Guidelines for the Management of Stable Angina in East Lancashire.

Produced by:
Dr. J Randall – General Practitioner.
Dr. A. Myers – Consultant Cardiologist
Dr. R. Best – Consultant Cardiologist
Sr. J. Graham – Nurse Practitioner.
Produced August 2004

Approved by:
East Lancashire Drug & Therapeutics Committee May 2005.

Review Guidelines: May 2006.

Approved for use in:

Burnley, Pendle & Rossendale Primary Care Trust NHS

Blackburn with Darwen Primary Care Trust NHS

Hyndburn and Ribble Valley Primary Care Trust NHS

East Lancashire Hospitals NHS Trust NHS

THESE GUIDELINES CAN BE ACCESSED ONLINE AT
HTTP://WWW.BPRPCT.NHS.UK/HP_MED_MGE_PRESCRIBING_MENU.HTM
FOR THE MOST RECENT VERSION.

Guidelines for the management of stable angina. East Lancashire Hospitals NHS Trust, Blackburn with Darwen PCT, Burnley Pendle and Rossendale PCT and Hyndburnand Ribble Valley PCT Joint Guidelines. Version 1.0 – May 2005. Review date May 2006.

GUIDELINES FOR THE MANAGEMENT OF STABLE ANGINA

INTRODUCTION

Coronary Heart Disease (CHD) in its various forms represents the most common cause of adult death in the UK.[1] The majority of patients with angina are managed in the community. In order to identify those at particular risk and those requiring further assessment, angina demands early recognition, diagnostic investigation and appropriate treatment.

CLINICAL DIAGNOSIS

- **A careful history is often the key to diagnosis**: establish quality of pain, duration, precipitating factors and associated symptoms. Relief of pain within minutes by rest, glyceryl trinitrate (GTN) is not always a useful pointer to diagnosis. Exertional breathlessness may represent an angina equivalent. For stable angina one would expect the pain to be consistent with exercise and to go within 10 minutes and not recur at rest. If none of these features are met, there is a very low chance, less than 3%, of a patient under 55 having angina. Even in the over 55's, there is still only a risk of 11% of angina.
- **Consider alternative diagnoses** such as gastro-oesophageal reflux, biliary colic, costo-chondritis or other musculo-skeletal pain, cervical radiculitis, acute pericarditis
- **Physical examination**: include height and weight (to calculate BMI), blood pressure, presence of murmurs, evidence of hyperlipidaemia, evidence of peripheral vascular disease and carotid bruits.

INVESTIGATIONS IN PRIMARY CARE

- **Initial tests**: haemoglobin, fasting blood glucose, urea and electrolytes, lipid profile and thyroid function if clinically indicated
- **Resting 12 lead ECG**: may be normal in stable angina but occasionally shows abnormalities such as ST-T changes, left bundle branch block, heart block, wall hypertrophy, evidence of previous MI. An abnormal ECG supports the diagnosis of coronary artery disease (CAD) and identifies patients at higher risk of suffering new cardiac events. A normal ECG, however, does not exclude CAD

INVESTIGATIONS IN SECONDARY/TERTIARY CARE

Exercise tolerance test: usually by ECG treadmill test.

- **Refer to Rapid Access Chest Pain Clinic as per the Angina Pathway and RACPC Guidance** or:-
- via referral to a general physician or cardiologist clinic for patients who do not meet the RACPC criteria

If conventional exercise testing is precluded by immobility, other tests may occasionally be needed such as radionuclide stress testing or stress echocardiography but these are only available through specialist referral.

ADDRESS CORONARY RISK FACTORS

- **Does the patient smoke?**
  Ask about smoking and advise to stop. Assist to stop. Use a combination of oral and written advice and consider nicotine replacement therapy. Refer patients who require support to the smoking cessation nurse.

- **What is the patient's blood pressure?**
  The British Hypertension Society Guidelines set the threshold for starting antihypertensive therapy at 140/90 (140/80 where the patient is diabetic) and the target as <140/85 (optimal) and <150/90 (audit standard)[2] ***see Formulary***

- **Lipid Management**
  - Prescribe statins in all secondary prevention cases
  - Lifestyle modification and mandatory statin therapy unless contra-indicated
  - Lipid profile for baseline assessment and monitoring purposes involves total cholesterol and HDL cholesterol ratio. Ideally include a tryglyceride measurement with overnight fasting advised. Once drug treatment instituted, monitor as per ***East Lancashire Lipid Lowering Agent Guidelines***

  Minimum Target as per the NSF for CHD:
  - Reduce cholesterol <5.0mmol/1 OR 20-25% reduction from starting level (whichever results in the lowest level)
  - Equivalent reductions in LDL level to <3.0 mmol/1 OR 30% reduction from starting level (whichever results in the lowest level)
  - Changing the lipid profile and reducing the chances of a cardiac event is the goal

- **Is the patient diabetic?**
  - Every effort should be made to optimise glycaemic control in diabetic patients with angina
  - Diabetic patients are at high risk of developing CHD.[3]

- **Assess current diet and physical activity levels**
  Patients with angina should modify their diet in line with healthy eating advice and take regular physical activity of at least 30 minutes duration 5 times a week[4,5]

DRUG TREATMENT FOR ANGINA

SECONDARY PROPHYLACTIC TREATMENT

- ASPIRIN THERAPY
  Low-dose aspirin dispersible (75mg daily) should be given unless contra-indicated.[6, 7]
  Aspirin reduces the risk of MI, stroke or vascular disease by approximately 30%.

  NB **Clopidogrel** 75mg od is an alternative for people who are hypersensitive to aspirin (i.e. aspirin induces angio-oedema or bronchospasm). Dyspepsia is common with both aspirin and clopidrogel and is not a reason to use clopidogrel in place of aspirin. Consider gastroprotection with aspirin in these patients. See clopidogrel guidelines online at **http://www.bprpct.nhs.uk/hp_med_mge_prescribing_menu.htm**)

- STATINS
  Prescribe statins in all secondary prevention cases.
  See East Lancashire Lipid Lowering Agent Guidelines (Available online at http://www.bprpct.nhs.uk/hp_med_mge_prescribing_menu.htm)

- ACE INHIBITORS
  Data from the HOPE study suggests there may be additional benefit of ACE inhibition in patients considered at high risk of cardiovascular events, over the age of 55 years, and with a history of CHD[8].

SHORT TERM CONTROL OF ANGINA SYMPTOMS

Sub-lingual glyceryl trinitrate (GTN) should be offered to all patients. It can be used to abort attacks or to provide a short period of prophylaxis while undertaking activities likely to precipitate an angina attack. Patients need to be educated on its appropriate use (chest pain management card should be given with spray)

DRUG OF CHOICE: - GTN 400MCG SUB-LINGUAL CFC-FREE SPRAY

LONG TERM PREVENTION OF ANGINA SYMPTOMS:

In all cases: -

- Regular Low dose aspirin and GTN PRN should be continued
- Cardiovascular risk factors must be managed e.g. smoking, BP and cholesterol increasing exercise tolerance and diet.

OPTIONS FOR MONOTHERAPY

Option 1 - Start / Increase Beta Blocker

- People who require regular symptomatic treatment should be treated with a beta-blocker if possible[9].
- If person is intolerant of beta-blockers or these are contra-indicated – then diltiazem is the preferred next choice (see "start/increase Calcium Channel Blocker"). See below for other options.

PRESCRIBING POINTS

- Beta-blockers are contraindicated in asthma, history of obstructive airway disease, uncontrolled heart failure or severe peripheral vascular disease.
- Patients should be warned not to stop beta-blockers suddenly or allow them to run out.

DRUG OF CHOICE: - **Atenolol 25mg –50 daily initially. To a maximum of 100mg daily.**

Option 2 -Start / Increase Calcium Channel Blocker

- Diltiazem is the most appropriate choice if the person is intolerant of beta-blockers or these are contraindicated.
- If beta-blocker or diltiazem are not suitable, options include other CCBs and nitrates
- Verapamil is an alternative choice, but should be avoided in heart failure and patients taking beta blockers. Verapamil may cause constipation.

PRESCRIBING POINTS

- Newer CCBs offer no significant clinical advantages.
- Nifedipine short-acting formulations are not recommended because their use is associated within large variations in blood pressure and reflex tachycardia.
- Prescribe diltiazem modified release by brand. (Slozem™ is the recommended brand in East Lancashire)
- Diltiazem and Verapamil should be prescribed as modified release preparations

DRUGS OF CHOICE: - **Diltiazem (Slozem™ modified release) 180mg – 360mg daily** (elderly and in hepatic and renal impairment 120mg daily starting dose)

Amlodipine 5mg – once daily (Maximum dose is 10mg od.)

Verapamil modified release 240mg once daily (Maximum dose is 240mg twice daily)

***Option 3* - Start / Increase Isosorbide Mononitrate – (ISMN)**

PRESCRIBING POINTS

- ISMN standard tablets are effective when used as an eccentrically dosed twice a day preparation.

DRUGS OF CHOICE: - **Isosorbide Mononitrate 10mg - 40mg BD (8am – 2pm)**

The potassium channel activator – nicorandil is as effective as other anti-angina drugs when used as monotherapy, but no more effective, and headache is a common adverse effect. It should be reserved for patients who cannot tolerate or fail to respond to standard alternatives.

COMBINATION THERAPY

- **MAXIMUM TOLERATED DOSES of monotherapy should be used before moving to combination therapy**
- A beta-blocker or alternatively diltiazem should be added to monotherapy if not contraindicated.
- **DO NOT COMBINE** a beta-blocker with verapamil and use caution with diltiazem.
- **DO NOT USE** verapamil with another calcium-channel blocker (CCB).
- ISMN is suitable for combination with a beta-blocker, verapamil or another CCB.
- CCBs are suitable for combination with a beta-blocker (other than verapamil and use caution with diltiazem) or a nitrate.
- **MAXIMUM tolerated doses of the two anti-angina medications should be tried.**
- There is no evidence that addition of a third drug improves symptom control.
- People whose symptoms are uncontrolled on maximal medical therapy should be referred to a cardiologist.
- If a third drug is introduced while awaiting an outpatient appointment, its effects should be monitored and if it has no effect it should be stopped.

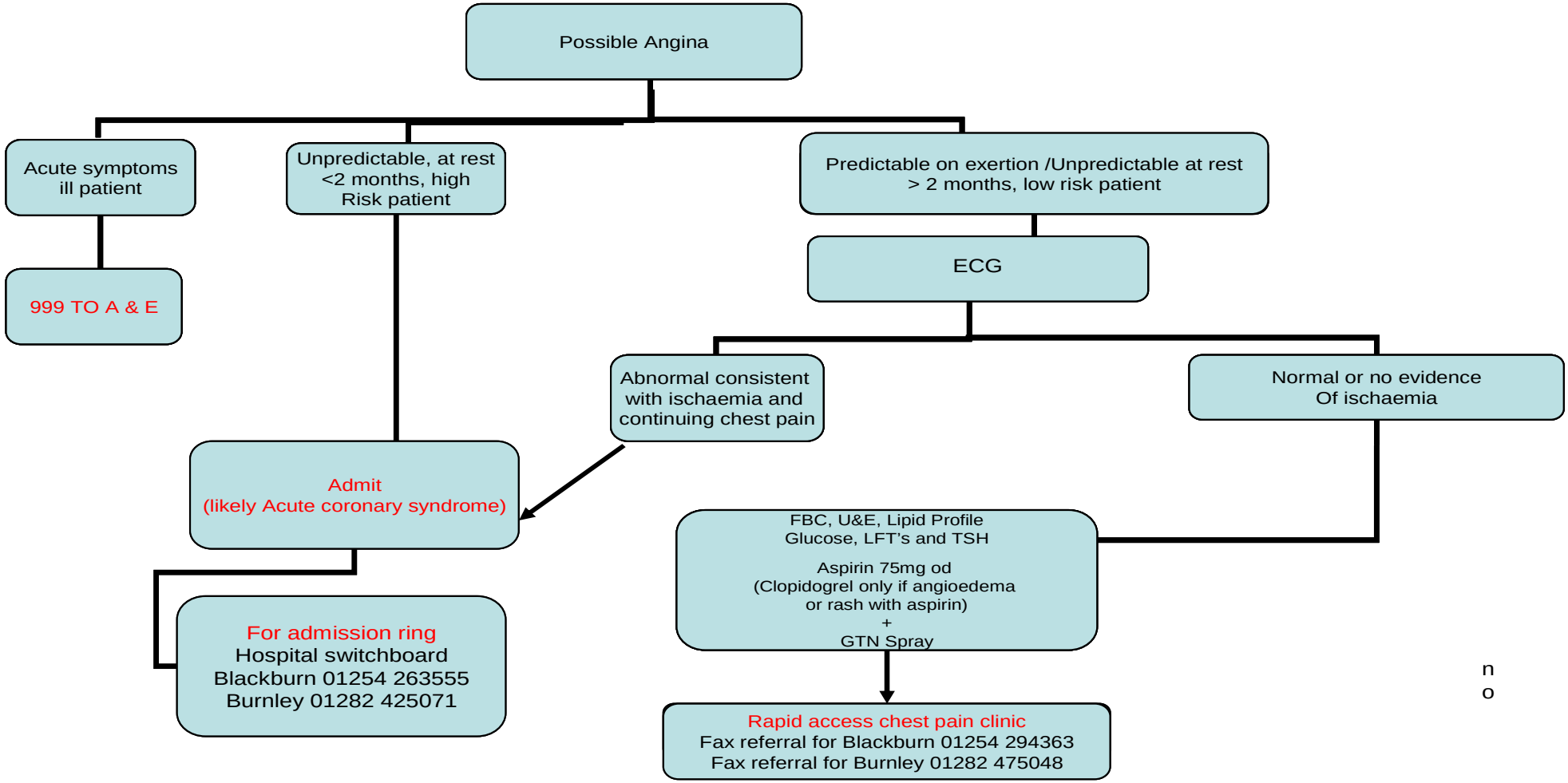
REFERRAL TO A CARDIOLOGIST

Patients with unstable angina need urgent referral

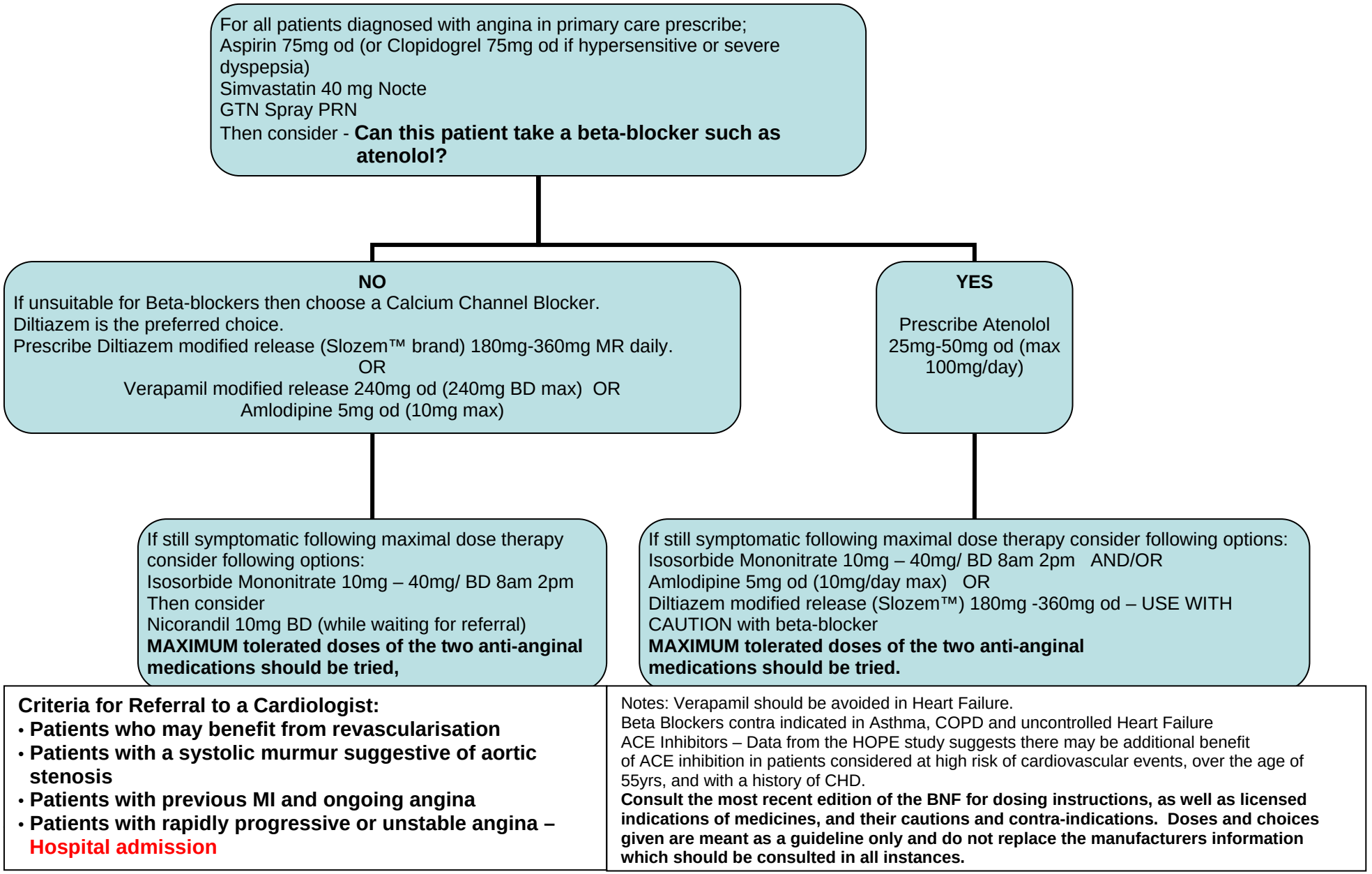
The following patients may be referred to a cardiologist if it is felt they would benefit from investigation or treatment:

- patients who fail to respond to medical treatment
- patients with a systolic murmur suggestive of aortic stenosis
- patients with previous MI and ongoing angina
- patients with uncertain or atypical symptoms
- patients with rapidly progressive or unstable symptoms should be **admitted to hospital**

Appendix 1 -Primary care pathway for the management of angina – see full guidelines for additional prescribing and management information.



Appendix 2 -Primary care pathway for the treatment of angina – see full guidelines for additional prescribing and management information.



Criteria for Referral to a Cardiologist:

- **Patients who may benefit from revascularisation**
- **Patients with a systolic murmur suggestive of aortic stenosis**
- **Patients with previous MI and ongoing angina**
- **Patients with rapidly progressive or unstable angina – Hospital admission**

Notes: Verapamil should be avoided in Heart Failure.
Beta Blockers contra indicated in Asthma, COPD and uncontrolled Heart Failure
ACE Inhibitors – Data from the HOPE study suggests there may be additional benefit of ACE inhibition in patients considered at high risk of cardiovascular events, over the age of 55yrs, and with a history of CHD.
Consult the most recent edition of the BNF for dosing instructions, as well as licensed indications of medicines, and their cautions and contra-indications. Doses and choices given are meant as a guideline only and do not replace the manufacturers information which should be consulted in all instances.

References

[1] Management of stable angina: a national clinical guideline. Scottish Intercollegiate Guidelines Network April 2001. (Accessed at http://www.sign.ac.uk/pdf/sign51.pdf)

[2] Ramsay L, Williams B, Johnston G et al. Guidelines for management of hypertension. J Hum Hypertens 1999;13:569-92

[3] kannel WB, McGee DL. Diabetes and cardiovascular disease. The Framingham Study. JAMA 1979;241:2035-8

[4] Blair SN, Kohl SW, Paffenbarger RS, et al. Physical fitness and all cause mortality. A prospective study of healthy men and women. JAMA 1989;262:2395-401

[5] Froehlicker V, Jensen D, Genter F, et al. A randomised trial of exercise training in patients with coronary heart disease. JAMA 1984;252:1291-8

[6] Jull-Moller S, Edvardsson N, Jahnmatz B et al. Double blind trial of aspirin in primary prevention of myocardial infarction in patients with stable chronic angina pectoris. The Swedish Angina Pectoris Aspirin Trial (SAPAT) Group. Lancet 1992;340:1421-5

[7] Ridker PM, Manson JE, Gaziano JM et al. Low dose aspirin therapy for chronic stable angina. A randomised, placebo controlled clinical trial. Ann Int Med 1991;114:835-9

[8] Yusuf S, Peto R, Lewis J et al. Effects of an angiotensin-converting-enzyme inhibitor, ramipril, on cardiovascular events in high risk patients. The Heart Outcomes Prevention Evaluation Study Investigators. N Engl J Med 2000;342:145-53

[9] Yusuf S, Peto R, Lewis J et al. Beta blockade during and after myocardial infarction: an overview of the randomised trials. Prog Cardiovasc Dis 1985;27:335-71