

Table 6 (Continued)

Name of Measurement	Abbreviation	Unit	Suggested number of decimal places
Heart rate	HR	bpm	0
Rate pressure product	RPP	mm Hg x beats/minute	0
Mechanical Circulatory Support			
Ventricular septal direction	L/R/Neutral	N/A	N/A
AoV opening pattern	Y/N/barely/intermittent	N/A	N/A
AoV opening duration	AoVOdur	ms	0
Inflow cannula peak velocity	N/A	m/sec	1
Outflow graft peak systolic velocity	N/A	m/sec	1
Outflow graft nadir diastolic velocity	N/A	m/sec	1

For additional interventional echocardiography related specific measurements, please refer to relevant ASE guidelines.²²

*Optional.

shunting, and the shunt detection technique(s) employed. The report should also describe any atrial structural abnormalities including abnormal venous connections or abnormal venous flow patterns.^{20,34,35} Reports should include evaluation and commentary on the left atrial appendage (LAA), optionally noting its shape and providing measurements appropriate for specific devices when indicated.²² LAA comments should note the presence or absence of a thrombus and spontaneous echo contrast, and optionally attempting to grade it.^{23,34} Additionally, LAA emptying velocity should be reported when indicated.

Reporting Cardiac Valves. The TEE report for cardiac valves should mirror the content of the TTE report, including the description of valvular structure and function, with quantitative information when acquired. Enhanced visualization capabilities of TEE often facilitate precise identification and localization of pathology within specific leaflets or scallops, necessitating a more detailed description. Additional morphologic and quantitative parameters specific to screening and planning for structural valve interventions should be reported when applicable.²² TEE excels in detecting valvular vegetations; when noted, their detailed characteristics and their location with respect to leaflet(s) or other anatomic structures should be described. Similarly, prosthetic valve assessment is recommended to adhere to TTE standards, leveraging TEE's superior imaging for detailed descriptions of pathology and its location. Any identified abnormalities such as abscesses, fistulas, fractures, perforations, pannus, thrombi, or vegetations should be documented and described by leaflet or structure location, size, shape, mobility, and textural features if applicable.^{16,19,23,31}

Reporting Arteries and Veins. TEE has a superior ability to evaluate the thoracic aorta; therefore, aortic size and any associated pathology should be reported.^{23,32} Though not always imaged by TEE, the IVC and hepatic veins can be imaged when indicated, and if properly visualized, their size and flow pattern should also be reported.²³ Pulmonary vein anatomy descriptions may be important in congenital anomalies, following lung transplant, or in the setting of other pathology (e.g., neoplasm, thrombus) or device placements. Therefore, reporting systems should provide specific fields for comments, which may be used on a case-by-case basis.

Reporting the Pericardium. TEE findings should be reported as described for TTE.

Stress Echocardiography Report

Stress echo encompasses specific protocols for the assessment of coronary artery disease (ischemic heart disease) and other specific protocols designed for a variety of structural heart diseases.^{36,37} Rather than focusing on protocols, we will discuss reporting for different cardiac structures (and the needed reporting tools and associated elements) separately, since one or more components may be needed, depending upon the clinical situation, including study indication and unexpected observations during the exam. Tables 12 and 13 provide elements for stress echo reporting.

The stress echo report should include the study date, type of stress test performed (i.e., exercise [treadmill, supine bike], pharmacologic), and indication for the test.^{3,11,36-38} The test indication should describe the clinical question being addressed. In addition, the imaging protocol should be stated, as well as the exercise time, pharmacologic peak dose, maximum heart rate, systolic blood pressure (BP) response to stress, and if the appropriate level of stress was achieved. Moreover, the adequacy of the workload, such as rate pressure product (RPP), based on age and sex should be included in the report.³⁷ If cardiac symptoms, electrocardiogram (ECG) changes, or arrhythmias are present and/or if the test needs to be terminated early, the report should note these events. At each protocol stage (exercise [baseline, post-exercise] and pharmacologic [baseline and low, intermediate, and peak dose]), relevant changes in structure, function, and physiology should be reported.^{11,36-38} A summary statement for the stress echo for coronary artery disease evaluation should include the presence or absence of myocardial ischemia, ECG evidence of ischemia or dysrhythmia, patient's symptoms during stress, and pertinent baseline echocardiographic findings.

Reporting the Left Ventricle. The LV chamber and myocardium should be reported as recommended for TTE. Statements regarding systolic BP, global systolic function, and regional wall motion should be provided.^{11,37} The LV segments and LV regional wall motion should be described using the terms in Table 7. A regional wall motion score (16-64) and/or estimated wall motion score index (1.0-4.0) may be derived. A bull's eye diagram display is optional.

These report elements should be reported at baseline and at each stage of the stress echo protocol.^{36,37} In additional stages, comparison statements should also be included in the report. At each stage, the LV chamber size and regional score should be compared and reported as