ANGINA GUIDELINE for Primary Care

Aims

These guidelines are to support primary care practitioners in identifying, diagnosing, treating and managing patients with suspected or confirmed angina.

Evidence Base

The guidelines have been produced by a multidisciplinary team based on the NICE Quality Standard for Stable Angina (August 2012), which incorporates NICE Clinical Guidelines CG95, Chest Pain of Recent Onset (March 2010) and CG126, Management of Stable Angina (July 2011).

Please find full guidance at the following:

https://www.nice.org.uk/guidance/qs21/chapter/list-of-quality-statements

https://www.nice.org.uk/guidance/cg95

https://www.nice.org.uk/guidance/cg126

Prepared by: Wakefield and North Kirklees Cardiac Partnership Group

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Who to Contact

<table>
<thead>
<tr>
<th>Clinical guidance on angina referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First point of contact</strong></td>
</tr>
<tr>
<td><strong>Alternative point of contact</strong></td>
</tr>
<tr>
<td>Fiona Dudley</td>
</tr>
<tr>
<td><a href="mailto:Fiona.dudley@midyorks.nhs.uk">Fiona.dudley@midyorks.nhs.uk</a></td>
</tr>
<tr>
<td>01924 541551</td>
</tr>
</tbody>
</table>

Non-clinical advice on angina referral form and process

The ABC Booking Clerks

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RATIONALE UNDERLYING THE PATHWAY FOR STABLE ANGINA - BACKGROUND

Our outdated ‘Rapid Access Chest Pain Clinic’ pathway dates back to 2000, and relies heavily on the use of exercise ECG in the clinic. However, in 2010, NICE published CG95, Chest Pain of Recent Onset, as guidance on the investigation of angina, containing the statement “do not use exercise ECG to diagnose or exclude stable angina for people without known coronary heart disease”. NICE highlighted evidence that a simple clinical history has the same diagnostic accuracy as exercise ECG, and that angina should be diagnosed according to the following symptoms:

1. Constricting discomfort in the front of the chest, neck, shoulders, jaw or arms
2. Precipitated by physical exertion
3. Relieved by rest or GTN in around 5 minutes

<table>
<thead>
<tr>
<th>All 3 of the above are present</th>
<th>Typical angina</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 out of 3 are present</td>
<td>Atypical angina</td>
</tr>
<tr>
<td>One or none are present</td>
<td>Non-anginal. The patient <strong>should not</strong> be referred for angina investigation</td>
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</tbody>
</table>

Applying this simple assessment in primary care has the potential to avoid unnecessary referrals to secondary care (and unnecessary invasive investigations) in those with non-anginal symptoms, while triaging those with angina to the appropriate specialist service.

CG95 also stated that among patients with typical or atypical angina, investigations for coronary artery disease (CAD) such as cardiac CT, stress ECHO and coronary angiography, should be chosen according to the pre-test probability of underlying CAD, calculated using the Duke University risk score.

In 2011, NICE published CG126 Stable Angina, with guidance on the **treatment** of angina. This emphasised the use of evidence-based medications (Optimal Medical Therapy (OMT), (see page 11 below), the need to define the prognostic significance of the individual’s coronary heart disease by investigations such as angiography, and the benefit of a multi-disciplinary approach to deciding upon revascularisation (PCI/CABG).

National data from the Public Health Observatory has consistently shown Wakefield and North Kirklees areas to have high Standardised Mortality Rates for Coronary Heart Disease but unusually low elective angiography and revascularisation (PCI/CABG) rates. Data from the National Institute for Cardiovascular Outcomes Research shows that MYHT has a low proportion of PCI for stable angina and a high proportion of PCI for acute coronary syndromes. Dr Foster mortality data shows that survival following admission to MYHT with myocardial infarction is excellent, often better than comparable Trusts elsewhere in the UK.
An audit of patients seen in MYHT Rapid Access Chest Pain Clinic in 2010 demonstrated a high-proportion of referrals with non-anginal chest pain, low pre-test probabilities of coronary artery disease (compared to national and regional audit data from the same year) and a high use of exercise ECG to investigate, even among those with clearly non-anginal symptoms.

This suggests that improvements are needed in access to evidence-based therapies (including revascularisation) for patients with **stable angina** in our local area. We have therefore redesigned the Pathway for Stable Angina, with a new referral form designed to encourage referral of angina (and discourage referral of non-anginal pain), delivering prompt local access to specialist assessment and multi-modality cardiac investigations (including CT, stress ECHO, MRI and coronary angiography), local MDT and PCI (and CABG at the regional centre).
RATIONALE UNDERLYING THE PATHWAY FOR STABLE ANGINA (NICE Quality Standard 21)

In August 2012, NICE published Quality Standard 21 (Stable Angina), stating that “services should be commissioned from and coordinated across all relevant agencies encompassing the whole care pathway”.

The Quality Standard consisted of five Quality Statements, listed below:

**Statement 1:** People with features of typical or atypical angina and an estimated likelihood of coronary artery disease of 10-90% are offered diagnostic investigation according to that likelihood.

**Statement 2:** People with stable angina are offered a short-acting nitrate and either a beta-blocker or calcium channel blocker as first line treatment.

**Statement 3:** People with stable angina are prescribed a short acting nitrate and 1 or 2 anti-anginal drugs as necessary before revascularisation is considered.

**Statement 4:** People with stable angina who have had coronary angiography, have their treatment options discussed with a multi-disciplinary team if there is left main stem disease, anatomically complex three-vessel disease or doubt about the best method of revascularisation.

**Statement 5:** People with stable angina whose symptoms have not responded to treatment are offered re-evaluation of their diagnosis and treatment.

The new local pathway for stable angina has been developed in line with these quality statements, and will allow patients with stable angina to access a full range of specialist-led diagnostic and treatment services in a timely and appropriate manner. The information provided via a fully-completed referral form will assist the MYHT cardiologists with estimation of the Duke University CAD risk score, in order to appropriately triage patients for investigation.
STABLE ANGINA REFERRAL PATHWAY – FULL VERSION

Patient presenting to primary care with chest pain symptoms

Primary care physician to assess chest pain history for typical, atypical or non-anginal character

Typical angina = all 3 symptoms

Possible (atypical) angina = 2 out of 3 symptoms

Non-anginal pain <2 of the symptoms

Refer to Mid Yorkshire Rapid Access Angina Clinic

Invasive or non-invasive imaging to diagnose presence/absence of symptomatic coronary artery disease

Specialist review in Rapid Access Angina Clinic

Stable angina excluded

OMT-click link or see page 11

Review symptoms every 2 weeks and up-titrate OMT

Further specialist review after 6-12 weeks

Symptoms settled

Symptoms persist despite OMT*

MDT to decide on PCI/CABG/Medical Rx

Revascularisation (PCI or CABG)

Discussion of prognosis and risk stratification with patient

 Coronary angiography may be indicated for any of the following:

 Symptoms despite OMT*

 Non-invasive test demonstrating prognostic ischaemia

 Confirmation of CAD in 60-90% risk group (NICE CG95)

 Inconclusive non-invasive assessment, where other non-invasive tests may also prove inconclusive

GP commence GTN spray, atorvastatin and 1st line anti-anginal drug for all referrals to the MYHT angina service (OMT p.11)
**SYMPTOMS:**
1. Constricting discomfort in the front of the chest, neck, shoulders, jaw or arms
2. Precipitated by physical exertion
3. Relieved by rest or GTN in around 5 min

Patient presenting to primary care with chest pain symptoms

Primary care physician to assess chest pain history for TYPICAL, ATYPICAL or NON ANGINAL

Typical angina = all 3 symptoms
Possible (atypical) angina = 2 out of 3 symptoms

Non-anginal pain <2 of the symptoms

Send patient to A&E if these red flag symptoms are present

Suspected Acute MI or unstable angina
Or
Currently experiencing possible cardiac chest pain at rest,
Or
Suspected cardiac chest pain within the last 12 hours with abnormal 12-lead ECG

Provide reassurance and education to patient regarding non-cardiac cause of chest pain.

Likely non-cardiac
END PATHWAY

Advise patient to call 999 if usual chest pain is not relieved by GTN used twice

IF doubt persists for possible cardiovascular cause for symptoms

Investigate other possible causes of pain. Consider MSK pain, Lung disease, radiculopathy from back problems/joint pain etc

Consider Cardiology e-consultation for further advice

OR refer to Mid Yorkshire General Cardiology Clinic
IDENTIFYING ANGINA FROM THE CHARACTER OF CHEST PAIN IN PRIMARY CARE

NICE highlighted evidence that a simple clinical history has the same diagnostic accuracy as exercise ECG, and that angina should be diagnosed according to the following symptoms:

1. Constricting discomfort in the front of the chest, neck, shoulders, jaw or arms
2. Precipitated by physical exertion
3. Relieved by rest or GTN in around 5 minutes

All 3 of the above are present in ‘typical angina’, 2 out of 3 are present in ‘atypical angina’. If only one or none of the above features are present, the symptoms are classified as ‘non-anginal’ and should not be referred for angina investigation.

It is likely in clinical practice that primary care physicians will encounter some patients with symptoms that are classified as ‘non-anginal’ but where the GP still suspects that cardiovascular disease may be a cause. Such patients should not be referred via the Stable Angina pathway, but may be referred to a general cardiology clinic if desired. However, it is important to recognise that the majority of such patients will have non-cardiac causes of their symptoms, so it may be appropriate to investigate the other possible causes before referral.

In cases where doubt still exists about referral, e-Consultation may provide an alternative route for advice.
# RAPID ACCESS ANGINA REFERRAL FORM

<table>
<thead>
<tr>
<th>Patient Details</th>
<th>GP Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Dr</td>
</tr>
<tr>
<td>Address</td>
<td>Surgery</td>
</tr>
<tr>
<td>Tel No (day) (evening) (mobile)</td>
<td>Telephone</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>Fax No</td>
</tr>
<tr>
<td>NHS number</td>
<td>Gender</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
</tbody>
</table>

TO REFER YOUR PATIENT THIS REFERRAL FORM MUST BE FULLY COMPLETE AND THE FOLLOWING INVESTIGATIONS MUST BE REQUESTED AND REVIEWED BY GP:
FBC/U&E/LFT/TFT/CHOLESTEROL/LIPID PROFILE/GLUCOSE/12-LEAD ECG

PLEASE TICK TO CONFIRM THAT ALL THE ABOVE RESULTS HAVE BEEN REVIEWED AND THAT YOU HAVE ATTACHED THE RESULTS TO THIS REFERRAL

## ANGINAL SYMPTOMS

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precipitated by physical exertion</td>
<td></td>
</tr>
<tr>
<td><em>Constricting</em> discomfort (front of chest/neck/shoulder/jaw/arm)</td>
<td></td>
</tr>
<tr>
<td>Relief in approximately 5 minutes after GTN or rest</td>
<td></td>
</tr>
</tbody>
</table>

Presenting History:

Please describe any abnormal findings on clinical examination:

Please advise if any investigations revealed abnormal results:

## MEDICAL HISTORY

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known IHD</td>
<td>Previous PCI</td>
</tr>
<tr>
<td>Previous MI</td>
<td>Previous CABG</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Heart murmur or known valve disease</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Has cholesterol level <em>ever</em> been &gt;6.3 mmol/L?</td>
</tr>
<tr>
<td>Peripheral arterial disease</td>
<td>Stroke or TIA</td>
</tr>
<tr>
<td>Current or ex-smoker</td>
<td>Limited mobility</td>
</tr>
</tbody>
</table>

If yes to any of the above, please provide details (such as dates):

<table>
<thead>
<tr>
<th>Height</th>
<th>m</th>
<th>Weight</th>
<th>kg</th>
<th>Systolic BP</th>
<th>mmHg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Diastolic BP</td>
<td>mmHg</td>
</tr>
</tbody>
</table>

Signed | Print | Date

Please attach details of current medications (including known allergies) and investigation results and FAX with completed referral form to outpatient appointment centre 01924 542702
Which patients should be referred to the
Rapid Access Angina Assessment Clinic?

Only refer patients with 2-3 of the 3 characteristics of angina’

1. Symptoms precipitated by physical exertion
2. Constricting discomfort in the chest/neck/shoulders/jaw/arms
3. Relief in about 5 minutes after GTN or rest

Which patients should NOT be referred to the
Rapid Access Angina Assessment Clinic?

The following patients should be routed to hospital as an emergency via paramedic ambulance:

- Suspected Acute MI or unstable angina, or
- Currently experiencing possible cardiac chest pain at rest, or
- Suspected cardiac chest pain within the last 12 hours with abnormal 12-lead ECG

The following patients should be referred for same day hospital assessment in A&E or AAU/MAU:

- Suspected cardiac chest pain in past 12-72 hours with abnormal 12-lead ECG

The following patients should be referred to general cardiology clinic or via separate community pathways:

- Suspected valve disease, hypertrophic cardiomyopathy, heart failure, arrhythmia

Patients currently under cardiologist follow up:

- Please liaise directly with usual cardiologist if need to expedite review for change in condition

Patients with non-anginal symptoms (<2 of the 3 angina characteristics):

- If <2 ‘angina characteristics’ then symptoms are classified as non-anginal†. If concern at possible cardiac cause remains, patients may be referred by standard letter to general cardiology clinic or discussed via e-consultation. Alternatively, please consider investigating/treating for one of the many non-cardiac causes of chest pain symptoms

† NICE Clinical Guideline 95 Chest Pain of Recent Onset, March 2010
# INVASIVE AND NON-INVASIVE TESTS FOR NEW PATIENTS WITH STABLE ANGINA

<table>
<thead>
<tr>
<th>Test</th>
<th>Which patients?</th>
<th>Clinical value</th>
<th>Invasive?</th>
<th>Available at MHYT?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-lead ECG</td>
<td>ALL PATIENTS prior to referral</td>
<td>Risk stratification</td>
<td>No</td>
<td>Yes, but firstly in primary care</td>
<td>Essential for risk stratification</td>
</tr>
<tr>
<td>Exercise (treadmill) ECG</td>
<td>Not routine</td>
<td>Risk stratification</td>
<td>No</td>
<td>Yes</td>
<td>Occasionally useful for patients with known CAD/MI</td>
</tr>
<tr>
<td>Cardiac CT</td>
<td>CAD risk 10-30%</td>
<td>Identifies coronary artery disease</td>
<td>No (IV cannula only)</td>
<td>Yes</td>
<td>High sensitivity, useful rule-out test</td>
</tr>
<tr>
<td>Stress ECHO</td>
<td>CAD risk 30-60%</td>
<td>Identifies myocardial ischaemia</td>
<td>No (IV cannula only)</td>
<td>Yes</td>
<td>Better diagnostic accuracy than treadmill ECG alone</td>
</tr>
<tr>
<td>Coronary Angiogram</td>
<td>CAD risk 60-90%</td>
<td>Identifies coronary artery disease</td>
<td>Yes (arterial puncture and catheterisation of coronaries)</td>
<td>Yes</td>
<td>Also for patients with ischaemia confirmed by non-invasive tests</td>
</tr>
<tr>
<td>Perfusion MRI</td>
<td>CAD risk 30-60%</td>
<td>Identifies myocardial ischaemia</td>
<td>No (IV canula only)</td>
<td>Yes</td>
<td>Rarely needed, Stress ECHO provides similar information</td>
</tr>
<tr>
<td>Myocardial perfusion scintigraphy</td>
<td>CAD risk 30-60%</td>
<td>Identifies myocardial ischaemia</td>
<td>No (IV canula only)</td>
<td>Indirectly via Leeds</td>
<td>Rarely needed, Stress ECHO provides similar information</td>
</tr>
<tr>
<td>Intravascular Ultrasound of Coronaries</td>
<td>Not routine</td>
<td>Additional quantification of coronary atheroma</td>
<td>Yes (arterial puncture and catheterisation of coronaries)</td>
<td>Yes</td>
<td>May guide revascularisation decisions during PCI</td>
</tr>
<tr>
<td>Coronary pressure wire (fractional flow reserve)</td>
<td>Not routine</td>
<td>Identifies myocardial ischaemia</td>
<td>Yes (arterial puncture and catheterisation of coronaries)</td>
<td>Yes</td>
<td>May guide revascularisation decisions during catheterisation/PCI</td>
</tr>
</tbody>
</table>
OPTIMAL MEDICAL THERAPY (OMT)

Optimal drug treatment consists of 1 or 2 anti-anginal drugs, titrated to relieve symptoms, plus drugs for secondary prevention of cardiovascular disease. Do not exclude patients from treatment for stable angina based on age alone. Do not alter investigation or treatment based upon gender or ethnic group.

**GTN spray/tablets**
Offer to all patients with suspected angina

**Aspirin**
Consider 75mg daily in all patients with suspected angina, taking into account bleeding risks and comorbidities. Most of the evidence for the benefits of aspirin is among patients with established cardiovascular disease (stroke, MI, etc).

**ACE inhibitors**
Consider in patients with stable angina and diabetes. Continue ACE inhibitors in patients with a pre-existing ACEi indication (eg heart failure).

**Statins**
Offer Atorvastatin 20-80mg to all patients with suspected angina (see NICE CG181 and Quality Standard 100).

**Beta-blockers**
An option as first-line anti-anginal therapy. Start with a low dose and review every 2-4 weeks with a view to uptitrating the dose to the maximum tolerable dosage or until symptoms resolve. May be combined with a calcium antagonist if required (watch for hypotension and bradycardia; use a dihydropyridine such as amlodipine or felodipine in preference to diltiazem or verapamil in combination with betablocker).

**Calcium antagonists**
An option as first-line anti-anginal therapy. Start with a low dose and review every 2-4 weeks with a view to uptitrating the dose to the maximum tolerable dosage or until symptoms resolve. May be combined with a beta-blocker if required (watch for hypotension and bradycardia; use a dihydropyridine such as amlodipine or felodipine in preference to diltiazem or verapamil in combination with betablocker).

Do not routinely offer drugs other than beta-blocker or calcium antagonist as first-line. The following drugs may sometimes be used as 3rd-line agents or in patients who fail to tolerate standard first-line therapies:

*Isosorbide Mononitrate*

*Ivabradine*

*Nicorandil*

*Ranolazine*
PATIENT INFORMATION AND SUPPORT

Useful patient information about Angina can be found at:

http://patient.info/health/angina-leaflet