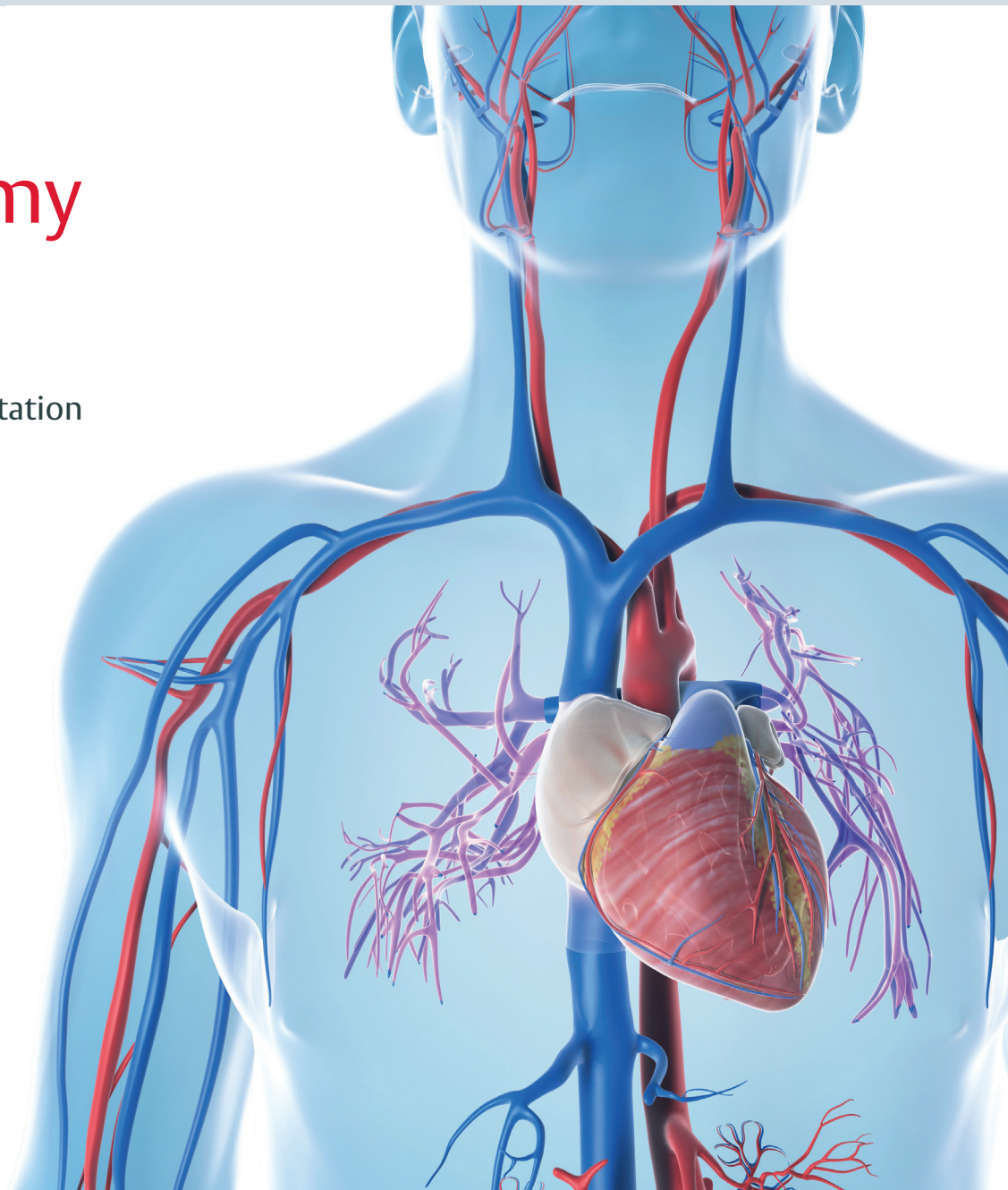


Heart Anatomy Guide

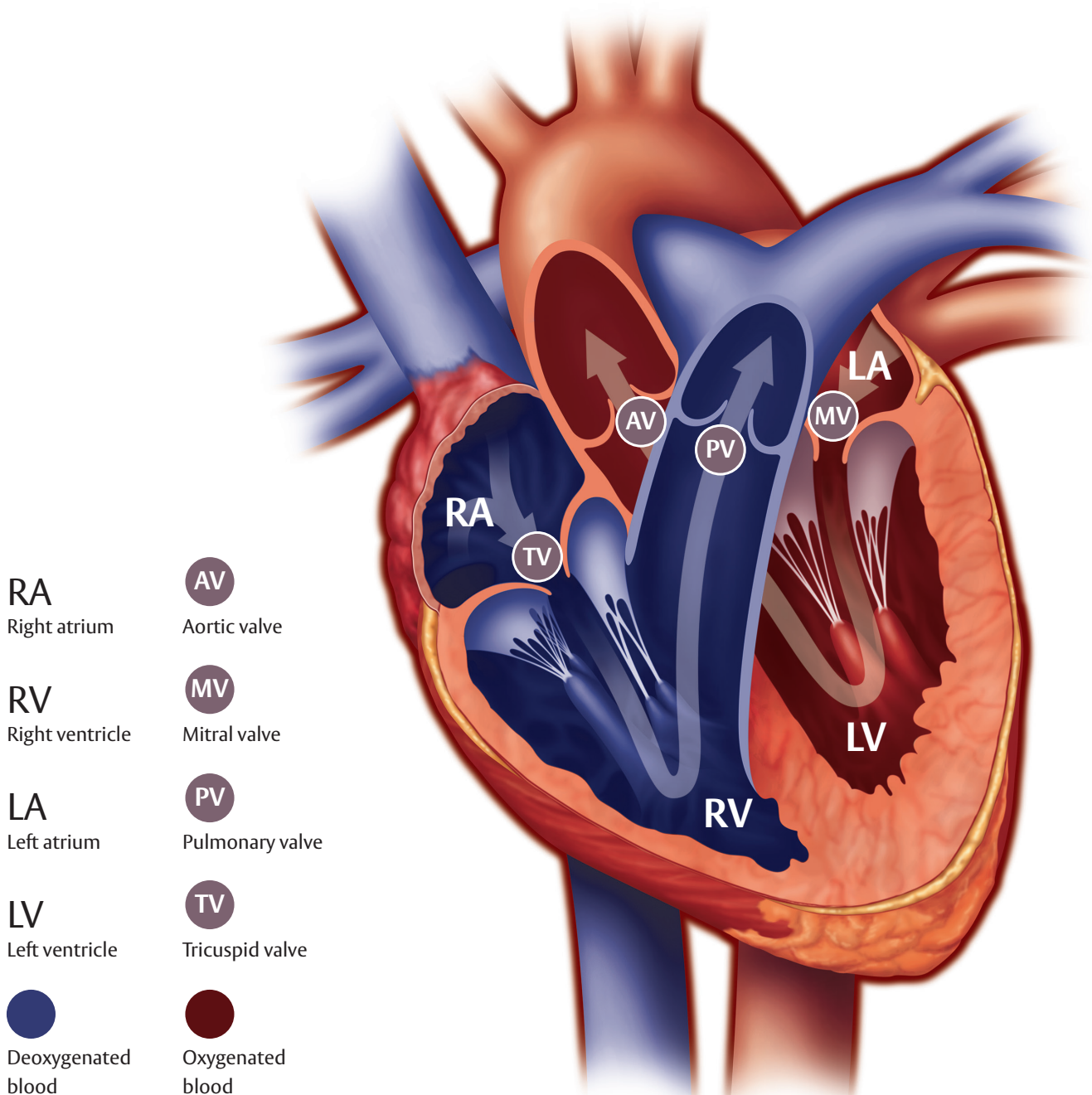
A patient consultation
reference tool



Heart basics: Anatomy and cardiac cycle

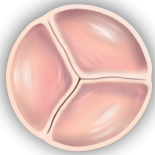
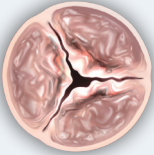
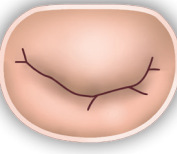
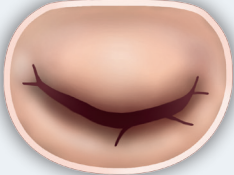
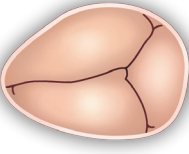
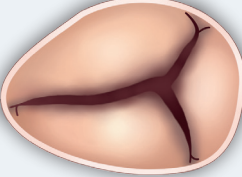
The cardiac cycle

- 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.¹
- 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.^{2,3}
- 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 disease⁴:

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

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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

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