ECG, Acute Coronary Syndromes and Heart Failure Guide

Course 03 · Cardiovascular, Vascular and Hematology · October 2026

ECG interpretation sequence

• Check rate / rhythm / P waves / PR interval / QRS width / axis / QTc / ST-T patterns.

• AF: irregularly irregular; wide-complex tachycardia plus instability: assume VT until urgent expert evaluation.

• Evaluate ischemia in context; serial ECG and high-sensitivity troponin are needed for many ACS presentations.

• Concerning findings: STEMI-equivalent, high-grade block, prolonged QT with syncope, pre-excitation with unstable tachycardia.

Chest pain and ACS

• Rapidly assess stability and obtain 12-lead ECG in an emergency setting.

• ST elevation or convincing coronary occlusion requires emergency reperfusion pathway; do not delay for a second test.

• A normal ECG or early troponin does not safely exclude ACS.

• Consider aortic dissection, PE, pneumothorax and pericarditis before assuming typical coronary disease.

Heart failure and cardiomyopathies

• Congestion: orthopnea, crackles, raised JVP, peripheral edema; use echo and clinical biomarkers appropriately.

• HFrEF disease-modifying classes: ARNI/ACEi/ARB, evidence-based beta blocker, MRA and SGLT2 inhibitor when eligible.

• Diuretics improve congestion; monitor potassium, kidney function and volume status.

• Pericardial tamponade, acute myocarditis with rhythm/EF changes and unstable HCM require urgent assessment.

Prevention / blood pressure

• Use 2025 Hypertension Canada standardized BP measurement and out-of-office confirmation.

• Definition BP >=130/80; common treatment initiation BP >=140/90 or SBP 130–139 at high CVD risk.

• Aim for tolerated SBP <130; consider frailty, orthostasis and kidney/electrolyte status.

• Treat established ASCVD with appropriate lipid lowering, smoking cessation, activity, nutrition, rehab.

AHA/ACC — 2025 Acute Coronary Syndromes Guideline

Canadian Cardiovascular Society — 2025 Heart Failure Guideline

Hypertension Canada — 2025 recommendations

Canadian Cardiovascular Society — Guidelines Library

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