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 SpO_2 <90%
- Routine oxygen worsens outcomes in normoxic patients

WHAT TO AVOID (COMMON, DANGEROUS)

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

CHECKLIST
ACUTE CORONARY SYNDROME

IMMEDIATE STABILISATION (ABCDE)

Airway

- [ ] Assess airway

Breathing

- [ ] Monitor SpO_2
- [ ] Oxygen only if SpO_2 <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 RV infarct
- [ ] No shock
- [ ] 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