STEMI territories, reciprocal leads and mimics

● Draft — pending owner review

OCCLUSIONS

PATTERN	ARTERY	ST ELEVATION	RECIPROCAL DEPRESSION
Extensive anterior STEMI Anterior wall, septum and anterolateral wall	Proximal LAD	V1, V2, V3, V4, V5, V6, I, aVL	II, III, aVF
Anterior STEMI Anterior wall and apex	Mid LAD	V1, V2, V3, V4, V5	None expected
High lateral STEMI High lateral wall	First diagonal (D1)	I, aVL, V2	III, aVF
Inferior STEMI with right ventricular involvement Inferior wall and right ventricle	Proximal RCA	II, III, aVF, V1, V4R	I, aVL
Inferior STEMI Inferior wall	Distal RCA	II, III, aVF	I, aVL
Inferolateral and posterior STEMI Lateral, inferior and posterior walls	Left circumflex	II, III, aVF, V5, V6, V7, V8, V9	V1, V2, V3
Isolated posterior MI Posterior wall	Posterior branch	V7, V8, V9	V1, V2, V3
aVR elevation with diffuse ST depression Most of the left ventricle (subendocardial)	Left main	aVR, V1	I, II, aVL, aVF, V3, V4, V5, V6

ST-ELEVATION THRESHOLDS (AT THE J POINT)

Most leads	≥ 1 mm
V2–V3, men ≥ 40	≥ 2 mm
V2–V3, men < 40	≥ 2.5 mm
V2–V3, women	≥ 1.5 mm
V7–V9	≥ 0.5 mm
V3R–V4R	≥ 0.5 mm

RECIPROCAL CHANGES

Inferior STE	Depression in aVL (and I)
High lateral STE	Depression in III and aVF
Posterior	Depression in V1–V3
Pericarditis	No reciprocal depression except aVR, V1

MIMICS AND HOW TO TELL THEM

Acute pericarditis	Concave ST elevation and PR depression are widespread, with the reverse in aVR and no other reciprocal changes.
Benign early repolarization	Concave ST elevation with a notched J point and tall T waves appears without reciprocal ST depression.
Left ventricular hypertrophy with strain	Voltage criteria are met and the lateral leads show downsloping ST depression with asymmetric T inversion.
Left bundle branch block	The QRS is at least 120 ms with a broad notched R in I and V6, a deep QS in V1 and no septal q waves.
Brugada pattern, type 1	V1–V2 show coved ST elevation of at least 2 mm descending into an inverted T wave.
Takotsubo (stress) cardiomyopathy DRAFT	ST elevation spans the anterior and lateral leads without inferior reciprocal depression, with deep symmetric T inversion and a long QT.
Hyperkalemia, mild (peaked T waves)	The T waves are tall, narrow and symmetric across many leads while the P waves and QRS remain normal.
WPW pattern, left-sided pathway (type A)	The PR is under 120 ms and a delta wave widens the QRS and is upright in V1.