



ACUTE CORONARY SYNDROME

ACS reflects acute myocardial ischaemia due to coronary plaque rupture ± thrombosis.

ACS Spectrum

- **STEMI** → Complete coronary occlusion → **IMMEDIATE reperfusion**
- **NSTEMI** → Partial occlusion
- **Unstable angina** → Ischaemia without troponin rise

RECOGNITION

Typical Features

- Central chest pain >20 min
- Radiation (arm, jaw, back)
- Autonomic symptoms (diaphoresis, nausea)
- Dyspnoea

Atypical / High risk Presentations

- Elderly, diabetic, renal failure
- Epigastric pain, collapse, unexplained dyspnoea
- "Indigestion" with autonomic features

Always exclude AAS before giving anticoagulation or thrombolysis

ECG INTERPRETATION THAT MATTERS

12 lead ECG within 10 minutes

STEMI Criteria

- ST elevation more than 2mm in V2 or V3 and 1mm in all other leads, in contiguous leads
- New or presumed new LBBB with ischaemic symptoms
- Posterior MI (ST depression V1–V3 + tall R waves)

NSTEMI / UA

- ST depression
- T wave inversion
- Normal ECG ≠ rule out ACS

DRUG MANAGEMENT — WHAT ACTUALLY HELPS

A ANTIPLATELETS (CORNERSTONE)

First line

- Aspirin 300 mg chewed (unless true allergy)

Second agent (if available)

- Clopidogrel
 - 300mg

B ANTICOAGULATION

Unfractionated heparin – 5000iu

- STEMI (PCI or lysis)
- NSTEMI high risk

C REPERFUSION — STEMI ONLY

Preferred

- Primary PCI ≤120 min

If PCI unavailable

- Fibrinolysis
 - Streptokinase
 - Tenecteplase / alteplase if available

D PAIN CONTROL (VERY IMPORTANT)

Pain increases HR, BP, and infarct size.

Preferred

- Morphine IV (titrate)

If NO MORPHINE AVAILABLE

Realistic ED alternatives:

- Fentanyl IV (excellent substitute)
- Tramadol IV
- Pethidine (meperidine) if nothing else
- Paracetamol IV (adjunct, not enough alone)

NSAIDs (other than aspirin) are **contraindicated**

E NITRATES

- Use only if:
 - SBP >100
 - No RV infarct
 - No severe bradycardia
- Sublingual GTN
- IV GTN if monitored

F OXYGEN

- **ONLY** if SpO₂ <90%
- Routine oxygen worsens outcomes in normoxic patients

WHAT TO AVOID (COMMON, DANGEROUS)

- Thrombolysis without ECG confirmation
- Nitrates in RV infarct or shock
- Delays to reperfusion for labs
- Anticoagulation before excluding AAS
- NSAIDs



CHECKLIST

ACUTE CORONARY SYNDROME

IMMEDIATE STABILISATION (ABCDE)

Airway

Assess airway

Breathing

- Monitor SpO₂
- Oxygen only if SpO₂ <90% (target 94%)

Circulation

- 2 IV lines
- Cardiac monitor
- BP, HR recorded
- Treat life threatening arrhythmias

Disability

- GCS
- Treat hypoglycaemia if present

Exposure

- Full chest exam
- Look for shock, pulmonary oedema

RAPID ACTIONS (DO NOT DELAY)

- ECG within 10 minutes
- Aspirin 300 mg chewed
- IV access + bloods (do not delay treatment)

ECG BASED DECISION

- STEMI
- NSTEMI / Unstable Angina
- Non diagnostic ECG (repeat if symptoms persist)

STEMI MANAGEMENT PATHWAY

Reperfusion

- PCI if available ≤120 min
- Fibrinolysis if PCI unavailable

Medication

- Aspirin – 300MG
- Clopidogrel – 300MG
- Heparin – 5000IU
- Pain control (see below)
- Exclude AAS before fibrinolysis

NSTEMI / UNSTABLE ANGINA PATHWAY

- Aspirin
- Clopidogrel
- Heparin (if high risk)
- Risk stratify (ongoing pain, ECG changes, instability)
- Admit for monitoring / referral

PAIN CONTROL

Morphine IV titrated

If unavailable

- Fentanyl IV
- Tramadol IV
- Pethidine IV
- Paracetamol IV (adjunct)
- Reassess pain + vitals

NITRATES

- SBP >100 mmHg
- No shock
- No RV infarct
- GTN SL or IV if monitored

WHAT TO AVOID

- NSAIDs (except aspirin)
- Routine oxygen if normoxic
- Nitrates in RV infarct / hypotension
- Thrombolysis if diagnosis unclear

MONITORING

- Continuous ECG
- Observe for:
- Arrhythmias
 - Cardiogenic shock
 - Heart failure

DISPOSITION

- STEMI → Reperfusion centre / ICU
- NSTEMI/UA → Admission + cardiology input
- Clear documentation of times, ECGs, drugs