

Table 1. ESC 2025 GL on myocarditis and pericarditis. Classification of pericardial effusion.

Onset	Acute (≤ 4 weeks)
	Subacute (> 4 weeks to ≤ 3 months)
	Chronic (> 3 months)
Size ^a	Mild: < 10 mm
	Moderate: 10–20 mm
	Large: > 20 mm
Distribution	Circumferential/loculated
Composition	Transudate/exudate

^aMaximal end-diastolic diameter.

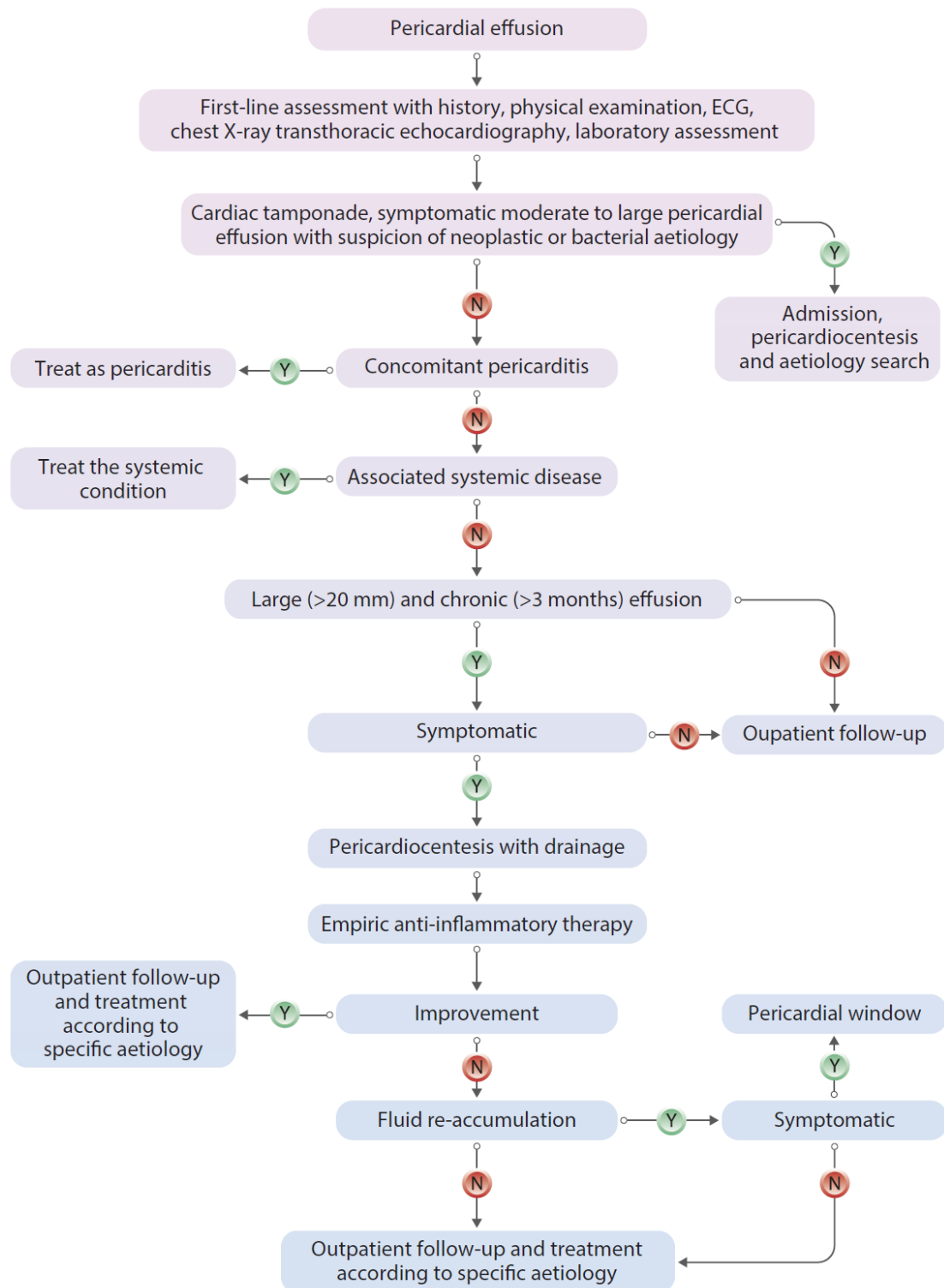


Figure 1. ESC 2025 GL on myocarditis and pericarditis. Triage and management of pericardial effusion

Table 2. ESC 2025 GL on myocarditis and pericarditis. Causes of cardiac tamponade

Common causes (in order of relative frequency):	
(1)	Neoplasm/malignancy
(2)	Iatrogenic/trauma
(3)	Pericarditis
(4)	Tuberculosis (most common in developing countries)
Less common causes (in order of relative frequency):	
(1)	Collagen vascular diseases (systemic lupus erythematosus, rheumatoid arthritis, scleroderma)
(2)	Pericardial injury syndrome
(3)	Acute myocardial infarction
(4)	Aortic dissection
(5)	Uraemia
(6)	Bacterial infection
(7)	Pneumopericardium

Table 2. ESC 2025 GL on myocarditis and pericarditis. Echocardiographic signs of cardiac tamponade

Echocardiographic feature	Sensitivity	Specificity
Large pericardial effusion with swinging heart	n.a.	n.a.
Diastolic collapse of the RA	50%–100%	33%–100%
Duration of diastolic collapse of the RA as a ratio of the cardiac cycle length >0.34	>90%	100%
Diastolic collapse of the RV	48%–100%	72%–100%
Respiratory changes of the mitral E velocity >25%–30%, tricuspid E velocity >40%–60%	n.a.	n.a.
Inferior vena cava plethora (dilatation >20 mm and <50% reduction of diameter with respiratory phases), as well as hepatic vein dilatation	97%	40%

n.a., not available; RA, right atrium, RV, right ventricle.

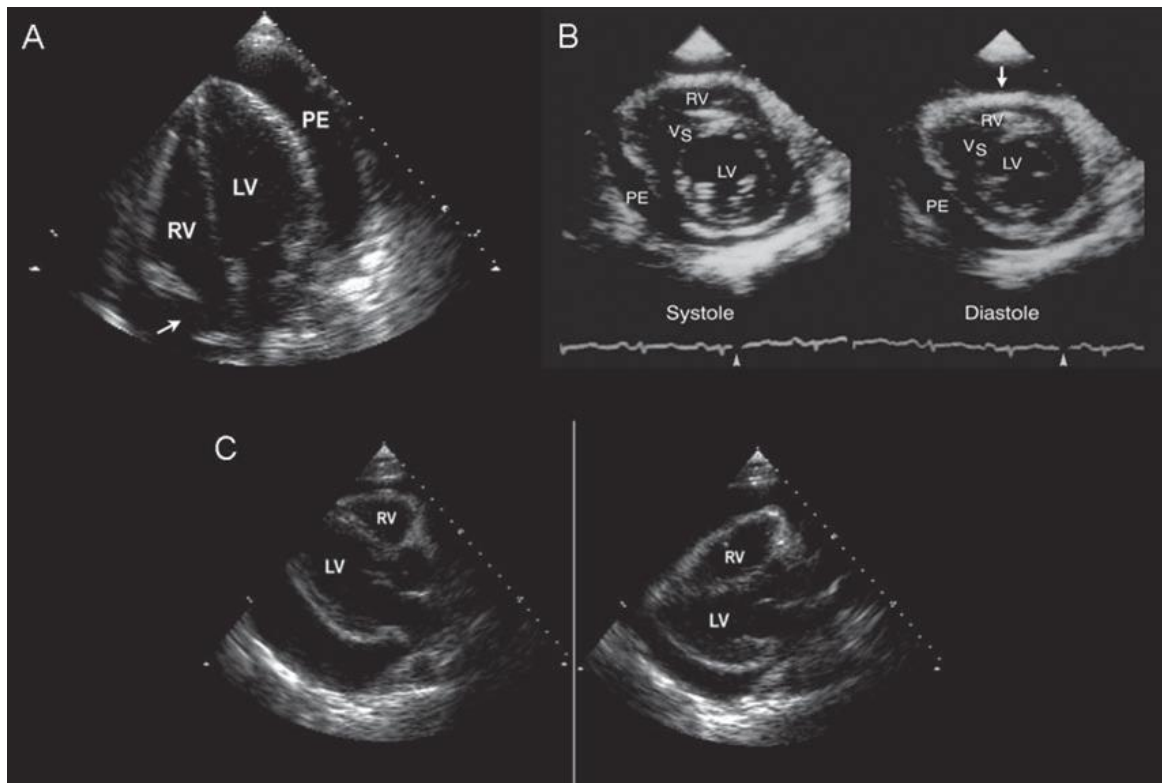
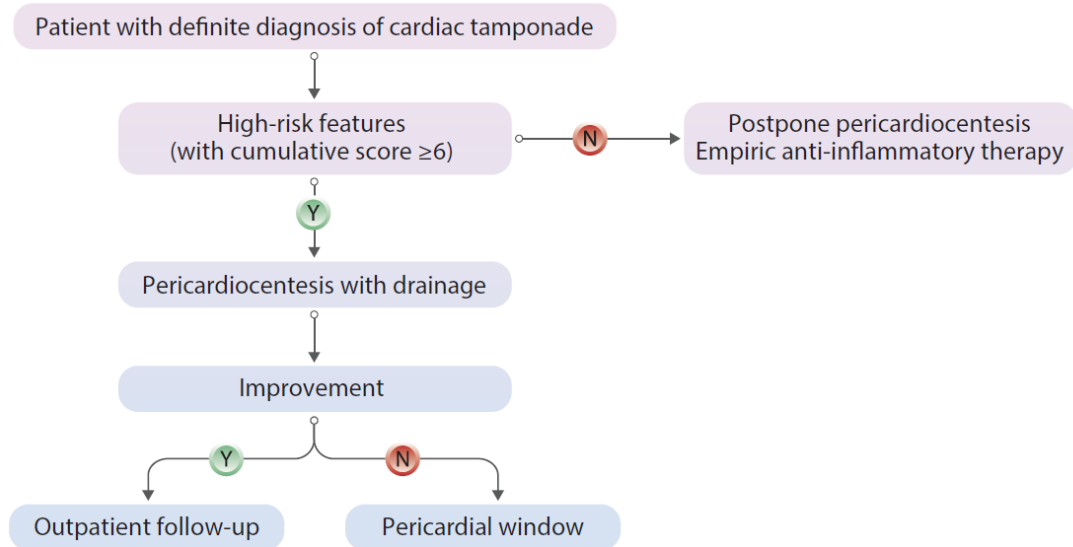


Figure 2. Two-dimensional echocardiographic features of cardiac tamponade.

A: Apical 4-chamber view showing late diastolic collapse of the right atrium (RA, arrow). Persistence of RA collapse for more than one third of the cardiac cycle is highly sensitive and specific for tamponade. B: Early diastolic collapse (arrow) of the right ventricle (RV) is specific for tamponade. C: Parasternal long-axis views showing the swinging motion of the heart within the pericardial cavity of a large pericardial effusion; the swinging motion is responsible for the electrocardiographic manifestation termed electrical alternans.

LV = left ventricle; PE = pericardial effusion; VS = ventricular septum.

Khandaker MH, Espinosa RE, Nishimura RA, et al. Pericardial disease: diagnosis and management. Mayo Clin Proc 2010; 85:572-593.



Criteria for triage for patients with pericardial effusion at risk for progression to cardiac tamponade					
Aetiology		Clinical presentation		Imaging	
Malignant disease	2	Dyspnoea/tachypnoea	1	Cardiomegaly on chest x-ray	
Tuberculosis	2	Orthopnoea	3	Electrical alternans on ECG	0.5
Recent radiotherapy	1	Hypotension (CBP <95 mmHg)	0.5	Microvoltage on ECG	1
Recent viral infection	1	Progressive sinus tachycardia	1	Circumferential large PEff	3
Recurrent PEff	1	Oliguria	1	Moderate PEff	1
Chronic terminal renal failure	1	Pulsus paradoxus (>10 mmHg)	2	Small PEff	-1
Immunosuppression	1	Pericardial chest pain	0.5	Right atrial collapse	1
Dysthyroidism	-1	Pericardial friction rub	0.5	IVC dilated not collapsible	1.5
Systemic autoimmune disease	-1	Rapid worsening of symptoms	2	Right ventricular collapse	1.5
		Slow disease evolution	-1	Left atrial collapse	2
				Mitral/tricuspid respiratory flow variations	1
				Swinging heart	1

Figure 3. ESC 2025 GL on myocarditis and pericarditis. Management of cardiac tamponade.

CBP, central blood pressure; ECG, electrocardiogram; IVC, inferior vena cava; N, no; PEff, pericardial effusion; Y, yes. Criteria are listed for the evaluation of patients by immediate or delayed pericardiocentesis based on expert consensus. Immediate pericardiocentesis should be considered if there are >6 points from at least two categories.

Table 3. ESC 2025 GL on myocarditis and pericarditis. Recommendations for interventional techniques in pericarditis

Pericardiocentesis (echocardiography-, CT-, or fluoroscopy-guided) is recommended for cardiac tamponade, or suspected bacterial or neoplastic pericarditis, or symptomatic moderate to large pericardial effusion despite medical therapy.	I	C
Surgical pericardial drainage is recommended in patients with pericardial effusion when percutaneous pericardiocentesis is not feasible or with purulent pericardial effusion to allow complete drainage and to prevent constriction.	I	C
Surgical pleuro-pericardial window is recommended in patients with relapsing pericardial effusion despite medical therapy.	I	C

CT, computed tomography.