



Approach to chest pain

San Emergency Care GP Conference

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The problem

Getting to hospital

Chest discomfort at rest or for a prolonged period (more than 10 minutes, not relieved by sublingual nitrates), recurrent chest discomfort, or discomfort associated with syncope or acute heart failure are considered medical emergencies. Other presentations of ACS may include back, neck, arm or epigastric pain, chest tightness, dyspnoea, diaphoresis, nausea and vomiting. Very atypical pain, including sharp and pleuritic pain, is more common in women, people with diabetes and older people. (3,7,8)

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The other problem

NINE SIGNIFICANT CAUSES OF CHEST/UPPER ABDO PAIN:

- THE 6 P's
 - PTx, PE, pneumonia
 - pericarditis, perforated oesophagus, PUD

- THE 3 A's
 - ACS, aortic dissection, AAA

This talk in 1 slide

If in doubt:

Don't be a hero

Call an ambulance

Give 1 aspirin

Give O₂ ... maybe

Do an ECG ... if you can

The bottom line

For me to safely DC a patient from ED I need:

Negative ECG/ HS troponin on arrival &
minimum 6h after pain

≤ 1 risk factor

Atypical pain

All other nasties ruled out

Can you do this in your surgery?

GP approach to chest pain

What's new in ACS?

Suggested approach

What will happen to my patient in the ED? (ACS pathway)

Top tips

What's new?

It's called ACS now

Risk stratification is in

HS troponin is in

Supplemental O2 is out

It's called Acute Coronary Syndrome now

Old school

- Angina
- Unstable angina
- Crescendo angina
- STEMI
- Q wave MI
- Elevated troponin

New school

- Angina
- ACS
- ACS
- STEMI
- NSTEMI
- NSTEMI

ED risk stratification is in

This sorts the wheat from the chaff
Uses clinical criteria, ECG & troponin

Divides patients into:

STEMI

Might be ACS:

1. High risk
2. Intermediate risk
3. Low risk

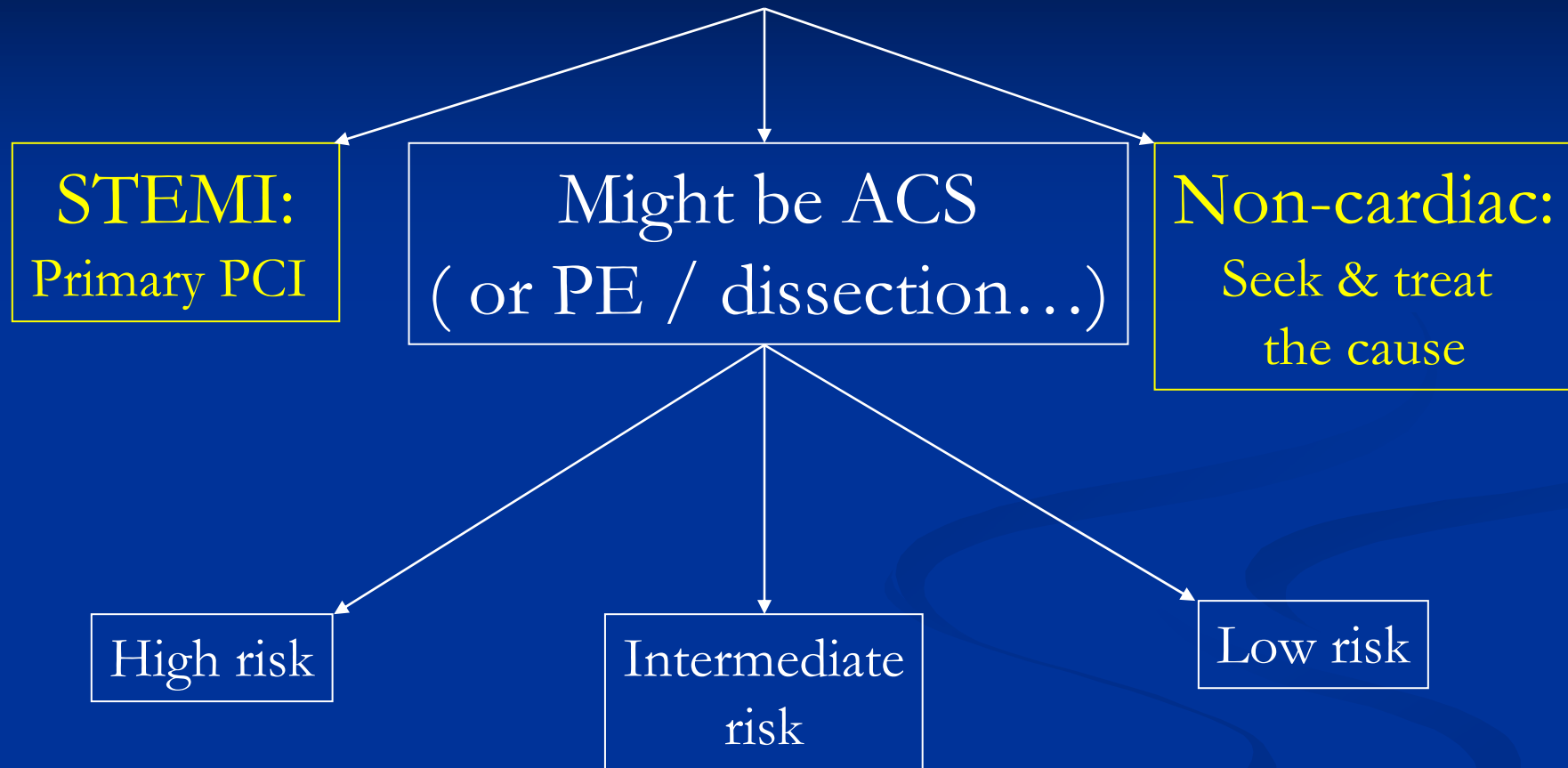
*NB might also be something else
Eg PE, dissection*

Non-cardiac

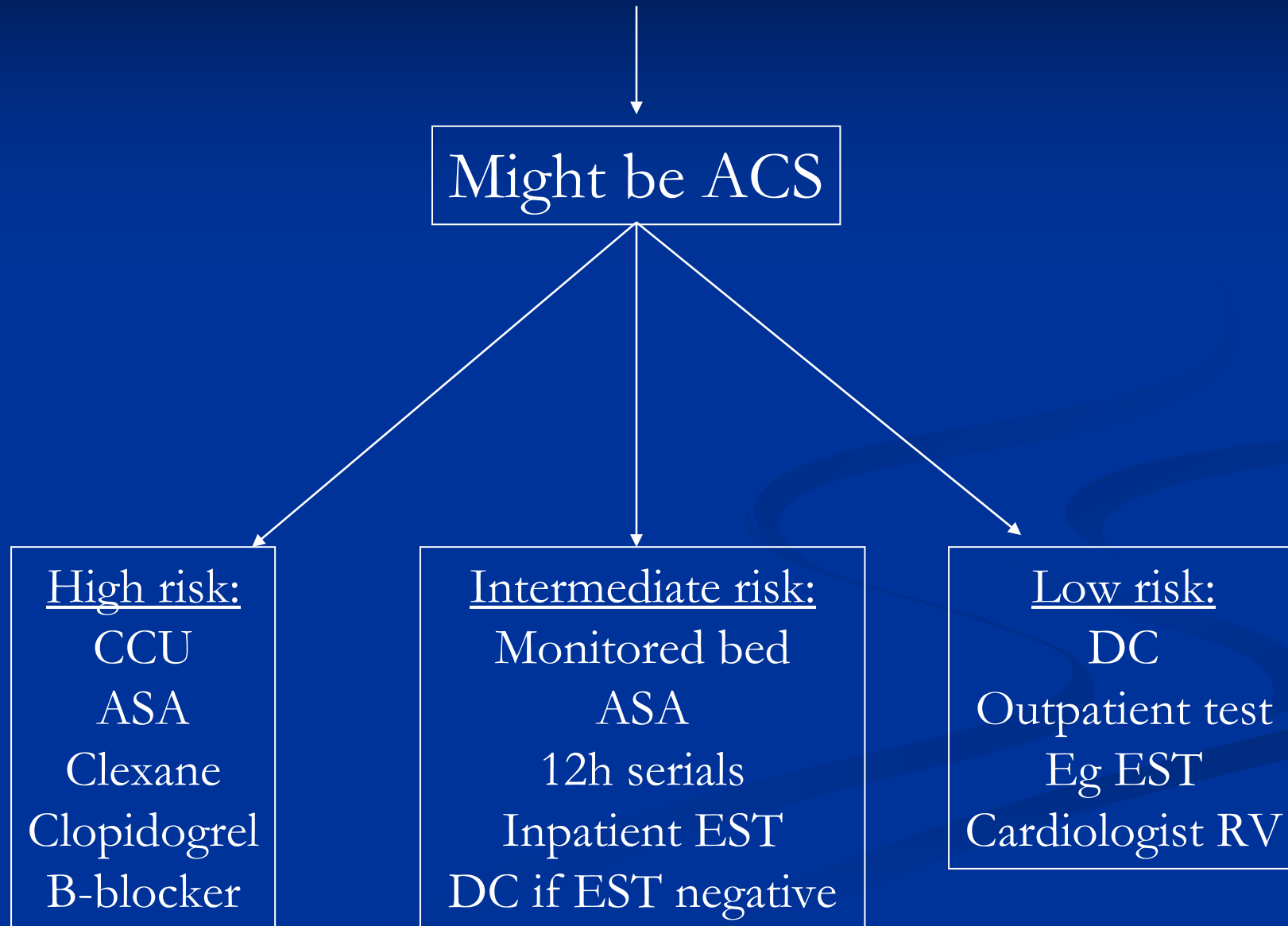
Risk stratification tools

1. Typical ACS syx: prolonged / at rest / >10 minutes
2. Background: DM // prior PCI/CABG // risk factors // CRF (GFR <60 ml/min) // Age >65
3. ASA use within last 7 days!
4. Pain: duration >10 minutes / repetitive
5. Syncope
6. Haemodynamic compromise
7. Sustained VT on monitor
8. 12-lead ECG performed & reviewed within 10 minutes
9. Troponin

Using these tools



Using these tools



And sometimes we look for nasties concurrently

- ACS workup
- PE workup
- Dissection workup
- Eg USA: the ‘triple rule-out CT’

What does it take to be a low risk patient?

- Typical ACS *syx* are still OK, if settled now
(but prefer atypical / brief / mild)
- No DM / IHD / CRF // age <65
- ≤ 1 risk factor
- No syncope / compromise / VT on monitor
- Normal ECG & troponin ... >6h after pain

What does it take to be a low risk patient?

- Typical ACS syx are still OK (but prefer atypical!)
- No DM / IHD / CRF // age <65
- ≤ 1 risk factor
- No syncope / compromise / VT **on monitor**
- Normal ECG & troponin ... **>6h after pain**

What does it take to be a low risk patient?

- Cardiac monitoring
- Serial troponin & 12-lead ECG at 6 hours
- Dedicated nursing staff
- ...or...
- Pain was >6h ago & just came in now / No RF or chronic disease / young / atypical pain / looks & feels fine / normal 12-lead ECG & (bedside) troponin

This patient can go home

- It doesn't mean you've ruled out heart disease
- It just means that s/he's at low risk (not 'no risk') of death / significant CVS morbidity in the near future ... statistically s/he has <3% risk of CVS related death in next 6 months
- i.e. you might kill a couple

Send everyone else to the ED

... but which ED?

Which ED?

- Unwell / high risk → hospital with cath lab
- Others: patient preference / other factors

High sensitivity troponin

It's more sensitive

It risk stratifies earlier

It can be done in your surgery or in my ED

What a boon to humanity!

High sensitivity troponin

It's more sensitive ... and less specific

It risk stratifies earlier (6 hrs after pain)

It can be done in your surgery or in my ED ... but
why would you?

What a boon... to the manufacturer!

*If you are doing an HS troponin in your
rooms, have a CCU / cath lab on site*

Supplemental O₂

New recommendation:

- 1. The routine use of supplemental oxygen is not recommended.*
- 2. Oxygen therapy is indicated for patients with hypoxia (oxygen saturation <93%) and those with evidence of shock, to correct tissue hypoxia. In the absence of hypoxia, the benefit of oxygen therapy is uncertain, and in some cases oxygen therapy may be harmful.*

[Consensus recommendation]

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[Consensus recommendation]

Supplemental O2

‘There is a lack of evidence to support the routine use of oxygen therapy in patients presenting with potential or confirmed ACS. However, there is some evidence suggesting it may be harmful.’

Cochrane meta-analysis 387 patients with x3 relative risk death if on O2.

‘Whilst these findings suggest increased hazard, the analyses lacked adequate power to address the risks and benefits of oxygen therapy in acute MI.’

What's new?

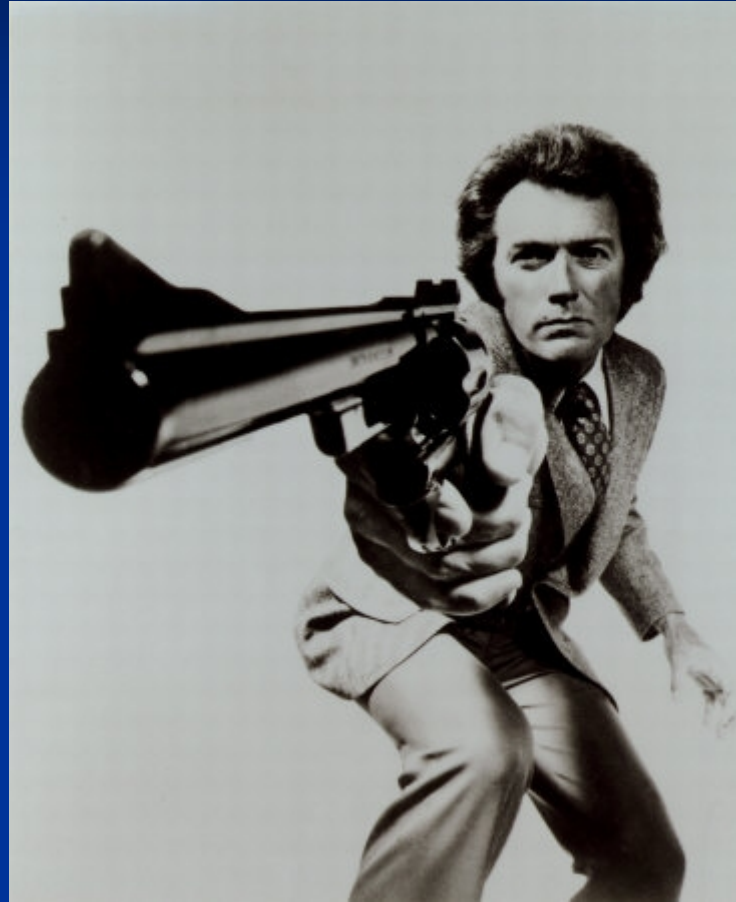
It's called ACS now

Risk stratification has limited value in general
practice

HS troponin makes no difference

Supplemental O₂ might be OK but no-one knows

Do you feel lucky?



This talk in 1 slide

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Call an ambulance

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Do an ECG ... if you can

References

- 2006 National Heart Foundation of Australia: Guidelines for the management of acute coronary syndromes (MJA)
http://www.racgp.org.au/Content/NavigationMenu/ClinicalResources/RACGPGuidelines/NationalHeartFoundationofAustraliaCardiacSocietyofAustraliaandNewZealandGuidelinesforthemangementof/NHFA-CSANZ_MJA_ACS_2006.pdf
- 2011 addendum
<http://www.heartfoundation.org.au/SiteCollectionDocuments/2011-ACS-addendum-article-in-press.pdf>
- SAH EC clinical guidelines: chest pain