

Sonography Program Glossary

~278 Key Abbreviations, Terms, and Clinical Thresholds in Vascular and Cardiac Sonography Dr. Alice Matthews | Concorde Career College Portland | Spring 2026

Reference for CVSG1240 Echo Scan Lab I, CVSG1340 CV Pathology, CVSG1640 Echo I, and CVSG2370 Vascular Sonography II.

How to read this glossary. The Term column shows just the abbreviation or short name. For abbreviations, the full expansion appears in bold at the start of the Definition, followed by the description. The Threshold column, in smaller type, gives the numeric cutoff or normal range when one exists; if the term is pure anatomy or descriptive, it is blank. Use the **Alphabetical Index** at the end to jump straight to any term.

1. General Vascular (20 terms)

Term	Definition	Threshold
Duplex ultrasound	Imaging technique that combines B-mode with Doppler to show anatomy and blood flow simultaneously.	
Stenosis	A narrowing of a blood vessel that restricts blood flow.	Graded by % diameter reduction or velocity ratio
Occlusion	Complete blockage of a vessel with no detectable flow.	
Thrombosis	Formation of a blood clot inside a vessel.	Acute vs chronic based on echogenicity and wall changes
Embolus	Clot or other material that travels through the bloodstream and lodges in a distant vessel.	
Aneurysm	Focal dilation of a vessel to at least 1.5 times its normal diameter.	Aortic ≥ 3.0 cm = AAA
Dissection	Tear in the intima allowing blood to track between wall layers.	
Intima	Innermost layer of an artery or vein.	
Media	Middle muscular layer responsible for contraction and elasticity.	
Adventitia	Outermost connective tissue layer.	
Lumen	Open interior space of a vessel through which blood flows.	
Anastomosis	Surgical connection between two vessels or between a graft and a native vessel.	
Collateral	Alternate flow pathway that develops or enlarges when a primary vessel is blocked.	
Retroperitoneal	Located behind the peritoneum; aorta and IVC sit in this space.	
ARDMS	American Registry for Diagnostic Medical Sonography. Credentialing body that awards the RDCS and RVT credentials.	
RDCS	Registered Diagnostic Cardiac Sonographer. ARDMS credential for echocardiography.	
RCS	Registered Cardiac Sonographer. CCI (Cardiovascular Credentialing International) credential equivalent to RDCS.	
ICAVL	Intersocietal Commission for the Accreditation of Vascular Laboratories. Sets standards for vascular lab quality.	
IAC	Intersocietal Accreditation Commission. Publishes consensus criteria for carotid stenosis grading.	IAC 2023 is the current update
ASE	American Society of Echocardiography. Publishes guidelines used for IVC assessment and right atrial pressure estimation.	ASE 2015 / ASE 2025

2. Aorta and AAA (10 terms)

Term	Definition	Threshold
AAA	Abdominal Aortic Aneurysm. Dilation of the abdominal aorta beyond normal diameter.	Infrarenal ≥ 3.0 cm; ≥ 5.5 cm (men) or ≥ 5.0 cm (women) = surgical threshold
Infrarenal aorta	Segment below the renal arteries where most AAAs occur.	Normal < 3.0 cm
Suprarenal aorta	Segment above the renal arteries and below the diaphragm.	
Aortic bifurcation	Point where the aorta divides into the right and left common iliac arteries.	Typically at L4
Mural thrombus	Clot that forms along the inner wall of an aneurysm without completely blocking the lumen.	
EVAR	Endovascular Aneurysm Repair. Minimally invasive repair using a stent graft placed inside the aorta to exclude the aneurysm.	
Endoleak	Persistent flow into the aneurysm sac after EVAR.	Classified Types I–V by source
OTI	Outer-to-Inner. Recommended measurement technique for aortic diameter: leading outer edge to leading inner edge.	Reduces interobserver variability
Common iliac artery	Terminal branch of the aorta that supplies the pelvis and lower extremity.	Normal < 1.5 cm ; Aneurysmal ≥ 2.5 cm (≥ 2.0 if AAA present; ACC/AHA 2022)
Aortic hiatus	Diaphragmatic opening through which the aorta enters the abdomen.	At T12

3. IVC and Right Heart (10 terms)

Term	Definition	Threshold
IVC	Inferior Vena Cava. Largest vein in the body, returning deoxygenated blood from the lower body to the right atrium.	Normal diameter ≤ 2.1 cm with $> 50\%$ collapse on sniff
RAP	Right Atrial Pressure. Estimated noninvasively from IVC diameter and sniff response.	3 / 8 / 15 mmHg discrete (ASE 2015, retained ASE 2025 RH)
IVC collapsibility index	Percentage decrease in IVC diameter during a sniff or inspiration.	$> 50\%$ normal; $< 50\%$ suggests elevated RAP
Caval hiatus	Diaphragmatic opening through which the IVC passes into the right atrium.	At T8
Hepatic veins	Right, middle, and left veins that drain the liver into the IVC below the diaphragm.	
Sniff test	Sharp nasal inhalation used during IVC sonography to assess collapsibility.	
IVC filter	Device placed in the IVC to trap clots traveling from the lower body.	
Pulmonary hypertension	Elevated pulmonary artery pressure, often suggested by a dilated, noncollapsible IVC.	PASP > 35 mmHg
Budd-Chiari syndrome	Obstruction of hepatic vein or IVC outflow causing hepatic congestion.	Altered hepatic vein Doppler waveforms

Term	Definition	Threshold
RA	Right Atrium. Heart chamber that receives venous return from the IVC and SVC.	

4. Carotid and Cerebrovascular (15 terms)

Term	Definition	Threshold
CCA	Common Carotid Artery. Vessel that ascends in the neck and bifurcates into the ICA and ECA.	Normal PSV ≤ 125 cm/s
ICA	Internal Carotid Artery. Branch of the CCA with no extracranial branches; supplies the brain.	Normal PSV < 125 cm/s; < 180 does not meet $\geq 50\%$ (IAC 2023)
ECA	External Carotid Artery. Branch of the CCA that has multiple branches and supplies the face, scalp, and neck structures.	Has external branches; temporal tap confirms
Carotid bulb (sinus)	Focal dilation at the origin of the ICA containing baroreceptors.	
Temporal tap	Tapping over the temporal artery produces oscillations in the ECA waveform, confirming vessel identity.	
PSV	Peak Systolic Velocity. Highest velocity during systole; primary criterion for ICA stenosis grading.	ICA PSV ≥ 125 cm/s = $\geq 50\%$; ≥ 230 cm/s = $\geq 70\%$ (IAC 2023)
EDV	End-Diastolic Velocity. Velocity at the end of diastole; supplemental ICA stenosis criterion.	ICA EDV ≥ 40 cm/s = $\geq 50\%$; ≥ 100 cm/s = $\geq 70\%$
ICA/CCA ratio	ICA PSV divided by CCA PSV; secondary stenosis criterion.	≥ 2.0 = $\geq 50\%$; ≥ 4.0 = $\geq 70\%$
IAC 2023 criteria	Current consensus criteria for grading ICA stenosis by velocity.	See PSV / EDV / ratio rows
CIMT	Carotid Intima-Media Thickness. Combined intima and media layer thickness; atherosclerotic risk marker.	Normal < 0.9 mm; ≥ 1.0 mm increased CV risk
Plaque	Buildup of fatty, calcific, or fibrous material on the arterial wall.	Smooth/irregular, homogeneous/heterogeneous
Subclavian steal	Subclavian stenosis proximal to the vertebral origin causing reversed vertebral flow to supply the arm.	Pre-steal, latent, full reversal
Vertebral artery	Paired artery ascending through cervical transverse foramina; supplies posterior brain.	Normal antegrade (cephalad) flow
TIA	Transient Ischemic Attack. Temporary neurologic episode from reduced cerebral blood flow, often carotid-related.	
CEA	Carotid Endarterectomy. Surgical removal of carotid plaque.	$\geq 70\%$ symptomatic; $\geq 80\%$ asymptomatic (select)

5. Doppler and Waveforms (10 terms)

Term	Definition	Threshold
Spectral Doppler	Display plotting velocity (y) over time (x); shows full velocity range in the sample volume.	
Color Doppler	Assigns colors to flow direction and overlays them on grayscale.	Adjust PRF/scale to avoid aliasing

Term	Definition	Threshold
Power Doppler	Displays amplitude (not velocity or direction); sensitive to slow flow.	
RI	Resistive Index. $(PSV - EDV) / PSV$; downstream resistance index.	Renal normal <0.7; transplant <0.8
PI	Pulsatility Index. $(PSV - EDV) /$ time-averaged mean velocity; overall waveform pulsatility.	Varies by vessel
Triphasic waveform	Normal high-resistance arterial pattern: forward systole, brief diastolic reversal, late diastolic forward flow.	Normal peripheral artery
Monophasic waveform	Continuous forward flow with no reversal; seen distal to severe stenosis or in low-resistance beds.	Abnormal in peripheral artery
Spectral broadening	Filling of the spectral window beneath the waveform; indicates turbulent flow.	
Tardus parvus	Delayed systolic upstroke (tardus) + reduced peak velocity (parvus) distal to a proximal high-grade stenosis.	Acceleration time >70 ms suggests proximal stenosis
Aliasing	Doppler artifact when velocity exceeds the Nyquist limit, causing color or spectrum wrap-around.	Raise PRF/scale or change baseline

6. Imaging and Equipment (10 terms)

Term	Definition	Threshold
CEUS	Contrast-Enhanced Ultrasound. Uses IV microbubble agents to improve visualization of flow and vessel detail.	
CTA	Computed Tomography Angiography. Cross-sectional imaging with IV contrast and CT to visualize vessels.	
MRA	Magnetic Resonance Angiography. MRI-based vessel imaging, often without ionizing radiation.	
B-mode	Brightness Mode. Standard 2D grayscale ultrasound imaging.	
Curvilinear transducer	Low-frequency (2–5 MHz) curved-array probe for deep abdominal imaging.	Aorta, IVC
Linear transducer	High-frequency (5–12 MHz) flat-array probe for superficial imaging.	Carotid, dialysis access
Sample volume (gate)	Location within a vessel where the Doppler cursor records velocity.	Place in center of flow
Angle correction	Alignment of the Doppler cursor with flow direction.	Keep $\leq 60^\circ$
Intraoperative duplex	Duplex used during surgery to evaluate repairs and confirm flow.	
QA	Quality Assurance. Systematic program of equipment checks, protocol adherence, and outcome tracking in the vascular lab.	

7. Peripheral Arterial (12 terms)

Term	Definition	Threshold
PAD	Peripheral Arterial Disease. Atherosclerotic narrowing of peripheral (usually lower extremity) arteries.	Diagnosed primarily by ABI

Term	Definition	Threshold
ABI	Ankle-Brachial Index. Ratio of ankle systolic pressure to the higher arm systolic pressure.	Normal 1.00–1.40; 0.91–0.99 borderline; ≤0.90 PAD; <0.40 CLI; >1.40 noncompressible
TBI	Toe-Brachial Index. Toe-to-arm pressure ratio; used when ankle vessels are calcified.	Normal ≥0.70
CLI	Critical Limb Ischemia. Rest pain, nonhealing wounds, or tissue loss from severe PAD.	ABI <0.40 or ankle pressure <50 mmHg
Claudication	Reproducible lower-extremity pain with exertion relieved by rest.	
Rest pain	Ischemic pain at rest, often worse at night with leg elevated.	
PVR	Pulse Volume Recording. Plethysmographic waveform reflecting volume change per pulse at a segmental level.	Normal brisk upstroke with dicrotic notch
Segmental pressures	Systolic pressures measured at thigh, calf, and ankle to localize disease.	>20–30 mmHg drop between adjacent segments = stenosis
CFA	Common Femoral Artery. Inguinal ligament to profunda/SFA bifurcation.	Common arterial access site
SFA	Superficial Femoral Artery. Continues from the CFA into the adductor canal; most common PAD site.	
Popliteal artery	Continues the SFA behind the knee into the trifurcation.	
Tibial arteries (DP, PT, peroneal)	Dorsalis pedis, posterior tibial, and peroneal arteries supplying the foot and leg.	

8. Venous and Reflux (12 terms)

Term	Definition	Threshold
DVT	Deep Vein Thrombosis. Thrombus in a deep vein, most commonly of the lower extremity.	Noncompressible vein = hallmark finding
CEAP classification	Clinical, Etiologic, Anatomic, Pathophysiologic. Scoring system for chronic venous disease.	C0 no signs → C6 active ulcer
Reflux time	Duration of reverse flow after distal compression or Valsalva.	>0.5 s abnormal superficial; >1.0 s deep
Augmentation	Distal compression to increase forward flow and confirm vein patency.	
Phasicity	Respiratory variation in venous flow.	Normal respirophasic; loss suggests proximal obstruction
Valsalva maneuver	Forced expiration against a closed glottis to provoke reflux in proximal deep veins.	Used at CFV and SFJ
GSV	Great Saphenous Vein. Medial leg from ankle to saphenofemoral junction.	Reflux >0.5 s abnormal
SSV	Small Saphenous Vein. Posterior calf to the saphenopopliteal junction.	Reflux >0.5 s abnormal
Perforator veins	Veins connecting superficial to deep systems through the fascia.	Normal outward (superficial → deep) flow
CVI	Chronic Venous Insufficiency. Long-standing venous hypertension causing edema, skin changes, or ulcers.	Reflux, obstruction, or both
Post-thrombotic syndrome	Late sequela of DVT with pain, swelling, skin changes, or ulcers.	20–50% of DVT patients

Term	Definition	Threshold
May-Thurner syndrome	Compression of the left common iliac vein by the right common iliac artery.	Predisposes to left-leg DVT

9. Dialysis Access (10 terms)

Term	Definition	Threshold
AVF	Arteriovenous Fistula. Surgically created direct connection between a native artery and vein for hemodialysis.	
AVG	Arteriovenous Graft. Prosthetic (usually PTFE) conduit between an artery and a vein for hemodialysis.	
Access flow (volume flow)	Volumetric flow rate through the access; primary surveillance parameter.	AVF/AVG >600 mL/min minimum; drop >25% concerning
Maturation	Time for a new AVF to develop enough size and flow for cannulation.	AVF: 6–8 weeks; AVG: 2–4 weeks
Juxta-anastomotic stenosis	Narrowing just beyond the arterial anastomosis; most common AVF failure site.	PSV ratio ≥ 3.0 = significant
Venous outflow stenosis	Narrowing in the draining vein; most common AVG failure site.	PSV ratio ≥ 2.0 (AVG) or ≥ 3.0 (AVF)
Pseudoaneurysm	Contained extravascular hematoma communicating with the access lumen; often from repeated cannulation.	
Steal syndrome	Distal hand ischemia caused by preferential access flow away from the hand.	Digital pressures and symptoms guide diagnosis
Radiocephalic fistula	AVF at the wrist (Brescia-Cimino); preferred initial access.	
Brachiocephalic fistula	AVF at the antecubital fossa between brachial artery and cephalic vein.	

10. Bypass Grafts (8 terms)

Term	Definition	Threshold
In-situ vein graft	Saphenous vein left in its anatomic position with valves cut; used as bypass conduit.	
Reversed vein graft	Saphenous vein harvested and reversed (distal end sewn proximally) so valves do not impede flow.	
PTFE graft	Polytetrafluoroethylene. Prosthetic bypass conduit; lower long-term patency than vein.	
Graft patency	Whether the bypass remains open.	Primary, assisted, secondary
PSV ratio (graft surveillance)	PSV at a graft stenosis divided by PSV in an adjacent normal segment.	Ratio ≥ 3.5 or focal PSV ≥ 300 cm/s = significant
Peri-graft fluid	Fluid collection surrounding a graft; may represent seroma, hematoma, or infection.	
Anastomotic pseudoaneurysm	Contained disruption at the proximal or distal anastomosis.	Surgical evaluation if growing or symptomatic

Term	Definition	Threshold
Graft thrombosis	Occlusion of the bypass; echogenic material filling the lumen with no flow on Doppler.	

11. Renal and Mesenteric (10 terms)

Term	Definition	Threshold
RAS	Renal Artery Stenosis. Narrowing of the main renal artery; cause of secondary hypertension.	PSV ≥ 180 cm/s with RAR $\geq 3.5 = \geq 60\%$
Renal RI	Renal Resistive Index. (PSV – EDV) / PSV at interlobar or segmental renal arteries.	Normal <0.70 ; ≥ 0.80 abnormal
RAR	Renal-Aortic Ratio. Renal artery PSV divided by aortic PSV at the level of the renals.	$\geq 3.5 = \geq 60\%$ RAS
TAMV	Time-Averaged Mean Velocity. Mean velocity over the cardiac cycle; used for volume flow calculations.	
Celiac artery	First anterior branch of the abdominal aorta; supplies liver, stomach, and spleen.	Normal PSV ≤ 200 cm/s
SMA	Superior Mesenteric Artery. Second anterior aortic branch; supplies small bowel and proximal colon.	Fasting PSV ≤ 275 cm/s; post-prandial rise normal
IMA	Inferior Mesenteric Artery. Third anterior aortic branch; supplies distal colon.	Often enlarged as collateral in SMA disease
Chronic mesenteric ischemia	Post-prandial abdominal pain and weight loss from mesenteric artery stenoses.	Usually ≥ 2 of 3 mesenteric vessels involved
Nutcracker syndrome	Compression of the left renal vein between the SMA and aorta.	Velocity gradient $>5:1$
Median arcuate ligament syndrome	Compression of the celiac artery by the median arcuate ligament; worsens with expiration.	Celiac PSV rises on expiration

12. Transplant (6 terms)

Term	Definition	Threshold
Renal transplant RI	RI measured in the transplant parenchyma; screens for rejection and acute tubular necrosis.	Normal <0.80 ; ≥ 0.80 concerning
HAT	Hepatic Artery Thrombosis. Post-liver-transplant occlusion of the hepatic artery; graft-threatening emergency.	Absent HA Doppler; tardus parvus distally
PVT	Portal Vein Thrombosis. Thrombus in the portal vein, acute or chronic.	Absent flow or echogenic filling defect
Acute rejection	Immune-mediated graft injury; may show elevated RI and graft swelling.	Renal RI ≥ 0.80 ; biopsy correlation
Chronic rejection	Progressive graft dysfunction with vascular and parenchymal changes.	Rising RI trend over months
CEUS perfusion	Contrast-enhanced ultrasound assessment of graft perfusion.	Useful when Doppler is equivocal

13. Echocardiographic Views (8 terms)

Term	Definition	Threshold
PLAX	Parasternal Long Axis. Parasternal window long-axis view showing LV, LA, MV, AV, and RV outflow.	Primary view for LV dimensions and aortic root
PSAX	Parasternal Short Axis. Parasternal window rotated 90°; sweeps from aortic valve level to apex.	Levels: AV, MV, papillary muscles, apex
A4C	Apical 4-Chamber. Apical window showing all four chambers; primary view for LV function.	Simpson's EF from A4C + A2C
A2C	Apical 2-Chamber. Apical window rotated ~60°; shows LV and LA only.	
A3C	Apical 3-Chamber (Long Axis). Apical window with LVOT and AV in view.	LVOT VTI and AV assessment
A5C	Apical 5-Chamber. A4C tilted anteriorly to include LVOT and AV.	LVOT VTI for AS continuity equation
Subcostal view	Subcostal window from below the xiphoid; best for IVC, RA, and patients with poor parasternal/apical windows.	Standard for IVC, interatrial septum
SSN	Suprasternal Notch. View from above the sternum showing the aortic arch and descending thoracic aorta.	Coarctation, dissection screening

14. Cardiac Function and Measurements (12 terms)

Term	Definition	Threshold
EF	Ejection Fraction. $(EDV - ESV) / EDV$; percentage of blood ejected per beat.	Normal >52% (men), >54% (women); <40% = HFrEF
FS	Fractional Shortening. $(LVIDd - LVIDs) / LVIDd$; M-mode LV shortening metric.	Normal 25–45%
SV	Stroke Volume. Volume ejected per beat; $SV = LVOT \text{ area} \times LVOT \text{ VTI}$, or $EDV - ESV$.	Normal 55–100 mL; SV_i 35–47 mL/m ²
CO	Cardiac Output. $SV \times HR$.	Normal 4–8 L/min; CI 2.5–4.0 L/min/m ²
GLS	Global Longitudinal Strain. Speckle-tracking measure of myocardial deformation; more negative = better function.	Normal $\leq -18\%$ to -20% ;;; Abnormal if less negative than -16% ; vendor-dependent (ASE 2019)
Simpson's biplane	Modified method of discs from A4C and A2C; ASE-preferred method for LV volume and EF.	Reference method when endocardium is well seen
E wave	Mitral inflow early diastolic peak velocity (passive LV filling).	Normal 0.6–1.3 m/s
A wave	Mitral inflow late diastolic peak velocity (atrial contraction).	Normal 0.2–0.7 m/s; absent in AFib
E/A ratio	E wave divided by A wave; early-to-late filling ratio.	Normal 0.8–2.0; <0.8 impaired relaxation; >2.0 restrictive

Term	Definition	Threshold
E/e' ratio	E wave divided by average septal + lateral TDI e'; estimates LV filling pressure.	Average E/e' ≥ 14 (or septal ≥ 15 , lateral ≥ 13) elevated LAP (ASE 2025)
TAPSE	Tricuspid Annular Plane Systolic Excursion. M-mode displacement of the lateral tricuspid annulus; RV systolic function metric.	Normal ≥ 17 mm; < 17 reduced
FAC	Fractional Area Change. (RV EDA – RV ESA) / RV EDA in A4C; RV systolic function.	Normal $\geq 35\%$; < 35 reduced

15. Valvular Disease (10 terms)

Term	Definition	Threshold
MS	Mitral Stenosis. Narrowing of the mitral valve; most commonly rheumatic.	Severe MVA < 1.5 cm ² ; very severe < 1.0 cm ² ; gradient is rate-dependent
MR	Mitral Regurgitation. Retrograde flow from LV to LA during systole.	Severe primary MR: EROA ≥ 0.40 cm ² , RV ≥ 60 mL; secondary MR: EROA ≥ 0.20 cm ² , RV ≥ 30 mL (integrative)
AS	Aortic Stenosis. Narrowing of the aortic valve; most commonly calcific.	Severe: peak V > 4 m/s, MG > 40 mmHg, AVA < 1.0 cm ² ; very severe ≥ 5 m/s or MG ≥ 60 mmHg (ASE/EACVI 2017)
AR	Aortic Regurgitation. Retrograde flow from aorta to LV during diastole.	Severe: VC > 6 mm, RF $\geq 50\%$; PHT < 200 ms supportive (load-dependent; Hahn 2024)
TR	Tricuspid Regurgitation. Retrograde flow from RV to RA; TR jet velocity used for PASP.	Severe VC > 7 mm, EROA ≥ 0.40 cm ² , RV ≥ 45 mL; massive 14–20 mm; torrential ≥ 21 mm (Hahn 5-grade)
PHT	Pressure Half-Time. Time for peak gradient to decline by half; inversely related to orifice area.	MS MVA = $220/\text{PHT}$ supportive (planimetry preferred; unreliable post-PMBV or with AR); AR severe < 200 ms
AVA	Aortic Valve Area. Calculated by continuity equation from LVOT and aortic jet.	Normal 3–4 cm ² ; severe AS < 1.0 cm ²
MVA	Mitral Valve Area. Planimetry or PHT-derived valve area.	Normal 4–6 cm ² ; severe MS < 1.5 cm ²

Term	Definition	Threshold
Continuity equation	Conservation of flow: LVOT area $\times$ LVOT VTI = AVA $\times$ aortic jet VTI.	Calculates AVA when gradients are equivocal
PISA	Proximal Isovelocity Surface Area. Hemispheric color Doppler method to quantify regurgitant orifice area.	MR EROA ≥ 0.40 cm ² = severe

16. Cardiac Pathology (10 terms)

Term	Definition	Threshold
HCM	Hypertrophic Cardiomyopathy. Genetic disorder causing LV hypertrophy, often asymmetric septal.	Septum ≥ 15 mm (≥ 13 mm with family history); LVOT gradient >30 mmHg = obstructive
DCM	Dilated Cardiomyopathy. Chamber dilation with reduced systolic function.	LVEDD M >58 , F >52 mm (or LVEDDi >2.7 cm/m ²); EF often $<40\%$
RCM	Restrictive Cardiomyopathy. Stiff ventricles with impaired diastolic filling; normal chamber size.	Restrictive filling (E/A >2 , short DT); biatrial enlargement
CAD	Coronary Artery Disease. Atherosclerotic narrowing of coronary arteries; underlying cause of most MIs.	
MI	Myocardial Infarction. Necrosis of myocardium from prolonged ischemia.	Regional WMA on echo; troponin elevation clinically
ACS	Acute Coronary Syndrome. Spectrum of unstable angina, NSTEMI, and STEMI from plaque rupture.	
WMA	Wall Motion Abnormality. Regional hypokinesis, akinesis, or dyskinesis; marker of ischemia or infarct.	17-segment model; hypokinetic / akinetic / dyskinetic
HFrEF	Heart Failure with Reduced Ejection Fraction. Systolic heart failure.	EF $<40\%$
HFpEF	Heart Failure with Preserved Ejection Fraction. Diastolic heart failure with normal EF.	EF $\geq 50\%$ with heart failure and diastolic dysfunction
PASP	Pulmonary Artery Systolic Pressure. Estimated by TR jet peak velocity + RAP; screens for pulmonary hypertension.	Normal <35 mmHg ;, ≥ 35 or TR Vmax ≥ 2.8 m/s abnormal (ASE 2025; ESC/ERS 2022)
LV mass index	LV mass / BSA; defines LVH from chronic pressure or volume overload.	>115 g/m ² (M), >95 g/m ² (F) = LVH (ASE 2015)

17. Pericardium and Congenital (8 terms)

Term	Definition	Threshold
Pericardial effusion	Fluid accumulation in the pericardial space.	Small <10 mm; moderate 10–20 mm; large >20 mm (end-diastolic)
Cardiac tamponade	Effusion compressing the heart and impairing filling; clinical and echo emergency.	RV/RA diastolic collapse; respiratory variation >25% in mitral E
Constrictive pericarditis	Thickened rigid pericardium limiting diastolic filling; mimics RCM.	Septal bounce; respirophasic variation; preserved or enhanced e'
ASD	Atrial Septal Defect. Congenital opening between the atria; most commonly secundum.	Right heart enlargement; Qp/Qs >1.5 suggests significant shunt
VSD	Ventricular Septal Defect. Congenital opening between the ventricles.	High-velocity systolic jet (>5 m/s = restrictive)
PDA	Patent Ductus Arteriosus. Persistence of the fetal ductus connecting aorta to pulmonary artery.	Continuous flow at PA bifurcation
TOF	Tetralogy of Fallot. Four congenital lesions: VSD, overriding aorta, pulmonary stenosis, RV hypertrophy.	
Coarctation	Narrowing of the aortic arch, typically distal to the left subclavian.	SSN view: high-velocity continuous-wave signal in descending aorta

18. Echo Doppler Modes and Spectral Patterns (24 terms)

Added Spring 2026 from CVSG1240 Echo Scan Lab I protocols.

Term	Definition	Threshold
PW Doppler	Pulsed-Wave Doppler. Samples velocity at a specific gate (sample volume); good spatial resolution but aliases at high velocity. <i>CW Doppler, TDI</i>	Used for MV inflow, PV flow, LVOT VTI
CW Doppler	Continuous-Wave Doppler. Samples the highest velocity along the entire cursor line; no aliasing limit, no spatial resolution. Angle correction does not apply. <i>PW Doppler, TR Vmax</i>	Used for TR, AS, MR, AR, suprasternal arch
TDI	Tissue Doppler Imaging. Doppler tuned to low-velocity, high-amplitude myocardial and annular motion (cm/s range). <i>e' (annular E'), s' (annular S')</i>	Filters out blood-flow signal
M-mode	Single-line motion-mode trace; depth on one axis, time on the other. High temporal resolution for wall, chamber, and valve measurements. <i>TAPSE, MV pattern (M-mode)</i>	
Sample volume	Depth-specific window in PW Doppler where velocity is sampled.	Place at MV leaflet tips for inflow, RUPV for S/D
Nyquist limit	Maximum velocity color or PW Doppler can display before aliasing.	Color: 50–70 cm/s for valvular flow ;, 30–40 cm/s for PV
E wave (MV inflow)	Peak velocity of early passive LV filling on PW at MV leaflet tips. <i>E/A ratio, E/e' ratio, A wave (MV inflow)</i>	Normal 0.6–1.3 m/s
A wave (MV inflow)	Peak velocity of late filling driven by atrial contraction. <i>E wave (MV inflow), AFib</i>	Normal 0.2–0.7 m/s ;, absent in AFib
e' (annular E')	Early-diastolic tissue Doppler velocity at the mitral annulus; reflects LV myocardial relaxation speed. <i>E/e' ratio, TDI</i>	Septal >6, lateral >7, average >6.5 cm/s (ASE 2025 fixed cutoffs)
a' (annular A')	Late-diastolic atrial-kick tissue Doppler velocity at the mitral annulus, just before R-wave. <i>e' (annular E'), AFib</i>	
s' (annular S')	Systolic tissue Doppler velocity at the mitral annulus; positive peak above baseline.	≥9 cm/s normal
RV S' (TDI)	Systolic tissue Doppler velocity at the base of the RV free wall.	≥9.5 cm/s normal RV systolic function
S wave (PV)	Pulmonary venous systolic forward flow into the LA. <i>D wave (PV), S/D ratio (PV)</i>	
D wave (PV)	Pulmonary venous diastolic forward flow into the LA after MV opening. <i>S wave (PV), S/D ratio (PV)</i>	
A reversal (Ar)	Backward pulmonary venous flow during atrial contraction. <i>LAP, Diastolic function grading</i>	Normal <35 cm/s and short
S/D ratio (PV)	Ratio of S to D peak velocities in pulmonary venous flow. <i>LAP, RUPV</i>	>1 normal in young adults ;, <1 suggests elevated LAP
Deceleration time (DT)	Time from peak E to baseline along the descending slope of MV inflow E. Surrogate for LV relaxation. <i>E wave (MV inflow), Grade III diastolic dysfunction</i>	Normal 160–220 ms ;, ≤160 ms restrictive (ASE 2025)
IVRT	Isovolumic Relaxation Time. Interval between AV closure and MV opening. <i>Diastolic function grading</i>	Normal 70–90 ms ;, >100 ms = impaired relaxation

Term	Definition	Threshold
IVCT	Isovolumic Contraction Time. Interval between MV closure and AV opening.	Normal 60–80 ms
Mercedes sign	Three-cusp pattern of a normal trileaflet AV in PSAX-Base 2D, resembling the Mercedes-Benz logo.	
MV pattern (M-mode)	M-shape anterior leaflet with E and A peaks; W-shape posterior leaflet. Used for MS, prolapse, and SAM.	
AoV cusp opening (M-mode)	Parallelogram or box shape of the right and left coronary cusps on M-mode through the AV. Stenotic AV shows blunted opening.	
VTI	Velocity-Time Integral. Area under the spectral Doppler envelope; mean velocity $\times$ ejection time, in cm.	LVOT VTI normal 18–22 cm
Stroke volume (Doppler)	$SV = \pi/4 \times LVOT \text{ diameter}^2 \times LVOT \text{ VTI}$.	Normal 55–100 mL
TR Vmax	Peak velocity of the TR jet on CW Doppler; primary input to PASP via $4V^2$.	<2.8 m/s normal ;, ≥ 2.8 m/s abnormal (ASE 2025)

19. Diastolic Function (2025 ASE) (8 terms)

Added Spring 2026 from CVSG1240 Echo Scan Lab I Modules 7–9 and CVSG1640 diastology lectures.

Term	Definition	Threshold
Diastolic function grading	Algorithmic categorization of LV diastolic performance using E/e', LAVI, TR Vmax, S/D, E/A, and Valsalva (2025 ASE).	Grades: Normal, Indeterminate, I, II, III
Grade I diastolic dysfunction	Impaired relaxation with normal LAP. <i>Diastolic function grading, E/A ratio</i>	E/A <0.8 with E ≤ 50 cm/s (impaired relaxation)
Grade II diastolic dysfunction	Pseudo-normal pattern with elevated LAP. <i>Diastolic function grading, Valsalva</i>	E/A 0.8–2.0 ;,, Valsalva unmasks E/A reversal
Grade III diastolic dysfunction	Restrictive filling with elevated LAP. <i>Diastolic function grading, Deceleration time (DT)</i>	E/A >2.0, short DT, elevated LAVI
Indeterminate diastolic function	Markers do not fit a clean grade in the 2025 ASE flowchart.	
LAVI	Left Atrial Volume Index. LA Vmax / BSA from biplane area-length or Simpson at end-systole. <i>LA volume, LAP</i>	Normal ≤ 34 mL/m ² ;,, >34 dilated ;,, >48 severely dilated
LAP	Left Atrial Pressure. Categorized as Normal or Increased in the 2025 ASE flowchart. <i>E/e' ratio, LAVI</i>	E/e' >14 suggests elevated
RUPV	Right Upper Pulmonary Vein. Most accessible pulmonary vein in TTE for PW S/D sampling.	Sample 1–2 cm into vein from LA junction

20. LV Volumes, Geometry, and EF Methods (16 terms)

Added Spring 2026 from CVSG1240 Echo Scan Lab I Modules 1, 6, 8, 9.

Term	Definition	Threshold
EDV	End-Diastolic Volume. LV volume at the R-wave on ECG; cavity is largest.	
ESV	End-Systolic Volume. LV volume at peak T-wave; cavity is smallest.	
End-diastole	Frame at the R-wave on ECG; ventricles largest, atria smallest.	
End-systole	Frame near peak T-wave; ventricles smallest, atria largest.	
Simpson biplane	Modified method-of-discs LV volume from A4C and A2C tracings at end-diastole and end-systole; ASE-preferred EF method. <i>Biplane EF, Teichholz EF</i>	20-disc integration ;;; reference EF method
Biplane EF	EF computed from combined A4C and A2C Simpson volumes; default reported value on clinical echo reports. <i>Simpson biplane, Foreshortening</i>	Normal $\geq 52\%$ (men), $\geq 54\%$ (women)
Teichholz EF	EF computed from LVIDd and LVIDs assuming an ellipsoid LV. Quick reference; unreliable with regional WMA. <i>Simpson biplane, LVIDd / LVIDs</i>	
LV-focused view	A4C or A2C optimized for LV measurement: LV occupies most of the image, apex not foreshortened.	
Foreshortening	Imaging error where the apex is dropped, making the chamber look shorter and rounder. Causes underestimation of LV / atrial volumes. <i>LV-focused view, Simpson biplane</i>	
LVIDd / LVIDs	LV internal dimension at end-diastole / end-systole; inner-edge to inner-edge, perpendicular to long axis.	LVIDd: M 4.2–5.9 cm; F 3.9–5.3 cm (ASE 2015)
IVSd / IVSs	Interventricular septal thickness at end-diastole / end-systole.	M ≤ 1.0 ; F ≤ 0.9 cm ;;; ≥ 1.5 cm = HCM range
LVPWd / LVPWs	LV posterior wall thickness at end-diastole / end-systole.	M ≤ 1.0 ; F ≤ 0.9 cm (ASE 2015)
AV annulus diameter	Aortic valve annulus measured at the leaflet hinge points, inner-edge to inner-edge, mid-systole. Drives SV and AVA. <i>LVOT diameter, AVA</i>	Normal 1.8–2.6 cm
LVOT diameter	Inner-edge to inner-edge LVOT measurement at the cusp insertion in mid-systole. <i>Stroke volume (Doppler), AVA</i>	Drives SV and AVA continuity
Ao root	Aortic root diameter at the sinuses of Valsalva, end-diastole. <i>AV annulus, Bicuspid aortic valve</i>	Normal ≤ 3.7 cm (men) ;;; ≤ 3.4 cm (women) ;;; ≥ 5.0 cm = aneurysm
LA diameter	Left atrium AP dimension on PLAX, end-systole.	Linear ≤ 4.0 cm (M), ≤ 3.8 cm (F); LAVI ≤ 34 mL/m ² preferred

21. Cardiac Anatomy and Window Specifics (14 terms)

Added Spring 2026 from CVSG1240 protocols and CVSG1640 anatomy lectures.

Term	Definition	Threshold
AoV (AV)	Aortic Valve. Three-cusp valve between LV and aortic root.	
MV	Mitral Valve. Bicuspid valve between LA and LV.	
PV	Pulmonic Valve. Three-cusp valve at the top of the RVOT.	
TV	Tricuspid Valve. Three-leaflet valve between RA and RV.	

Term	Definition	Threshold
AV annulus	Fibrous ring at the AV leaflet hinge points; measurement reference.	
MPA	Main Pulmonary Artery. Outflow trunk from RVOT, just above the PV.	
RPA	Right Pulmonary Artery. Branch beneath the aortic arch on suprasternal view.	
IAS	Interatrial Septum. Wall between the left and right atria.	Thinnest at fossa ovalis ,, PFO site
IVS	Interventricular Septum. Wall between the left and right ventricles; membranous and muscular portions.	
Fossa ovalis	Thinner central portion of the IAS; embryologic remnant of the foramen ovale. <i>PFO, IAS</i>	PFO present in 25% of adults
PFO	Patent Foramen Ovale. Persistent small opening at the fossa ovalis. <i>Fossa ovalis, ASD</i>	Bubble study with Valsalva to detect right-to-left shunt
Eustachian valve	Thin embryonic remnant flap at the IVC-RA junction; benign incidental finding. <i>Cavoatrial junction, IVC</i>	
Cavoatrial junction	Where the IVC enters the RA; landmark for IVC diameter measurement.	Measure 1–2 cm caudal to it
RVIT	Right Ventricular Inflow Tract. Parasternal view tilted toward the right hip, showing RA, TV, and RV inflow.	

22. CVSG1340 Cardiovascular Pathology (16 terms)

Added Spring 2026 from CVSG1340 CV Pathology chapter content (Lilly 8th ed.).

Term	Definition	Threshold
STEMI	ST-Elevation Myocardial Infarction. Full-thickness infarct with ECG ST elevation; emergent revascularization. <i>NSTEMI, ACS</i>	Door-to-balloon ≤ 90 min
NSTEMI	Non-ST-Elevation Myocardial Infarction. Partial-thickness infarct without ST elevation but with troponin rise. <i>STEMI, ACS</i>	
Unstable angina	Ischemic chest pain at rest or with minimal exertion; troponin negative.	
NYHA class	New York Heart Association. Functional classification of heart failure symptoms.	I (none) ;, II (with exertion) ;, III (mild exertion) ;, IV (rest)
BNP	B-type Natriuretic Peptide. Released by stretched ventricular myocytes; rises with heart failure. <i>NT-proBNP, HFrEF, HFpEF</i>	>100 pg/mL suggests HF ;, >400 likely HF
NT-proBNP	N-terminal pro-BNP fragment; longer half-life than BNP. <i>BNP</i>	Age-adjusted cutoffs ;, >450 (<50 yr), >900 (50–75), >1800 (>75)
AFib	Atrial Fibrillation. Disorganized atrial activity with absent A wave on echo and irregular ventricular response. <i>A wave (MV inflow), Atrial flutter</i>	LA stasis raises stroke risk ;, CHA ₂ DS ₂ -VASc score
Atrial flutter	Organized atrial reentry at ~ 300 bpm with sawtooth ECG pattern.	Usually 2:1 or 4:1 conduction
RHD	Rheumatic Heart Disease. Chronic valvular damage from rheumatic fever; classically MV stenosis with commissural fusion. <i>MS, MV pattern (M-mode)</i>	Doming MV leaflets, hockey-stick deformity
Infective endocarditis	Microbial infection of the endocardial surface, usually a valve.	Modified Duke criteria ;, vegetations, abscess, new regurgitation
Vegetation	Mobile echogenic mass attached to a valve leaflet or endocardial surface. <i>Infective endocarditis</i>	Risk of embolism ;, size ≥ 10 mm raises stroke risk
Takotsubo cardiomyopathy	Stress-induced apical ballooning with preserved basal contraction; mimics anterior MI.	Apical akinesis with hyperdynamic base ;, reversible
Cardiac amyloidosis	Infiltrative disease with thick walls, granular sparkling myocardium, low EF, and severe diastolic dysfunction. <i>GLS, HCM</i>	Apical-sparing strain pattern (cherry-on-top)
Cardiac sarcoidosis	Granulomatous infiltration of myocardium; segmental wall thinning, aneurysms, conduction disease.	
LV thrombus	Apical mural clot, usually after large anterior MI with apical akinesis. <i>WMA, MI</i>	Risk of systemic embolism ;, anticoagulation indicated
Hypertensive heart disease	LV concentric hypertrophy, LA enlargement, and diastolic dysfunction from chronic HTN.	LV mass index >115 g/m ² (men), >95 (women)

23. CVSG1640 Echo I Imaging Physics (12 terms)

Added Spring 2026 from CVSG1640 Echo I Lecture 1–9 imaging-physics content.

Term	Definition	Threshold
ALARA	As Low As Reasonably Achievable. Operator principle to minimize ultrasound exposure (MI, TI, dwell time). <i>MI, TI</i>	
MI	Mechanical Index. Estimate of cavitation risk; displayed on the cart.	Diagnostic limit ≤ 1.9 ;, lower for contrast
TI	Thermal Index. Estimate of tissue heating; TIS (soft), TIB (bone), TIC (cranial).	≤ 1.0 for routine cardiac scanning
Axial resolution	Ability to distinguish two structures along the beam axis; depends on pulse length.	Improves with higher frequency ;, typical 0.5 mm
Lateral resolution	Ability to distinguish two structures perpendicular to the beam; depends on beam width and focal zone.	Best at the focal zone
Frame rate	Number of 2D frames per second; trades off with sector width and depth.	Cardiac target ≥ 30 fps ;, ≥ 60 fps for fast events
Frequency-depth tradeoff	Higher frequency = better resolution, worse penetration.	Cardiac phased array typically 2–4 MHz
TGC	Time Gain Compensation. Per-depth gain controls that offset attenuation.	
Dynamic range	Ratio of largest to smallest signal displayed; controls grayscale contrast.	Cardiac typical 50–65 dB
Focal zone	Depth at which the beam is narrowest; placed at the region of interest.	
Harmonic imaging	Receives at twice the transmit frequency; improves contrast and reduces near-field artifact.	Default ON for adult echo
Sector width / sweep speed	Sector narrowing raises frame rate; sweep-speed adjusts the time axis on M-mode and Doppler displays.	Sweep 50–100 mm/s for spectral

Alphabetical Index

Every term, sorted alphabetically by abbreviation or first word. Click a section to jump to the full entry.

Term	Full Name	Section
A2C	Apical 2-Chamber	Echocardiographic Views
A3C	Apical 3-Chamber (Long Axis)	Echocardiographic Views
A4C	Apical 4-Chamber	Echocardiographic Views
A5C	Apical 5-Chamber	Echocardiographic Views
AAA	Abdominal Aortic Aneurysm	Aorta and AAA
ABI	Ankle-Brachial Index	Peripheral Arterial
Access flow	Volume flow in dialysis access	Dialysis Access
ACS	Acute Coronary Syndrome	Cardiac Pathology
Acute rejection		Transplant
Adventitia		General Vascular
Aliasing		Doppler and Waveforms
Anastomosis		General Vascular
Anastomotic pseudoaneurysm		Bypass Grafts
Aneurysm		General Vascular
Angle correction		Imaging and Equipment
Aortic bifurcation		Aorta and AAA
Aortic hiatus		Aorta and AAA
AR	Aortic Regurgitation	Valvular Disease
ARDMS	American Registry for Diagnostic Medical Sonography	General Vascular
AS	Aortic Stenosis	Valvular Disease
ASD	Atrial Septal Defect	Pericardium and Congenital
ASE	American Society of Echocardiography	General Vascular
Augmentation		Venous and Reflux
AVA	Aortic Valve Area	Valvular Disease
AVF	Arteriovenous Fistula	Dialysis Access
AVG	Arteriovenous Graft	Dialysis Access
A wave	Mitral inflow late diastolic	Cardiac Function
B-mode	Brightness Mode	Imaging and Equipment
Brachiocephalic fistula		Dialysis Access
Budd-Chiari syndrome		IVC and Right Heart
CAD	Coronary Artery Disease	Cardiac Pathology
Cardiac tamponade		Pericardium and Congenital
Carotid bulb (sinus)		Carotid and Cerebrovascular
Caval hiatus		IVC and Right Heart
CCA	Common Carotid Artery	Carotid and Cerebrovascular
CEA	Carotid Endarterectomy	Carotid and Cerebrovascular
CEAP classification	Clinical, Etiologic, Anatomic, Pathophysiologic	Venous and Reflux
Celiac artery		Renal and Mesenteric
CEUS	Contrast-Enhanced Ultrasound	Imaging and Equipment
CEUS perfusion		Transplant
CFA	Common Femoral Artery	Peripheral Arterial
Chronic mesenteric ischemia		Renal and Mesenteric
Chronic rejection		Transplant

Term	Full Name	Section
CIMT	Carotid Intima-Media Thickness	Carotid and Cerebrovascular
Claudication		Peripheral Arterial
CLI	Critical Limb Ischemia	Peripheral Arterial
CO	Cardiac Output	Cardiac Function
Coarctation		Pericardium and Congenital
Collateral		General Vascular
Color Doppler		Doppler and Waveforms
Common iliac artery		Aorta and AAA
Constrictive pericarditis		Pericardium and Congenital
Continuity equation		Valvular Disease
CTA	Computed Tomography Angiography	Imaging and Equipment
Curvilinear transducer		Imaging and Equipment
CVI	Chronic Venous Insufficiency	Venous and Reflux
DCM	Dilated Cardiomyopathy	Cardiac Pathology
Dissection		General Vascular
Duplex ultrasound		General Vascular
DVT	Deep Vein Thrombosis	Venous and Reflux
E/A ratio		Cardiac Function
E/e' ratio		Cardiac Function
E wave	Mitral inflow early diastolic	Cardiac Function
ECA	External Carotid Artery	Carotid and Cerebrovascular
EDV	End-Diastolic Velocity	Carotid and Cerebrovascular
EF	Ejection Fraction	Cardiac Function
Embolus		General Vascular
Endoleak		Aorta and AAA
EVAR	Endovascular Aneurysm Repair	Aorta and AAA
FAC	Fractional Area Change	Cardiac Function
FS	Fractional Shortening	Cardiac Function
GLS	Global Longitudinal Strain	Cardiac Function
Graft patency		Bypass Grafts
Graft thrombosis		Bypass Grafts
GSV	Great Saphenous Vein	Venous and Reflux
HAT	Hepatic Artery Thrombosis	Transplant
HCM	Hypertrophic Cardiomyopathy	Cardiac Pathology
Hepatic veins		IVC and Right Heart
HFpEF	Heart Failure with Preserved Ejection Fraction	Cardiac Pathology
HFrfEF	Heart Failure with Reduced Ejection Fraction	Cardiac Pathology
IAC	Intersocietal Accreditation Commission	General Vascular
IAC 2023 criteria		Carotid and Cerebrovascular
ICA	Internal Carotid Artery	Carotid and Cerebrovascular
ICA/CCA ratio		Carotid and Cerebrovascular
ICAVL	Intersocietal Commission for the Accreditation of Vascular Laboratories	General Vascular
IMA	Inferior Mesenteric Artery	Renal and Mesenteric
Infrarenal aorta		Aorta and AAA
In-situ vein graft		Bypass Grafts
Intima		General Vascular
Intraoperative duplex		Imaging and Equipment

Term	Full Name	Section
IVC	Inferior Vena Cava	IVC and Right Heart
IVC collapsibility index		IVC and Right Heart
IVC filter		IVC and Right Heart
Juxta-anastomotic stenosis		Dialysis Access
Linear transducer		Imaging and Equipment
Lumen		General Vascular
Maturation	Dialysis access maturation	Dialysis Access
May-Thurner syndrome		Venous and Reflux
Media		General Vascular
Median arcuate ligament syndrome		Renal and Mesenteric
MI	Myocardial Infarction	Cardiac Pathology
Monophasic waveform		Doppler and Waveforms
MR	Mitral Regurgitation	Valvular Disease
MRA	Magnetic Resonance Angiography	Imaging and Equipment
MS	Mitral Stenosis	Valvular Disease
Mural thrombus		Aorta and AAA
MVA	Mitral Valve Area	Valvular Disease
Nutcracker syndrome		Renal and Mesenteric
Occlusion		General Vascular
OTI	Outer-to-Inner	Aorta and AAA
PAD	Peripheral Arterial Disease	Peripheral Arterial
PASP	Pulmonary Artery Systolic Pressure	Cardiac Pathology
PDA	Patent Ductus Arteriosus	Pericardium and Congenital
Peri-graft fluid		Bypass Grafts
Pericardial effusion		Pericardium and Congenital
Perforator veins		Venous and Reflux
Phasicity		Venous and Reflux
PHT	Pressure Half-Time	Valvular Disease
PI	Pulsatility Index	Doppler and Waveforms
PISA	Proximal Isovelocity Surface Area	Valvular Disease
Plaque		Carotid and Cerebrovascular
PLAX	Parasternal Long Axis	Echocardiographic Views
Popliteal artery		Peripheral Arterial
Post-thrombotic syndrome		Venous and Reflux
Power Doppler		Doppler and Waveforms
PSAX	Parasternal Short Axis	Echocardiographic Views
Pseudoaneurysm		Dialysis Access
PSV	Peak Systolic Velocity	Carotid and Cerebrovascular
PSV ratio (graft)		Bypass Grafts
PTFE graft	Polytetrafluoroethylene	Bypass Grafts
Pulmonary hypertension		IVC and Right Heart
PVR	Pulse Volume Recording	Peripheral Arterial
PVT	Portal Vein Thrombosis	Transplant

Term	Full Name	Section
QA	Quality Assurance	Imaging and Equipment
RA	Right Atrium	IVC and Right Heart
Radiocephalic fistula		Dialysis Access
RAP	Right Atrial Pressure	IVC and Right Heart
RAR	Renal-Aortic Ratio	Renal and Mesenteric
RAS	Renal Artery Stenosis	Renal and Mesenteric
RCM	Restrictive Cardiomyopathy	Cardiac Pathology
RCS	Registered Cardiac Sonographer	General Vascular
RDCS	Registered Diagnostic Cardiac Sonographer	General Vascular
Reflux time		Venous and Reflux
Renal RI	Renal Resistive Index	Renal and Mesenteric
Renal transplant RI		Transplant
Rest pain		Peripheral Arterial
Retroperitoneal		General Vascular
Reversed vein graft		Bypass Grafts
RI	Resistive Index	Doppler and Waveforms
Sample volume (gate)		Imaging and Equipment
Segmental pressures		Peripheral Arterial
SFA	Superficial Femoral Artery	Peripheral Arterial
Simpson's biplane		Cardiac Function
SMA	Superior Mesenteric Artery	Renal and Mesenteric
Sniff test		IVC and Right Heart
Spectral broadening		Doppler and Waveforms
Spectral Doppler		Doppler and Waveforms
SSN	Suprasternal Notch	Echocardiographic Views
SSV	Small Saphenous Vein	Venous and Reflux
Steal syndrome		Dialysis Access
Stenosis		General Vascular
Subclavian steal		Carotid and Cerebrovascular
Subcostal view		Echocardiographic Views
Suprarenal aorta		Aorta and AAA
SV	Stroke Volume	Cardiac Function
TAMV	Time-Averaged Mean Velocity	Renal and Mesenteric
TAPSE	Tricuspid Annular Plane Systolic Excursion	Cardiac Function
Tardus parvus		Doppler and Waveforms
TBI	Toe-Brachial Index	Peripheral Arterial
Temporal tap		Carotid and Cerebrovascular
Thrombosis		General Vascular
TIA	Transient Ischemic Attack	Carotid and Cerebrovascular
Tibial arteries	Dorsalis pedis, posterior tibial, peroneal	Peripheral Arterial
TOF	Tetralogy of Fallot	Pericardium and Congenital
TR	Tricuspid Regurgitation	Valvular Disease
Triphasic waveform		Doppler and Waveforms
Valsalva maneuver		Venous and Reflux
Venous outflow stenosis		Dialysis Access
Vertebral artery		Carotid and Cerebrovascular
VSD	Ventricular Septal Defect	Pericardium and Congenital
WMA	Wall Motion Abnormality	Cardiac Pathology

Spring 2026 Additions (sections 18–23)

Term	Full Name	Section
PW Doppler		Echo Doppler Modes and Spectral Patterns (24 terms)
CW Doppler		Echo Doppler Modes and Spectral Patterns (24 terms)
TDI		Echo Doppler Modes and Spectral Patterns (24 terms)
M-mode		Echo Doppler Modes and Spectral Patterns (24 terms)
Sample volume		Echo Doppler Modes and Spectral Patterns (24 terms)
Nyquist limit		Echo Doppler Modes and Spectral Patterns (24 terms)
E wave (MV inflow)		Echo Doppler Modes and Spectral Patterns (24 terms)
A wave (MV inflow)		Echo Doppler Modes and Spectral Patterns (24 terms)
e' (annular E')		Echo Doppler Modes and Spectral Patterns (24 terms)
a' (annular A')		Echo Doppler Modes and Spectral Patterns (24 terms)
s' (annular S')		Echo Doppler Modes and Spectral Patterns (24 terms)
RV S' (TDI)		Echo Doppler Modes and Spectral Patterns (24 terms)
S wave (PV)		Echo Doppler Modes and Spectral Patterns (24 terms)
D wave (PV)		Echo Doppler Modes and Spectral Patterns (24 terms)
A reversal (Ar)		Echo Doppler Modes and Spectral Patterns (24 terms)
S/D ratio (PV)		Echo Doppler Modes and Spectral Patterns (24 terms)
Deceleration time (DT)		Echo Doppler Modes and Spectral Patterns (24 terms)
IVRT		Echo Doppler Modes and Spectral Patterns (24 terms)
IVCT		Echo Doppler Modes and Spectral Patterns (24 terms)
Mercedes sign		Echo Doppler Modes and Spectral Patterns (24 terms)
MV pattern (M-mode)		Echo Doppler Modes and Spectral Patterns (24 terms)
AoV cusp opening (M-mode)		Echo Doppler Modes and Spectral Patterns (24 terms)
VTI		Echo Doppler Modes and Spectral Patterns (24 terms)
Stroke volume (Doppler)		Echo Doppler Modes and Spectral Patterns (24 terms)

Term	Full Name	Section
Diastolic function grading		Diastolic Function (2025 ASE) (8 terms)
Grade I diastolic dysfunction		Diastolic Function (2025 ASE) (8 terms)
Grade II diastolic dysfunction		Diastolic Function (2025 ASE) (8 terms)
Grade III diastolic dysfunction		Diastolic Function (2025 ASE) (8 terms)
Indeterminate diastolic function		Diastolic Function (2025 ASE) (8 terms)
LAVI		Diastolic Function (2025 ASE) (8 terms)
LAP		Diastolic Function (2025 ASE) (8 terms)
RUPV		Diastolic Function (2025 ASE) (8 terms)
EDV		LV Volumes, Geometry, and EF Methods (16 terms)
ESV		LV Volumes, Geometry, and EF Methods (16 terms)
End-diastole		LV Volumes, Geometry, and EF Methods (16 terms)
End-systole		LV Volumes, Geometry, and EF Methods (16 terms)
Simpson biplane		LV Volumes, Geometry, and EF Methods (16 terms)
Biplane EF		LV Volumes, Geometry, and EF Methods (16 terms)
Teichholz EF		LV Volumes, Geometry, and EF Methods (16 terms)
LV-focused view		LV Volumes, Geometry, and EF Methods (16 terms)
Foreshortening		LV Volumes, Geometry, and EF Methods (16 terms)
LVIDd / LVIDs		LV Volumes, Geometry, and EF Methods (16 terms)
IVSd / IVSs		LV Volumes, Geometry, and EF Methods (16 terms)
LVPWd / LVPWs		LV Volumes, Geometry, and EF Methods (16 terms)
AV annulus diameter		LV Volumes, Geometry, and EF Methods (16 terms)
LVOT diameter		LV Volumes, Geometry, and EF Methods (16 terms)
Ao root		LV Volumes, Geometry, and EF Methods (16 terms)
LA diameter		LV Volumes, Geometry, and EF Methods (16 terms)
AoV (AV)		Cardiac Anatomy and Window Specifics (14 terms)

Term	Full Name	Section
MV		Cardiac Anatomy and Window Specifics (14 terms)
PV		Cardiac Anatomy and Window Specifics (14 terms)
TV		Cardiac Anatomy and Window Specifics (14 terms)
AV annulus		Cardiac Anatomy and Window Specifics (14 terms)
MPA		Cardiac Anatomy and Window Specifics (14 terms)
RPA		Cardiac Anatomy and Window Specifics (14 terms)
IAS		Cardiac Anatomy and Window Specifics (14 terms)
IVS		Cardiac Anatomy and Window Specifics (14 terms)
Fossa ovalis		Cardiac Anatomy and Window Specifics (14 terms)
PFO		Cardiac Anatomy and Window Specifics (14 terms)
Eustachian valve		Cardiac Anatomy and Window Specifics (14 terms)
Cavoatrial junction		Cardiac Anatomy and Window Specifics (14 terms)
RVIT		Cardiac Anatomy and Window Specifics (14 terms)
STEMI		CVSG1340 Cardiovascular Pathology (16 terms)
NSTEMI		CVSG1340 Cardiovascular Pathology (16 terms)
Unstable angina		CVSG1340 Cardiovascular Pathology (16 terms)
NYHA class		CVSG1340 Cardiovascular Pathology (16 terms)
BNP		CVSG1340 Cardiovascular Pathology (16 terms)
NT-proBNP		CVSG1340 Cardiovascular Pathology (16 terms)
AFib		CVSG1340 Cardiovascular Pathology (16 terms)
Atrial flutter		CVSG1340 Cardiovascular Pathology (16 terms)
RHD		CVSG1340 Cardiovascular Pathology (16 terms)
Infective endocarditis		CVSG1340 Cardiovascular Pathology (16 terms)
Vegetation		CVSG1340 Cardiovascular Pathology (16 terms)
Takotsubo cardiomyopathy		CVSG1340 Cardiovascular Pathology (16 terms)

Term	Full Name	Section
Cardiac amyloidosis		CVSG1340 Cardiovascular Pathology (16 terms)
Cardiac sarcoidosis		CVSG1340 Cardiovascular Pathology (16 terms)
LV thrombus		CVSG1340 Cardiovascular Pathology (16 terms)
Hypertensive heart disease		CVSG1340 Cardiovascular Pathology (16 terms)
ALARA		CVSG1640 Echo I Imaging Physics (12 terms)

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