

Clinical Pathway for the Management of Cardiovascular Risk

Document Description

Document Type	Clinical Pathway
Service Application	Primary Care
Version	4.1
Ratification date	January 2013
Review date	January 2015

Lead Author(s)

Name	Position within the Organisation
Shelagh Cleary	Vascular Programme Manager
Clair Huckerby	Pharmaceutical Advisor

Presented for discussion, approval and ratification to

Core Policies and Procedures Group	November 2012
------------------------------------	---------------

Change History

Version	Date	Comments
1.0	12.2004	Final Ratified Version
2.0	10.2006	Final Ratified Version
2.1	25.6.08	Clair Huckerby – Technical amendments. Circulated for consultation (see list)
2.2	6.11.08	Agreed with SK Jain and Rosie Thorns.
2.3	9.11.08	Amendments from consultation process complete
3.0	12.11.08	Final Ratified Version. Signed off by Vascular LIT
3.1	3.8.09	Link added to information site – Arrhythmia Alliance In response to request by Vascular LIT
3.2	2.12.09	Link to Dudley Chronic Kidney Disease pathway added
3.3	15.04.10	Links added to local Dudley Pathways for Atrial fibrillation and Stroke / TIA
3.4	05.05.10	Updated with links to CQC Essential Standards of Quality & Safety.
3.5	12.5.10	QRISK / NHS Health Check information audit and links added
3.6	16.07.10	Updated hyperlinks within document
4.0	23.8.12	Initial draft of 4 th Edition for consultation
4.1	4.12.12	Final draft for ratification following IA amendment.

Link with CQC Essential Standards of Quality & Safety

Regulation 9: Outcome 4 - Care and welfare of people who use services.

Link with Trust Purpose and Values statements

We will work to continuously improve services
We will support and empower people to contribute to improving their health and that of their community
We will value, support and develop all our staff.
We will strive to secure seamless services that best meet the needs and preferences of the community.
All staff who are not directly involved in patient care will continue to give priority to supporting clinicians

Summary Sheet

This pathway is intended to provide information on the management of people with coronary heart disease, to reduce their risks and to identify, prevent or delay the progression of associated co-morbid vascular and metabolic conditions.

It is also intended to identify people who are deemed to be at high risk of developing cardiovascular disease and promote active management of these people to reduce or eliminate individual risk factors to reduce their overall level of risk.

This pathway applies directly to all staff members employed by NHS Dudley and is recommended as good practice guidance for any of its independent contractors.

National and local guidance, policies, reports and/or papers which this particular document should be read in conjunction with:

Local Guidance:

- Best Practice Guidelines for Lifestyle Assessment
- Dudley NHS Health Check Pathway
- Dudley NHS Health Check Failsafe Pathway
- Dudley Chronic Kidney Disease Pathway
- Dudley Hyperlipidaemia Guidelines
- Dudley Hypertension Pathway
- Dudley Atrial Fibrillation Pathway
- Dudley Stroke and TIA Pathway
- Dudley Pathway for the Management of People with Diabetes

National Guidance:

- NICE Guidelines for:
 - Secondary Prevention of Myocardial Infarction
 - Management of Patients with Heart Failure
 - Management of Chronic Kidney Disease
 - Management of Stroke/TIA
 - Management of Patients with Atrial Fibrillation
 - Management of Hypertension
 - Lipid Modification
 - Management of Obesity
 - NICE Guidance: Familial Hypercholesterolaemia: Identification and Management of Familial Hypercholesterolaemia
 - Assessment and Management of Depression
- National Service Frameworks for:
 - Coronary Heart Disease
 - Renal Services Part II
- Other
 - JBS2: The Joint British Societies Guidelines for Cardiovascular Disease Risk Assessment
 - National Stroke Strategy

This document will be subject to formal review in November 2014 led by the Vascular Programme Manager in Public Health.

Consultation

Consultation included:

- Vascular Local Implementation teams, comprising:
 - Coronary Heart Disease LIT
 - Stroke and TIA Implementation Group
 - Renal LIT
 - Diabetes LIT
- Dudley Group of Hospitals
 - Cardiology
 - Nephrology
 - Diabetology
 - Consultant Stroke Physicians
- General Practitioners
 - Dr. R Thorns
 - Dr. E Pope
 - Dr. P Sahni
- Dudley Stroke Association
- Patient Representatives
- Black Country Cardiovascular Network

Auditing

Formal auditing processes are defined by the QOF Clinical Indicators for CHD and the Dudley Performance Assessment Framework

Training:

Under the new arrangements as a result of the NHS transition, the responsibility of training lies with the individual provider organisation. The Vascular team however, has run an annual 3-day Hypertension course and an annual 3-day CVD course on behalf of the PCT since 2007. Should this course be requested by provider organisations then it will be provided for them.

Vascular Team Contact Details

Vascular Programme Manager
Shelagh.cleary@dudley.nhs.uk

Vascular Programme Advisor
Liz.corrigan@dudley.nhs.uk

Administrative Assistant/Health Care Assistant
Susan.wheeler@dudley.nhs.uk

Base

Ladies Walk Centre, Sedgley.

Telephone 01902 575174

Fax 01902 575919

Clinical Pathway for
**The Management of Coronary
Heart Disease:**
Primary and Secondary Prevention of CHD
In The Primary Care Setting

4th Edition

Coronary Heart Disease Pathway

Introduction

MI, ACS, Angioplasty, Angina, [CVD risk > 20%](#)
PAD

Aspirin dispersible 75mg daily

See [Antiplatelet Guidelines](#)

Initiate in $\geq 20\%$ CVD risk only if:

- Aged ≥ 50
- BP is controlled at 150/90 or less
- No allergy, or *active* gastric ulceration exists, and H Pylori -ve (Consider concomitant PPI for patients developing dyspepsia e.g. Lansoprazole 15mg daily)

Angina

Initiate GTN spray
Beta blocker or calcium channel blocker first line depending on tolerance.
Oral nitrate for symptom control

Acute Coronary Syndrome

Add clopidogrel 75mg daily for 12 months and then discontinue.
See [NICE \(TA\)](#)

Angioplasty/Stent

Add clopidogrel 75mg daily and stop according to discharge instructions up to a max. of 12 months

Initiate Aspirin
75mg daily

Initiate Simvastatin
40mg daily

MI

Add [beta blocker](#) and [ACE inhibitor](#)
[NICE Guidance CG 48](#)
[MI: Secondary Prevention](#)
Post MI combination:
Antiplatelet
Statin
Beta Blocker
ACE Inhibitor

Medication Review

[Medication Review Guidelines](#)

[Dudley Formulary](#)

[Dudley Hyperlipidaemia Guidelines](#)

[Dudley Hypertension Pathway](#)

Annual Review

- Monitor for new onset of symptoms/change in existing symptoms
 - [Angina](#)
 - [Heart Failure Screen](#)
- [Blood tests](#)
- [Monitor for undiagnosed co-morbidity:](#)
 - [AF Screen](#)
 - [TIA Screen](#)
 - [Diabetes Screen](#)
 - [CKD screen](#)
 - [PAD screen](#)
- [Lipid screen/monitoring](#)
 - [Dudley Hyperlipidaemia Guidelines](#)
 - [Familial Hyperlipidaemia](#)
- [Hypertension/Blood pressure monitoring](#)
 - [Dudley Hypertension Pathway](#)
- [Psychological Assessment](#)
- [Lifestyle Risk Factor Assessment](#)
 - [Best Practice Guidelines for Lifestyle Assessment](#)
 - [Omega-3](#)
- [Influenza/pneumonia vaccination](#)

Contents

CVD Pathway Overview	5
Introduction	7
Identification of High Risk Patients	7
Annual Review	9
Angina	9
Heart Failure Screen	10
Blood Tests	13
Monitoring for Undiagnosed Co-morbidity	13
AF Screen	13
TIA Screen	14
Diabetes Screen	14
CKD Screen	15
PAD Screen	15
Lipid Screen/Monitoring	15
Familial Hyperlipidaemia	16
Hypertension Screen	17
Psychological Assessment	18
Lifestyle Risk Factor Assessment	18
Influenza/Pneumococcal Vaccination	19
Medication Review	19
Beta blocker / ACE inhibitor	20
Clinical Audit	21
Abbreviations	22

Introduction

This pathway is intended to provide information on the management of people with cardiovascular conditions to reduce their risks and to identify, prevent or delay the progression of associated co-morbid vascular and metabolic conditions.

It is also intended to identify people who are deemed to be at high risk of developing cardiovascular disease and promote active management of these people to reduce or eliminate individual risk factors to reduce their overall level of risk.

Inclusion Criteria

- Myocardial Infarction
- Acute Coronary Syndrome
- Angioplasty
- Angina
- Peripheral Vascular Disease
- [CVD risk > 20%](#)

Exclusion Criteria

The pathway should not be used for:

- Haemorrhagic conditions, e.g. haemorrhagic stroke
- Chest pain **at time of appointment - Emergency 999 referral. N.B.** A diagnosis of unstable angina in the past should not exclude patients who are now stable.
- Patients without CHD or found not to be at high risk of CHD following assessment i.e. CVD risk < 20%

Identification of High Risk Patients

- **A previous vascular event or diagnosis would confer high risk status.**
- **All patients who are identified as having a CVD risk of $\geq 20\%$,** using a risk assessment tool should be added to the practice high risk of developing CVD register. These patients should then receive annual review for 5 years to enable reduction of risk.

For risk prediction in those without a pre-existing vascular diagnosis the use of an assessment tool is required. The tool given in this pathway to calculate CVD risk is QRISK2

QRISK2 Risk Assessment Tool

QRISK2 has been recommended by the Department of Health for use in estimating risk for the NHS Health Check programme, due to its much greater degree of accuracy in UK populations and ease of use as no additional factors need to be applied to calculated risk scores.

As comparison between risk calculators is not possible, the recommendation would be that QRISK2 is used for all CVD risk estimation, including QOF, in preference to other calculators.

[QRISK2](#) includes deprivation score, specific UK ethnic breakdown (by self-defined ethnic status), BMI and existing diagnosis of atrial fibrillation, rheumatoid arthritis and chronic kidney disease. It can also be used to calculate risk scores for people with hypertension who are taking anti-hypertensives.

The calculator is available on most practice system software and in software provided for this purpose in all practices by the PCT – Informatica Clinical Audit Platform (ICAP).

Exclusions from Risk Estimations

The following are already deemed to have high risk of CVD status conferred by pre-existing vascular diagnoses and therefore risk calculation is not required:

- People with CVD
- People with type 1 or type 2 diabetes aged >40 years
- People with type 1 or type 2 diabetes aged 18-39 years who have been diagnosed with one or more of the following:
 - retinopathy
 - nephropathy, including persistent microalbuminuria
 - persistent poor glycaemic control (HbA1c >9%)
 - elevated blood pressure requiring antihypertensive therapy
 - total serum cholesterol $\geq 6\text{mmol/l}$
 - features of metabolic syndrome (central obesity and fasting triglycerides $>1.7\text{mmol/l}$ (non fasting $>2.0\text{mmol/l}$) and/or HDL cholesterol $<1.0\text{mmol/l}$ in men or $<1.2\text{mmol/l}$ in women
 - family history of premature CVD in a first degree relative
- People with an elevated single risk factor/s, e.g. total cholesterol $>6.0\text{mmol/l}$. These people should be considered for lipid lowering therapy without formal risk calculation. Risk in these cases will be underestimated when using any CVD risk assessment tool.

For further information on the assessment of CVD risk see the [Dudley NHS Health Check Pathway](#)

Annual Review

Stable angina

Stable angina is pain or constricting discomfort that typically occurs in the front of the chest (but may radiate to the neck, shoulders, jaw or arms) and is brought on by physical exertion or emotional stress. Some people can have atypical symptoms, such as gastrointestinal discomfort, breathlessness or nausea. Angina is the main symptom of myocardial ischaemia and is usually caused by atherosclerotic obstructive coronary artery disease restricting blood flow and therefore oxygen delivery to the heart muscle.

Monitoring stable angina

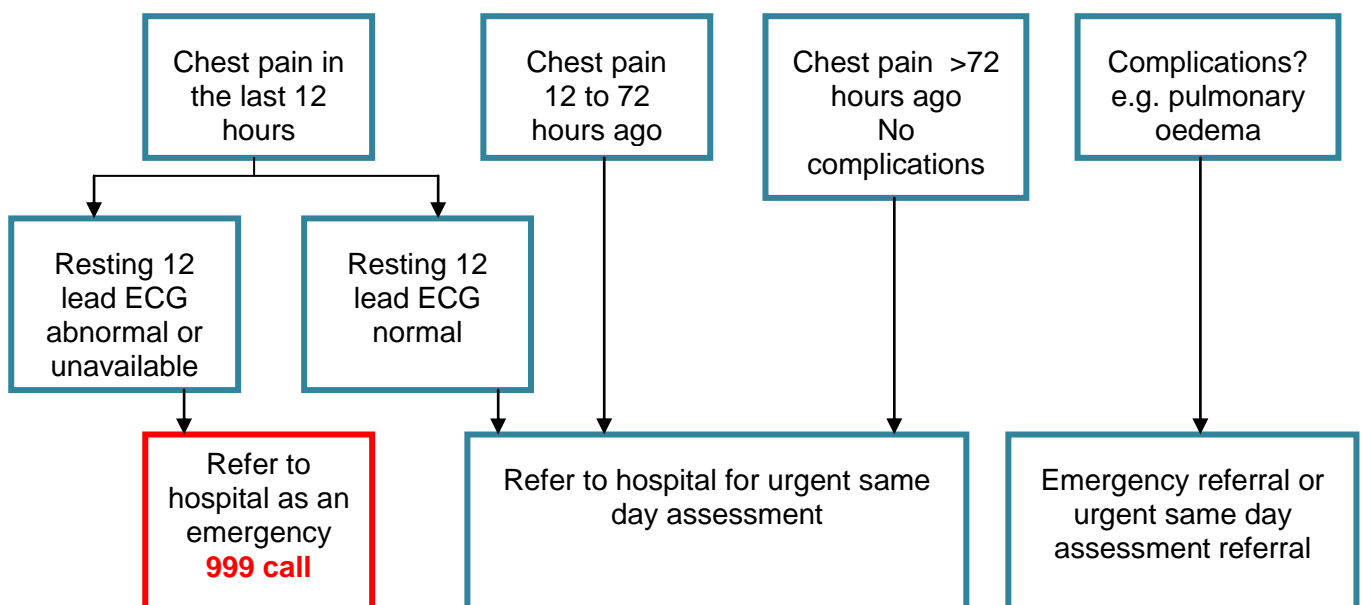
Assess for:

- **Unstable angina / ACS / NSTEMI**

There is no identifiable trigger or pattern to the chest pain and it can happen when the heart is resting. Symptoms are more severe and pain tends to last longer. Chest pain lasts for at least 15 minutes and can be felt in the arms back or jaw. There may be nausea and/or vomiting, sweating or breathlessness or any combination of the above.

Current chest pain requires emergency 999 referral to hospital

Patients Presenting with Acute Recent Onset Chest Pain



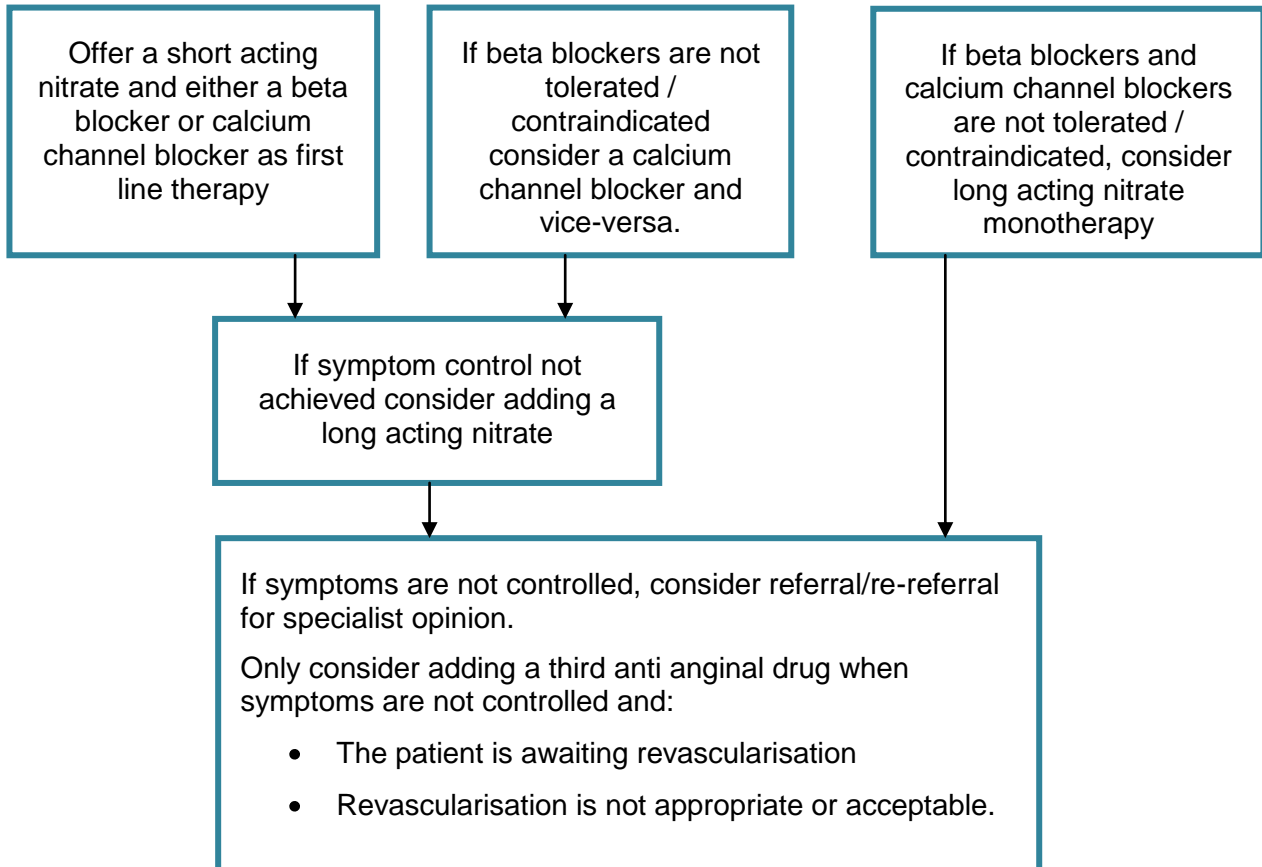
- **Worsening of symptoms, increasing**
 - Severity
 - Duration
 - Frequency
 - Time taken for relief by rest / short acting nitrate

- Use of short acting nitrate

Depending on findings, arrange:

- ECG
- Medication review and concordance
- Referral to Community Cardiology Service
- Referral to acute Cardiology Services
- Referral to Rapid Access Chest Pain clinic

- **Optimising medicines management:**



Formulary choices:

- | | |
|-----------------------------------|---|
| Short acting nitrate | - Glyceril trinitrate sublingual (tablets or spray) |
| Beta blocker | - Atenolol, bisoprolol |
| Calcium channel blocker | - Amlodipine maleate, felodipine |
| Long acting nitrate | - Isosorbide mononitrate tablets (prescribe as Monomax) |
| 3 rd line anti-anginal | - Nicorandil |

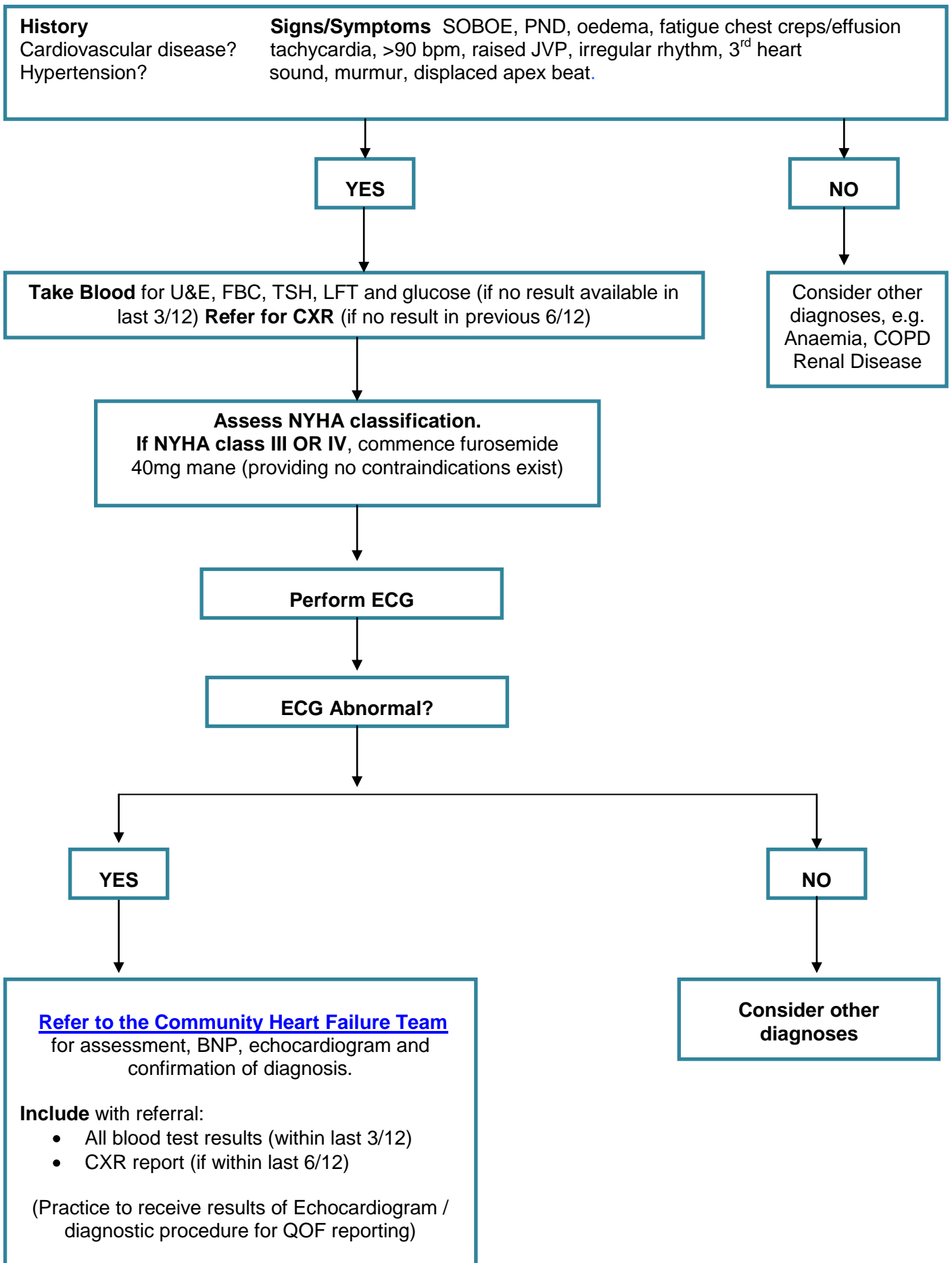
For information on the specialist use of ranolazine and ivabradine- see [Dudley Formulary](#)

Heart Failure Screen

Assess for any new onset of symptoms, e.g.:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Breathlessness (especially at rest or at night) • Tachypnoea • Productive cough | <ul style="list-style-type: none"> • Irregular pulse • Fatigue • Ankle oedema • Tachycardia |
|---|---|

Heart Failure Diagnostic Pathway



For patients with a **confirmed diagnosis of heart failure**, i.e. by echocardiogram, assess current symptoms using the New York Heart Association (NYHA) classification and record using read codes below.

The Stages of Heart Failure – New York Heart Association Classification (NYHA Class)

Class / Read code	Patient Symptoms
Class I (Mild) 662f.	No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, or dyspnoea (shortness of breath).
Class II (Mild) 662g.	Slight limitation of physical activity. Comfortable at rest, but ordinary physical activity results in fatigue, palpitation, or dyspnoea.
Class III (Moderate) 662h.	Marked limitation of physical activity. Comfortable at rest, but less than ordinary activity causes fatigue, palpitation, or dyspnoea.
Class IV (Severe) 662i.	Unable to carry out any physical activity without discomfort. Symptoms of cardiac insufficiency at rest. If any physical activity is undertaken, discomfort is increased.

http://www.abouthf.org/questions_stages.htm

Consider referral to the Community Heart Failure Team for:

- Assessment of decompensating symptoms:
 - Increased oedema (assess weight gain)
 - Increased breathlessness
 - PND
 - Reduced physical activity level
 - Increased fatigue
- Optimisation / titration of medication
- Initiation of beta blocker therapy
- Symptom control
- Monitoring
- Patient education / empowerment
- Palliative care

For more information contact the team:

[Community Heart Failure Team](#)

Blood Tests

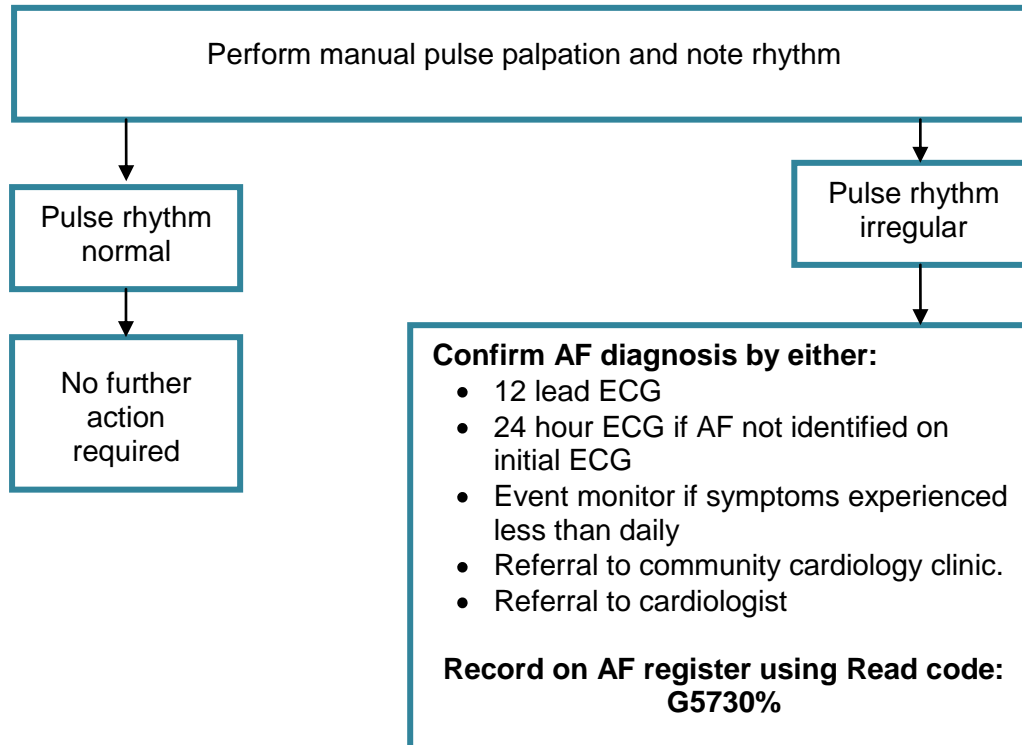
The following blood test requests should be made annually once in target range:

- Fasting lipid profile – total cholesterol (TC) high density lipids (HDL-C) low density lipids (LDL-C) and triglycerides
- Fasting glucose (and HbA1C if diabetic)
- Thyroid function test (TFT) if no result available in the last 5 years
- Urea and electrolytes (U & E)
- Estimated glomerular filtration rate (eGFR)
- Liver function test (LFT)
- Full blood count (FBC)

Monitor for Undiagnosed Co-Morbidity

A CHD diagnosis indicates that the atherosclerotic burden has reached a high degree of clinical significance. It can be assumed that the atheromatous process has not been confined merely to the coronary arteries. Therefore an assessment of the development of co-morbid conditions is indicated.

Atrial Fibrillation Screen:



Transient Ischaemic Attack (TIA) Screen

TIA is defined as transient episode of focal neurological dysfunction.

Focal symptoms include:

- Hemiparesis, hemisensory loss
- Visual symptoms such as unilateral blindness or diplopia
- Aphasia, dysphasia
- Dysarthria,
- Ataxia

The symptoms typically show a sudden onset and rapid resolution.

For patients experiencing a TIA:

- 5% will have a stroke within 48 hours
- 10% will have a stroke within one week.
- **20% will have a stroke within one month.**

The FAST test is a simple way of assessing suspected anterior circulation strokes, and can be used by the general public. This is being publicised locally and nationally, and the public are advised to dial 999 if they suspect they or someone they know has had a stroke/TIA. **Any** of the following symptoms should prompt attention:

F **Facial weakness**
A **Arm (and/or leg) weakness**
S **Speech Problems**
T **Time to call 999**

Give patient information on the FAST test and answer any questions.

Where TIA/ previous TIA is suspected, refer to acute services using the TIA referral form in the [Stroke/TIA pathway](#).

Calculate the ABCD2 score to assist appropriate referral by determination of the level of risk using the [Rapid Access TIA referral form](#). High risk patients will be seen by acute services within 24 hours, therefore the date and *time* of the event must be completed along with patient contact details – telephone number etc.

Record on the clinical system using Read code – G65%

Diabetes Screen

A fasting plasma glucose request should be included in the blood tests required for annual review. Any fasting result of ≥ 6.1 mmol/l should be managed according to the [Dudley Diabetes Management Guidelines for Adults with Type 2 Diabetes](#).

Chronic Kidney Disease Screen

A request for urea and electrolytes should be included in the blood test requests for annual review. Estimated glomerular filtration rate (eGFR) is calculated by the pathology dept. from serum creatinine results. An eGFR result of < 90 mls/min/1.75m² should be managed according to the [Dudley Chronic Kidney Disease Pathway](#).

Peripheral Arterial Disease Screen (Lower limb)

The annual review should include an assessment for possible peripheral arterial disease.

Symptoms

Any report of claudication of the calf muscles, thigh or buttock when walking a particular distance, which resolves on resting for approximately 5 minutes and is reproducible, should prompt investigation.

Note the distance typically walked before claudication pain is experienced.

Signs

- Muscle atrophy
- Loss of hair to the extremity
- Thickened toe nails

Examination

- Peripheral pulse palpation up to the abdominal aorta, noting for absence and/or bruits – Doppler to confirm
- Measurement of segmental and ankle brachial pressures, comparison to the ankle brachial pressure index (ABI)

For the management of peripheral arterial disease or suspected peripheral arterial disease see [NICE CG147: Lower Limb Peripheral Arterial Disease](#)

Hyperlipidaemia Screening/Management

Annual review blood tests should include a request for lipid profile.

Lipid Target Values

Lipid type	Target for Secondary Prevention
Total cholesterol	≤ 4.0 mmol/l
HDL	≥ 1.0 mmol/l (≥ 1.2 for females and people with diabetes)
LDL	≤ 2.0 mmol/l
Triglycerides	≤ 1.7 mmol/l

JBS2 Prevention of CVD in Clinical Practice 2005

Factors affecting lipid levels should be managed / corrected where possible and lipids repeated where raised. These include:

- High levels of alcohol consumption
- Liver disease
- Diabetes / IGT / IFG
- Renal impairment
- Thyroid disease

Lipid lowering therapy should be initiated for all patients with CHD as a secondary prevention measure, irrespective of initial cholesterol result. It should also be prescribed for all those found to be at high risk of developing CVD ($\geq 20\%$ in the next 10 years) as part of their primary prevention programme.

Measure baseline liver function before initiating lipid lowering therapy, but do not routinely exclude patients who have raised liver enzymes from treatment.

For management and prescribing information see the [Lipid Management Guidelines for CVD Risk Reduction within the Dudley Health Economy](#)

For people prescribed lipid lowering therapy who subsequently experience muscle pain:

- Initiate a blood test request for creatine kinase (CK).
- Other reasons for muscle pain and raised CK should also be assessed, e.g. recent heavy exercise.
- CK may be repeated to validate results where confirmation is required in the presence of mitigating factors.

CK Normal ranges:

- 0 – 195 iu/l males
- 0 – 170 iu/l females

Lipid lowering therapy is not usually discontinued until 3x the upper limit of normal is reached. However this decision should be managed on a case basis, especially in the presence of renal impairment.

Refer to individual product guidelines.

Familial Hyperlipidaemia

This is a hereditary condition (autosomal dominant), which affects approximately 1 in 500 of the U.K population.

There are 3 main types of which there are many sub-types.

- Familial hyperlipidaemia – where LDL is significantly raised
- Familial hypertriglyceridaemia – where triglycerides are significantly raised
- Familial combined hyperlipidaemia – where both LDL and triglycerides are significantly raised.

The criteria according to [NICE CG 71](#) is:

Definite F.H.

- TC > 7.5 mmol/l and / or
- LDL > 4.9 mmol/l

Plus:

- Tendon xanthoma, either in the individual or a first or second-degree relative, or
- DNA evidence of an LDL receptor or familial gene mutation

Possible F.H

- TC > 7.5 mmol/l and / or
- LDL > 4.9 mmol/l

Plus:

- Myocardial infarction before the age of 60 in a first-degree relative, or before the age of 50 in a second-degree relative
- Family history of total cholesterol > 7.5 mmol/l in an adult first or second-degree relative, or > 6.7mmol/l in a child brother or sister aged younger than 16

If familial hyperlipidaemia is suspected the patient should be considered for referral for specialist assessment. It is recommended that first-degree relatives of these patients should also be invited for screening. Specialist centres will carry out any family screening as appropriate.

[NIHCE Guidance: Familial Hypercholesterolaemia: Identification and Management of Familial Hypercholesterolaemia](#)

Hypertension Screen/Blood Pressure Monitoring

Annual review for CHD should include recording of blood pressure. Blood pressure (BP) should be measured by a health care professional who has undergone training, using a machine which is regularly serviced and calibrated. The patient should be seated comfortably and relaxed. For information on screening for and monitoring hypertension see the [Dudley Hypertension Pathway](#).

According to NICE guidance CG48 [MI: Secondary Prevention](#) the target for blood pressure in CHD is $\leq 140/90$

Psychological Assessment

Patients should be assessed for any psychological effects of their condition. An enquiry into how the patient and family feel, or how they are coping should be made if information is not given freely during the course of the consultation and time given to discuss any issues, according to the patient's wishes.

The [NICE guidance on depression](#) recommends that screening should take place in primary care for those in high risk groups of which CVD is one. It recommends that screening should include at least 2 questions concerning mood and interest:

- During the last month, have you often been bothered by feeling down, depressed or hopeless?
- During the last month, have you often been bothered by having little interest or pleasure in doing things?

(Clinical Guideline 23, Depression: Management of Depression in Primary and Secondary Care)

Practices report through QOF the percentage of patients with CVD who have been screened for depression using these 2 standard questions. A “yes” to either question should be followed by further assessment of severity. QOF recommends the use of specific tools to assess depression, these are:

- PHQ9 – which can be downloaded free of charge [download PHQ9](#)
This tool is the tool of choice. It is also recommended as it can be downloaded onto the computer desktop and used in conjunction with the template. The PHQ-9 Depression Screener is provided at <http://www.phqscreeners.com/> in a variety of languages
- Hospital Anxiety and Depression Scale (HADS).
- Beck Depression Inventory Second Edition (BD-II).

(QOF Clinical Indicator - DEP 2: Practices report the percentage of patients with a new diagnosis of depression whose notes record that they have had an assessment of severity at the outset)

For advice and information contact:

Lifestyle Risk Factor Assessment

Behavioural risk assessment and reductions strategies should be included at least at annual review. Modifiable risks include:

- Smoking (including calculation of lifetime tobacco exposure)
- Unhealthy diet
- Overweight / obesity
- Physical inactivity
- Excessive alcohol consumption

For assessment and referral guides see [Lifestyle Assessment Best Practice Guidelines](#)

Omega 3 fatty acids

In addition to this guidance, for those who have had an MI, any assessment of diet should include information on how to obtain the recommended weekly amount of 7g of omega 3 fatty acids per week. This is recommended as 2 - 4 140g (5oz) portions of oily fish per week as this is a very rich source. Generally an oily fish is any fish which is not considered a white fish, such as sardines, pilchards and kippers. For further examples see below.

Examples of oily fish and portions required to meet recommended weekly amounts following MI

Fish	Amount of Omega-3 in 3oz serving	Serving amount per week to provide 1g/day EPA/DHA
Mackerel	0.34 – 2.62	2 – 8.5
Herring	1.71 – 1.81	1.5 - 2
Salmon	0.68 – 1.83	1.5 – 4.5
Trout	0.84 – 0.98	3.0 – 3.5
Sole	0.42	7
Tuna (fresh)	0.24 – 1.28	2.5 - 12

Patients should be advised to eat the recommended amount of oily fish/week [NICE CG48](#). The prescribing of omega-3-acid ethyl esters is not recommended by the AMMC and therefore not included in the [Dudley Formulary](#).

Influenza Vaccine

All patients should be advised to have an influenza vaccine by the practice at the appropriate time each year. Efforts should be made to target all patients on the CHD register.

Pneumococcal vaccine should also be offered to patients who remain unimmunised. This may be given at the same time as the influenza vaccine, but patients who have not received pneumococcal vaccine may be immunised at any time during the year.

Contraindications and guidelines for administration of influenza and pneumococcal vaccine and can be found in the product literature and in the "[Green Book](#)", along with information on groups who may require reinforcing doses of pneumococcal vaccine.

Any patient, who declines influenza vaccine, provided they are given adequate advice to make an informed decision and opportunity to attend, should be recorded on the clinical template as an exception.

Medication Review

Check concordance with medication. It is useful to ask for all medication to be brought to the annual review appointment. Each medication should be dealt with separately, ensuring the patient understands what each is used to treat and how it has been prescribed to be taken, checking concordance with the patient's regime.

Check for any side effects to medication and report these to the GP/Prescriber/Practice Based Pharmacist for action / change in medication. All medication should be linked to diagnosis, if this has not already been done.

If the patient is experiencing difficulty, it may be possible to simplify the regime, e.g. times medication is taken, once daily preparations etc.

Written guidance may also be helpful, or maybe the use of dosette boxes available from the pharmacist who can discuss patient eligibility.

For further information, refer to the Dudley [Standards for Medication Review](#)

Beta-Blocker Therapy

Beta Blocker therapy is indicated for:

- Post MI patients
- Patients with a confirmed diagnosis of heart failure

Beta blocker therapy should be titrated to the maximum dose or maximum tolerated dose. <http://guidance.nice.org.uk/CG48/QuickRefGuide/pdf/English>

Any patient who is found not to be on beta-blocker therapy, (unless contraindicated / side effects / declined) should have a beta blocker initiated.

The drug of choice is Atenolol 25 – 50mg daily

Ace Inhibitor Therapy

ACE inhibitors are indicated for:

- Post MI patients.
- Patients with a confirmed diagnosis of heart failure.

<http://guidance.nice.org.uk/CG48/QuickRefGuide/pdf/English>

<http://guidance.nice.org.uk/CG5/NICEGuidance/pdf/English>

For patients who have either or both of these conditions and are not on an ACE inhibitor, where no contraindications or previous side effects exist, initiate ACE inhibitor therapy.

Renal function (urea and electrolytes, eGFR) should be checked for abnormality before initiating ACE inhibitors and 1-2 weeks after each dose increase.

Ensure patients who decline beta blocker or ACE inhibitor therapy are making an informed decision and understand the benefits of therapy. These patients should then be recorded as an exception.

The drug of choice is Lisinopril 10mg daily (Heart Failure max. dose is 20mg daily) or Ramipril caps 10mg daily.

For patients with Heart Failure Initiate therapy at the lowest dose and titrate to the maximum dose or to the maximum tolerated dose.

Consider referral to the Community Heart Failure Team for initiation and / or titration / optimisation of drug therapy

For information and advice on medical management / prescribing issues contact the practice based pharmacist or the Public Health [Pharmacy Prescribing and Medicines Team](#)

Clinical Audit

Clinical audit and performance monitoring will be carried out using the Quality and Outcomes Framework CHD Clinical Indicator Dataset.

Audit of primary prevention assessment and high risk status will be carried out using the Informatica Clinical Audit Platform software.

Abbreviations

ACE	Angiotensin Converting Enzyme
ACS	Acute Coronary Syndrome
AF	Atrial Fibrillation
BMI	Body Mass Index
BNP	Brain Naturetic Peptide
CHD	Coronary Heart Disease
CKD	Chronic Kidney Disease
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
CXR	Chest X-Ray
ECG	Electrocardiogram
eGFR	Estimated Glomerular Filtration Rate
FBC	Full Blood Count
HDL	High Density Lipids
IFG	Impaired Fasting Glucose
IGT	Impaired Glucose Tolerance
JBS	Joint British Societies
JVP	Jugular Venous Pressure
LDL	Low Density Lipids
LFT	Liver Function Test
MI	Myocardial Infarction
NSTEMI	Non-ST Elevated Myocardial Infarction
NYHA	New York Heart Association
OD	Once daily
OE	On examination
PPI	Proton Pump Inhibitor
PHQ9	Patient Health Questionnaire-9
PND	Paroxysmal Nocturnal Dyspnoea
PAD	Peripheral Arterial Disease
QOF	Quality and Outcomes Framework
SOBOE	Shortness of Breath on Exertion
TC	Total Cholesterol
TG	Triglycerides
TIA	Transient Ischaemic Attack
TSH	Thyroid Stimulating Hormone
UE	Urea and Electrolytes