Cardiac Emergencies in Primary Care

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Dial 111


EMERGENCY
TELEPHONE
HANDSETS


DEF
ABC
GHI
1
JKL
5
MNO
6
PRS
7
TUV
8
WXY
9
OPERATOR
0

Cardiac Emergency 1964

Cardiac Emergencies

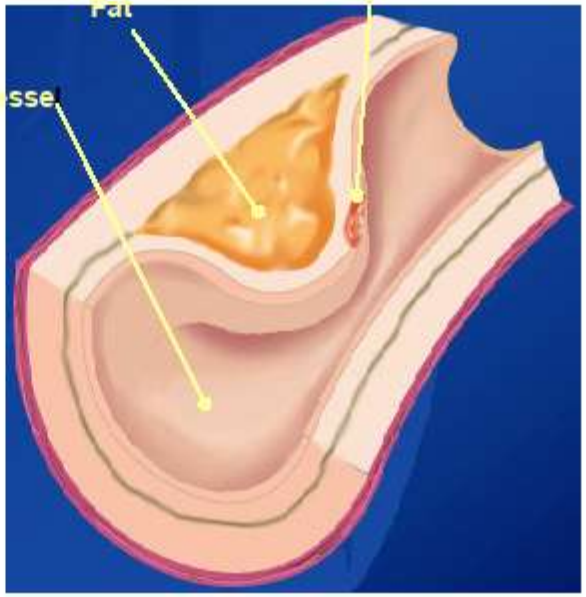
- Acute Coronary Syndromes
- Hypertensive Emergencies
- Acute Pulmonary Embolism
- Acute Tamponade
- Acute Aortic Dissection
- Major Cardiac Rhythm Disorders

Basic Clinical Evaluation

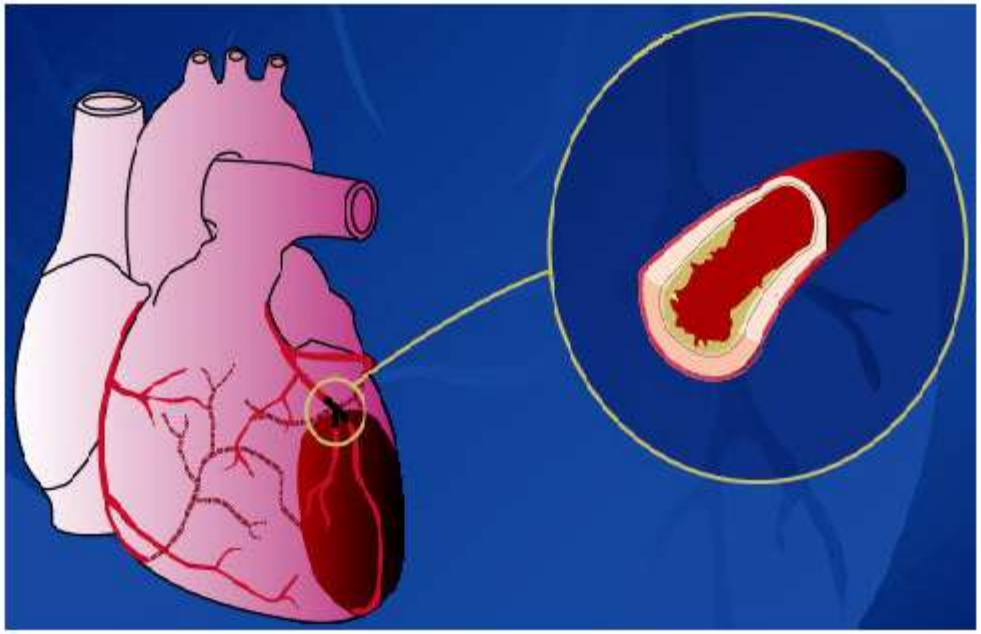
- Conscious Levels
- Tissue Perfusion
- Oxygenation
- Pulse Rate
- Blood Pressure
- Venous Pressure
- Hydration
- ECG
- Trop/Hb/BNP

Coronary Artery Disease

Atherosclerosis and coronary artery disease



Ischaemia and infarction



What can the attending GP do ?

Prepare for possible cardiac arrest, including defibrillation

Administer aspirin 300mg to all except those with known aspirin allergy

Administer GTN spray to relieve angina

Arrange coronary care assessment

Consider cannulation and 12-lead ECG

If patient is some distance from hospital, consider thrombolysis

Stablisation of Patient

- Relief of Pain
- Buccal Asprin
- Treatment of Bradycardia – Atropine
- Treatment of Tachycardia
- Control of Nausea and Vomiting
- ECG
- Thrombolysis

Indications for Thrombolysis

Chest pain within the previous 12 hours

2mm or more of ST elevation in two or more chest leads

1mm or more of ST elevation in two or more limb leads

Posterior infarction, prominent R waves, ST depression in V1–3

New left bundle branch block

Benefit of thrombolysis by time

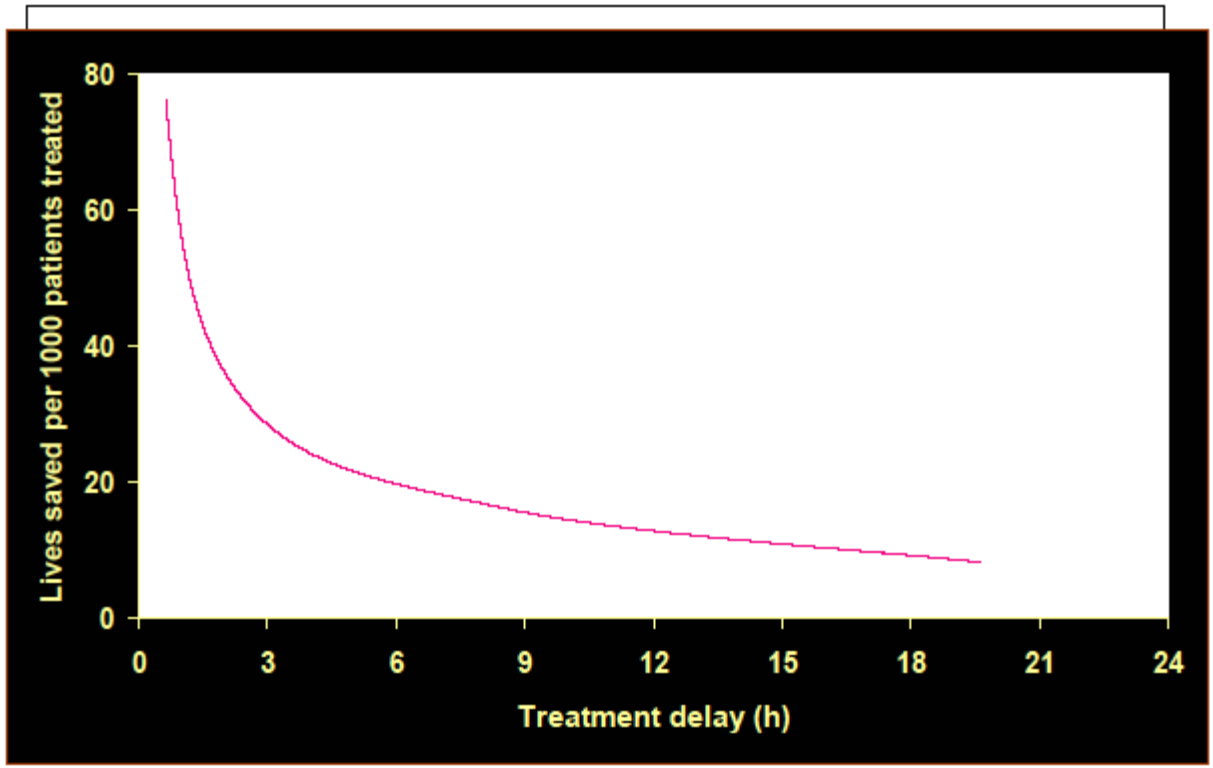
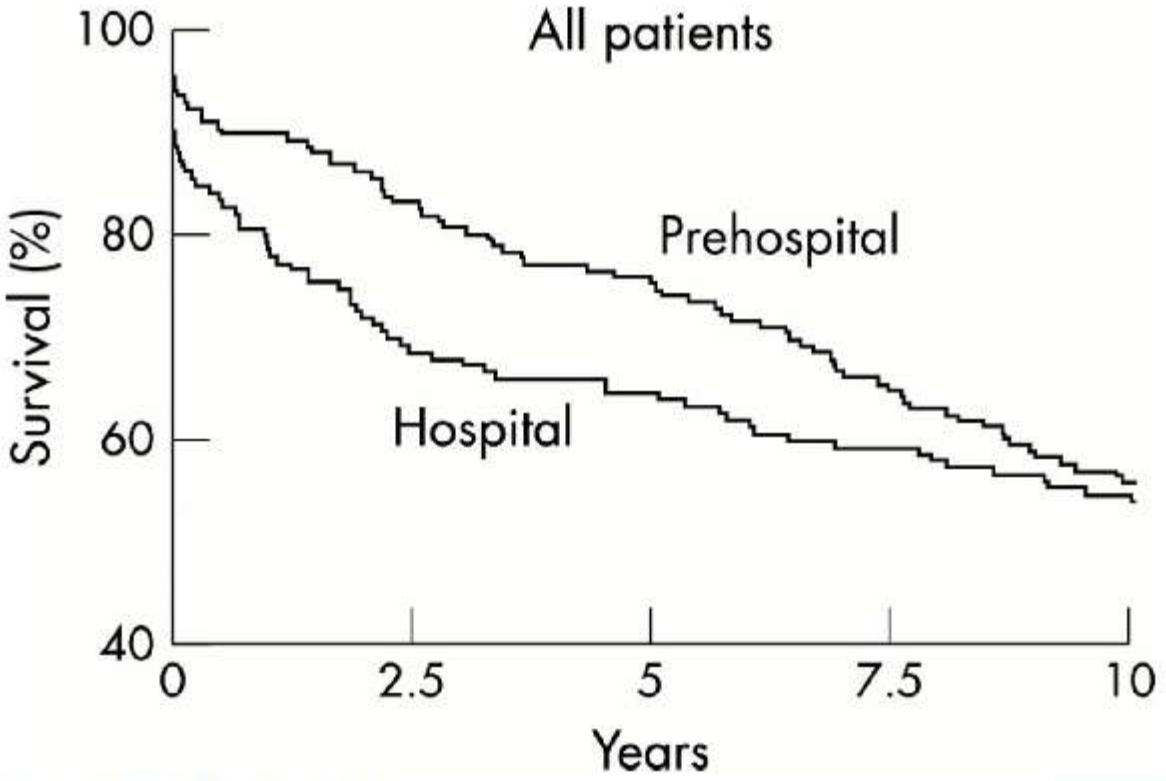


Figure 1 Survival curves for 311 patients receiving thrombolysis prehospital or in hospital



Rawles, J Heart 2003;89:563-564

Where now?

SCD

Every suspected AMI should have:

- A defib on stand-by within 10 minutes
- Aspirin within 20 minutes
- Re-perfusion assessment within 30 minutes
- Thrombolysis/PCI within 90 minutes of contact

GP/ambulance services/first responders must integrate

Pre-hospital thrombolysis

GREAT Study

- 311 patients with suspected AMI randomised to home or hospital thrombolysis.
- Ampoules of placebo and anistreplase
- 29 rural practices, an average of 36 miles from hospital

	Median time to thrombolysis	3/12 mortality
Home	101 mins	13/163 (8%)
Hospital	240 mins	23/148 (15%)

Role 4 – Thrombolysis

SCD

- Best delivered within 6 hours, ideally within 90 minutes
- Early thrombolysis (within 2 hours) is as safe and effective as PCI and far more feasible
- Each hour of time saved = 1.6 lives saved/1000 treated
- 1994/2004 – around 4hrs delay from onset to hospital
- 2004 – 35% of all patients thrombolysed within 30 mins of arrival in hospital
- 2004 – 29% of all patients thrombolysed within 90 mins of calling for help

Nine-year comparison of presentation and management of acute coronary syndromes in Ireland: a national cross-sectional survey
Frank Doyle[1, 2], Davida De La Harpe[1], Hannah McGee[2], Emer Shelley[1] and Ronán Conroy[1]
BMC Cardiovascular Disorders 2005, 5:5

Automatic External Defibrillator

Questionnaire survey of 3 regions

SCD

‘All GPs should have access to a defibrillator’

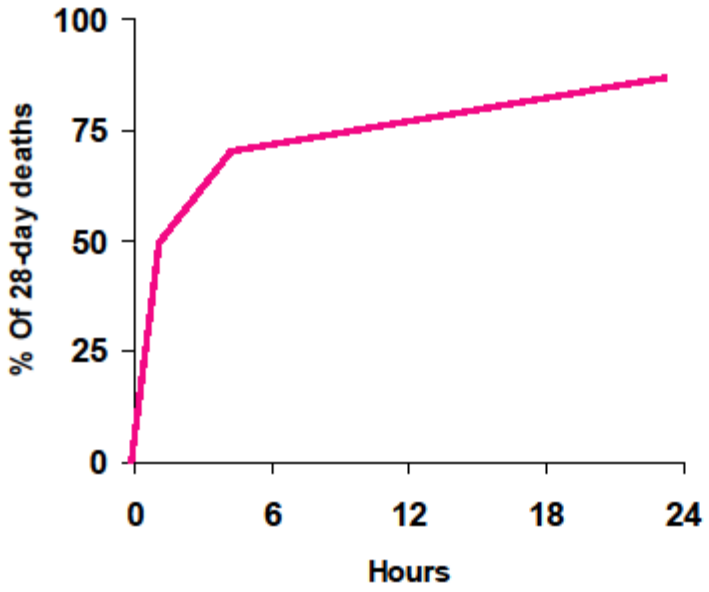
Urban GPs	88% agree
Rural GPs	97% agree

Questionnaire survey of 3 regions SCD

Does your practice have a defibrillator?

Urban/rural	16.2%
Rural	88.2%
Urban/rural	16%

Time course of acute coronary deaths



Hypertensive Emergencies

Table 8 Hypertensive Emergencies

- Hypertensive encephalopathy
- Hypertensive left ventricular failure
- Hypertension with myocardial infarction
- Hypertension with unstable angina
- Hypertension and dissection of the aorta
- Severe hypertension associated with subarachnoid haemorrhage or cerebrovascular accident
- Crisis associated with phaeochromocytoma
- Use of recreational drugs such as amphetamines, LSD, cocaine or ecstasy
- Hypertension perioperatively
- Severe pre-eclampsia or eclampsia

Acute LVF

Manage sitting the patient upright

Give oxygen to correct hypoxia

Arrange hospital admission

Insert intravenous cannula

Obtain ECG and if evidence of MI or arrhythmia, treat accordingly

Consider opiate analgesia (for example, diamorphine 2.5mg)

Slow administration of furosemide 40–80mg

GTN spray one to two puffs if systolic BP >90mmHg

Bradycardia

Document with an ECG

Provide supportive measures (for example, oxygen, IV cannulae)

Consider atropine 600–1,200eg IV

Consider the need for pacing

Refinements in CPR

CPR With Chest Compression Alone or With Rescue Breathing

July 28, 2010

Rea TD, Fahrenbruch C, Culley L, et al.

N Engl J Med 2010;363:423-433.

Conclusions:

The authors concluded that the results support a strategy for CPR performed by laypersons that emphasizes chest compression and minimizes the role of rescue breathing.