Cardiovascular Problems

One in a series of curriculum statements produced by
the Royal College of General Practitioners:
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This curriculum statement is based on the cardiovascular research expertise of members of the Department of Primary Care and General Practice at the University of Birmingham.

It has drawn on various national guidelines and policies, current research evidence and the clinical experience of practising general practitioners.

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Key messages

- Cardiovascular problems are an important cause of morbidity and mortality.
- Management of the risk factors for cardiovascular problems is an essential part of health promotion activity in primary care.
- All general practitioners should be competent in the management of cardiovascular emergencies in primary care.
- Accurate diagnosis of symptoms that may potentially be due to cardiovascular causes is a key competency for general practice.
INTRODUCTION

Cardiovascular problems includes coronary heart disease (angina, acute coronary syndromes, cardiac arrest), heart failure, arrhythmias, other heart disease (valve disease, cardiomyopathy, congenital), peripheral vascular disease (arterial and venous), cerebrovascular disease (stroke and transient ischaemic attack [TIA]) and thromboembolic disease.

This statement relates to the management of these problems and the risk factors leading to them.

Rationale for this curriculum statement

Cardiovascular problems are important because they are common, causing high levels of morbidity and mortality, resulting in considerable costs to society:

- Coronary heart disease (CHD) is the greatest burden in terms of mortality worldwide\(^1\)
- 50% of 45-year-olds will die subsequently from coronary heart disease in the UK\(^2\)
- Stroke is the commonest form of acquired disability\(^3\)
- Estimated direct health costs of cardiovascular problems are huge: £1.75 billion on CHD and £1.65 stroke (1999 costs)\(^2\)
- Primary and secondary prevention aimed at reducing risk factors (blood pressure, cholesterol, smoking, aspirin, better diabetic control) leads to clinically and statistically significant reductions in morbidity and mortality\(^4\)
- Consulting rates for cardiovascular disease are increasing with an ageing population and account for at least 931 per 10,000 person years at risk\(^5\)
- Current evidence is that management of cardiovascular disease and its risk factors is often suboptimal.\(^6\)

UK health priorities

National Service Framework for Coronary Heart Disease (CHD)
This sets out twelve standards covering the detection and management of risk factors for CHD and established CHD. Separate standards cover the emergency treatment of CHD and rehabilitation of people with CHD.

National Service Framework for Older People
The NSF for Older People sets out a single standard for stroke that covers the appropriate detection and management of people at risk of and suffering from stroke as well as rehabilitation and secondary prevention.

General Medical Services 2 contract
The new GMS contract includes 18 clinical domains in the Quality and Outcomes Framework. Of these three cover CHD, stroke and left ventricular dysfunction, with a further two domains involving the key cardiovascular risk factors of diabetes and hypertension. Additional relevant outcomes are regular monitoring of smoking status and blood pressure in the practice population.
The following learning objectives describe the knowledge, skills and attitudes that a general practitioner (GP) requires when managing patients with cardiovascular problems. This curriculum statement should be read in conjunction with the other RCGP curriculum statements in the series. The full range of generic competencies is described in the core RCGP curriculum statement 1, Being a General Practitioner.

**Primary care management**

- Manage primary contact with patients who have a cardiovascular problem.
- Coordinate care with other primary care health professionals, cardiologists and other appropriate specialists, leading to effective and appropriate acute and chronic disease management including prevention, rehabilitation and palliative care for those with end stage cardiac failure.
- Make timely appropriate referrals on behalf of patients to specialist services, especially to rapid-access chest pain and heart failure clinics.
- Promote cardiovascular wellbeing by applying health promotion and disease prevention strategies appropriately.
- Describe strategies for early detection of cardiovascular problems that may already be present but have not yet produced symptoms.

**The knowledge base**

**Symptoms:**
Key issues in the diagnosis of cardiovascular problems will be the eliciting of the appropriate signs and symptoms, and subsequent investigation and/or referral of people presenting with:

- Chest pain (Cardiac causes, e.g. ischaemic heart disease, pericarditis and aortic dissection, versus non-cardiac causes, e.g. chest wall/musculoskeletal, psychological, respiratory, gastrointestinal)
- Breathlessness (heart failure, respiratory problems, thromboembolism, anaemia, obesity, malignancy)
- Ankle swelling (heart failure, thromboembolism, venous stasis, varicose veins, deep vein thrombosis (DVT), leg ulcers, lymphoedema, anaemia, obesity, malignancy, hypoproteinemia)
- Symptoms or signs thought to be due to peripheral vascular disease (arterial and venous)
- Palpitations and silent arrhythmias
- Signs and symptoms of cerebrovascular disease
- Collapse.

**Common and/or important conditions:**

- Coronary heart disease (angina, acute coronary syndromes, cardiac arrest)
- Heart failure
- Arrhythmias (ectopic beats, atrial fibrillation and flutter, narrow and broad complex tachycardias, brady-arrhythmias)
- Other heart disease (valve disease, cardiomyopathy, congenital)
- Peripheral vascular disease (arterial and venous)
- Cerebrovascular disease (stroke and TIA)
- Thromboembolic disease.
### Investigations:
- Blood pressure measurement
- Electrocardiogram (12-lead ECG)
- 24-hour ambulatory blood pressure measurement
- Venous dopplers and ankle brachial pressure index (ABPI) measurement
- Knowledge of secondary care investigations and treatment including echocardiography, 24-hour arrhythmia monitoring, venography, invasive procedures such as angioplasty, coronary artery bypass grafting.

### Treatment:
- Treatment of people at risk from cardiovascular problems including specific management of raised blood pressure and lipids
- Chronic disease management including specific disease management, systems of care, multidisciplinary teamwork for people with established cardiovascular problems, rehabilitation and also palliative care for those with end stage cardiac failure
- Communication with patients and their families and interprofessional communication both within the primary health care trust (PHCT) and between primary and secondary care.

### Emergency care:
- Acute treatment of people presenting with cardiovascular problems or symptoms thought to be due to cardiovascular problems.

### Prevention:
This will involve the following risk factors:
- Blood pressure
- Lipids
- Smoking
- Other modifiable risk factors (including alcohol, exercise, obesity and diet)
- Fixed factors: age, ethnicity, sex and family history
- Co-morbidities especially diabetes *(See also the Metabolic Problems curriculum statement)*
- Combining risk factors – risk calculation and communicating risk.

### Person-centred care
- Identify the patient’s health beliefs regarding cardiovascular problems and either reinforce, modify or challenge these beliefs as appropriate.
- Recognise that non-concordance is common for many preventative cardiovascular medicines and respect the patient’s autonomy when negotiating management.
- Communicate the patient’s risk of cardiovascular problems clearly and effectively in a non-biased manner.
- Utilise disease registers and data-recording templates effectively for opportunistic and planned monitoring of cardiovascular problems to ensure continuity of care between different healthcare providers.
Specific problem-solving skills

- Intervene urgently when patients present with a cardiovascular emergency, e.g. myocardial infarction, stroke and critical ischaemia.
- Demonstrate an understanding of the importance of risk factors in the diagnosis and management of cardiovascular problems.
- Demonstrate a reasoned approach to the diagnosis of cardiovascular symptoms (e.g. chest pain – see above) using history, examination, incremental investigations and referral.

A comprehensive approach

- Prioritise interventions for multiple risk factors and symptoms of cardiovascular problems according to their severity and prognostic risk.
- Advise patients appropriately regarding lifestyle interventions according to their cardiovascular risk and level of disability.

Community orientation

- Describe the rationale for restricting certain investigations and treatments in the management of cardiovascular problems, e.g. open-access echocardiography, statin prescribing.
- Advise patients appropriately regarding driving according to their cardiovascular risk and DVLA guidelines.

A holistic approach

- Appreciate the importance of the social and psychological impact of cardiovascular problems on the patient.
- Appreciate the importance of the social and psychological impact of cardiovascular problems on the patient’s family, friends, dependants and employers.
- Recognise the impact cardiovascular problems have on disability and fitness to work.
- Recognise the cultural significance that people attach to the heart as a seat of emotions.

Contextual aspects

- Describe current population trends in the prevalence of risk factors and cardiovascular disease in the community.
- Describe the key government policy documents that influence healthcare provision for cardiovascular problems.
- Describe how geographical distance influences the treatment of cardiovascular emergencies.

Attitudinal aspects

- Ensure that personal opinions regarding risk factors for cardiovascular problems (e.g. smoking, obesity, exercise, alcohol, age, race) do not influence management decisions.
Scientific aspects

- Describe and be able to implement the key national guidelines that influence healthcare provision for cardiovascular problems.
- Describe the key research findings that influence management of cardiovascular problems (e.g. heart protection study).

Psychomotor skills

- Clinical skills including cardiovascular examination and blood pressure measurement.
- Calculation of cardiovascular risk.
- Performing an ECG and basic interpretation.
- Resuscitation for children and adults.
Examples of relevant texts and references

- Waine C. Coronary Heart Disease London: RCGP, 1996

Web resources

British Cardiac Society
www.bcs.com/

Chronic Disease Management Paper from RCGP
www.rcgp.org.uk/PDF/Corp_chronic_disease_nhs.pdf

National Electronic Library
www.nelh.nhs.uk/

Personal experiences of illness and health (multimedia)
www.dipex.org/

Primary Care Cardiovascular Society
www.pccs.org.uk/
Interesting papers

Risk factors for CHD


Angina

- Tran H and Anand SS. Oral antiplatelet therapy in cerebrovascular disease, coronary artery disease and peripheral arterial disease JAMA 2004; 292(15): 1867–74

CHD – specialised topics

- Bass C and Mayou R. Chest pain (ABC of Psychological Medicine) BMJ 2002; 325(7364): 588–91

CHD – economics of treatment

Acute coronary syndrome


Heart failure

- Dei Cas L, Metra M, Nodari S, Dei Cas A, Gheorghiade M. Prevention and management of chronic heart failure in patients at risk Am J Cardiol 2003; 91(9A): 10–17F

Heart disease statistics

- The best source of these can be downloaded as both PDF and Excel spreadsheet from the British Heart Foundation ‘Heart Stats’ website: www.heartstats.org/homepage.asp.

The patient’s perspective

- McAlister FA, O’Connor AM, Wells G, Grover SA, Laupacis A. When should hypertension be treated? The different perspectives of Canadian family physicians and patients CMAJ 2000; 163(4): 403–8

Cardiac rehabilitation


Self-management


Venous thromboembolism

- Tovey C and Wyatt S. Diagnosis, investigation, and management of deep vein thrombosis BMJ 2003; 326(7400): 1180–4

Peripheral vascular disease

Work-based learning – in primary care

Primary care is a good place to learn how to manage cardiovascular problems because of the wealth of clinical material presenting. Patients will present various symptoms, at varying stages of the natural history. Critical, professional discourse with a trainer will aid the specialty registrars (GP) in developing heuristics to aid problem-solving. Supervised practice will engender confidence.

In particular, the specialty registrar (GP) should be able to learn about risk factor management and gain experience in the management of cardiovascular problems as they present (acute and chronic) including emergencies. Primary care is also the best place to learn about chronic disease management (angina, post-myocardial infarction (MI), heart failure, stroke, peripheral vascular disease).

Work-based learning – in secondary care

Some GP training programmes will contain placements of varying length with cardiologists. The acute setting is the place to learn about the acute management of acute coronary syndrome (ACS), MI, stroke and aortic aneurysms. The specialty registrar will also learn about the invasive management of cardiovascular problems: angioplasty, coronary artery bypass grafts, transplantation, other forms of vascular surgery (carotid endarterectomy, vascular bypass). Outpatient or clinic settings are ideal places for seeing concentrated groups of patients with cardiovascular problems. They provide opportunities to learn about secondary care investigation of cardiovascular problems (exercise tests, radionucleotide scans, angiography and echocardiography).

Vocational training programmes should offer the opportunity to attend cardiovascular clinics when working in other hospital posts and should also consider attending specialist clinics during their general practice-based placements.

Non-work-based learning

Many postgraduate deaneries provide courses on cardiovascular problems. Other providers include universities and the Royal College of General Practitioners.

Learning with other healthcare professionals

Chronic disease management in primary care is a multidisciplinary activity. It is important for the specialty registrar to attend nurse-led cardiovascular disease annual review assessments in practice and gain an understanding of the follow-up of hypertensive patients in the practice’s clinics that are often led and delivered by a practice nurse. It is also important to understand the role of district nurses in the assessment and management of leg ulcers or ankle oedema by attending their clinics or home visits. Opportunity should also be taken to observe cardiovascular rehabilitation programmes led by physiotherapists.
REFERENCES


