• Fainting</li> <li>• Chest pain</li> </ul>
			Calcification reduces opening of the aortic valve	
<b>Mitral valve</b>			<b>Mitral regurgitation</b>	<ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Shortness of breath</li> <li>• Drowsiness</li> <li>• Palpitations</li> <li>• Cough</li> <li>• Oedema</li> </ul>
			Malcoaptation of leaflets causes backflow of blood through the mitral valve	
<b>Tricuspid valve</b>			<b>Tricuspid regurgitation</b>	<ul style="list-style-type: none"> <li>• Fatigue</li> <li>• Shortness of breath</li> <li>• Palpitations</li> <li>• Lower limb oedema</li> <li>• Distended jugular veins</li> <li>• Abdominal swelling</li> </ul>
			Malcoaptation of leaflets causes backflow of blood through the tricuspid valve	

## Guidance for use:

- This heart anatomy guide is intended for use during patient consultations to increase patients' understanding of the function of the heart, the role of the heart valves, and the impact on the patient when these become diseased.
- The text within the guide provides a framework for these discussions.
- The shown valves are intended to assist with these discussions by helping to illustrate the differences between healthy valves and diseased valves.

### References

1. Marciniak A, et al., Cohort profile: prevalence of valvular heart disease in community patients with suspected heart failure in UK, *BMJ Open* 2017;7:e012240
2. Braunwald E. Aortic stenosis. *Circulation*, 1968;38:61-7
3. Carabello BA. Introduction to Aortic Stenosis. *Circ Res*. 2013;113:179-185
4. Lindman BR et al, Calcific aortic stenosis, *Nat Rev Dis Primers*. 2016 Mar 3;2:16006

Edwards, Edwards Lifesciences, and the stylized E logo are trademarks of Edwards Lifesciences Corporation.

© 2020 Edwards Lifesciences Corporation. All rights reserved. E10784/03-20/THV

Edwards Lifesciences • Route de l'Etraz 70, 1260 Nyon, Switzerland • edwards.com



Edwards