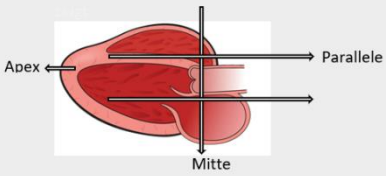
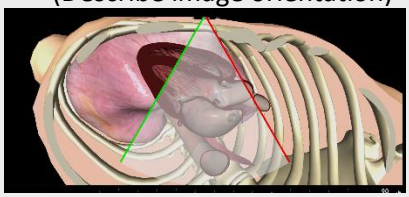
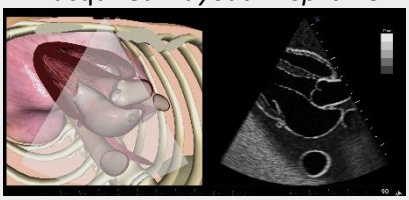
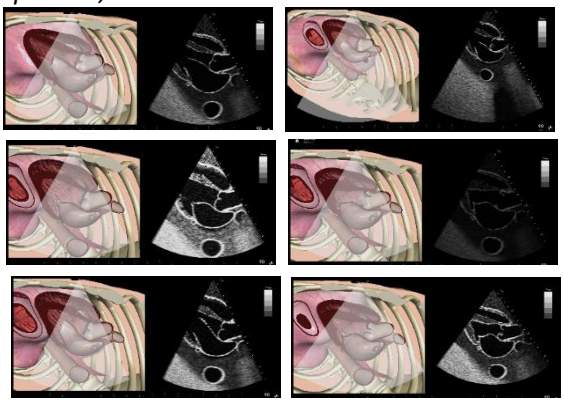
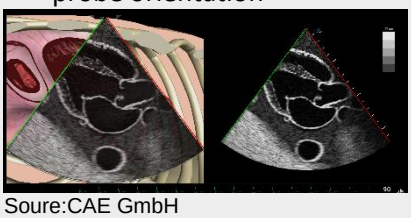
Station 1: Introduction to the devices + parasternal long axis view + parasternal short axis view

☑		Scanning guide	Tip for the examiners
☐	**TN 1**	Obtain the parasternal long axis view of the heart	*Normal patient*  Soure:CAE GmbH  Source:Philips GmbH Market DACH 1. *Layout* ⇨ *AR Only* 2. After the image has been acquired: *Beam* ⇨ *guide* (Describe image orientation)  Soure:CAE GmbH 3. After the image has been acquired: *Layout* ⇨ *split view*  Soure:CAE GmbH
☐	**TN 2**	Obtain the parasternal long axis view of the heart, pay attention to adequate image optimization	*Normal patient,* name the buttons on the device *Depth* *Gain* *Beam wide*  Soure:CAE GmbH
	TN 3	Obtain the parasternal long axis view of the heart, pay attention to transducer manipulation and name the anatomical structures	*Normal patient* 1. *Beam* ⇨ *Ultrasound* Name the anatomical structures (landmarks and quality features)  Soure:CAE GmbH 2. *Beam* ⇨ *Guide* to explanation of probe orientation  Soure:CAE GmbH
☐	**TN 4**	Obtain the parasternal long axis view of the heart, pay attention to transducer manipulation, image optimization and name the anatomical structures (1) Rotate the transducer to the parasternal short axis view and pay attention to image optimization (2)	*Pathology: dilated cardiomyopathy – very severe left ventricular systolic dysfunction* 1. Name the pathologic findings, noncontractile left ventricle, systolic dysfunction 2. Rotate the transducer to the short axis view of the heart: pay attention to image optimization *Beam* ⇨ *Guide* to orientation explanation

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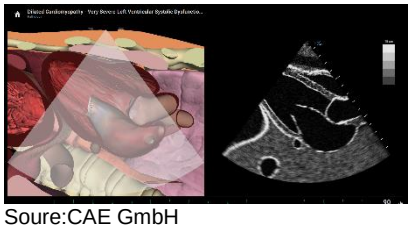
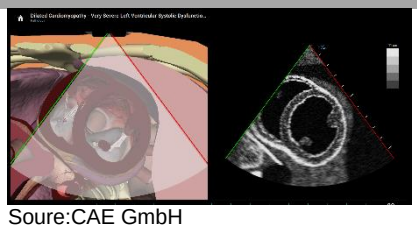
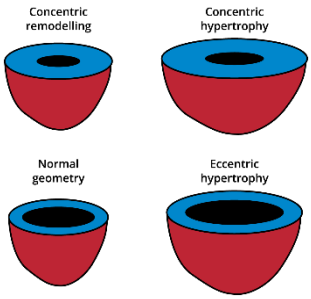
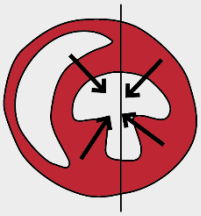
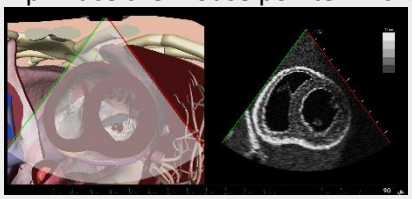
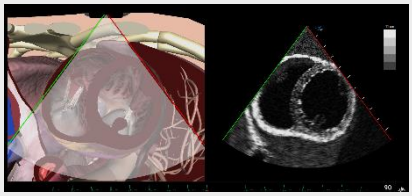
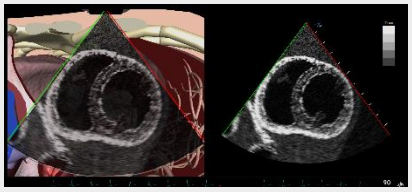
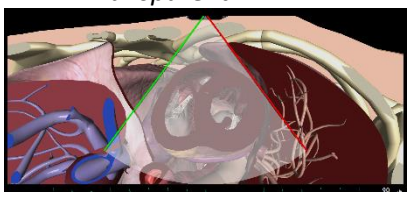
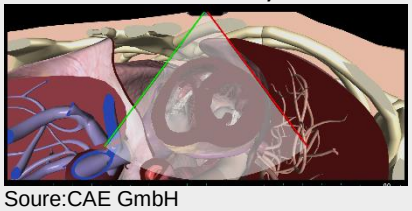
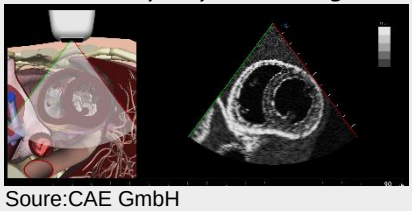
☑		Scanning guide	Tip for the examiners
		Describe the pathologic findings (3)	 Soure:CAE GmbH  Soure:CAE GmbH  3. Describe the pathologic findings: Systolic dysfunction at the level of the papillary muscles (eye balling), the ventricle contracts barely. Tip: Place the mouse pointer in the middle of the ventricle
☐	**TN 1**	Starting from the parasternal long axis view , obtain the parasternal short axis view of the heart  	*Normal patient* 1. Explain the normal systolic function Tip: Place the mouse pointer in the middle of the ventricle   Soure:CAE GmbH 2. *Beam ⇨ Ultrasound*  Soure:CAE GmbH 3. Explain the transducer movements (Tilting, Rocking, Rotating, Sliding)
☐	**TN 2**	Starting from the parasternal long axis view, obtain the parasternal short axis view of the heart. Pay attention to transducer manipulation, image optimization and name the anatomical structures	*Normal patient* 1. Remain on the same scan plane as before 2. After obtaining the scan plane, change to *Layout ⇨ AR Only + Beam ⇨ Transparent*  Soure:CAE GmbH
☐	**TN 3**	Starting from the parasternal long axis view , obtain the parasternal short axis view of the heart (AR only) (1) Name the anatomical structures (large US) (2)	*Normal patient* 1. Remain on AR only  Soure:CAE GmbH 2. After obtaining the scan plane correctly: *Layout ⇨ Large US*  Soure:CAE GmbH

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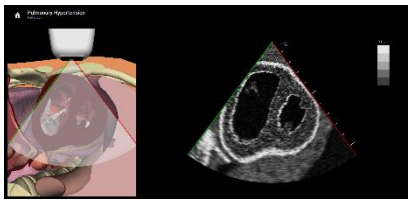
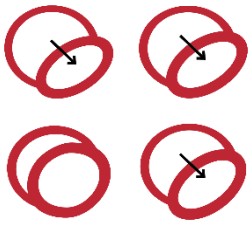
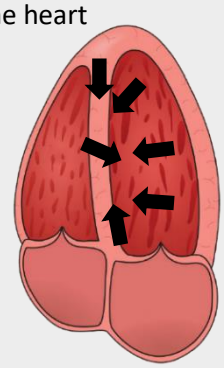
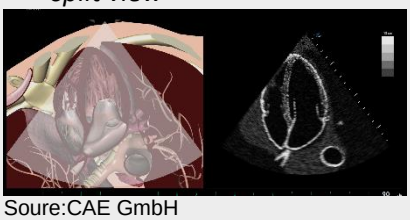
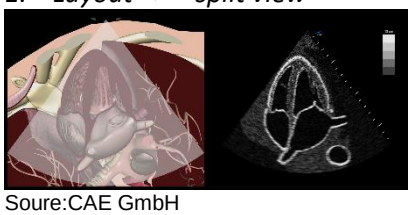
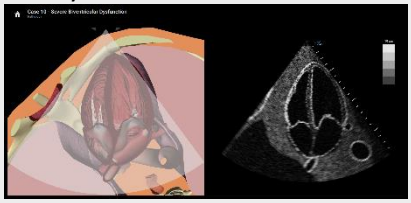
☑		Scanning guide	Tip for the examiners
			3. Mention the level of the aortic valve, mitral valve and apex of the heart (do not need to be obtained)
☐	**TN 4**	Starting from the parasternal long axis view , obtain the parasternal short axis view of the heart (1) Describe the pathologic findings (2)	*Pathology: pulmonary hypertension* 1. Description of the D-Sign in right ventricular strain, the interventricular septum is pressed towards the left ventricle  Soure:CAE GmbH 

Station 2: Apical 4-chamber view + Left flank view + Right flank view

☑		Scanning guide	Tip for the examiners
☐	**TN 1**	Obtain the apical 4-chamber view of the heart  Source:Philips GmbH Market DACH	*Normal patient* *1. Layout ⇨ AR only*  Soure:CAE GmbH 2. Explain: Position at 3 o´clock, sliding of the transducer, quality features of the scan plane 3. After obtaining the scan plane correctly: *Layout ⇨ split view*  Soure:CAE GmbH
☐	**TN 2**	Obtain the apical 4-chamber view of the heart, pay attention to transducer manipulation, image optimization and name the anatomical structures (1) Show the origins of the pulmonary veins (2)	*Normal patient* *1. Layout ⇨ split view*  Soure:CAE GmbH 2. Once again explain the anatomical structures, ultrasound tips and tricks, transducer manipulation 3. Watch how the ventricle contracts during systole (all parts of the wall are pulled towards the middle of the heart)
☐	**TN 3**	Obtain the apical 4-chamber view of the heart (1) Describe the pathologic findings (2)	*Pathology: severe biventricular dysfunction, case 10* 1. Pay attention to the wall of the heart, show the global systolic dysfunction  Soure:CAE GmbH

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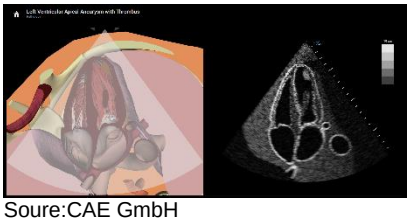
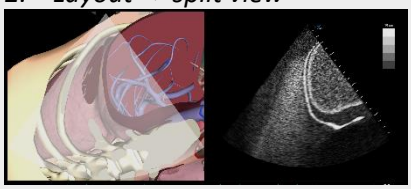
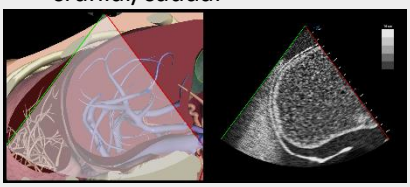
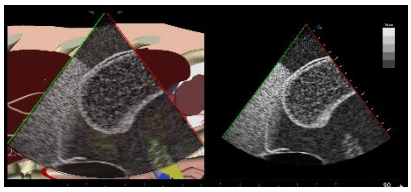
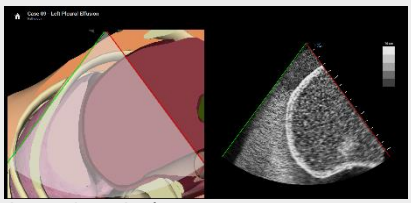
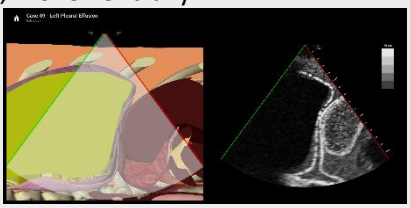
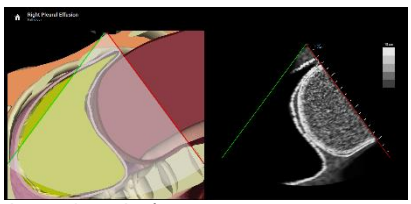
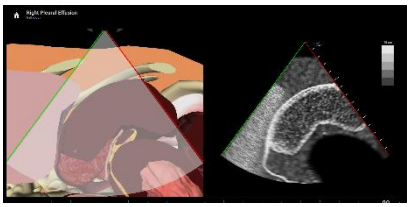
☑		Scanning guide	Tip for the examiners
☐	**TN 4**	Obtain the apical 4-chamber view of the heart, pay attention to transducer manipulation, image optimization and name the anatomical structures (1) Describe the pathologic findings (2)	*Pathology: left ventricular apical aneurysm with thrombus* 1. Place the transducer as caudally as possible, in order to identify the thrombus 2. Explain the pathologic findings: No contraction seen at the apex of the heart, contraction can be seen every now and then towards the mitral valve  Soure:CAE GmbH
☐	**TN 1**	Obtain the right and left flank view, pay attention to transducer manipulation and image optimization	*Normal patient* 1. *Layout ⇨Obtain an image of the lungs* (in case it has been switched off previously) *2. Layout ⇨ split view*  Soure:CAE GmbH 3. Image optimization and explanation of the anatomical structures 4. Display the other side: *Beam ⇨ Guide* to orientation cranial/caudal  Soure:CAE GmbH
☐	**TN 2**	Obtain the right and left flank view, pay attention to transducer manipulation and image optimization and explain the anatomical structures	*Normal patient* 1. Left flank *Beam ⇨ Ultrasound*  Soure:CAE GmbH 2. Explain the anatomical structures
☐	**TN 3**	Obtain the right (1) and left (2) flank view, pay attention to transducer manipulation and image optimization. Describe the pathologic findings (3)	*Pathology: left pleural effusion case 09* 1. Explain the pathogenesis, hypoechoic effusion 2. Ultrasound tip: Rotate the transducer between the ribs (scan through the intercostal space), move ventrally   Soure:CAE GmbH
☐	**TN 4**	Obtain the right (1) and left (2) flank view, pay attention to transducer manipulation and image optimization. Describe the pathologic findings (3)	*Pathology: right pleural effusion* 1. See instructions above   Soure:CAE GmbH

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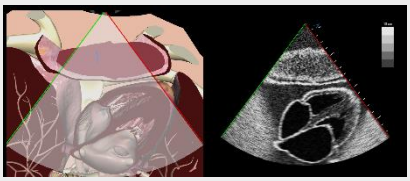
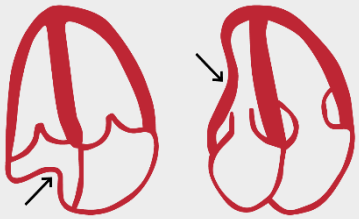
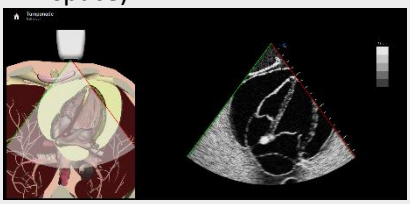
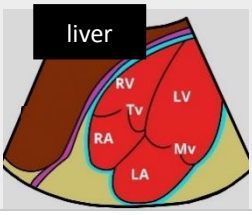
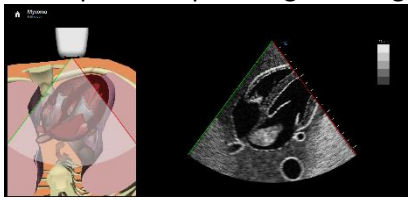
Station 3: Subxiphoid cardiac view + complete examination according to FATE-Protocol

☑		Scanning guide	Tip for the examiners
☐	**TN 1**	Obtain the subxiphoid long axis view of the heart	*Normal patient* Pay attention to coupling! Hold the transducer at the base (3 finger grip) 1. *Layout ⇨ split view*  Soure:CAE GmbH 2. After obtaining the scan plane correctly: *Beam ⇨ Guide* zur Orientation  Soure:CAE GmbH 3. Explain the anatomical structures (landmarks and quality features of the scan plane)
☐	**TN 2**	Obtain the subxiphoid long axis view of the heart, pay attention to transducer manipulation and image optimization and name the anatomical structures	*Normal patient* 1. Remain on the previous scan plane 2. After obtaining the scan plane correctly: *Layout ⇨ AR only*  Soure:CAE GmbH
☐	**TN 3**	Obtain the subxiphoid long axis view of the heart, pay attention to transducer manipulation and image optimization and name the anatomical structures (1) Describe the pathologic findings (2)	*Pathology: tamponade* 1. Layout ⇨ Large US  Soure:CAE GmbH  2. Explain the pathologic findings (hypoechoic fluid, Swinging heart due to lack of space)  Soure:CAE GmbH 
☐	**TN 4**	Obtain the subxiphoid long axis view of the heart, pay attention to transducer manipulation and image optimization and name the anatomical structures (1) Describe the pathologic findings (2)	*Pathology: myxoma* 1. Explain the pathologic findings  Soure:CAE GmbH

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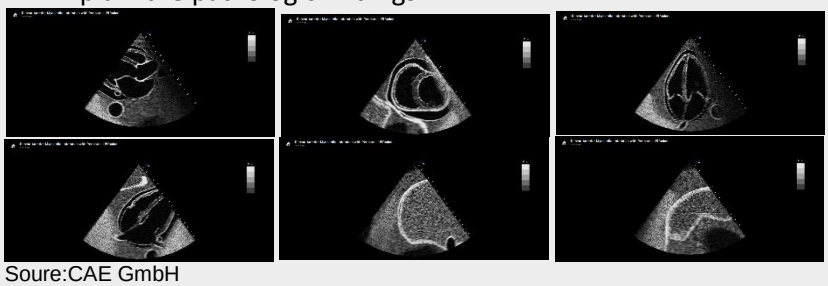
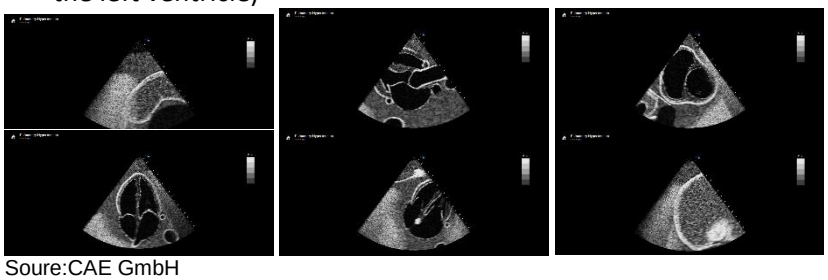
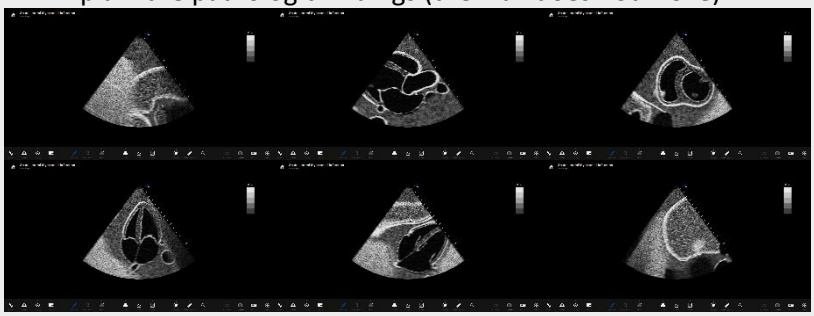
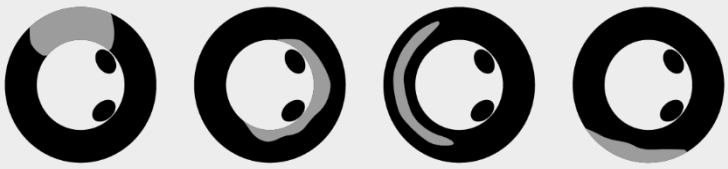
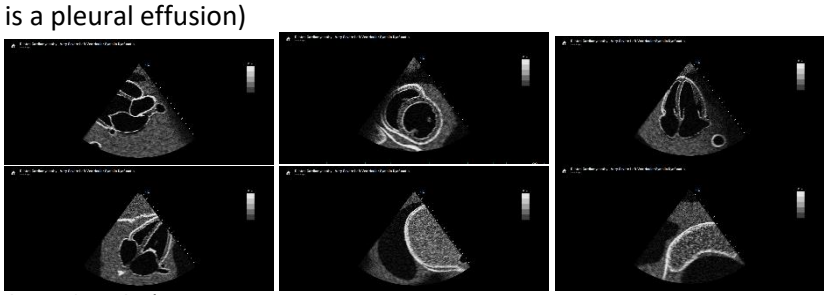
☑		Scanning guide	Tip for the examiners
☐	**TN 1**	Carry out a complete examination according to the FATE protocol. Pay attention to the correct order of the scanning planes, the position of the transducer and image optimization (1) Describe the pathologic findings (2)	*Pathology: recent anterior myocardial infarction with pericardial effusion* 2. Explain the pathologic findings  Soure:CAE GmbH
☐	**TN 2**	Carry out a complete examination according to the FATE protocol. Pay attention to the correct order of the scanning planes, the position of the transducer and image optimization (1) Describe the pathologic findings (2)	*Pathology: pulmonary hypertension* 2. Explain the pathologic findings (Description of the D-Sign in right ventricular strain, the interventricular septum is pressed towards the left ventricle)  Soure:CAE GmbH
☐	**TN 3**	Carry out a complete examination according to the FATE protocol. Pay attention to the correct order of the scanning planes, the position of the transducer and image optimization (1) Describe the pathologic findings (2)	*Pathology: acute lateral myocardial infarction* 1. Explain the pathologic findings (the wall does not move)  Soure:CAE GmbH 
☐	**TN 4**	Carry out a complete examination according to the FATE protocol. Pay attention to the correct order of the scanning planes, the position of the transducer and image optimization (1) Describe the pathologic findings (2)	*Pathology: dilatated cardiomyopathy – very severe left ventricular systolic dysfunction* (Attention: If one lung is collapsed, you get the impression that there is a pleural effusion)  Soure:CAE GmbH

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