

ROMFORD STROKE PREVENTION PROGRAMME

EDUCATION RESOURCE PACK # 6

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INTRODUCTION

This guide will help general practitioners to:

- screen for stroke risk in both symptomatic and asymptomatic patients;
- take urgent action to reduce stroke risk, particularly in those with - atrial fibrillation - TIA/suspected stroke;
- help patients to make informed decisions about treatment for stroke risk reduction, and to understand specialist advice, particularly where this is conflicting.

Stroke causes about 10% of all deaths and about 25% of all chronic disability in the United Kingdom, making it the third most common cause of death and one of the largest single causes of long-term disability.

Stroke prevention measures have the potential to reduce this burden significantly. General practitioners, with the help of this guide, are the key to better stroke prevention. What is needed by GPs is action in several areas;

- 1). Proactive opportunistic screening and risk management for high risk groups.
- 2). Prompt action for patients discovered to have atrial fibrillation
- 3). Appropriate management for patients who have had a stroke or T.I.A. and in particular appropriate reduction in risk factors in such patients.

In areas where specialist consultation and/or management is indicated (e.g. anticoagulation with warfarin, carotid endarterectomy), specialist opinions on management may differ. This is often because new technology and methods are being used ahead of randomized trials to prove their effectiveness. The guide contains information on such areas to assist general practitioners in helping patients

to make sense of differing specialist opinions and make informed decisions about management. The information given is basically evidence based; where applicable the evidence is graded from 1 to 4; level 1 evidence is the most rigorously tested evidence, for example based on double blind random controlled trials, whereas level 4 evidence is more consensus evidence based on clinical observations etc.

STROKE PREVENTION CHECKLIST

SCREENING FOR STROKE RISK

All patients over the age of 45 years and all with risk factors (see below) should be screened for:

History of risk factors:

- Hypertension
- Smoking
- Palpitations (suggesting atrial fibrillation)
- Diabetes
- hyperlipidaemia
- Cardiac failure
- Peripheral vascular disease
- TIA/stroke

Examination:

- Irregular pulse (atrial fibrillation)
- Blood pressure (compare arms for extra-cranial arterial disease; use appropriate cuff size)
- Neck bruit
- Cardiac bruit

Tests:

- If pulse is irregular: Resting ECG
- If indicated by patient concern or family history: Blood sugar, blood lipids
- If neurological symptoms, or neck bruit (particularly under 60 years): Carotid Ultrasound

Vascular risk factors

Usual risk factor management; anti-hypertensives, Quit advice, lifestyle advice etc. and anti-platelet therapy if indicated.

STROKE / T.I.A. SYMPTOMS – THIS IS A MEDICAL EMERGENCY

Stroke or TIA should be treated as a medical emergency, and management instigated urgently. Stroke risk after TIA/stroke is extremely high, and TIA may be start of a stuttering progression. Early intervention may prevent further progression, and in established stroke, may minimize neurological deficit.

Inform patients about warning signs of stroke and TIA, the need to call an ambulance promptly.

PATIENT INFORMATION AND SUPPORT

Patient understanding and knowledge is crucial in effective stroke prevention.

- Inform patients and carers about
 - the warning signs of stroke/TIA
 - the need to seek urgent medical attention or call an ambulance promptly, whether the onset of symptoms is sudden or gradual
- the reason for this need.
- Inform patients and carers about the role of and reasons for preventive treatments. Provide support for those on long-term medication.

Consumer research suggest that most people are poorly informed about what a stroke is (many confuse it with heart attack), the causes and types of stroke, and stroke risk factors and prevention.

ANTIPLATELET AGENTS IN STROKE PREVENTION

Aspirin (75 - 325 mg / day)

Should be given to:

People with non-haemorrhagic stroke or TIA (Level I evidence)

Unless:

- aspirin is contraindicated (intolerance, high risk of bleeding)
- warfarin may be more appropriate, i.e.
- where the stroke has a cardiac cause (AF, valvular heart disease) (pages 6,7);
or
- where there is surgically inaccessible cerebrovascular
- atherosclerosis, and cerebral ischaemic symptoms occur despite antiplatelet therapy (Level IV evidence - no definitive data exist).

People with:

- Previous MI
 - Other cardiac disease (unstable angina, post coronary artery bypass graft, post Coronary angioplasty, stable angina/coronary artery disease),
 - peripheral vascular disease (intermittent claudication, peripheral grafts, peripheral angioplasty)
 - Other high stroke risk
- (Level 1 evidence)

The dose range reflects different trials. No definitive data exist on optimum dose. No particular preparation is preferred. There is insufficient evidence to support regular use of aspirin for stroke prevention in people at low risk. (Level 1 evidence)

Dipyrimadole or ticlopidine

These antiplatelet agents should be considered for people who are intolerant of aspirin or in selected aspirin failures (Level 1 evidence). Their effectiveness is similar to aspirin.

Risk reduction with antiplatelet agents

Antiplatelet agents reduce the relative risk of stroke or death by about 25%.

Contraindications

- History of intolerance of aspirin
- High risk of bleeding (e.g. peptic ulceration, recent major injury, bleeding disorder).

Secondary stroke prevention after cardio-embolic stroke TIA

Assuming CT scan shows no haemorrhage:

- Early anticoagulation with warfarin reduces the high risk of subsequent stroke. Potential benefit must be balanced against the risk of haemorrhagic transformation in acute stroke (Level IV evidence). With large infarcts, this risk is probably increased.
- Aspirin is effective, but less so than warfarin, and should be used where warfarin is contraindicated (Level I evidence).
- Where the neurological deficit is very severe, consider quality of life issues, in consultation with patient and/or family, in deciding about anticoagulation.

Stroke prevention in AF with valvular heart disease

- In most valvular heart disease, particularly rheumatic heart disease, and disease associated with AF or prior thrombo-embolism, anticoagulation with warfarin (INR 2-3) is of benefit (Level III evidence).
- For people with mechanical heart valves and AF or prior thrombo-embolism, warfarin (INR 2.5-3.5) should be combined with aspirin 100 mg daily (Level 11 evidence).

INDIVIDUAL STROKE RISK

Risks are at least additive. There is some controversy regarding interaction. The following table shows the various known risk factors for stroke and their relative causal associations.

STROKE RISK FACTORS

Risk factors for stroke	Strength of causal association
Increasing age	++++
Hypertension	++++
Male sex	+++
Existing vascular disease	+++
Cardiac dysfunction	+++
Diabetes	+++
Smoking	++
Alcohol intake	++
High lipids	++
High fibrinogen	+
High haematocrit	+
Geography	+
Family history	+
Obesity	+

Important General Risk Factors

Age: Risk roughly doubles with each decade of life.

Hypertension: Risk doubles with every 7.5 mm Hg rise in diastolic BP from 70 to 110 mmHg. A similar risk increase applies for systolic pressure in those with raised systolic pressure.

Smoking: Increases stroke risk 3-5 times. Risk is directly related to numbers of cigarettes smoked. Effects of smoking on risk are reversed in 3-5 years.

If you believe there is a potential for identifying and treating your high risk patients in your practice consider taking part in the Romford Stroke Prevention Programme. This would involve using audit techniques to attempt to identify the patients, developing a disease register and reviewing patients in order to ensure they are being treated appropriately. Romford PCG can give practical, educational assistance and participating practices may be eligible for other resource to assist them. For more information see ***THE ROMFORD STROKE SECONDARY PREVENTION PROGRAMME***

NOTES ON ATRIAL FIBRILLATION (AF)

Atrial fibrillation (including intermittent AF) significantly increases stroke risk. Anticoagulation with warfarin should be routinely considered in all patients with AF. There is particular urgency following symptoms of TIA/stroke, in order to prevent further stroke.

Screening and case-finding for atrial fibrillation

- Opportunistic screening: Examine pulse rhythm routinely when measuring blood pressure, particularly in elderly people. If pulse rhythm is in doubt, resting ECG should be done.
- Case-finding in high risk people: If pulse rhythm and ECG are normal but the patient at very high risk of embolic stroke (e.g. prior TIA/stroke), 24hour Holter monitoring will detect about 50% of cases of intermittent AF.
- People with intermittent palpitations and no clear diagnosis should have cardiac event monitoring.
- Echocardiography may be of use in stratification of stroke risk in people with cardiac abnormalities but no clinical risk factors.

Anticoagulation - Warfarin

Specialist consultation: In considering the risks and benefits of warfarin, specialist medical input should be strongly considered.

Risk reduction: Warfarin therapy reduces relative risk of stroke or death by about 70%.

Contraindications:

- Dementia
- Frequent falls
- Alcohol abuse
- Previous cerebral haemorrhage, bleeding problems
- Peptic ulceration
- Social problems which might prevent compliance
- Liver or renal impairment
- Poor control of INR.

Primary stroke prevention in AF without valvular heart disease

Warfarin is both more effective and more hazardous than aspirin, though trial evidence shows very low rates of bleeding for both.

- Warfarin should be considered in all patients with AF except for those with no other risk factors (ie. those with "lone AF") (Level I evidence). At particularly high

risk of stroke are those in AF with prior thrombo-embolism, hypertension, diabetes, and/or history of CCF

Treatment with warfarin should be lifelong (Level IV evidence). Anticoagulant control should be closely monitored, aiming at an INR of 2.0-3.0. (Level I evidence)

- Over age 75, risk of serious haemorrhage with warfarin is high; but this may be outweighed by higher risk of cardio-embolic stroke. Anticoagulation should therefore be considered (Level IV evidence).
- Aspirin is effective, but less so than warfarin, and should be used where warfarin is contraindicated (Level I evidence).
- In lone AF (i.e. no other stroke risk factors), the vascular event rate is extremely low, warfarin is not indicated, and there is insufficient evidence to recommend routine use of prophylactic aspirin (Level III evidence).

NB: Intermittent AF poses the same stroke risk as sustained AF. If there are no other risk factors: (no thrombo-embolism, hypertension, CCF; normal echocardiogram; ie. "lone AF") then the risk is low (similar to no AF). However if there are other risk factors there is a substantial increased risk;

Presence of other risk factors:

Risk increases by 5-6 times, and is substantially greater than this (a) in older people, and (b) with risk factors for structural heart disease, e.g. hypertension, CCF, prior thrombo-embolism, diabetes.

Plus valvular heart disease:

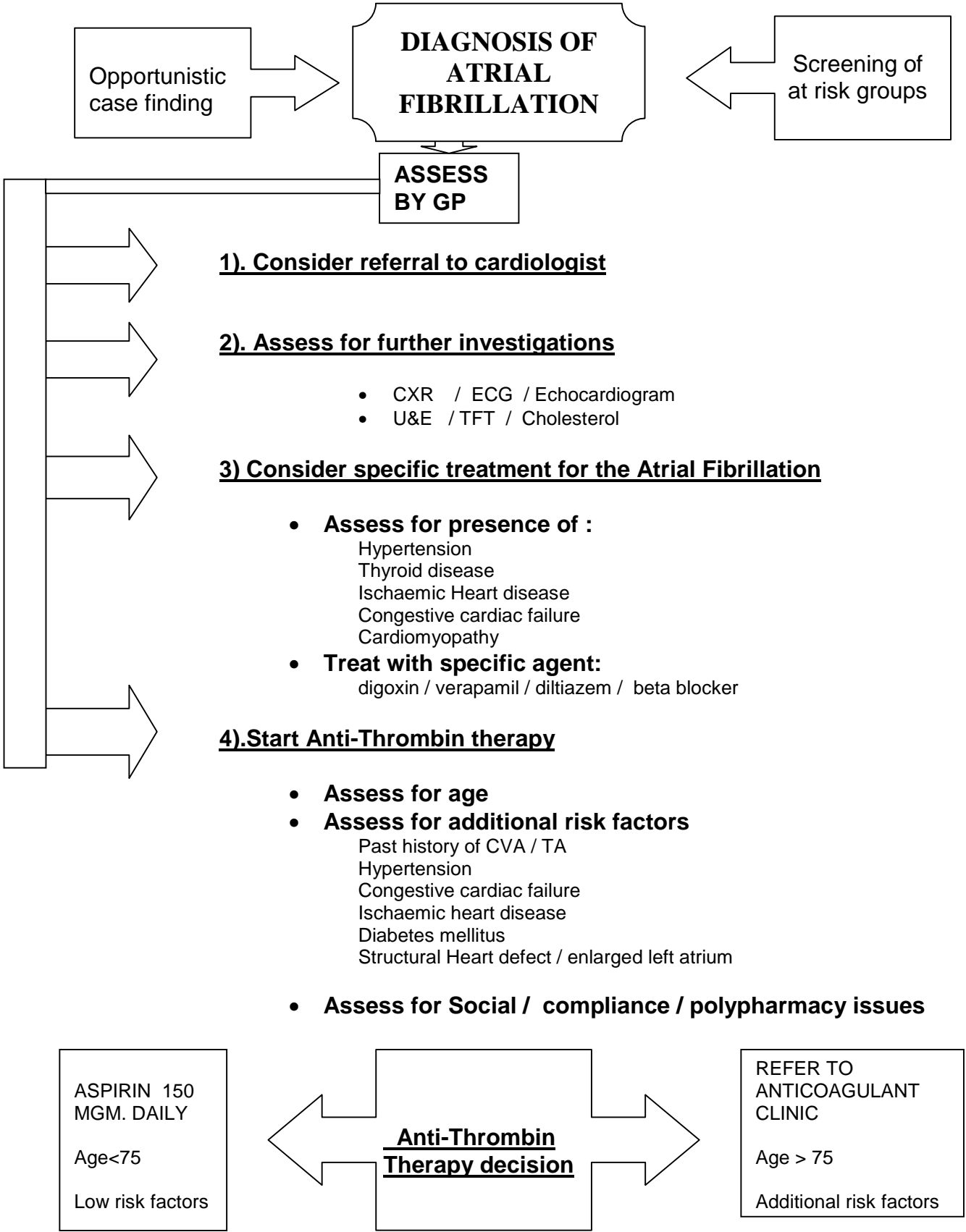
Risk increases by about 17 times.

Following cardiogenic stroke/TIA:

12-20% will experience a second stroke within 2 weeks, with a risk of about 1% per day. Within 12 months, 20% will have a second stroke.

If you believe there is a potential for identifying and treating your AF patients in your practice consider taking part in the Romford Stroke Prevention Programme. This would involve using audit techniques to attempt to identify the patients, developing a disease register and reviewing patients in order to ensure they are being treated appropriately. Romford PCG can give practical, educational assistance and participating practices may be eligible for other resource to assist them. For more information see the **ROMFORD ATRIAL FIBRILLATION PROGRAMME**.

ATRIAL FIBRILLATION PRACTICE MANAGEMENT ALGORITHM



Stroke Data for ROMFORD Area

Romford PCG has a larger proportion of people aged 65+ than the BHHA as a whole. For age related illness you would expect a higher than average need for care in Romford PCG. Mortality rates for stroke in Romford is higher than the BHHA average.

Incidence

There Are approximately 192 cases new cases of stroke per year in Romford.

Of these there are 96 new cases per year in over 75 age group

34% of patients die within 1 year of diagnosis.

30-50% of survivors are disabled.

Prevalence

The prevalence of patients who have had a stroke is 480 patients in Romford area of 90,000 patients. (5.3 per 1000)

Number of Romford patients who have some permanent disability form a previous stroke is estimated at 240 patients.

Mortality Rates

Stroke deaths for patients under 65 years is 8.9 per 100,000 people. This represents an SMR of 110.1. For patients aged 65 to 74 it is 192.8 per 100,000 people. This represents an SMR of 105.3.

Higher stroke deaths in patients both under 65 and aged 65 to 74 suggests need for improved preventative care, and treatment for hypertensive disease.

GP “OFF THE SHELF” STROKE PREVENTION PROGRAMMES

PROGRAMME (1). PRIMARY PREVENTION OF STROKE

Designed as a primary prevention programme for those GPs who are interested to look At the important risk factors for cerebro-vascular disease amongst their practice population. The programme would be designed to support the practice targeting the high risk population and building up a “disease register” of these patients. Subsequent work would be required to set up appropriate recall systems so that interventions can be introduced to lower the risk of first stroke in these high risk individuals.

PROGRAMME (2). SECONDARY PREVENTION OF STROKE

Designed as a secondary prevention programme for those GPs who are interested to set up a database of known patients with known cerebro-vascular disease. The secondary prevention activities would be based on developing an appropriate recall systems to review these patients on a regular basis to look at the reversible risk factors present, and to introduce interventions which would lower the risk of a subsequent stroke in these high risk individuals.

PROGRAMME (3). ATRIAL FIBRILLATION PROGRAMME

This programme is designed as a combined primary and secondary prevention programme for those GPs who are interested to look their patients with atrial fibrillation. The programme would be designed to support the practice in building up a disease register of patients with atrial fibrillation, and to set up appropriate recall systems so that interventions can be introduced to lower the risk of first or subsequent stroke in these high risk individuals.