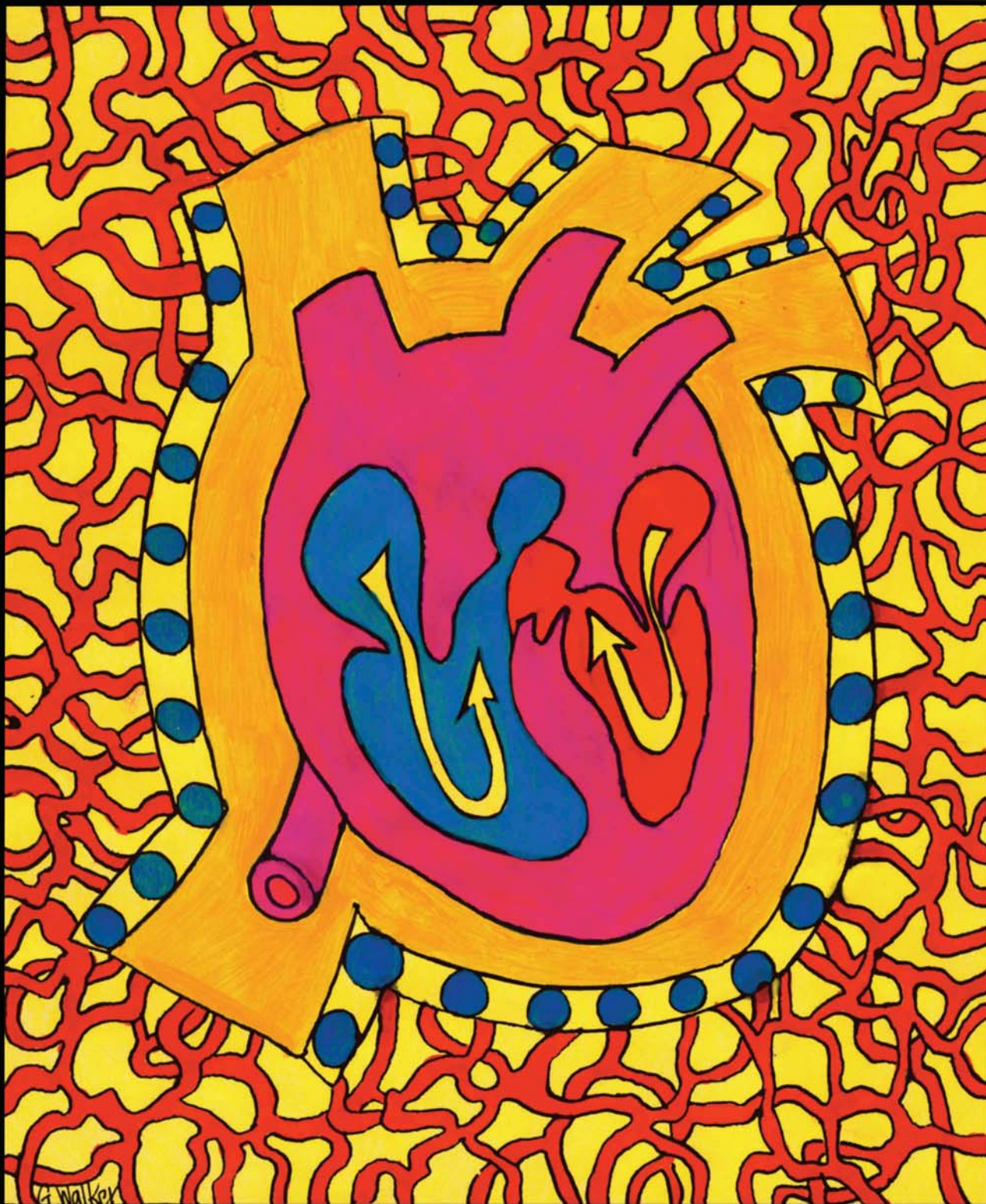


know your heart



cardiovascular training manual
for Aboriginal Health Workers

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- Robyn Speerin, Cardiac Rehabilitation Association of NSW.

As part of the development of this training manual several pilot sites were used. The pilot sites each completed a formal evaluation; the results of the evaluation were then used to further develop the manual.

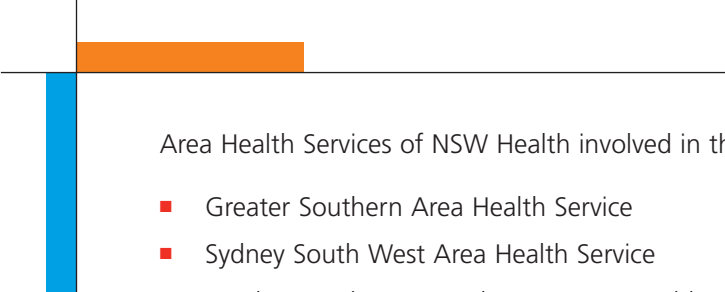
Participants in the pilot workshops:

- Aboriginal Health Workers
- Cardiac nurses/educators
- Cardiac rehabilitation nurses
- Aboriginal community members.

Aboriginal Medical Services involved in the pilots included:

- Eleanor Duncan Aboriginal Health Centre
- Griffith Aboriginal Medical Service
- Daruk Aboriginal Community Controlled Medical Service Co-operative.





Area Health Services of NSW Health involved in the pilot program were:

- Greater Southern Area Health Service
- Sydney South West Area Health Service
- Northern Sydney/Central Coast Area Health Service
- North Coast Area Health Service
- Justice Health.

FOREWORD

Cardiovascular disease is a major public health problem in Australia with one Australian dying every ten minutes with a cardiovascular related illness. Cardiovascular disease or circulatory diseases comprises all diseases of the heart and blood vessels. Aboriginal people of Australia suffer a greater burden from diseases of the circulatory system including diabetes, renal, hypertension, heart and stroke.

The burden from cardiovascular disease has an enormous impact on Aboriginal communities throughout Australia. The Aboriginal Vascular Health Program is one of the programs of the Aboriginal Chronic Care Program in the NSW Department of Health. The Aboriginal Vascular Health Program has been providing culturally appropriate care for Aboriginal communities with cardiovascular disease in NSW since 2000.

The Aboriginal Vascular Health Program has adopted a broad vascular approach to the management and treatment of cardiovascular disease. This approach recognises the cluster of common modifiable risk factors and common treatment and management goals for cardiovascular disease. A broad approach rather than a single disease approach is also consistent with the holistic Aboriginal view of health.

This manual has been developed to assist Aboriginal Health Workers and non-Indigenous health workers with up-to-date information on the prevention, management, treatment and follow up care (cardiac rehabilitation and self management) of cardiovascular disease for Aboriginal people.

This manual has been developed with input from Aboriginal communities of NSW in partnership with health professionals. The manual places the Aboriginal community and Aboriginal person at the centre of the health care experience.

Further information on the NSW Aboriginal Chronic Care Program which incorporates the Aboriginal Vascular Health Program can be found on the NSW Department of Health website www.health.nsw.gov.au/sd/igfs/hp/avhp/



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INTRODUCTION TO THE MANUAL

The *Know Your Heart* training manual was developed to provide a resource to assist Aboriginal Health Workers in delivering training, health education/ health promotion to other Aboriginal Health Workers and their communities. It is designed to provide up to date information on cardiovascular disease and provide teaching strategies that can be used by health workers looking after clients with cardiovascular disease. It is also a useful tool for other health professionals involved in the delivery of cardiovascular disease, health promotion and education to Aboriginal communities.

Aim of the manual

To increase the capacity of Aboriginal Health Workers and other health professionals to:

- deliver culturally sensitive and up to date information in the prevention, treatment and management of cardiovascular disease
- plan, deliver and implement primary and secondary prevention strategies to improve cardiovascular health outcomes in Aboriginal communities.

Objectives of the manual

The objectives of the manual are to:

- increase the Aboriginal Health Workers and other health professionals' knowledge and understanding of cardiovascular disease
- increase the Aboriginal Health Workers and other health professionals' knowledge and understanding of how the heart works
- increase the Aboriginal Health Workers and other health professionals' knowledge of the risk factors associated with cardiovascular disease and with the prevention of cardiovascular disease
- increase the Aboriginal Health Workers and other health professionals' knowledge of screening methods, treatment procedures and management of cardiovascular disease
- increase the Aboriginal Health Workers and other health professionals' understanding of the roles they may take in the prevention and management of cardiovascular disease
- increase the Aboriginal Health Workers and other health professionals' knowledge of the local services relevant to the prevention and management of cardiovascular disease
- identify actions and strategies that Aboriginal Health Workers may take to address cardiovascular disease in their communities
- increase the awareness of Aboriginal Health Workers and other health professionals in self-management of chronic conditions in Aboriginal communities.



Target group

The target group for the *Know Your Heart* training manual includes:

- Aboriginal Health Workers
- Health professionals working with Aboriginal people
- Aboriginal communities.

Given the range of knowledge of these potential recipients of the training, the manual has been designed so that it can be adapted by the presenter to suit different learning needs.

Terminology

Presenters may bring to the attention of the group the following information.

The term “Aboriginal” is generally used in this manual in recognition that Aboriginal people are the original inhabitants of NSW. This position is in accordance with the NSW Health Circular No 2003/55 and the NSW Health publication *Communicating Positively: A Guide to Appropriate Aboriginal Terminology* SNPN (AHB) 030102.

In this manual the term “Indigenous” is also used on occasion. In the collection of data on Aboriginal and Torres Strait Islander people, researchers frequently do not distinguish between these people and this information is grouped together under the description Indigenous.

SUGGESTIONS FOR PRESENTERS USING THE MANUAL

This section provides ideas on how to effectively use this manual. It is recommended that these instructions be read before running a workshop.

Overview of the workshop and modules

This training manual provides all the necessary resources to enable health professionals to run a *Know Your Heart* workshop.

The training manual materials provide information and resources on cardiovascular health, and how to prevent and manage these conditions in Aboriginal communities.



Summary of modules

The training plan is divided into modules.

The training manual includes detailed instructions for delivering workshop modules. The modules include an introductory module providing an overview of the whole workshop program, and five educational modules. The workshop can be delivered consecutively over one and a half days, or as individual modules, over a number of weeks. The modules include:

- Introductory module
- Module 1: Aboriginal people and health
- Module 2: The cardiovascular system and how it works
- Module 3: Cardiovascular disease – know your risks
- Module 4: Treatment and management of cardiovascular disease
- Module 5: Cardiac rehabilitation – taking control.

Session plans

This manual includes six modules with overheads, handouts and appendices.

Modules consist of a **summary** and **teaching notes**. The **summary** includes an overview of the contents of the module and a 'module plan at a glance', which provides a brief reference of the module. The 'module plan at a glance' can be used by the presenter during teaching as a guide for presenting the material. The **teaching notes** provide the presenter with more detail and background information on the topics covered in the presentation.



Overheads are provided of specific module content. The training notes use an icon. This icon indicates when an overhead transparency should be used.



Training tips are introduced by this icon. The tips are information that should be of specific interest to the trainer prior to presentation of the material.



Activities that require participants' involvement in the module are indicated by this **activity** icon.

It should be noted that all the material in the **teaching notes** does not have to be covered in the workshop. The decision to use this should be determined by the presenter and be based on the groups' knowledge, experience or need. The complexity of content presented can vary depending

on the participants' requirements. It is up to the presenter to use this manual in a way that suits their individual presentation style and the needs of their audience.



Handouts have been provided to facilitate experiential learning and emphasise important 'take home messages'. This icon appears throughout the manual to indicate that a handout should be distributed.



Other interesting or important information may be introduced when this icon appears in the manual.

The appendices to this manual include tips on adult learning and a glossary.

Resources required throughout the workshop

Resources that may be needed for all modules include:

- whiteboard
- whiteboard markers
- overhead projector
- projector screen
- nametags
- pens or textas for nametags
- butcher's paper.

Some modules require special resources, and these are listed in the module summary.

Who should deliver the workshop?

This manual is intended for use by Aboriginal Health Workers with appropriate health qualifications. In delivering pilot workshops around NSW, both presenters and participants benefited from the involvement of local Aboriginal community members and Aboriginal Health Workers. The involvement of local staff is strongly recommended. Ways to effectively involve Aboriginal community members and Aboriginal Health Workers include:

- as co-presenters or facilitators of particular modules
- as consultants to applying the workshop for local needs
- for reference to local case studies.

Customising the workshop

Module plans have been designed to achieve specific learning objectives. However presenters may find that some groups have slightly different learning needs and minor modifications may be required. It is not recommended that the sequence of sessions be changed as the workshop has been designed so that skills from one session are the basis for additional sessions.

It is suggested that at the beginning of each module, participants are invited to ask questions on outstanding issues from previous modules.

The introductory module recommends activities that are designed to inform presenters of group skill levels. Presenters can use this information to adapt the presentation of modules to suit the group, to allow for flexible delivery of modules. Adult learning principles are discussed in Appendix 1.

Tips on applying new knowledge to practice – action planning

It is important that participants are given the opportunity during the workshop to reflect on actions they can take, using the information they have gained during the workshop. Encourage participants to think of actions they can take in their personal life, in their role in their community and in their role as a professional.

Action planning can be scheduled after either Modules 1, 2 or 3 depending on how the day is structured and how much time is available. Individual reflection and writing time followed by extensive group discussion is recommended.

If more time is available a more formal process of developing structured goals and objectives and strategies can follow this. In some cases it may be possible to schedule a more extensive planning session after the training program.

The importance of an action planning session, even if very brief, is to provide participants with the opportunity to reflect on how they can use the new information they have gained. Otherwise people can leave the training feeling overwhelmed and unclear about how to apply the new knowledge and how it fits within their daily life and activities.

To carry out an action planning session:

- remind people of the 3 overlapping circles introduced in Module 1 – the role of one's self, one's role in the community and one's role in professional life
- allow 5–10 minutes for each person to write down for themselves what actions they propose to take as individual, as a member of the community and a member of a health service
- allow as much time as possible for listing ideas and actions in the whole group
- encourage discussion about such issues as:
 - the implications of the actions
 - potential barriers to their implementation and ways of overcoming these barriers
 - who will need to be involved
 - what resources may be needed
 - what other opportunities exist
 - possible outcomes of the actions, including unexpected outcomes
- encourage people to focus on solutions rather than problems and encourage creative thinking.

Summarise and wind up the action plan session by emphasising that there is a great deal that can be done, much of which is simple and not requiring additional resources. Even small things can make a difference. Emphasise that their ideas do not have to be about doing extra things or adding more burdensome tasks but doing some things differently. Encourage the participants to continue reflecting on the important issues of heart disease that have been raised and to follow-up with more targeted action planning as soon as possible.



Allocation of time

Included in the module plans are suggested time allocations. A table, to enable presenters to plan for the delivery of the entire workshop is provided on page 11. These time allocations are only to be considered as a guide. Break times have not been included and are left to the discretion of the presenter. As with all educational workshops, breaks are important for maintaining concentration and should be provided according to the needs of the group. It is recommended that one full day of training is no more than a total 6 hours of module sessions.

References and resources

General overviews only of the incidence of cardiovascular and other health conditions experienced by Aboriginal and Torres Strait Islander people and the general population have been given in the package. Presenters will note that at the end of each module is the section 'Useful Resources'. This section lists resources or publications related to the module from which more detailed information, including the most recent statistical data can be sourced prior to delivery of the modules where required.

Commonly asked questions

During piloting of this manual some of the common questions asked by participants included:

- What is the difference between angina and a heart attack?
- What is cholesterol?
- Why is high blood pressure a risk factor?
- What is a pacemaker?
- What are the risk factors for heart disease?
- How are the risk factors different in Aboriginal communities?
- What is a heart bypass?
- What is a stent?
- What medications are used for the heart?
- What is a blockage in the heart?
- What are the signs of a heart attack?
- What are the causes of an enlarged heart?
- Is there any age you develop heart disease?
- What is syndrome X?

If the manual does not fully answer any questions you are asked, it is advised that you consult with local staff who have knowledge in the area (ie Clinical Nurse Consultant, Cardiac Services, Cardiac Rehabilitation staff, Cardiologists, staff from local Aboriginal Medical Service) and the National Heart Foundation of Australia website www.heartfoundation.com.au.

SUMMARY OF WORKSHOP MODULES

| | | |
|----------------------------|----------------------------|--|
| Summary | 60 minutes – 1 hour | |
| Introductory Module | Intro 1 | Introduction and welcome 30 minutes |
| | Intro 2 | Participants experience and knowledge 10 minutes |
| | Intro 3 | Your questions 20 minutes |

| | | |
|-------------------|----------------------------|---|
| Summary | 60 minutes – 1 hour | |
| Module One | Module 1 | Aboriginal view of health 10 minutes |
| | Module 2 | Aboriginal people and cardiovascular disease 20 minutes |
| | Module 3 | Aboriginal people and chronic conditions 20 minutes |
| | Module 4 | Reflective practice 10 minutes |

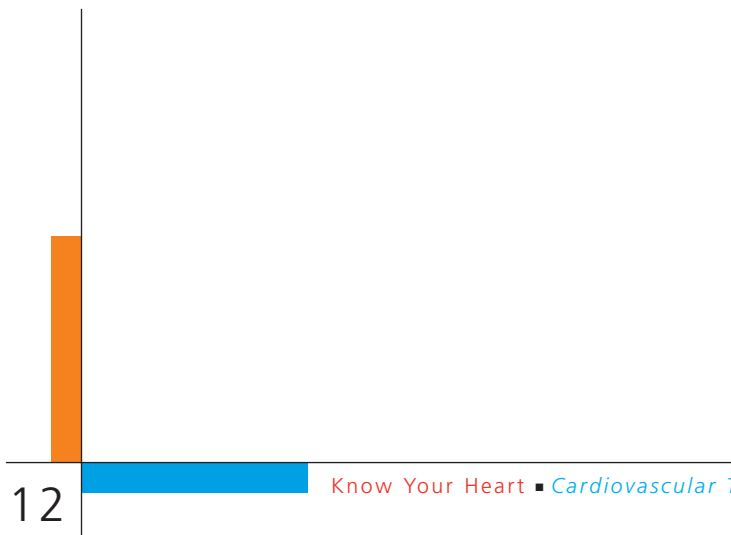
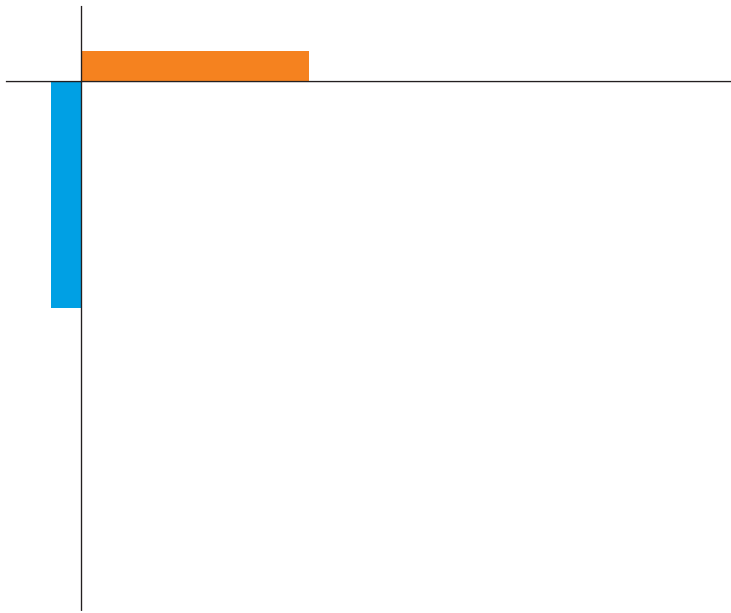
| | | |
|-------------------|---------------------------------|---|
| Summary | 90 minutes – 1 1/2 hours | |
| Module Two | Module 1 | The cardiovascular system and how it works 20 minutes |
| | Module 2 | Location of the heart 10 minutes |
| | Module 3 | Structure of the heart 30 minutes |
| | Module 4 | Conduction of the heart 10 minutes |
| | Module 5 | The mechanical component of the heartbeat 20 minutes |

| | | |
|---------------------|----------------------------------|--|
| Summary | 150 minutes – 2 1/2 hours | |
| Module Three | Module 1 | Cardiovascular disease 20 minutes |
| | Module 2 | Risk factors for cardiovascular disease 40 minutes |
| | Module 3 | Coronary heart disease 30 minutes |
| | Module 4 | Detection of cardiovascular disease 30 minutes |
| | Module 5 | Prevention of cardiovascular disease 30 minutes |

| | | |
|--------------------|------------------------------|---|
| Summary | 120 minutes – 2 hours | |
| Module Four | Module 1 | Common medications 45 minutes |
| | Module 2 | Lifestyle management 20 minutes |
| | Module 3 | Medical and surgical treatment options 40 minutes |
| | Module 4 | Management of a heart attack 15 minutes |

| | | |
|--------------------|---------------------------------|---|
| Summary | 90 minutes – 1 1/2 hours | |
| Module Five | Module 1 | What is cardiac rehabilitation? 30 minutes |
| | Module 2 | Components of cardiac rehabilitation 30 minutes |
| | Module 3 | Cardiovascular disease – Impacts on Indigenous Australians and cardiac rehabilitation programs 30 minutes |





SUMMARY: INTRODUCTORY MODULE

Content

Intro 1 Introduction and welcome

Intro 2 Experience and knowledge of participants

Intro 3 Your questions

Duration 60 minutes

Objectives

By the end of this session the participants will:

- have gained an understanding of the aims and objectives of the workshop
- be familiar with the modules in the workshop
- be familiar with the scope of training in the workshop
- have identified individual learning needs for their training.

Handouts

1-2

Overheads

1-3



introductory module

Introductory module plan at a glance

Intro 1 Introduction and welcome

| Sub topic | Explanation | Overhead | Handout |
|-------------------------------------|--|----------|---------|
| Welcome | Housekeeping Provide background information on yourself and the reasons for the workshop Describe style and components of workshop | 1 | |
| Activity | Ice breaker activity | | |
| Aims and objectives of the workshop | Outline workshop aims and objectives | 2 | 1 |
| Overview of modules | Outline modules and their content | 3 | |

Intro 2 Experience and knowledge of participants

| | | | |
|-------------------|--|--|--|
| Overlapping roles | Draw overlapping circles on whiteboard. Explain overlapping roles and application of knowledge to individual, community and work. | | |
| Activity | Whole group continuum – stand along to represent different levels of knowledge | | |

Intro 3 Your questions

| | | | |
|----------|---|--|---|
| Activity | Small group discussions to identify questions. Groups to call out their questions three at a time, record on butcher's paper for later reference and checks at end of modules. | | 2 |
|----------|---|--|---|

TEACHING NOTES: INTRODUCTORY MODULE

Intro 1 Introduction and welcome

Aim

To introduce the workshop and provide an overview of the workshop.

Duration 30 minutes



Presentation – Welcome



Overhead 1 – Introduction and welcome

Introduce yourself, giving some information on your background. Explain the reasons why you are providing this training.

Provide some housekeeping information – location of toilets, times for breaks etc.

Describe the style of the workshop – combination of lecture, brainstorming, group work.

Stress that everyone is involved and that sharing of experiences and information is very welcome.

Welcome participants with an ‘Ice Breaker’ activity (see suggestion).

Stress throughout the workshop that all questions are welcome, no matter how basic or simple.

Stress that anything personal disclosed to the group is to remain confidential.

Activity – ‘Ice breaker’



This activity is designed to facilitate a friendly and relaxed atmosphere so learning can begin.

Get participants to call out, in turns, their name and where they are from. Alternatively get participants to talk with the person next to them for 1 minute. After this they are to tell the bigger group this person’s name and where they are from.

Presentation – Aims and objectives of the workshop



Overhead 2 – Aims and objectives of the workshop

Present overhead 2 and explain that the aims of the workshop are to increase the capacity of participants to:

- deliver culturally sensitive and up to date information in the prevention, treatment and management of cardiovascular disease (CVD)
- plan, deliver and implement primary and secondary prevention strategies to improve cardiovascular disease (CVD) health outcomes in Aboriginal communities.

Explain to the participants the objectives of the workshop are to increase AHWs and other professionals:

- knowledge and understanding of cardiovascular disease (CVD)
- knowledge and understanding in how the heart works
- knowledge of the risk factors associated with cardiovascular disease (CVD) and the prevention of CVD
- knowledge of screening methods, treatment procedures and management of cardiovascular disease (CVD)
- understanding of the roles they may take in the prevention and management of cardiovascular disease (CVD)
- knowledge of the local services relevant to the prevention and management of cardiovascular disease (CVD)
- identification of actions and strategies that may address cardiovascular disease (CVD) in their communities
- awareness of self-management of chronic illness in Aboriginal communities.

Further explain that this workshop is designed for:

- Aboriginal Health Workers
- Health professionals working with Aboriginal people
- Aboriginal community members.



Handout 1 – Aims and objectives of the workshop

Presentation - Overview of modules



Overhead 3 – Overview of modules

Provide participants with a basic outline of modules as shown on overhead 3. This is a good opportunity to describe the method of workshop delivery that will be used. For example, as a continuous one-and-a-half day program or as individual modules presented over a number of weeks.

INTRO 2 EXPERIENCE AND KNOWLEDGE OF PARTICIPANTS

Aim

To determine participants' experience and knowledge of cardiovascular disease.

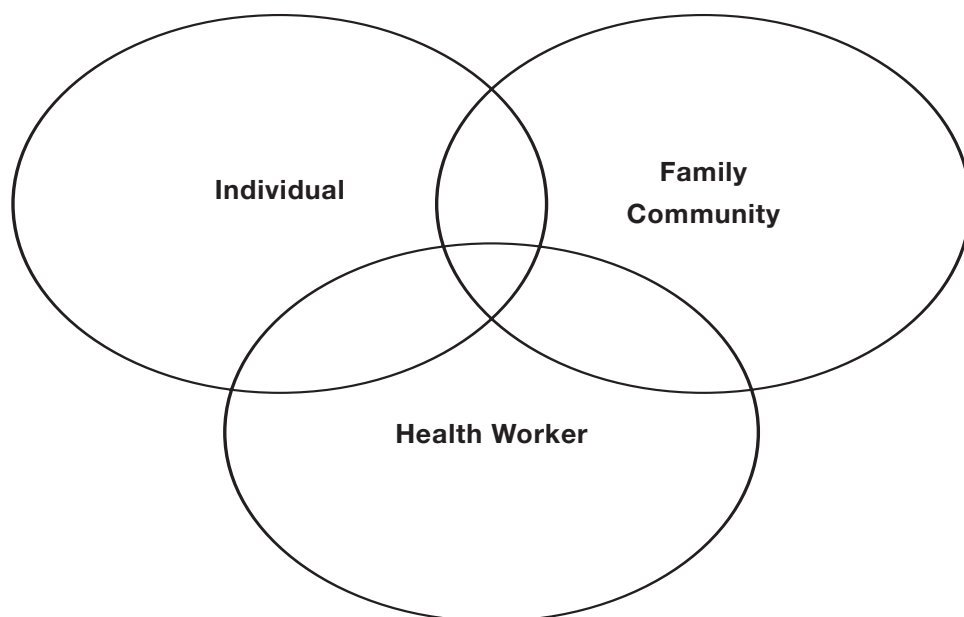
Duration 10 minutes

Presentation - Overlapping roles

Explain that throughout the session there will be exercises that will allow participants to reflect on their experiences and new knowledge and how to begin to apply the knowledge they have learnt.

Explain that knowledge gained from the workshop can be applied to a range of interventions and in different ways as:

- yourself as an individual
- your role as a health worker
- your family and community.



Draw overlapping circles, as shown above, on the whiteboard to represent the concept and explain that the knowledge gained during the workshop can be applied to the individual, to the health worker and to the community.

Explain the following:

- that there is overlap between these circles. For example, changes in your life (as an individual) can impact on your work role and community role
- Aboriginal Health Workers have overlapping roles – as members of families and communities and also as individuals who are health workers. The poor health experienced in their community also impacts on them as members of that community



Aboriginal Health Workers have a wealth of information and skills to teach their colleagues, clients and communities. Also remember that individuals in the community also have many skills and a great range of knowledge. The sharing of information is very important for successful training and it is important to acknowledge that all in the training have contributions to make.

Important message



The heart is very symbolic. The term 'heart disease' can mean different things to different people.

It is important for presenters of this manual to note that when you are providing training in communities, people who attend these sessions may come with fears, concerns, unresolved feelings or other emotions. Some may be experiencing grief from the loss of family members through cardiovascular disease. There may be people in the group who have had cardiac surgery or procedures and still have questions and concerns; they may need reassurance or expert advice. It is important that they go away with a contact person's name or phone number if their concerns cannot be answered in the session. It may be useful to have this information on hand.

Activity - Whole group continuum

Explain that the aim of this activity is to get an idea of what the participants know about cardiovascular disease.

Indicate an imaginary line along the floor. Point out that one end of the line corresponds to a little bit of knowledge about cardiovascular disease while the other end corresponds to a lot of knowledge about cardiovascular disease.

Emphasise that this is not a test.

Ask participants to stand at a position along the line to indicate their knowledge about cardiovascular disease.

When participants are in position along the line get participants to look where others are standing and point out that there are different levels of knowledge in the group.

Explain that for some they will be learning new knowledge and that others may be familiar with some of the content. Invite those with knowledge to contribute.

Also emphasise that we all have different perspectives on the issues that will be discussed (for example, from being a patient, health professional or community member).

Ask participants to keep this concept in mind as you progress through the workshop.

INTRO 3 - YOUR QUESTIONS

Aim

To clarify any issues regarding the workshop and the material to be covered.

Duration 20 minutes

Activity - Questions



After participants have settled back into their seats, ask each person to list (on handout 2) the questions they would like answered during the workshop in relation to the module outline. You may wish to put up overhead 3 that outlines the modules to prompt the participants of content. Emphasise that no question is too basic or simple.



Handout 2 – Questions

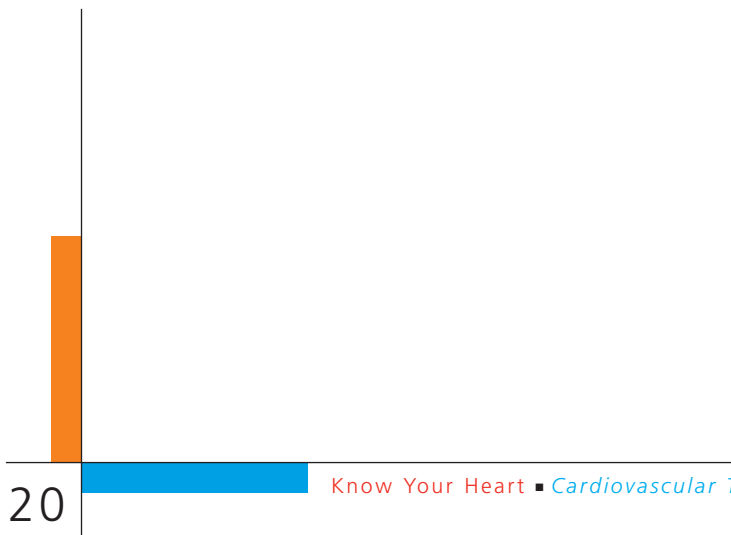
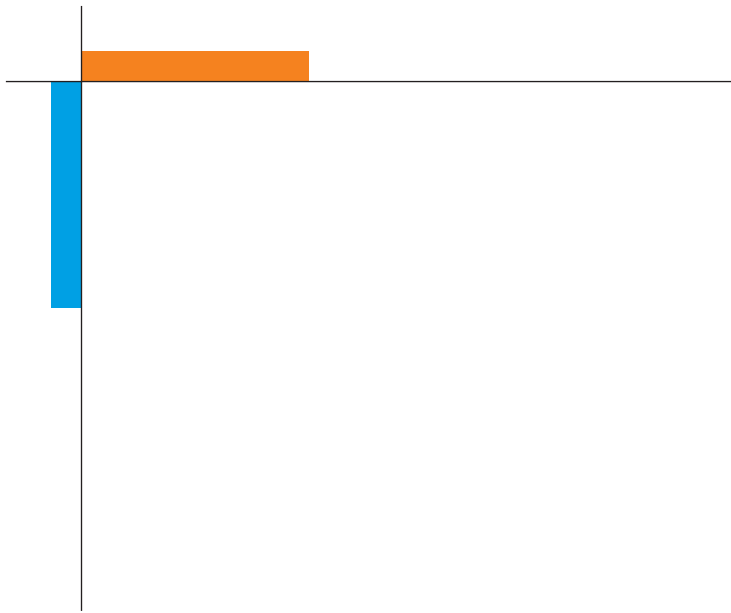
Then:

- arrange participants into groups of 4 – 5 people
- ask the participants to share questions within the small group and together compile a group list.

After approximately 5 minutes ask the small groups to come together as a larger group. Then:

- in the large group go around the room and ask each group to call out 3 questions from their list (this will allow each group to contribute as they may have similar questions)
- write the questions on butcher's paper so that they can be revisited during the workshop
- go around the groups until all questions are on the board
- mention that questions can be added to the list at any time during the workshop
- indicate to the group that most of the questions will be covered during the training and if there are any not answered, they can be followed up after the workshop.





SUMMARY: MODULE 1 ABORIGINAL PEOPLE AND HEALTH

Content

- 1.1 Aboriginal view of health
- 1.2 Aboriginal people and cardiovascular disease
- 1.3 Aboriginal people and chronic conditions
- 1.4 Reflective practice

Duration 1 hour

Objectives

By the end of the module participants will be able to:

- describe the Aboriginal view of health and relate this to the significance of the heart in culture and language
- explain the prevalence and mortality of cardiovascular disease in the Aboriginal community
- describe the factors that contribute to chronic illness in Aboriginal communities
- reflect on the incidence of cardiovascular disease in their communities.

Handouts

3 – 6

Overheads

4 – 6



module 1

MODULE 1 PLAN AT A GLANCE

1.1 Aboriginal people's view of health

| Sub topic | Explanation | Overhead | Handout |
|---------------------|--|----------|---------|
| Setting the context | Discuss the cultural significance of the heart and the Aboriginal view of health | | 3 |

1.2 Aboriginal people and cardiovascular disease

| | | | |
|------------------|--|-------|---|
| Types of disease | Discuss the research presented on Aboriginal people and cardiovascular disease | 4 & 5 | 4 |
|------------------|--|-------|---|

1.3 Aboriginal people and chronic disease

| | | | |
|--------------------|---|---|---|
| Chronic conditions | Discuss the contributing factors for chronic health conditions in Aboriginal people | 6 | 5 |
|--------------------|---|---|---|

1.4 Reflective practice

| | | | |
|----------|--|--|---|
| Activity | Ask participants to individually reflect on the incidence of cardiovascular disease in their community, and how they can decrease its impact, and record thoughts on handout 6 | | 6 |
| Summary | Answer any further questions participants may have and outline the next module | | |

TEACHING NOTES: MODULE 1 ABORIGINAL PEOPLE AND HEALTH

1.1 Aboriginal view of health

Aim

To provide an overview of the Aboriginal view of health.

Duration 10 minutes



module 1

Presentation – Setting the context

Ask participants:

Q: What is the Aboriginal view of health?

Brainstorm ideas onto the whiteboard. Ensure the following issues are discussed.

- The Aboriginal view of health is different to the western view of health. The Aboriginal view of health emphasises the holistic view and how it is important to treat the body as a whole rather than the individual system or organ.
- In Aboriginal health it is important to treat the whole community, not just the individual.
- The Aboriginal holistic view of health connects the mind, body, heart, soul, spirit, environment, and culture of the whole person, to their family and their community through strong links with the land and sea.
- The practical exercise of self-determination underpins cultural, community and individual well-being. Aboriginal self-determination and responsibility lies at the heart of Aboriginal community control in the provision of community-based health services.

Distribute handout 3 to summarise the discussion.



Handout 3 – Aboriginal view of health

Training tip – Cultural concept of health



People's individual perceptions and beliefs about health are fundamental to their lifestyle and behaviours. Aboriginal Health Workers are well aware that health to Aboriginal people is a multidisciplinary concept that embraces all aspects of living. A sense of community appears essential to a sense of oneself, and this in turn is essential to health.

These concepts influence the way we deliver health care to Aboriginal communities and training to Aboriginal Health Workers.

Exert from Eckerman, A., Dowd, T., Martin, M., Nixon, L., Gray, R. and Chong, E. (1998) Binan Goonj Bridging Cultures in Aboriginal Health. University of New England Press, Armidale.

1.2 Aboriginal people and cardiovascular disease

Aim

To explain how cardiovascular disease affects Aboriginal people.

Duration 20 minutes

Presentation – Types of disease

Present overheads 4 and 5 and provide the following explanatory information:



Overhead 4 and 5 – Aboriginal people and cardiovascular disease

Cardiovascular disease

Cardiovascular disease is the leading cause of death for both Indigenous and non-Indigenous people, and its health and economic burden exceeds that of any other disease. For Indigenous people it has been found to be the greatest cause of excess deaths.

Aboriginal and Torres Strait Islander people are also much more likely to be hospitalised for cardiovascular disease than other Australians.

Mortality or death, from cardiovascular disease has been found to be much higher for Indigenous than non-Indigenous people across Australia.

Cardiovascular disease covers diseases of the heart and blood vessels they include:

- coronary heart disease or ischaemic heart disease
- heart failure
- stroke
- rheumatic heart disease
- hypertension
- peripheral vascular disease

All these diseases except rheumatic heart disease are caused by damaged blood vessels.

Having diabetes increases the risk of heart disease.

Coronary heart disease

Coronary heart disease (ischaemic heart disease) consists mainly of acute myocardial infarction (heart attack) and angina.

Aboriginal and Torres Strait Islander people die from coronary heart disease at around twice the rate of other Australians. The difference is even greater among adults aged 25–64, where Indigenous Australian death rates have been found in past studies to be up to six to eight times greater than those of other Australian men and women respectively.

Rates of hospitalisation for coronary heart disease may be up to twice as great for Aboriginal and Torres Strait Islander people than for other Australians.

Heart failure

Among Aboriginal people there are relatively few deaths attributed to heart failure. This may be due to the younger age of this population and early death rates of Aboriginal people.

However, some past studies have found that Indigenous Australians were three times more likely to die from heart failure than other Australians.

Cerebral vascular disease/stroke

Death rates from stroke in Aboriginal and Torres Strait Islander people are around twice the rate of non-Aboriginal Australians.

Among adults aged 25–64, death rates from stroke for Aboriginal Australians have been found to be up to seven and eight times those of non-Aboriginal Australian men and women respectively.

Aboriginal Australians have been hospitalised for stroke up to four times more often than other Australians according to one study.

Rheumatic fever and rheumatic heart disease

Rheumatic heart disease is a disease of disadvantage associated with poverty and overcrowded living conditions, lack of education and limited access to medical care to obtain adequate diagnosis and treatment. In Australia, it almost exclusively affects Aboriginal and Torres Strait Islander people particularly in remote areas.

Indigenous Australians are up to 13 to 14 times as likely to die from rheumatic fever and rheumatic heart disease than other Australians.

Most deaths from rheumatic fever and rheumatic heart disease have occurred in NSW, Victoria and Queensland.

Hypertension/high blood pressure

There is no national data for blood pressure levels within the Aboriginal population. Data from the Kimberley region suggests that high blood pressure may be two to three times more common among Aboriginal people than among non-Aboriginal Australians.

Distribute handout 4 that provides summary notes on the preceding presentation.



Handout 4 – Cardiovascular disease in the Aboriginal community



1.3 Aboriginal people and chronic conditions

Aim

To illustrate the factors that contribute to the development of chronic health conditions affecting Aboriginal communities.

Duration 20 minutes

Presentation – Chronic conditions

State to participants that it is known that Aboriginal people suffer a greater burden of chronic conditions than non-Aboriginal people. Explain that these relate mainly to diabetes, cardiovascular disease and renal disease. Ask participants:

Q: What factors do you think contribute to high levels of chronic disease in Aboriginal people?

Brainstorm ideas onto the whiteboard and then present overhead 6 to summarise the discussion.



Overhead 6 – Factors contributing to chronic health conditions in Aboriginal people

Distribute handout 5, a copy of the overhead.



Handout 5 – Factors contributing to chronic health conditions in Aboriginal people

1.4 Reflective practice

Aim

To think about what has been learnt in this module, and the presence of cardiovascular disease in the participants' community.

Duration 10 minutes

Activity – Reflective practice

This is an ideal time to get participants to engage in reflective practice and what the purpose of this training is.

Ask participants to reflect on the incidence of cardiovascular disease in their local community and think about how they can start to work towards changing these statistics.

Distribute handout 6 and ask participants to record their reflections.



Handout 6 – Activity Reflective practice

Summary

Ask if there are any comments/questions on this module.

Briefly mention what will be covered in the next session - Module 2:

- location of the heart
- structures of the heart
- function of the cardiovascular system
- conduction of the heart
- blood pressure
- the pulse.



MODULE 1 USEFUL RESOURCES

Australian Bureau of Statistics

The most recent statistics on the health of Aboriginal people can be found on the Australian Bureau of Statistics website www.abs.gov.au

Australian Indigenous Health InfoNet

Electronic clearinghouse that holds extensive and comprehensive reports, publications and summary information on Australian Indigenous health available from www.healthinfonet.ecu.edu.au/html/

Australian Institute of Health and Welfare (AIHW),

The Health And Welfare of Australia's Aboriginal And Torres Strait Islander Peoples.

Published bi-annually by the Australian Bureau of Statistics and the AIHW, these reports are available in hardcopy (phone (02) 6244 1032) or through the website www.aihw.gov.au/publications/index.cfm

Australian National and State Health Reports

- *Ninth Biennial Health Report of The Australian Institute of Health and Welfare*
Information on patterns of health and illness, determinants of health, the supply and use of health services, and health services expenditure is available from AIHW. The report is available in hardcopy (CanPrint phone 1300 889 873) or can be accessed online at www.aihw.gov.au/publications/aus/ah04/ah04-050222.pdf
- *The Health of the People of NSW: Report of The Chief Health Officer 2004*
This report provides an overview of the health of the people of NSW. The health of Aboriginal and Torres Strait Islander people is given specific attention. Updated every two years, these reports are a useful reference source for quick access to health data including the priority areas of cardiovascular disease, diabetes, cancer and respiratory disease. Available in hardcopy [SHPN(PH) 040246] from the NSW Health publication warehouse – the Better Health Centre on (02) 9816 9452 or on the NSW Health Department web site at www.health.nsw.gov.au/

Cardiovascular Health

- *Heart, Stroke and Vascular Diseases: Australian Facts 2004*
Comprehensive information covering patterns of cardiovascular health and illness among Australians, their associated risk factors, treatment and management of the disease are available in this publication. Produced jointly by the Australian Institute of Health and Welfare, National Heart Foundation of Australia, National Stroke Foundation of Australia, and the Australian Diabetes Association, the most recent publication (2004) is available from the AIHW website and may be viewed online for free at www.aihw.gov.au/publications/index.cfm/title/10005.
- *NHPA Report on Cardiovascular Health 1998: A Report on Heart, Stroke and Vascular Disease*
This report is one of a series of biennial reports to Australian Health Ministers on each of the five National Health Priority Areas (NHPAs). It is available online only at www.aihw.gov.au/publications/index.cfm/title/4480

SUMMARY: MODULE 2 THE CARDIOVASCULAR SYSTEM AND HOW IT WORKS

Content

- 2.1 What is the cardiovascular system?
- 2.2 Location of the heart
- 2.3 Structure of the heart
- 2.4 Conduction of the heart
- 2.5 The mechanical component of the heartbeat

Duration 1 1/2 hours

Objectives

By the end of this session participants will be able to:

- explain the location of the heart
- list the structures of the heart
- describe the function of the cardiovascular system
- describe the electrical circuit of the heart
- describe the heart beat cycle and relate it to the blood pressure and pulse.

Handouts

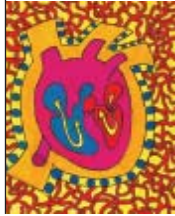
7–13

Overheads

7–15

Additional resources required

- Blood pressure equipment, watch with a second hand, heart models, and appropriate posters if available
- Red and blue textas



MODULE 2 PLAN AT A GLANCE

2.1 What is the cardiovascular system?

| Sub topic | Explanation | Overhead | Handout |
|---|---|----------|---------|
| Functions of the cardiovascular (CV) system | Complex transport system | 7 | |
| Function of the blood and blood vessels | Function of blood, arteries, veins and capillaries Introduce concept of pulmonary and systemic blood circulation | 8 & 9 | |
| Flow of blood in body – activity | Trace blood flow using handout | | 7 |

2.2 Location of the heart

| | | | |
|----------------------------|---|----|---|
| Where the heart is located | Location of heart in relation to other vessels Summary handout | 10 | 8 |
|----------------------------|---|----|---|

2.3 Structure of the heart

| | | | |
|---------------------|--|----|----|
| Layers of the heart | Write myocardium, pericardium and endocardium on whiteboard and explain | | |
| Cardiac anatomy | Describe anatomy of heart using overhead 11. Participants to record anatomical features on handout 9 Recap on blood flow around the heart | 11 | 9 |
| Valves | Describe the four valves – pulmonary, aortic, mitral and tricuspid | 12 | 13 |
| Coronary blood flow | Function of the coronary arteries | 14 | 10 |

2.4 Conduction of the heart

| | | | |
|--------------------------------|--|----|----|
| The heart's electrical circuit | Description of sinoatrial node (SA), atrioventricular node (AV) | 15 | 11 |
| Summary | Answer any further questions participants may have and outline the next module | | |

2.5 The mechanical component of the heartbeat

| | | | |
|---------------------|---|--|----|
| The heartbeat cycle | Explain heartbeat cycle, refer back to overheads 11–13 for diagrams | | 12 |
| The pulse | Continue to refer to handout 12 to describe the pulse | | 12 |
| Activity | Measuring the pulse – Participant's to take turns to feel each others pulse | | |
| Blood pressure | Meaning of diastolic and systolic readings | | 13 |
| Activity | Measuring blood pressure – demonstrate on a volunteer | | |
| Summary | Check questions listed on butcher's paper and cross off any answered Overview module 3 | | |

TEACHING NOTES: MODULE 2 THE CARDIOVASCULAR SYSTEM AND HOW IT WORKS

2.1 What is the cardiovascular system?

Aim

To describe the cardiovascular system.

Duration 20 minutes



module 2

Presentation – What is the cardiovascular (CV) system?



Overhead 7 – Functions of the cardiovascular (CV) system

Refer to overhead 7, explaining that:

- the cardiovascular (CV) system is a complex system
- the cardiovascular (CV) system or circulatory system consists of the blood, the arteries, the veins, and smaller vessels the capillaries.
- further, explain that the function of the cardiovascular (CV) system is to be a **transport system**:
 - blood and products in the blood are transported through millions of kilometres of blood vessels to every cell in the body
 - the cardiovascular (CV) system carries and distributes oxygen, nutrients and chemicals in the blood to all cells of the body
 - it also helps remove waste products from the cells as blood is continually pumped out from the heart and around the body in two circuits.

Presentation – Function of the blood and blood vessels

Explain that:

- blood is a fluid substance that contains plasma
- blood transports:
 - oxygen from lungs to cells
 - carbon dioxide from cells to the lungs where it is expired
 - nutrients or food from digestive organs to the cells
 - waste products from the cells to the kidneys, lungs and sweat glands for elimination
 - hormones from endocrine glands to the cells
 - enzymes to various cells.
- blood regulates:
 - acid/base balance in the body
 - body temperature
 - water content of cells.



Overhead 8 – Pathways of the blood vessels

Present overhead 8 and explain that there are three main blood vessels each with a particular role:

The arteries are the largest of the blood vessels. Arteries are thick-walled so they can stand the pressure of the blood pumped from the heart. The largest artery is the aorta which branches off the heart and then divides into many smaller arteries. Arteries carry oxygenated blood . This is known as “clean” blood. Arteries then divide into medium sized arteries. These medium sized arteries branch into the various regions of the body. Medium sized arteries divide into smaller arteries called arterioles.

Veins are smaller blood vessels that carry deoxygenated blood. This is referred to as “dirty” blood. The veins carry the deoxygenated blood from the tissues back to the heart. Veins are flexible and are able to expand to hold large volumes of blood.

Capillaries are the smallest blood vessels. There are many microscopic capillaries that make vital links between the heart’s smallest arteries and veins. Capillaries reunite to form small veins called venules.



Overhead 9 – Flow of the blood in the body

Briefly explain that blood circulates throughout the body in two systems (**pulmonary**/lung and **systemic**/body) through interconnecting pathways of arteries, veins and smaller blood vessels. Note that the details of these types of circulation will be explained after a review of the anatomy of the heart.

Presentation – Flow of blood in the body



Handout 7 – Blood flow to the heart and to the lungs then back into the heart

Distribute handout 7 and explain to participants that:

- blood that has no oxygen is blue. The picture in the handout shows blue blood that travels from the lower and upper body to the right side of the heart and then to the lungs to pick up oxygen.
- the blood, now full with oxygen is red. It travels from the lungs through the left side of the heart out of the aorta to the body.

Activity – Tracing blood flow

This exercise is a good way to get the participants thinking about the purpose of the heart and how the blood flows around the body. It can be a powerful visual aide getting participants to visualise the blood flowing around their own bodies and how the heart keeps this happening.

Ask participants to look at handout 7 and, using a blue and red texta provided, trace how the blood flows around heart and around body.

2.2 Location of the heart

Aim

To teach participants the location and function of the heart.

Duration 10 minutes

Presentation – Where the heart is located



Overhead 10 – Location of the heart



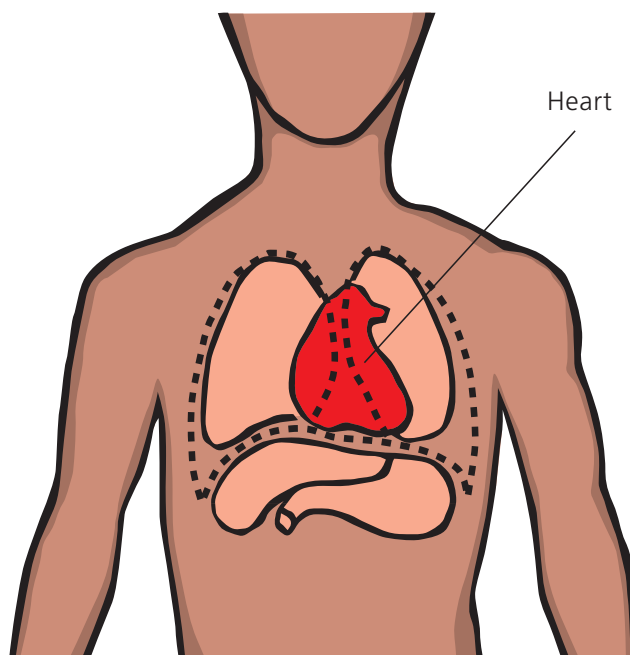
module 2

Present overhead 10 and explain the following:

- the heart is located in the middle of the chest between the lungs
- the chest bone or the sternum protects the heart
- there are two main blood vessels that come from the heart; the aorta which carries blood from the heart and the pulmonary artery carrying blood to heart
- a double-layered membrane called the pericardium surrounds your heart like a sac:
 - the outer layer of the pericardium surrounds the roots of your heart's major blood vessels and is attached by ligaments to your spinal column, diaphragm and other parts of your body
 - the inner layer of the pericardium is attached to the heart muscle
 - a coating of fluid separates the two layers of membrane, letting the heart move as it beats, yet still be attached to your body.

Important message

The following diagram shows the location of the heart in the thorax cavity.





Handout 8 – The cardiovascular system – How it works

Distribute handout 8 (three pages) and summarise by explaining that:

- the heart is the centre of the cardiovascular (CV) system
- it is a powerful muscle with the ability to pump blood throughout the entire body
- every cell in your body needs oxygen in order to live and function
- the heart:
 - pumps oxygen-rich blood to every part of the body through blood vessels
 - usually beats 60 to 100 times a minute
 - pumps between 70 and 100ml of blood with each beat
 - pumps 4–6 litres of blood each minute at rest, and even more with activity
- blood that is pumped through the heart makes a full circuit of the body every minute.

Explain that we will now look at the anatomy and physiology of the heart in more detail.

2.3 Structure of the heart

Aim

To describe the components of the heart.

Duration 30 minutes

Presentation – Layers of the heart

Write myocardium, pericardium and endocardium on the whiteboard. Explain, saying that there are three layers of the heart.

Myocardium – The myocardium is a special type of muscle. It contains special muscle fibres (cells) that enable the heart to contract automatically.

Pericardium – The heart sits in a sac. Its inner layer consists of two membranes separated by fluid.

Endocardium – This is the smooth membrane, which lines the inside of the heart and the heart valves. It is the heart's inner surface, which is in contact with the blood being pumped.

Presentation – Cardiac anatomy and recap of blood flow around the heart



Handout 9 – Cardiac anatomy

Distribute handout 9 and ask participants to write down each anatomical feature of the heart as you describe them, using overhead 11. Details on each anatomical feature and additional overheads that can be used to explain individual features are described below.



Overhead 11 – Chambers of the heart

Chambers of the heart

Explain that:

- the heart has 4 chambers and is divided down the middle by a wall of muscular tissue known as the septum
- there are two upper chambers (the atria) and two lower chambers (the ventricles)
- the ventricles meet at the bottom of the heart to form a pointed base that point toward the left side of your chest
- the left side of the heart has one atrium and one ventricle. The right side of the heart has the others.



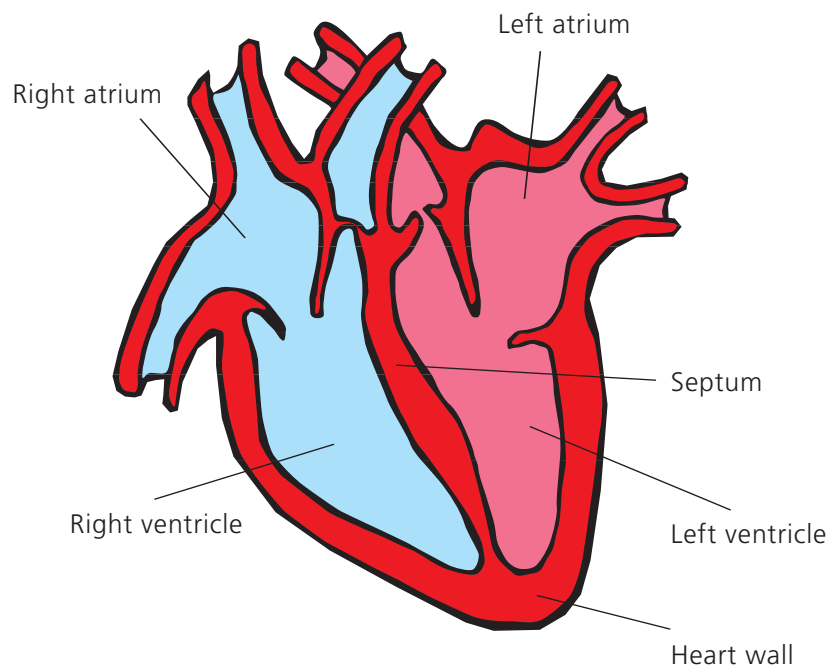


Diagram showing the 4 chambers of the heart

Image reprinted with permission National Heart Foundation (NSW Division)

Explain that:

- the left ventricle contracts most forcefully, so you can best feel your heart pumping on the left side of your chest
- the much stronger left ventricle takes oxygenated blood coming back from the lungs and circulates it to the rest of the body. This is why it is thicker.



Overhead 12 – Blood flow around the heart

Systemic circulation

Refer back to the earlier discussion of systemic and pulmonary circulation. Recap on the concepts described previously and add further detail using anatomical terminology as described below:

- the systemic circulation carries oxygen and nutrients to all body tissues
- blood returns to the heart from the lungs via four pulmonary veins that empty into the left atrium
- blood then passes into the **Left Ventricle**, which pumps the blood into the **Ascending Aorta**. This blood vessel branches and blood is taken to all body parts.

Pulmonary circulation

Explain that:

- the pulmonary circulation carries blood to the lungs where the blood releases carbon dioxide and takes on oxygen
- the Right Atrium delivers blood to the Right Ventricle which pumps blood to the right and left Pulmonary Arteries, each of which carries blood to the lungs
- oxygenated blood is then transported by the systemic circulation to all parts of the body.

Presentation – Valves of the heart



Overhead 13 – Great vessels of the heart

Present overhead 13 and explain that:

- there are four valves inside the heart (see diagram below)
- the valves keep the blood flowing in the right direction
- it is a good idea to think of these as doors or traffic police, which close off to prevent the blood from flowing backwards

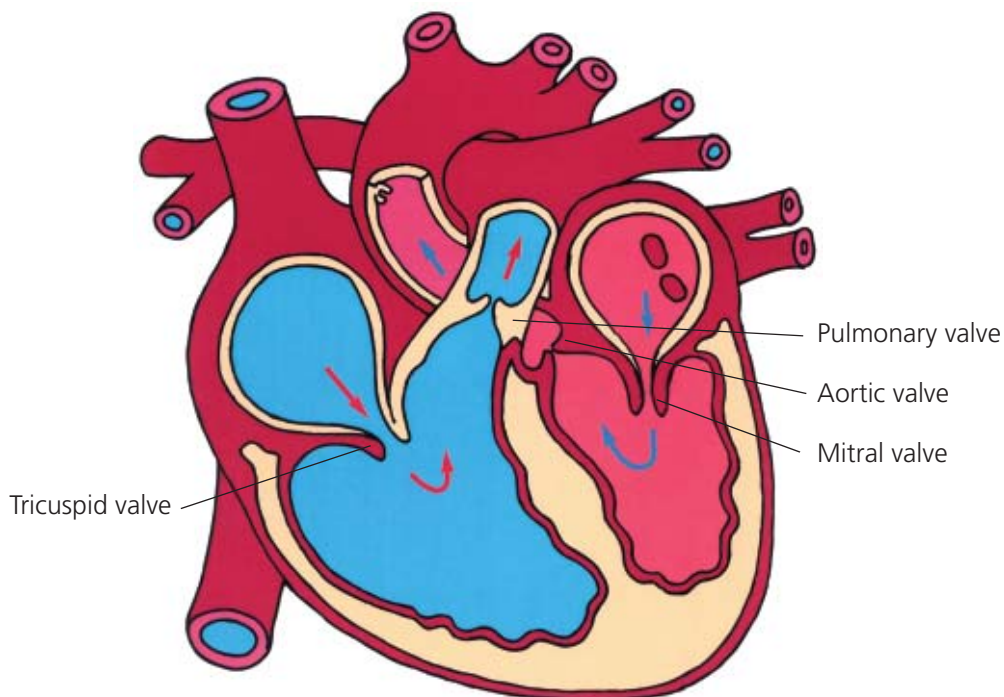
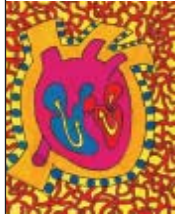


Diagram showing the 4 valves in relation to blood flow through the heart

Image reprinted with permission National Heart Foundation (WA Division) and Derbarl Yerrigan Health Services, Perth



The **tricuspid** valve regulates blood flow between the right atrium and right ventricle.

The **pulmonary** valve controls blood flow from the right ventricle into the pulmonary arteries, which carry blood to the lungs to pick up oxygen.

The **mitral** valve controls oxygen-rich blood passing from the left atrium into the left ventricle.

The **aortic** valve opens the way for oxygen-rich blood to pass from the left ventricle into the aorta the body's largest artery, where it is delivered to the rest of the body.

Heart valves don't always work, as they should. A person can be born with an abnormal heart valve. This is called a congenital heart defect.

Training tip



The following information on defective heart valves may be provided, dependent on the needs of the group and in consideration of their knowledge and the goals of training.

What is a defective heart valve?

A defective heart valve is one that is not working properly. The valve fails to fully open or close. Valves that do not open and close properly make it difficult for blood to flow in the right direction through the heart. This makes the heart pump harder in order to circulate enough blood to the body. Over time this can weaken the heart.

A narrow heart valve cannot open completely so blood is pumped through a smaller-than-normal opening.

A valve also may not be able to close completely. This leads to blood leaking back through the valve when it should be closed.

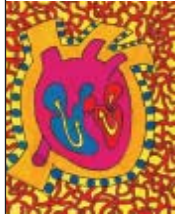
What causes heart valve disease?

The following conditions can damage or scar the valves causing problems with opening and closing of the valves:

- infection
- rheumatic fever
- ageing
- anatomic abnormalities present from birth – commonly called 'birth defects' to heart valves. this means people were born with this condition
- heart attack.

Symptoms can range from none to severe.

Aboriginal people may experience problems with their valves due to previous infections including rheumatic heart disease.



What are the things people may experience when valves are not working properly?

- General discomfort in body or chest
- Palpitations or a “fluttery feeling in the chest”
- Chest pain which may feel similar to angina
- A sharp pain-like feeling over the left chest
- Heavy pressure under the breastbone
- Tightness in neck and jaw ache
- Pain radiating down the left arm lasting from a few minutes to hours, appearing when very tired, sick, or under a lot of stress
- Shortness of breath
- Dizziness or blackouts with advanced disease
- Fatigue.

How are defective heart valves treated?

- Most people with defective heart valves will need to take antibiotics before certain dental or surgical procedures likely to cause bleeding.
- Surgery may be needed to repair defective valves or remove and replace diseased valves when symptoms are severe or patient’s health is compromised.

Presentation - Coronary blood flow – Coronary arteries



Overhead 14 – Blood supply to the heart

Present overhead 14 and explain that the heart, like all other muscles in the body, needs its own supply of oxygen in order to function properly. Explain that:

- although its chambers contain blood, the heart receives no nourishment from the blood inside the chambers
- the heart gets its blood supply from the coronary arteries
- the two major coronary arteries (the right coronary artery and the left main coronary artery) branch off the aorta, and then divide into many smaller arteries that lie in the heart muscle and feed the heart.

Distribute handout 10.



Handout 10 – Coronary blood flow or coronary arteries

Important message



The coronary arteries are the ones that are most likely to become blocked. These are the ones that are bypassed, for example, by a double bypass or triple bypass. This simply means that two or three of the arteries blocked were bypassed (see module 4 for more detail on this procedure).

2.4 Conduction of the heart

Aim

To provide an overview of the electrical circuitry of the heart.

Duration 10 minutes

Presentation – The heart’s electrical circuit



Overhead 15 – How does the heart beat happen?

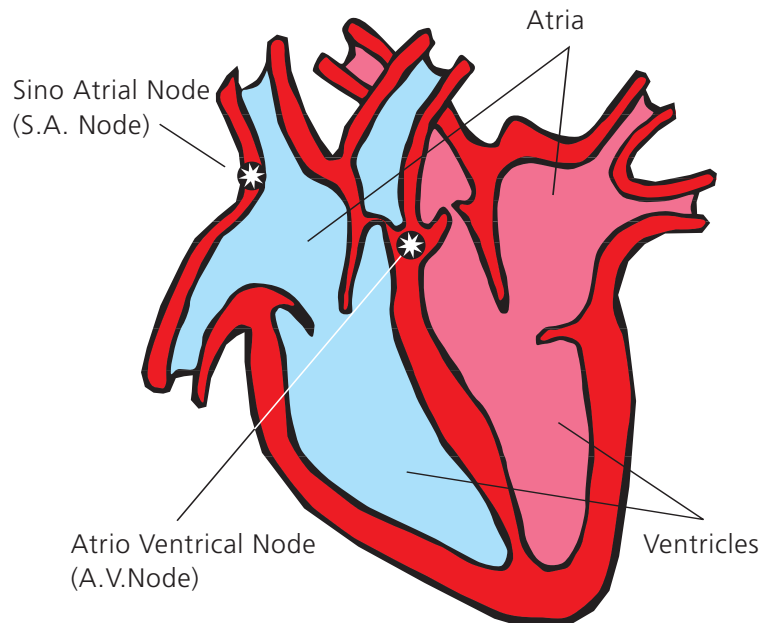
Present overhead 15 and explain that the heart has its own electrical circuit and a generator called the **pacemaker or sinoatrial node (SA)**. This electrical signal begins in the sinoatrial (SA) node, located at the top of the right atrium. Add that:

- impulses spread through the atria stimulating contraction to the atrioventricular (AV) node. Although the sinoatrial (SA) node sends electrical impulses at a certain rate, your heart rate may still change depending on physical demands, stress or hormonal factors.
- after a slight pause at the atrioventricular (AV) node the impulse passes along special conducting muscle fibres through the ventricles causing them to contract and squeeze the blood out into the body or the lungs.

Distribute handout 11.



Handout 11 – Electrical conduction of the heart



Electrical conduction of the heart and its pathway through the heart

Image reprinted with permission from the National Heart Foundation (WA Division) and Derbarl Yerrigan Health Service, Perth

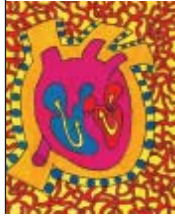
Interesting Point



When the electricity of the heart goes 'haywire' a pacemaker may be needed to take over the electrical circuit of the heart. A specially trained doctor inserts a pacemaker. It is done under local anaesthetic. The pacemaker is inserted in the muscle of the chest or abdomen.

What is a pacemaker?

Although it weighs less than a 50 cent piece, a pacemaker contains a powerful battery, electronic circuits and computer memory that together generate electronic signals. The signals or pacing pulses are carried along thin, insulated wires or leads, to the heart muscle. The signals cause the heart muscle to begin the contractions that cause a heartbeat.



2.5 The mechanical component of the heartbeat

Aim

To describe the mechanical aspects of the heartbeat and pulse and blood pressure measurement.

Duration 20 minutes

Presentation – The heart beat cycle



Handout 12 – The mechanical component of the heartbeat

Distribute handout 12 and explain how the heart beats.

- A heartbeat is a two-part pumping action that takes about a second. As blood collects in the upper chambers (the right and left atria), the heart's natural pacemaker (the sinoatrial node) sends out an electrical signal that causes the atria to contract. This contraction pushes blood through the tricuspid and mitral valves into the resting lower chambers (the right and left ventricles). This part of the two-part pumping phase (the longer of the two) is called the diastole.
- The second part of the pumping phase begins when the ventricles are full of blood. The electrical signals from the sinoatrial (SA) node travel along a pathway of cells to the ventricles, causing them to contract. This is called systole. As the tricuspid and mitral valves shut tight to prevent a back flow of blood, the pulmonary and aortic valves are pushed open. While blood is pushed/squeezed from the right ventricle into the lungs to pick up oxygen, oxygen-rich blood flows from the left ventricle to the heart and other parts of the body.
- After blood moves into the pulmonary artery and the aorta, the ventricles relax, and the pulmonary and aortic valves close. The lower pressure in the ventricles causes the tricuspid and mitral valves to open, and the cycle begins again. This series of contractions is repeated over and over again, increasing during times of exertion and decreasing while at rest.
- The heart does not work alone however. Your brain tracks the conditions around you – climate, stress and your level of physical activity, and adjusts your cardiovascular (CV) system to meet those needs.

Training tip



You may wish to refer back to overheads 11–13 for diagrams to assist in explaining the heart beat cycle.

Presentation – The pulse

Continue to refer to handout 12 and explain that:

- each heartbeat moves the blood forward through the arteries, which can be felt as a pulse
- the pulse rate tells you how fast your heart is beating
- every time the heart beats there is a wave of blood that travels through the arteries
- the autonomic nervous system (ANS) controls the heart beat (pulse).

Important message



The autonomic nervous system

There are two divisions in the autonomic nervous system (ANS): the parasympathetic and the sympathetic nervous system. The autonomic nerves, especially the vagus nerve of the parasympathetic division, keep the resting rate at about 70 beats by means of impulses from the cardio regulatory centre in the medulla in the brain. Sympathetic nerves act on organs and blood vessels to prepare the body to react to stressful situations. During exercise or stress, the sympathetic cardiac nerves influenced by the hypothalamus speed the rate. The parasympathetic nervous system has an opposing effect to the sympathetic division, it works mainly in quiet non-stressful conditions and its activity predominates during sleep.



Activity – Measuring the pulse



Before commencing the next activity, explain that:

- the pulse can be felt on arteries close to the skin
- the pulse is named after the particular artery
- for example, the radial pulse is named after the radial artery in the wrist
- the carotid artery is from the artery in the neck
- the femoral artery is the one in the groin.

To take a pulse the pads of the middle fingers are used. To determine the rate per minute, the number of pulses are counted over one of the following intervals:

- one whole minute
- 30 seconds then multiplied by two
- 15 seconds then multiplied by four.

Then, ask participants to take turns to feel each other's pulse. Pair the participants and see if they can locate the radial pulse, then count the heart beat over 1 minute.

Presentation – Blood pressure



Handout 13 – Measuring the blood pressure

Distribute handout 13 and explain the following.

- Blood is carried from the heart to all parts of your body in vessels called arteries.
- Blood pressure (BP) is the measurement of the pressure of the blood against the walls of the bigger blood vessels called the arteries.

- Each time the heart beats (about 60–70 times a minute at rest), it pumps out blood into the arteries.
- Your blood pressure (BP) is at its highest when the heart beats, pumping the blood. This is called systolic pressure. When the heart is at rest, between beats, your blood pressure falls. This is the diastolic pressure.
- High blood pressure (BP) is known as hypertension. It can be very dangerous if left untreated.
- Blood pressure (BP) is recorded, as two numbers (eg 150/90). The first, the larger number (eg 150) is the systolic blood pressure. This is the pressure in the arteries as the heart squeezes out blood during each beat.
- The second, the smaller number (eg 90) is the diastolic blood pressure, which is the pressure in the arteries as the heart relaxes and the ventricles fill with blood before the next beat.
- The systolic blood pressure (BP) is a stronger and more consistent predictor for cardiovascular disease (CVD).

What is normal blood pressure?

- Normal blood pressure (BP) is less than 120/80.
- It should be noted however that there is no ideal rule about what level of blood pressure (BP) is ‘normal’ as blood pressure (BP) level depends on age and the presence of diabetes, proteinuria and renal insufficiency (kidney disease).
- The following figures are a useful guide:

| | |
|---|---|
| ■ normal blood pressure (BP) | less than 120/80 |
| ■ high-normal (Borderline) blood pressure (BP) | 120–139/80–89 |
| ■ high blood pressure (BP) | more than or equal to 140/90 |
| ■ adults less than 65; and/or all adults with diabetes and renal insufficiency and/or proteinuria | goal for blood pressure (BP) is less than 130/85. |

Important message



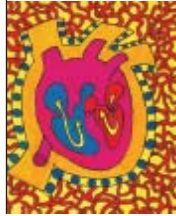
High blood pressure

Aboriginal and Torres Strait Islander people are at greatest risk of heart failure. Those at risk of or who have high blood pressure should ensure they are seen regularly by health professionals for check ups.

Training tip



If there is sufficient time, the following questions about blood pressure (BP) can be presented as a brain storming session, where each question is asked and responses recorded on whiteboard and discussed.



What are the risks of high blood pressure?

- Stroke
- Heart disease
- Kidney disease/kidney failure
- Eye problems.

What causes high blood pressure?

- Family history
- Being overweight
- Eating too much fat or salt in your food
- Drinking too much alcohol
- Insufficient exercise
- Kidney problems
- Cigarette smoking.

What can be done to help prevent or manage high blood pressure?

- Have blood pressure (BP) checked regularly
- Keep to a healthy weight
- Exercise regularly
- Have less alcohol
- Do not smoke
- Take medications properly.

Why does blood pressure (BP) change?

- Blood pressure (BP) varies all the time to meet your body's needs – from when you get up in the morning to when you are relaxing, exercising or sleeping.
- Blood pressure (BP) is usually at its highest when we exercise and lowest when we sleep. It can also rise due to anxiety, excitement, activity or nervousness. In general, it remains fairly constant throughout the day. If blood pressure (BP) readings are high (hypertension), a number of blood pressure (BP) recordings may be required to be certain that the readings reflect that person's normal, accurate blood pressure (BP).
- There are ways to reduce your blood pressure (BP) apart from medications. Exercise and losing weight is also good for reducing your blood pressure (BP). Taking your blood pressure (BP) medication is important. Raised blood pressure (BP) is a major risk for cardiovascular disease (CVD).
- The higher the blood pressure (BP), the greater the risk of stroke, coronary heart disease, kidney disease, heart failure and death.

Activity – Measuring blood pressure

Demonstrate measuring blood pressure (BP) on a volunteer and provide the following tips:

- remember to get blood pressure (BP) machines calibrated and tested properly
- let the patient sit and relax for a couple of minutes before taking a blood pressure reading
- select an appropriate cuff size
- the bladder of the cuff should be at least 80% length, and width at least 40% of the circumference of the mid-upper arm
- the cuff should be at heart level
- the cuff should be fitting snugly around upper arm about 2cm above the bend in the elbow.

Summary

Ask if there are any comments or questions on this module, then recheck questions list you compiled at the beginning of the workshop on butchers' paper.

Cross off questions that have been answered, at the same time going over the explanations.

Explain that remaining questions will be answered during the next sessions.

Briefly mention what will be covered in the next session – Module 3:

- definition of cardiovascular disease (CVD)
- types of cardiovascular disease (CVD)
- causes of cardiovascular disease (CVD)
- risk factors for cardiovascular disease (CVD)
- risk factors in Aboriginal people
- detecting cardiovascular disease (CVD)
- primary prevention of cardiovascular disease (CVD).

Module 2 Useful resources

Anatomy and physiology

Principles of Anatomy and Physiology. G.Tortora & N. P. Anagnostakos (eds) (1984) (4th Edition)
Harper & Row: New York.

Health Education and Vascular Health Resources for Aboriginal and Torres Strait Islanders

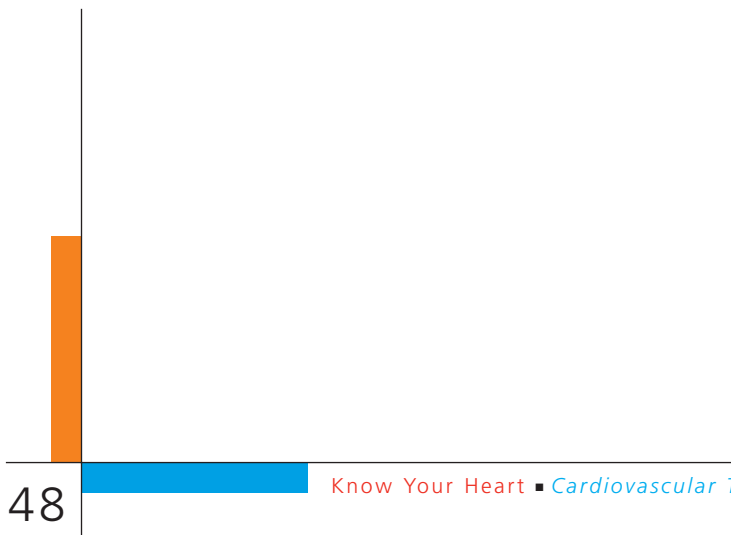
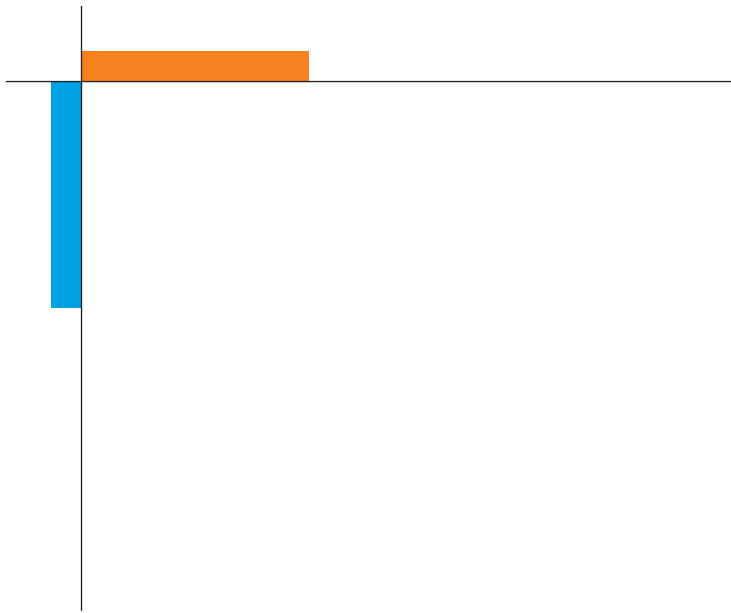
- *Aboriginal Health Worker Heart Health Manual: a resource for the certificate in cardiovascular health for Aboriginal Health Workers*, developed jointly by National Heart Foundation, (WA Division) and Derbarl Yerrigan Health Service (2001) National Heart Foundation, Perth.
- *Aboriginal Vascular Health program: health education pamphlets* (series of 13 pamphlets). Revised January 2005 SHPN (AH) 040076–040087, NSW Department of Health, Sydney. Available through The Better Health Centre ph: (02) 9816 0452.
- *Listen to Your Heart Video*. Designed for the indigenous community this short video conveys important messages about heart health. National Heart Foundation Heartline: 1300 36 27 87.

National Heart Foundation

The Heart Foundation produces a broad range of resources:

- A range of brochures designed for the public in simple, easy to read formats are available. Topics include: *Your Heart*, *Your blood pressure: heres the score*, *High blood pressure: the facts*, *All about coronary angiography*, *Bypass*, *Coronary angioplasty and coronary stent implantation*, *Heart attack? every minute counts*, *Heart valve surgery*, *Life after heart attack*, *Living with angina*, *Stroke*, *How to lower your risk*.
Order through Heartline phone: 1300 362789
- A *Heart Resource Catalogue* listing all resources and publications is available for order through Heartline: 1300 36 27 87.
- Resources for professionals including health policies, information sheets and guidelines are accessible through the National Heart Foundation website www.heartfoundation.com.au





SUMMARY: MODULE 3 CARDIOVASCULAR DISEASE – KNOW YOUR RISKS

Content

- 3.1 Cardiovascular disease (CVD)
- 3.2 Risk factors for cardiovascular disease (CVD)
- 3.3 Coronary heart disease
- 3.4 Detection of cardiovascular disease (CVD)
- 3.5 Prevention of cardiovascular disease (CVD)

Duration 2 1/2 hours

Objective

By the end of this session participants will be able to:

- define the cardiovascular disease (CVD)
- list the types of cardiovascular disease (CVD)
- describe the process of atherosclerosis
- define what the difference is between a heart attack and angina
- define heart failure/ hypertension/ rheumatic heart disease
- list risk factors for cardiovascular disease (CVD)
- describe the risk factors for cardiovascular (CVD) in Aboriginal people
- describe ways to detect cardiovascular disease (CVD)
- describe primary prevention strategies for cardiovascular disease (CVD)

Handouts

14–20

Overheads

16–37



module 3

MODULE 3 PLAN AT A GLANCE

3.1 Cardiovascular disease (CVD)

| Sub topic | Explanation | Overhead | Handout |
|--|---|-------------|---------|
| What is cardiovascular disease (CVD) | Cardiovascular disease (CVD) is used to describe a number of conditions that affect the heart and blood vessels | 16 | 14 |
| | Overview types of cardiovascular disease (CVD) | 17, 18 & 19 | 15 |
| Causes of cardiovascular disease (CVD) | Explain what atherosclerosis does Explain that certain factors cause atherosclerosis | | |

3.2 Risks factors for cardiovascular disease (CVD)

| | | | |
|--|---|----|----|
| Activity | Small groups to identify possible risk factors | | 16 |
| Non-modifiable and modifiable risks | After group feedback, present list of known risks | | |
| | Discuss details of risk factors using handout 17 | 20 | 17 |
| Cardiovascular risk in Aboriginal people | Ask participants: which risk factors they consider most significant for Aboriginal people Discuss available data | | |

3.3 Coronary heart disease

| | | | |
|-----------------------------|--|-------------|----|
| Coronary heart disease | Explain what coronary heart disease is. Refer participants to handout 18 for following presentations. | 21 | 18 |
| Heart attack | What happens, signs and symptoms | 22, 23 & 24 | |
| Angina | What happens, signs and symptoms | 25 & 26 | |
| Heart failure | What happens, signs and symptoms | 27 & 28 | |
| Rheumatic fever | What happens, signs and symptoms | 29 | |
| Blood pressure (BP) | What happens, signs and symptoms | 30 & 31 | |
| Stroke | What happens, signs and symptoms | 32 & 33 | |
| Peripheral vascular disease | What happens, signs and symptoms | 34 | |

3.4 Detection of cardiovascular disease

| | | | |
|--|--------------------------------|---------|--|
| How to detect cardiovascular disease (CVD) | Doing a risk factor assessment | 35 & 36 | |
|--|--------------------------------|---------|--|

3.5 Prevention of CVD

| | | | |
|--|--|----|----|
| Strategies for preventing cardiovascular disease (CVD) | Explain the many ways of preventing cardiovascular disease (CVD) | 37 | 19 |
| Activity | Role play – take turns in pairs to role play Vignettes involving a client and an Aboriginal Health Worker (AHW) | | 20 |
| Summary | Repeat the continuum exercise from the Introductory module, noting new knowledge Action plan (optional) – see Notes for Educators Answer any further questions participants may have and outlined | | |

TEACHING NOTES: MODULE 3

CARDIOVASCULAR DISEASE – KNOW YOUR RISKS

Cardiovascular disease

Aim

To provide an overview of cardiovascular disease

Duration 20 minutes



module 3

Presentation – What is cardiovascular disease (CVD)?



Overhead 16 – What is cardiovascular disease (CVD)?

Present overhead 16 and explain that cardiovascular disease (CVD) is a term used to describe a number of conditions that affect the heart and blood vessels.

Types of cardiovascular disease include:

- coronary heart disease – heart attack, unstable angina, angina
- stroke – cerebrovascular disease
- peripheral vascular disease
- rheumatic heart disease
- high blood pressure.

Distribute handout 14.



Handout 14 – Types of cardiovascular disease

Presentation – Causes of cardiovascular disease



Overhead 17 – Main cause of cardiovascular disease is atherosclerosis

Present overhead 17 and explain that the most common cause of most cardiovascular disease (CVD) is a blood vessel clogging process known as atherosclerosis. Explain that:

- atherosclerosis is the gradual clogging of the arteries that supply blood to the heart, brain, kidneys and other vital organs
- deposits of fat, cholesterol and other substances (plaques) build up on the inner walls of the arteries.

Training tip



Trainers may decide to ask participants for their ideas on the following questions about atherosclerosis before presenting the overheads.

What does atherosclerosis do?



*Overhead 18 – What does atherosclerosis do?
Overhead 19 – Diagram showing atherosclerosis*

Present overheads 18 and 19. Add the following detail to explain the slides:

- atherosclerosis narrows the inside of the arteries, making less room for the blood to flow through
- there is less oxygenated blood flow (arterial) to the cells (some people refer to this as ischaemia)
- atherosclerosis will eventually cause the arteries to become harder and less elastic – this is known as a hardening of the arteries
- any artery can be effected.

What causes atherosclerosis?

The process often begins during childhood and adolescence. Certain conditions and behaviours tend to speed up the development of atherosclerosis including:

- a diet high in saturated fat can increase blood cholesterol and start the build-up of fatty materials in the arteries
- being overweight
- smoking – affects the blood vessels, can make the blood ‘stickier’ and the blood flow slows and makes blockages more likely; speeds up the rate at which atherosclerosis occurs
- diabetes, especially if uncontrolled
- insufficient physical activity
- high blood pressure – speeds up the process of atherosclerosis as the result of the uncontrolled pressure overload on the heart and blood vessels
- a family history
- depression
- low fibre diet.

Important message



Having three or more of the above risk factors greatly increases the risk of having a heart attack.

Distribute handout 15, a summary of the preceding discussion.



Handout 15 – What is cardiovascular disease?

3.2 Risk factors for cardiovascular disease

Aim

To identify and explain the risk factors for cardiovascular disease (CVD).

Duration 40 minutes

Activity – Risk factors for cardiovascular disease (CVD)



Explain that there are many risk factors for the development of cardiovascular disease (CVD). Explain that these risk factors are similar for all cardiovascular disease (CVD). There are some that we can change or modify and there are others that we cannot change or modify.

Group activity



Handout 16 – Risk factors for cardiovascular disease

Distribute handout 16 and ask participants to work in small groups to come up with a list of possible risk factors for cardiovascular disease (CVD). Ask each group to think about which of these they have any control over.

Presentation – Non-modifiable and modifiable risk factors

Present overhead 20 and explain the concept of non-modifiable and modifiable risks.



Overhead 20 – Risk factors for cardiovascular disease (CVD)

Non-modifiable risk factors are those that are out of your control such as:

- family history of cardiovascular disease (CVD)
- age – risk increases with age
- sex – men are at greater risk until women reach menopause and then the risk becomes the same.

Modifiable risk factors are those that can be managed or changed and may be behavioural factors such as:

- tobacco smoking
- insufficient physical activity
- alcohol misuse
- poor nutrition (high intake of saturated fats and salt).

Or they may be biomedical factors such as:

- high blood cholesterol
- high blood pressure
- excess body weight – overweight.





Handout 17 – Atherosclerosis risk factors

Distribute handout 17 and provide the following detail to explain each risk factor as listed on the handout.

High cholesterol

- There is no national data on blood cholesterol levels among Aboriginal and Torres Strait Islander people.
- Cholesterol is a white waxy fatty substance. It is made in the liver and released into the blood stream. Cholesterol is used for many things such as:
 - making hormones
 - making vitamin D (which is used to make our bones and teeth strong).

Cholesterol can be both good and bad, so it is important to learn what cholesterol is, what it does to your health and how people can manage their blood cholesterol levels.

There are different types of cholesterol.

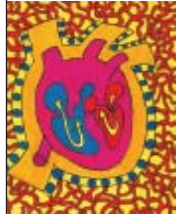
- ‘Good cholesterol’ is called high-density lipoprotein (HDL). It protects you against heart disease. The more you have of this the better. High-density lipoprotein mops up the bad cholesterol.
- ‘Bad cholesterol’ is called low-density lipoprotein (LDL). It leads to fatty stuff building up in artery walls, which can lead to heart disease, heart attacks, chest pains, strokes, kidney and circulation problems.

Important message



Some participants may be interested in information on how to lower cholesterol:

- *keep a healthy weight*
- *cut down on animal fats such as butter, cream, cheese and fried foods*
- *eat less saturated fats (coconut and palm oil, fatty meats, most fried take-away foods)*
- *eat more fibre (fruit, vegetables, cereal, baked beans)*
- *be active*
- *be a non-smoker*
- *take tablets as advised*
- *exercise regularly*
- *keep control of diabetes*
- *importantly, have cholesterol measured once a year.*



Excess body weight / obesity and poor nutrition

Obesity is when a person has too much body fat and is very overweight.

Many Australians are overweight or obese. While the proportion of overweight people is similar for Aboriginal and Torres Strait Islander people and the general Australian population, Aboriginal and Torres Strait Islander people are more likely to be obese.

People who are obese are at risk of serious health problems including:

- heart disease
- bone disease
- high blood pressure
- stroke
- cancer
- diabetes
- high cholesterol.

While people come in many shapes and sizes, those who have a 'pot belly' even if their arms and legs are skinny are at a greater risk of health problems. The measurement of the waist shows how much extra fat is being carried around your belly. Waist measurements should be less than:

- 94 cm for men
- 80 cm for women

Important message



If appropriate to the group, the following information on nutrition can be provided.

- It is important we get a healthy balanced diet so our bodies and minds can work properly.
- Poor nutrition can lead to a lot of health problems such as heart disease and diabetes.
- Breast-feeding is best because it helps babies be strong, healthy and build immunity (fight off infections).
- Children need to eat the right foods so they can concentrate at school and grow strong and healthy.
- Babies born underweight can have health problems later in life-like kidney disease.
- Pregnant mums need to eat healthy foods to give babies the best chance in life.
- Eat healthy, grow strong, live long!

Eating tips:

- include variety in your food
- have low fat food
- eat at least 5 vegetables a day
- eat more light meals a day
- eat smaller portions of food

- do not skip breakfast
- eat enough food from the each of the 5 food groups (see food plate diagram following)
- choose different varieties of things from the food groups
- eat plenty of plant foods (bread, cereal, rice, pasta, noodles, vegetables, and fruit)
- eat moderate amounts of animal foods (milk, yoghurt, cheese, meat, fish, chicken, eggs)
- eat small amounts of fats
- drink plenty of water.

Picture of a healthy food plate



National Heart Foundation of Australia Tick Program

The Tick Program is a public health nutrition program. It is part of the National Heart Foundation’s long-term strategy to improve the eating patterns of all Australians. The ‘tick’ appears on foods that have been approved by the National Heart Foundation. The ‘tick’ is a guide to help people make healthy food choices quickly and easily.

Foods, including cuts of meat and dairy products displaying the ‘tick’ logo should be selected over other choices. These foods are relatively low in saturated fat and salt and high in fibre compared to other products. Choosing foods with the National Heart Foundation ‘tick’ is one step we can take to ensure both ourselves and our families have a more healthy diet and improved nutrition.

Tobacco smoking

Rates of smoking among Aboriginal people are approximately double that of the general population. Smoking prevalence amongst Aboriginal and Torres Strait Islander Health Workers is also higher than the general population. Research suggests that there are many reasons for this high rate of smoking including the effects of colonisation and dispossession such as loss of culture, land and language and the resulting inequality.



Smoking is one of the biggest killers of Aboriginal people however, it is preventable. It damages health and causes:

- heart disease
- stroke
- high blood pressure
- cancer (especially lung, throat, bladder and lip)
- chest infections
- breathlessness and unfit
- yellow teeth and fingers
- affects on children – small babies, ear infections, asthma
- difficulty in having an erection.

Important additional information

Tips on how to stop smoking may be of interest to participants:

- pick a date to stop and don't try to give up before stressful events such as a job interview, court appearance etc
- get your family to support you and plan for upcoming events like a party. Others will be smoking there and it will be hard not to smoke
- have someone to talk to when you feel like giving up
- call the QUIT line for support or information. Call 131 848 (for the cost of a local call)
- use nicotine replacement therapy (NRT) available from a pharmacy without a prescription. NRTs include patches, gum, lozenges, sublingual tablets or inhalers.

Important Information



Nicotine replacement therapy (NRT)

- *Using nicotine replacement therapy (NRT) properly doubles the chances of successful quitting.*
- *Nicotine replacement therapy (NRT) works by reducing the body's addiction to the nicotine in cigarettes.*
- *Nicotine replacement therapy (NRT) reduces symptoms of withdrawal such as cravings, sleeplessness, poor concentration and anxiety.*
- *Talk to your Doctor about using Zyban tablets – they may be cheaper than other nicotine replacement therapies (NRT) and require a prescription.*

If you have recently had a heart attack, are pregnant, or you are breastfeeding, talk to your doctor before using any type of nicotine replacement therapy

Benefits of quitting smoking include:

The benefits of quitting smoking include:

- better health and more energy
- save money
- live longer
- food tastes better.

Physical inactivity

Aboriginal and Torres Strait Islander adults are more likely than other Australian adults to report no physical activity in their leisure time. Physical activity simply means exercise such as:

- walking
- gardening
- playing sports
- walking up stairs
- water aerobics
- golf
- dancing
- swimming.

Regular physical activity reduces the risk of:

- diabetes
- high blood pressure
- heart disease
- depression and anxiety
- becoming overweight.

Regular physical activity:

- helps build and maintain healthy bones, muscles, and joints
- improves circulation
- helps the body to fight off diseases
- improves overall fitness and health
- makes you feel good and keeps your weight down.

Important message



Advice on getting started on exercise:

- *get a check from your health worker before you start*
- *take a walk around the block with your family, friends or dog*
- *do some gardening*
- *do some activities with your children – play ball, swim, go cycling*
- *walk up stairs instead of getting the lifts*
- *wear comfortable shoes and loose clothes*
- *drink water when exercising*
- *do not exercise up to 1 1/2 hours after a meal or in the heat of the day.*



People who have diabetes

People with diabetes are at greater risk of atherosclerosis – diabetes is considered a contributing factor to atherosclerosis and therefore is a major risk factor for coronary heart disease (heart attack and angina). Diabetes accelerates the process of atherosclerosis through digesting our food in a wrong way. Fats are stored in parts of our body like the arteries.

Aboriginal people have diabetes at a greater level than non-Aboriginal people.

High blood pressure

Blood is carried around the body in tubes called blood vessels. Blood pressure (BP) is the measurement of the pressure of the blood against the walls of the bigger blood vessels called the arteries. High blood pressure is known as hypertension. It can be very dangerous if left untreated. Normal blood pressure is less than 120/80. You need more than one high reading to be sure you have high blood pressure.

People who suffer from depression

Depression and social isolation are also common problems associated with heart disease and are risk factors for heart disease.

Other co-morbidities

People with coronary heart disease often have or are at risk of other vascular conditions (such as stroke or peripheral vascular disease or diabetes) as they share many of the same risk factors.

Presentation – Cardiovascular risk in Aboriginal people

Ask participants to consider which risk factors they think are the most significant for Aboriginal people. Discuss the following risk factors for Aboriginal people.

High blood cholesterol

There is no national data on blood cholesterol levels amongst Aboriginal and Torres Strait Islander people and how they compare to the general Australian population.

Tobacco Smoking

Rates of smoking among Aboriginal people are approximately double that of the general population.

Physical activity

Aboriginal and Torres Strait Islander adults are more likely than other Australian adults to report no physical activity in their leisure time.

Poor nutrition

Maternal under-nutrition is one factor linked to low birth weight, which is about twice as common among babies born to Indigenous mothers as it is among babies born to non-Indigenous mothers.

Overweight / Obesity

The proportion of people who are overweight is similar for Aboriginal and Torres Strait Islander people and all Australians. However, obesity is more common among Aboriginal and Torres Strait Islander people than all Australians.

Excessive alcohol consumption

The proportion of Aboriginal and Torres Strait Islander people who consume any alcohol at all is lower compared to non-Indigenous people. However, Aboriginal and Torres Strait Islander people who do drink are more likely to consume harmful quantities of alcohol than the general population.

3.3 Coronary heart disease

Aim

To outline the cause, symptoms and effect of coronary heart disease.

Duration 30 minutes

Presentation – Coronary heart disease



Overhead 21 – Coronary heart disease

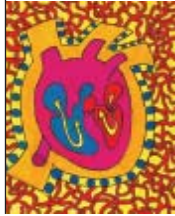
Present overhead 21 and explain that:

- coronary heart disease is caused by atherosclerosis
- coronary heart disease is also known as ischaemic heart disease (IHD)
- there are 3 forms of ischaemic heart disease (IHD). These are all known as **acute coronary syndrome**:
 - heart attack (myocardial infarction or MI)
 - unstable angina
 - angina
- coronary heart disease develops when there is an inadequate oxygenated blood supply (ischaemia) to the heart muscle
- the inadequate blood supply is caused by blockages in the coronary arteries that supply blood to the heart muscle

Distribute handout 18 and refer participants to the notes on this handout during the following presentations.



Handout 18 – Types of cardiovascular disease (CVD)



Presentation - Heart attack



Overhead 22 – Heart attack

A heart attack:

- is also known as Acute Myocardial Infarction (AMI) or coronary occlusion
- occurs when blood supply to part of the heart muscle is totally blocked.

What happens?

- Sudden rupture of the plaque (from atherosclerosis) which forms a thrombosis (blood clot) in a coronary artery.
- This can lead to a complete blockage of blood supply to that part of the heart.
- That part of the heart muscle can die if blood flow is not restored quickly.



Overhead 23 – Heart attack diagram

Present overhead 23 and discuss the following effects of a heart attack:

- permanent damage to that part of the heart muscle results
- if the damage is very large the heart may stop pumping
- the complete stoppage of the heart is known as cardiac arrest and death may follow if not reversed.

Important message



A heart attack is sudden but usually results from the process of atherosclerosis, which occurs gradually.

Signs and symptoms of heart attack

Present overhead 24 and explain the following common signs and symptoms of a heart attack:



Overhead 24 – Signs and symptoms of a heart attack

- most common is severe chest pain
- it can also be a discomfort in the jaw, chest, neck, arms or back
- collapse or lose consciousness
- indigestion or feeling sick in the stomach
- symptoms not relieved by rest or chest pain drugs
- sweating, sick feeling in stomach, shortness of breath and anxiety
- some patients may not experience pain or discomfort in their chest but have the other signs and symptoms
- some patients experience a 'sense of doom'.

Important message



Emergency management – What should I do if I think I am having a heart attack?

- *If discomfort does not settle down within 15 minutes or 10–15 minutes with medication and rest it is crucial that patients seek help as soon as possible as this may indicate the start of a heart attack. If in an area where an ambulance is not immediately available quickly notify the nearest health service for advice.*
- *Dial 000.*
- *Ask for the ambulance service.*
- *Say you think you are having a heart attack.*
- *Do not drive yourself.*

**Too many Kooris die each year because they did not recognise the warning signs.
IF YOU ARE NOT SURE, no shame, get help.**



Presentation – Angina



Overhead 25 – Angina

Present overhead 25 and explain that angina is chest pain or discomfort resulting from an inadequate oxygenated blood supply to the heart muscle.

What happens?

- Chest pain or discomfort occurs when a diseased coronary artery cannot meet a temporary demand to increase blood flow (and oxygen) to the area of the heart that the artery supplies.
- Usually occurs when the heart has to work harder than usual, when the need for blood and oxygen is increased (ie physical activity, response to emotion).
- Pain or discomfort usually goes away after a few minutes rest or with taking medication (such as anginine tablets).
- The heart muscle is not permanently damaged.

Signs and symptoms of angina



Overhead 26 – Signs and symptoms of angina

Present overhead 26 and explain that angina can affect different people in different ways and individuals can experience different symptoms at different times. People have described their symptoms of angina as:

- a tightness or squeezing pressure in the middle of the chest which can be mild or severe
- this can also spread to the jaw and arms particularly the left arm, and can be felt only there and not in the chest
- may just be an unpleasant sensation or discomfort in the chest.

Unstable angina

Unstable angina is:

- chest pain or discomfort resulting from an inadequate oxygenated blood supply to the heart muscle
- unstable angina differs from angina in that the features or pattern of the chest pain or discomfort changes
- it is not as responsive to the usual medication and the person is at a much greater risk of heart attack.

The underlying process is the same as for angina except that:

- the pain may occur at rest
- it may become more severe
- the pain may occur more often (not being controlled by medications)
- it does not respond as well to the quick relief eg anginine or nitro-lingual spray medications.

Important message



Angina is a warning sign that the heart muscle is at risk.

Angina is associated with a higher risk of heart attack.

If discomfort does not settle down within 10 to 15 minutes with rest and/or medication it is crucial that patients seek help as soon as possible as this may indicate the start of a heart attack.

Presentation – Heart failure



Overhead 27 – Heart failure

Explain overhead 27, saying that heart failure is when the heart muscle is weakened and cannot pump as well as it should. When the heart can't pump efficiently, a number of things happen. The heart is affected as well as skeletal muscle, renal function and the nervous system and hormonal responses.

Causes of heart failure

Heart failure is caused by conditions that damage or overwork the heart muscle including:

- previous heart attack
- long standing uncontrolled high blood pressure
- faulty heart valve
- cardiomyopathy (weakened heart muscle)
- sometimes the cause cannot be determined
- diabetes
- excessive use of alcohol.



Symptoms



Overhead 28 – Symptoms of heart failure

Discuss the symptoms of heart failure, such as:

- tired and unable to carry out normal daily activities
- light-headedness, dizzy or weak
- heart pounding or notice a fast or irregular rhythm
- fluid may build up (called oedema) in:
 - the lungs making you short of breath, even at rest or when lying flat at night
 - the legs causing swelling
 - the abdomen causing loss of appetite or bloating (the abdomen may also feel tender or painful and the person may have some nausea or a feeling of wanting to vomit).

Gaining weight can be a serious sign – people should seek medical advice if more than 1.5–2.0 kgs of sudden weight (fluid) is put on in two days.

Circulation slows down. The muscles don't get all the oxygen they need, which is why people feel more tired. Sometimes blood flow to the brain is reduced, which is why people may feel dizzy or faint.

Blood backs up in the veins, and fluid seeps from the veins into the surrounding tissues. That causes swelling (oedema). This is most common in the legs and ankles, but may affect other parts of the body as well.

Blood also backs up in the blood vessels within the lungs. The inside of the lungs become swollen and stiff with the extra fluid, which is why the person may feel short of breath and may have a cough.

In the daytime, this extra fluid in the blood can add to the swelling in legs and ankles.

When lying down, the fluid may flow to other parts of the body. Some of it gets into the tissue around the lungs, making it especially hard to breathe at night.

Rheumatic fever



Overhead 29 – Rheumatic fever

Present overhead 29 and explain that:

- Rheumatic fever is caused by Group A Streptococcus bacteria associated with infections of the throat and skin
- it may affect the heart valves, the heart muscle and its lining, the joints and the brain if the infections are not treated
- recurrence of rheumatic fever can lead to cumulative heart damage
- recurrence of rheumatic fever can be almost completely prevented by monthly injections of penicillin and follow-up

Rheumatic heart disease

Rheumatic heart disease is due to the damage to the heart muscle and heart valves by an attack of acute rheumatic fever.

This is a disease associated with poverty and overcrowding, lack of education and limited access to medical care to obtain adequate diagnosis and treatment.

Presentation – Blood pressure (hypertension)



Overhead 30 – Blood pressure

Present overhead 30 and explain that blood pressure (BP) is the pressure exerted by blood against the walls of the blood vessels as the heart pumps the blood around the body. High blood pressure, that is blood pressure above the acceptable level, is called hypertension.

Provide the following information.

What can cause high blood pressure?

Risk factors for high blood pressure include:

- family history of hypertension
- being overweight
- smoking
- high blood cholesterol
- high fat and salt intake
- high alcohol intake
- too little physical activity
- age.

Important message



If lifestyle changes do not reduce blood pressure (BP), or if blood pressure is extremely high, medications will be prescribed. These medications will lower the blood pressure and in most cases will need to be taken life long.

It is important to take blood pressure medications regularly.

What's so bad about high blood pressure?



Overhead 31 – What's so bad about high blood pressure

If blood pressure is left uncontrolled and remains high, it can damage internal organs and cause serious problems like kidney disease, heart attack or strokes.

Risks associated with high blood pressure include:

- stroke
- coronary heart disease
- heart failure
- renal disease
- retinopathy
- dementia.

Presentation – Stroke (Brain attack)



Overhead 32 – Stroke

Present overhead 32. Explain that a stroke occurs when:

- there is an interruption of the blood supply to the brain
- when an artery supplying blood to a part of the brain becomes blocked or bursts.

What happens?

Most strokes are due to a restriction of blood flow to the brain leading to 'brain attack' ie similar to what happens with 'heart attacks'.

A lesser percentage of strokes are due to bleeding (haemorrhage) into the brain which can be related to high blood pressure.

As a result part of the brain is damaged because it is deprived of its blood supply that normally carries oxygen and other nutrients to the brain and which enables it to function.

A transient ischaemic attack (TIA) of the brain has the same cause and symptoms as a brain attack/ischaemic stroke but the symptoms completely resolve within a few minutes or a few hours. Just as an unstable angina is a warning sign for a possible heart attack in the future, a TIA is also an important warning sign for a stroke.

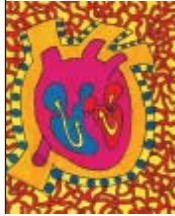
After a stroke

A stroke can be fatal, disabling or you can make a full recovery.

The effects of stroke vary depending on where the brain is damaged.

A 'full' stroke may be preceded by mini strokes (TIA) which cause only short-lasting problems.

It is very important that these mini strokes (TIA) are investigated because not only can tablets like aspirin prevent blood clots in those at risk, but surgery may be appropriate to overcome obstruction in blood vessels in the neck.



Causes of stroke



Overhead 33 – Risk factors for stroke

People at the greatest risk for having a stroke are those who:

- smoke
- have high blood pressure
- have heart disease
- have high blood cholesterol
- are elderly
- drink heavily
- have already had a stroke or transient ischaemic attack.

Signs and symptoms of stroke include:

- unexplained weakness or numbness on one side of the body
- difficulty speaking
- unexplained dizziness
- blurred or sudden poor vision
- confusion
- loss of balance.

Presentation – Peripheral vascular disease



Overhead 34 – Peripheral vascular disease

Peripheral vascular disease (PVD) is also the result of the atherosclerosis process and results in a reduced arterial blood flow most commonly observed in the legs.

What happens?

- An inadequate blood supply (ischaemia) travels to the legs.
- This results in the narrowing of or blockages in the arteries that supply blood to the leg muscles.

Causes of peripheral vascular disease

The underlying problem is atherosclerosis.

People who are at greatest risk for peripheral vascular disease are those who:

- smoke
- have high blood pressure
- have high cholesterol levels
- have diabetes.

Signs and symptoms of peripheral vascular disease

- No symptoms.
- Calf/leg pain on walking.
- Calf/leg pain at rest.
- Limb-threatening reduced blood supply leading to amputation.



3.4 Detection of cardiovascular disease

Aim

To detail detection methods for cardiovascular disease

Duration 30 minutes

Presentation – How to detect cardiovascular disease (CVD)



Overhead 35 – Detection of cardiovascular disease

Present overhead 35 and state that early detection of cardiovascular disease (CVD) is possible by completing a risk factor assessment for the following:

- blood pressure (BP)
- cholesterol
- body mass index (BMI) calculated using a person's height and weight
- family history
- diabetes
- physical activity
- smoking.



Overhead 36 – Diagrams of medical tests

Further explain that heart disease can be detected in a number of ways:

- electrocardiograph – 12 lead ECG
- blood tests – cardiac enzymes or troponins
- nuclear scanning – gated heart scan
- echocardiogram
- coronary angiogram/cardiac catheterisation
- exercise/stress testing.

Cardiac catheterisation or angiogram

An angiogram is an examination of blood vessels using x-rays. A doctor who is specially trained performs this procedure in a special department called the Cath Lab (Cardiac catheter laboratory).

The doctor will insert a small tube (catheter) into the blood vessel usually in the groin, passing it up to the heart blood vessels and then he/she will inject x-ray dye (contrast) that makes the vessels visible when the x-ray pictures are being taken. This will then allow the doctor to determine how well the blood moves through the heart's arteries and to see how much and where the blockages are. There will be a DVD or video made of the angiogram.

Diagnosing heart attack

Tests can be undertaken to assess the damage to the heart and risk of another heart attack.

These may include:

- taking the story/history of pain or discomfort
- blood tests – blood tests will show up special enzymes (cardiac enzyme – troponin), which get into the blood stream if the heart muscle is damaged
- ECG (electrocardiogram) – traces the electrical pattern of a heartbeat and can indicate areas of damage
- stress test – exercise test on treadmill or stationary bike (measures the heart's response to exercise)
- coronary angiogram – X-ray of the heart to look for more blockages in the coronary arteries and to see how well the heart is pumping. Involves putting the patient under a local anaesthetic and inserting a long thin tube (catheter) into an artery in the groin or inside of the elbow. The tube is moved up the inside of the artery until it reaches the heart where a special dye is injected into the coronary arteries and x-ray pictures are taken. This gives detailed information about the state of the heart and coronary arteries.

Diagnosing heart failure

Certain tests will be conducted to assess the extent of a person's heart failure including:

- blood tests – test for the levels of kidney function, how much oxygen is in the blood
- electrocardiogram(ECG) – a test that picks up the electrical activity of the heart
- X-ray can be used to show the size of the heart. An enlarged heart is a sign of heart failure
- X-ray test in the Nuclear Medicine Department. A small amount of radioactive dye is injected into a vein and pictures are taken as the dye fills the heart's chambers. This tells how much blood the heart can pump with each beat
- echocardiogram – uses sound waves to safely show how the heart is working.



3.5 Prevention of cardiovascular disease

Aim

To discuss methods of preventing cardiovascular disease

Duration 30 minutes

Presentation – Strategies for preventing cardiovascular disease



Overhead 37 – Prevention of cardiovascular disease (CVD)

Discuss the strategies for prevention of cardiovascular disease (CVD) as listed on overhead 37:

- do not smoke/quit smoking/do not breathe in other peoples smoke (known as passive smoking)
- reduce blood fats such as cholesterol by eating a diet low in saturated fat
- control you blood pressure
- high blood pressure can be lowered by measures such as increasing physical activity, weight loss, and restricting salt and alcohol intake
- blood pressure tablets are frequently necessary. Often a combination of more than one medication is used to lower blood pressure to safe levels
- maintain a healthy weight
- eat plenty of cereals, fruit, fish and vegetables
- eat less salt (don't add salt when cooking or to take away foods)
- increase physical activity – walking is great for you
- decrease alcohol intake (no more than 2 standard drinks a day for men and no more than 1 standard drink per day for women) with at least two free alcohol days per week
- visit your General Practitioner (GP) and Aboriginal Health Worker (AHW)) for regular check ups
- management of diabetes – it is important to keep blood glucose levels(BGL) in normal limits and to get regular checks from your General Practitioner (GP) or Aboriginal Health Worker (AHW)
- management of depression – your GP or Aboriginal Health Worker (AHW) can help
- identify and manage stress.

Distribute handout 19.



Handout 19 – Prevention of cardiovascular disease

Activity – Role playing

Distribute handout 20 and ask participants to work with a partner to take turns at:



Handout 20 – Role playing

- acting as a client asking a health worker about a certain question or condition
- being in your health worker role and responding to the client's question or concern to role play the vignettes listed on the handout.

Summary

Activity – Repeat the continuum exercise

Indicate a line along the floor extending from 'minimum knowledge' to 'a lot of knowledge'. Ask participants to stand along the line to indicate their new knowledge level on cardiovascular disease (CVD). Participants should be further along the continuum than at the beginning of the workshop.



Activity – Action plan (optional)



See **Suggestions for presenters using the manual** for further information on the use of an action plan.

- Redraw the overlapping circles on the whiteboard indicating individual, family and community, and health worker roles that each participant has.
- Ask people to think about and write down the actions they will take and the things they can do differently as a result of their new knowledge.
- After 5 minutes, begin a group discussion. Invite people to offer their proposed actions and list on the whiteboard under separate lists for individual, community and work role. Encourage discussion about the benefits of each action, the possible barriers to success, who else will need to be involved, who should have responsibility, what some of the unintended outcomes may be etc.
- Allow 20 minutes for this exercise.

Then:

- Ask if there are any comments/questions on this module, then recheck questions list you compiled at the beginning of the workshop.
- Cross off questions that have been answered, at the same time going over the explanations.
- Explain that remaining questions will be answered during the next sessions.
- Briefly mention what will be covered in the next session – Module 4:
 - healthy lifestyles
 - medical treatment
 - surgical procedures
 - medications.

Module 3 Useful resources

Australian Bureau of Statistics

The most recent statistics on the health of Aboriginal people can be found on the Australian Bureau of Statistics website www.abs.gov.au/ In the search bar, enter 'Aboriginal and Torres Strait Islander' to be directed to specific information.

Australian Institute of Health and Welfare

- The Australian Institute of Health and Welfare(AIHW) is the national source for health and welfare statistics. The AIHW regularly produces publications, and compiles statistical information that is available for downloading or in hardcopy. Website www.aihw.gov.au
- *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander People* (Fourth edition) provides an overview of the health and welfare of Australia's Indigenous population. Draws on Australian Bureau of Statistics surveys and censuses and the range of data held by the AIHW. Topics include health status and death and sickness. Authored by AIHW & ABS. Published 2003; ISSN 1441-2004; AIHW Cat. No. IHW-11; ABS Cat. No. 4704.0

Cardiovascular Disease

Heart, Stroke and Vascular Diseases: Australian Facts 2004

Comprehensive information covering patterns of cardiovascular health and illness among Australians, their associated risk factors, treatment and management of the disease are available in this publication. Produced jointly by the AIHW, National Heart Foundation of Australia, National Stroke Foundation of Australia and the Australian Diabetes Association. The most recent publication (2004) is available from the AIHW website and may be viewed online for free at www.aihw.gov.au/publications/index.cfm/title/10005.

National Heart Foundation

The Heart Foundation produces a broad range of resources that are available for both members of the public and, for professionals, independent evidence-based cardiovascular health information.

The range of patient education materials include:

- *Living with angina*
- *Lets talk about heart failure*
- *Heart attack? Every minute counts*
- *Life after heart attack*
- *Stroke, How to lower your risk*
- *Cholesterol, triglycerides and heart disease*
- *It only takes a tick*
- *Enjoy healthy eating: A guide to keeping your cholesterol in check*
- *Get the good eating habit*
- *Physical activity*
- *Be active every day*
- *Healthy weight*
- *Healthy eating and activity guide*



Some facts sheets and publications and information are available for viewing on the website of the organisation at www.heartfoundation.com.au

Resources can be ordered through Heartline on 1300 36 27 87.

NSW Department of Health

- *Aboriginal Vascular Health Program: Health Education Pamphlets* (series of 13 pamphlets) in a simple easy to read format. Topics include:
 - *Heart attack*
 - *Blood pressure*
 - *Heart disease*
 - *Cardiovascular disease*
 - *Cholesterol*
 - *Stroke*
 - *Kidney disease*
 - *Smoking*
 - *Obesity*
 - *Nutrition*
 - *Physical activity*
 - *Stress*
 - *Depression.*

SHPN(AH) 040076 – 040088. (Revised January 2005) SHPN (AH) 040076–040087, NSW Department of Health, Sydney. To obtain hardcopies of the pamphlets please contact the NSW Better Health Centre on ph: (02) 9816 0452. Further information about the program is available on the Aboriginal Chronic Care Program web site www.health.nsw.gov.au/sd/igfs/hp/avhp/

- *Smokecheck: Brief motivational Interviewing for Smoking Cessation: Facilitators Training Manual*
Developed by the Tobacco and Health Branch, NSW Department of Health to build the capacity of health workers to deliver smoking cessation interventions to reduce smoking in Aboriginal communities. Due for Publication in late 2005. Contact the Senior Project Officer (Cessation), Tobacco and Health Branch (02) 9391 9466.
- *Quitline* The Quitline is a confidential telephone based service primarily designed to help people who smoke tobacco and want to quit.
A range of fact sheets are available from Quitline on topics to help quit including:
 - *Cardiovascular disease and smoking*
 - *Health effects of smoking*
 - *Benefits of quitting smoking*
 - *Getting ready to quit smoking*
 - *Quitting smoking – the first few days.*

The Quitline can be contacted for information and support on 131 848.

SUMMARY: MODULE 4 TREATMENT AND MANAGEMENT OF CARDIOVASCULAR DISEASE

Content

- 4.1 Common medications for heart disease (CHD)
- 4.2 Lifestyle management of cardiovascular disease (CVD)
- 4.3 Medical and surgical treatment options for coronary heart disease (CHD)
- 4.4 Management of a heart attack

Duration 2 hours

Objectives

By the end of this session participants will be able to:

- describe medication used for cardiovascular disease (CVD)
- describe lifestyle management strategies for cardiovascular disease (CVD)
- explain medical treatment options for coronary heart disease (CHD)
- explain common surgical procedures for coronary heart disease (CHD)

Handouts

21–24

Overheads

38–46



MODULE 4 PLAN AT A GLANCE

4.1 Common medications for cardiovascular disease

| Sub topic | Explanation | Overhead | Handout |
|--------------------|---|----------|---------|
| Common medications | Role of medicines | 38 | 21 |
| | Range of drugs used to treat cardiovascular disease (CVD) | 39-41 | |

4.2 Lifestyle management of cardiovascular disease

| | | | |
|---|--|----|--|
| Benefits of providing better management of cardiovascular disease (CVD) | Discuss ways to improve the quality of life of people with cardiovascular disease(CVD) | 42 | |
| | Lifestyle changes needed | | |

4.3 Medical and surgical treatment options for coronary heart disease (CHD)

| | | | |
|---------------------------------|---|----|----|
| Coronary angioplasty | Explain how the following processes are carried out | 43 | 22 |
| Coronary stenting | | 44 | 23 |
| Coronary artery bypass grafting | | 45 | 24 |

4.4 Management of heart attack

| | | | |
|--|--|----|--|
| If a heart stops beating | Emergency and follow-up procedures | 46 | |
| Describe the management of heart failure | Explain how heart failure is diagnosed | | |

TEACHING NOTES: MODULE 4 TREATMENT AND MANAGEMENT OF CARDIOVASCULAR DISEASE

4.1 Common medications for heart disease

Aim

To describe the range of medications for heart disease.

Duration 45 minutes



module 4

Presentation – Common medications



Overhead 38 – Table of medications for heart disease

Present overhead 38 and discuss the following:

- it is important to stress that medications will vary depending on each individual's history of coronary heart disease(CHD) and their risk factors
- medications are an important part of care for heart disease
- it is important to know or keep a record of:
 - the names of medication
 - what they are used for
 - how often and at what times to take them
 - common side effects
- medications can slow the heart rate, make the blood vessels wider, thin the blood, make the blood less sticky or lower the blood pressure (BP) or cholesterol.



Handout 21 – Table of medications for cardiovascular disease



Overheads 39 – 41 – Table of Medications

Distribute handout 21 and discuss drugs used to treat cardiovascular disease(CVD). The overheads can also be used for reference.

| Drug / Other names | What it is used for | Side effects |
|--|---|--|
| Evidence shows that the first four groups of medications have the most benefit for people with heart disease or at high risk of heart disease | | |
| Anticoagulant- Antiplatelet | | |
| <ul style="list-style-type: none"> ■ Aspirin ■ Cardiprin ■ Warfarin ■ Cartia ■ Coumadin | <ul style="list-style-type: none"> Helps with angina symptoms Thins the blood and reduces blood clots from forming | <ul style="list-style-type: none"> Stomach upsets Bleeding Indigestion |
| Beta Blocker | | |
| <ul style="list-style-type: none"> ■ Metoprolol ■ Betaloc ■ Atenolol ■ Carvedilol ■ Sotalol ■ Propanolol | <ul style="list-style-type: none"> Helps the heart pump stronger and reduces the work the heart has to do | <ul style="list-style-type: none"> Dizziness Tiredness Wheezing Breathlessness at night Numbing of fingers, toes Dreams and nightmares Loss of libido |
| ACE Inhibitor | | |
| <ul style="list-style-type: none"> ■ Captopril ■ Enalapril ■ Lisinopril ■ Ramipril ■ Coversyl | <ul style="list-style-type: none"> Reduces the work the heart has to do Reduces blood pressure Helps heart failure Makes arteries get bigger (dilate) and this decreases blood pressure | <ul style="list-style-type: none"> Dry cough Dizziness Kidney problems Headache Swelling of the lips and tongue and face |
| Statin | | |
| <ul style="list-style-type: none"> ■ Pravachol ■ Cholestyramin ■ Lipitor ■ Zocor ■ Lipex ■ Atorvastatin | <ul style="list-style-type: none"> Lowers your cholesterol levels | <ul style="list-style-type: none"> Aching joints Constipation Diarrhoea Headache Backache Tingling and numbness in legs and arms |

| Drug / Other names | What it is used for | Side effects |
|--------------------|---------------------|--------------|
|--------------------|---------------------|--------------|

Evidence shows the next groups of medications should only be prescribed when there are further symptoms of heart disease

Calcium antagonist

| | | |
|-------------|--|-----------------|
| ■ Norvasc | Helps angina and controls blood pressure | Headache |
| ■ Diltiazem | | Facial flushing |
| ■ Isoptin | Works on calcium in muscles to reduce the contraction of the heart | Ankle swelling |
| ■ Adalat | | Constipation |
| ■ Cardizam | | Rash |

Nitrates

| | | |
|------------------------|---|--------------------|
| ■ Anginine | Opens blood vessels and lets more blood flow through them | Headache |
| ■ Isordil | | Dizzy or fainting |
| ■ Tridil | Reduces the work the heart has to do | Flushing |
| ■ Transiderm | | Low blood pressure |
| ■ Nitradisc | Helps reduce pain/discomfort from angina | |
| ■ Nitro-dur | | |
| ■ Nitrolingual (spray) | | |

Diuretics

| | | |
|------------------|--|------------------------|
| ■ Lasix | | Thirst |
| ■ Aprinox | | Dry mouth |
| ■ Spironolactone | Takes water away from your body (known as 'water tablets') | Muscle cramps |
| ■ Indapamide | | Loss of appetite |
| ■ Chlotride | Helps heart failure. Used with other drugs for high blood pressure | Dizziness and fainting |
| ■ Burinex | | Bloating of stomach |
| | | Mood changes |

Digoxin

| | | |
|-----------|---------------------------------------|--------------------------|
| ■ Lanoxin | Makes the heart beats regular | Sick feeling in stomach |
| | Helps the heart to beat more strongly | Vomiting and diarrhoea |
| | | Blurred vision |
| | | Tiredness |
| | | Confusion and depression |



4.2 Lifestyle management for cardiovascular disease

Aim

To highlight lifestyle strategies for cardiovascular disease.

Duration 20 minutes

Presentation – Benefits of providing better management of cardiovascular disease

Explain that providing better management of cardiovascular disease(CVD) will:

- improve the quality of life of people with cardiovascular disease(CVD)
- prevent future cardiovascular disease and progression of cardiovascular disease(CVD)
- prevent crisis situation and urgent admissions to hospital.

Some common practices occur in the treatment and management of cardiovascular disease(CVD). These depend on the type of cardiovascular disease(CVD) and how the person responds to the treatment and may include education, awareness and support involving family, carers and communities working together to:

- address self-management issues
- address psychosocial issues
- identify a person able to recognise signs and symptoms of deterioration of condition.

How to prevent cardiovascular disease



Overhead 42 – Lifestyle changes

Discuss the lifestyle changes needed to prevent cardiovascular disease(CVD) as summarised on overhead 42:

- stop smoking
- exercise for 30 minutes on most or every day. Walking is great for you as is swimming, dancing or cycling
- keep your weight within normal range for your age and height
- reduce your blood fats such as cholesterol by eating a diet low in saturated fat
- if diabetic keep your blood glucose level (BGL) within normal limits
- keep your blood pressure (BP) under control
- take all medications as advised
- try to relax and reduce stress
- limit alcohol to no more than two standard drinks a day for men and one standard drink per day for women. Also have two alcohol free days per week
- visit your GP or health worker for regular check ups
- eat healthy foods.

How to increase physical activity

The Heart Foundation recommends that over time people should aim to accumulate 30 minutes or more of moderate intensity physical activity (such as brisk walking) on most, if not all days of the week, for health benefits. The amount of activity can be accumulated in short bouts, such as three 10 minute walks. Strategies to build up the amount of exercise taken can include:

- identifying preferred methods of physical activity
- identifying barriers to increasing physical activity
- identifying strategies to overcome these barriers
- setting goals to increase physical activity.

Quitting smoking

Recap on principles discussed in previous module including:

- benefits of quitting smoking
- strategies to assist with quitting
- benefits of nicotine replacement therapy (NRT) to help quit.



4.3 Medical and surgical treatment options for coronary heart disease

Aim

To describe medical treatments available for coronary heart disease.

Duration 40 minutes

Presentation – Coronary angioplasty



Overhead 43 – Coronary angioplasty

Describe the process of coronary angioplasty, explaining that it is carried out to release a blockage in an artery by:

- inserting a catheter with a balloon into a major artery via the skin and threading it to the area of a coronary blockage
- the balloon is then inflated to create a wider passage for blood to flow
- the balloon and catheter are then removed.



Handout 22 – Coronary angioplasty

Presentation – Coronary stenting



Overhead 44 – Coronary stenting

Explain that stenting is carried out by:

- placing a plastic or metal mesh tube (stent) within the artery to form a supporting structure to hold the artery open at a point previously narrowed
- this is done following angioplasty
- the stent is left in place to keep the artery open
- the lining of the artery grows over the stent making it part of the arterial wall.



Handout 23 – Coronary stenting

Presentation – Coronary artery bypass grafting



Overhead 45 – Coronary bypass

Explain using overhead 45 that:

- coronary artery bypass grafting (CABGs) is also called bypass surgery
- this is a major operation where the chest bone and muscles are opened
- hospitalisation is usually for four days
- a healthy section of a blood vessel (arteries or veins) from another part of the body (usually the leg or chest) is taken and is attached to the coronary artery above or below the blockage to bypass the blocked area
- healing can take 6-12 weeks with some soreness of the chest wall for many months.



Handout 24 – Coronary bypass

Important message



Remember that coronary angioplasty, coronary stenting and bypass surgery are all treatments for coronary heart disease (CHD) and not a cure. The best way to lessen the risk of further disease is to reduce or remove the 'risk factors' that contribute to it.



4.4 Management of a heart attack

Aim

To provide information in the event of a heart attack.

Duration 15 minutes

Presentation – If a heart stops beating (cardiac arrest)



Overhead 46 – Cardiac arrest

State that a heart attack is life threatening, and must receive immediate treatment.

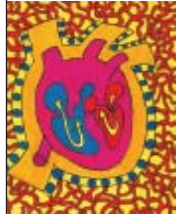
Emergency management requires:

- cardiopulmonary resuscitation (CPR)
- external chest compression to maintain blood circulation and expired air resuscitation in a person who has collapsed and has no detectable pulse and has stopped breathing
- defibrillators (machine that delivers external electric shocks to the chest to resort normal pumping action of the heart)
- administration of drugs (thrombolytic) to dissolve the clot in the coronary artery.

What happens after a heart attack?

Before leaving hospital:

- tests will be done to assess the degree of damage to the heart and the risk of another heart attack
- an exercise test is done on a treadmill or stationary bike to measure the heart's response to exercise (this can help determine how well the heart meets the challenge to an increasing work load as it works harder – known as exercise capacity)
- an X-ray of the heart (coronary angiogram) is done to look at any other blockages in the coronary arteries and to see how well the heart is pumping
- this involves a local anesthetic and the insertion of a long thin tube (catheter) into an artery in the groin or inside of the elbow. The tube is moved up the inside of the artery until it reaches the heart where a special dye is injected into the coronary arteries and x-ray pictures are taken
- this gives detailed information about how well the heart pumps the blood out of the heart and the state of the coronary arteries
- medicines may be prescribed to take long-term, such as tablets for high blood pressure (BP) or cholesterol
- a health team may be available to help plan recovery.



Returning home

A person will return home after a heart attack once they are feeling better and have no chest pain and their condition is settled. This is usually within a week or two.

After they have returned home they should:

- make an appointment with a cardiologist within a few weeks of returning home
- also make an appointment with a local General Practitioner within a week, as they will have a long-term role in helping manage the person's heart disease. This doctor will need to know what medications were prescribed in hospital and may have to give another medication script
- talk to their Doctor and AHW about when to restart various activities and how to start a regular physical activity/exercise program.

Presentation – Diagnosing heart failure

Certain tests can be conducted to assess the extent of a person's heart failure including:

- blood tests – test for the levels of kidney function and cholesterol
- electrocardiograph (ECG) – a test that picks up the electrical activity of the heart
- X-ray – can be used to show the size of the heart (an enlarged heart is a sign of heart failure)
- X-ray test undertaken in the nuclear medicine department - a small amount of radioactive dye is injected into a vein and pictures are taken as the dye fills the heart's chambers in order to tell how much blood the heart can pump with each beat
- echocardiography – uses sound waves to safely show how the heart is working.

Important message



000 Call ambulance immediately if:

- *severe chest pain (unrelieved by nitrates)*
- *severe shortness of breath or blackouts.*

Seek medical attention within 24 hours if any of the following occurs:

- *swelling ankles, increased oedema*
- *rapid weight gain (more than 1kg per day for 2 days)*
- *decreased BP with dizziness*
- *worsening shortness of breath.*

Summary

Ask if there are any comments/questions on this module, then recheck questions list you compiled at the beginning of the workshop.

Cross off questions that have been answered, at the same time going over the explanations.

Explain that remaining questions will be answered during the next session.

Briefly mention what will be covered in the next session – Module 5:

- What is cardiac rehabilitation (CR)?
- chronic condition self-management
- models of care.

Module 4 Useful resources

Australian Bureau of Statistics

The most recent statistics on the health of Aboriginal people can be found on the Australian Bureau of Statistics website www.abs.gov.au/ In the search bar enter 'Aboriginal and Torres Strait Islander' to be directed to specific information.

Australian Indigenous Health InfoNet

Summary of Australian Indigenous health available from www.healthinfonet.ecu.edu.au/html/

Australian Institute of Health and Welfare

The Australian Institute of Health and Welfare (AIHW) is the national source for health and welfare statistics. The AIHW regularly produces publications, and compiles statistical information that is available in for downloading in hardcopy.

Publication and internet sites of relevance to this manual include:

- *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander People* (Fourth edition) provides a unique overview of the health and welfare of Australia's Indigenous population. The report draws on the extensive surveys and censuses conducted by the Australian Bureau of Statistics and the range of data held by the Australian Institute of Health and Welfare. The result is a publication that covers topics as diverse as population statistics, housing and infrastructure, community services and housing assistance, health status, death and sickness, and the availability, resourcing and use of services. Authored by AIHW & Australian Bureau of Statistics. Published 2003; ISSN 1441-2004; AIHW Cat. No. IHW-11; ABS Cat. No. 4704.0
- *Chronic diseases and associated risk factors in Australia, 2001*. Canberra: AIHW. Published (2002) jointly by the Australian Bureau of Statistics and the AIHW, these reports are available in hardcopy (phone 02 6244 1032) or through the website www.aihw.gov.au/publications/index.cfm .
- *Chronic Disease Information*
Posted on the AIHW web site at www.aihw.gov.au/cdarf/diseases_pages/index.cfm
This page provides brief overviews of 12 chronic diseases and conditions that have a large impact on the health and quality of life of Australians. Specific diseases and conditions listed on this site include: coronary heart disease, stroke, lung cancer, colorectal cancer, depression, diabetes, asthma, chronic obstructive pulmonary disease, chronic kidney disease, oral diseases, arthritis and osteoporosis.
- The *National Cardiovascular Disease and Diabetes Database* (NCDDD) provides easy access to the data currently held by the Cardiovascular Disease, Diabetes and Risk Factor Monitoring Unit at the AIHW. It contains the latest available data and is updated as new data become available. The database currently contains information on deaths from cardiovascular diseases and diabetes and cardiovascular procedures and operations conducted in hospitals in Australia. It is an important source of data for epidemiologists, policy makers, researchers and others. This site may be accessed at www.aihw.gov.au/cvdhtml/cvd-menu.cfm



Australia's Health

Information on patterns of health and illness, determinants of health, the supply and use of health services, and health services expenditure is available from AIHW. The most recent of these, the ninth biennial health report of the Australian Institute of Health and Welfare is available in hardcopy (CanPrint phone 1300 889 873) or can be accessed online at www.aihw.gov.au/publications/aus/ah04/ah04-050222.pdf

Cardiovascular Disease

Heart, Stroke and Vascular Diseases: Australian Facts 2004

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National Heart Foundation

The Heart Foundation produces a broad range of resources that are available for both members of the public and, for professionals, independent evidence-based cardiovascular health information.

Specific and statistical information is available in a variety of specific areas including: *Aboriginal and Torres Strait Islander, Acute Coronary Syndrome, Blood Pressure, Heart Failure, Lipid Management, Medications, Nutrition, Obesity, Physical Activity, Tobacco and Data Sets*. Resources for professionals include health policies, information sheets, guidelines and other professional resources. These are developed by the National Heart Foundation with expert input and are also available for downloading.

Publications and information are available for viewing on the website of the organisation at www.heartfoundation.com.au

A Heart Resource Catalogue is also available listing resources and publications. These are available by calling the Heartline on 1300 36 27 87.

Health Education and Vascular Health Resources for Aboriginal and Torres Strait Islanders

- *Aboriginal Health Worker Heart Health Manual: a resource for the certificate in cardiovascular health for Aboriginal Health Workers*, developed jointly by National Heart Foundation, (WA Division) and Derbarl Yerrigan Health Services (2001) National Heart Foundation, Perth.
- *Aboriginal Vascular Health Program: Health Education Pamphlets* (series of 13 pamphlets) (Revised January 2005) SHPN (AH) 040076- 040087, NSW Department of Health, Sydney. Available through *The Better Health Centre*, NSW Health. To obtain hardcopies of the pamphlets please contact the NSW Better Health Centre on ph: (02) 9816 0452.

SUMMARY: MODULE 5 CARDIAC REHABILITATION – TAKING CONTROL

Content

- 5.1 What is cardiac rehabilitation?
- 5.2 Components of cardiac rehabilitation
- 5.3 Cardiovascular disease – Impacts on Indigenous Australians and cardiac rehabilitation programs

Duration 90 minutes

Objectives

By the end of this module participants will be able to:

- define cardiac rehabilitation
- list the barriers to cardiac rehabilitation for Aboriginal people
- discuss concepts of chronic condition self-management
- describe alternative models of care for chronic conditions.

Handouts

25–28

Overheads

47–49



module 5

MODULE 5 PLAN AT A GLANCE

5.1 What is cardiac rehabilitation?

| Sub topic | Explanation | Overhead | Handout |
|---|---|----------|---------|
| Understanding cardiac rehabilitation | Define the term cardiac rehabilitation (CR) | 47 | |
| What does cardiac rehabilitation (CR) consist of? | Explain the components of a cardiac rehabilitation (CR) program | | 25 |

5.2 Components of cardiac rehabilitation

| | | | |
|---|--|----|----|
| Phases of cardiac rehabilitation (CR) | Inpatient, outpatient and maintenance phases | | 26 |
| Who are the cardiac rehabilitation (CR) team? | List members of team, patient is at centre | 48 | |

5.3 Cardiovascular disease – impacts on indigenous Australians

| | | | |
|--------------------------|--|----|----|
| Background information | Incidence and mortality from cardiovascular disease in Aboriginal people | | |
| Activity | Barriers to cardiac rehabilitation (CR) – large group discussion. Record ideas on whiteboard. | | |
| Alternate models of care | Seek participant ideas on making cardiac rehabilitation (CR) more accessible, sum up with overhead 49 | 49 | |
| Activity | Where to now. Small group discussion of where to go with new knowledge and ideas. Record on handout and feedback to large group. | | 27 |
| | Provide resources handout | | 28 |

Workshop close **Thank participants**

TEACHING NOTES: MODULE 5

CARDIAC REHABILITATION – TAKING CONTROL

5.1 What is cardiac rehabilitation?

Aim

To describe cardiac rehabilitation and why it is important for patients with cardiovascular disease or at risk of developing cardiovascular disease.

Duration 30 minutes



module 5

Presentation – Understanding cardiac rehabilitation



Overhead 47 – Cardiac rehabilitation

Present overhead 47 and explain the following:

- Cardiac Rehabilitation Units were first established throughout the world in the 1950s and 1960s
- the first Cardiac Rehabilitation Program in Australia was organised by the National Heart Foundation (NHF) and ran in 1961.

What is cardiac rehabilitation?

Cardiac rehabilitation (CR):

- is designed to help people recover quickly from acute events (heart attack, angina, heart failure)
- helps the patient and their family/carers to accept the disease, manage the risk factors and make the best recovery possible
- is 'all measures used to help cardiac patients return to an active and satisfying life and to prevent reoccurrence of cardiac events' (National Heart Foundation)

Who is it for?

Cardiac rehabilitation is:

- for individuals, families and communities with heart problems or risk factors that cause heart disease
- available to all clients (men and women) and to all age groups
- an integral part of the management of heart disease
- designed to help through all phases of heart disease including prevention for those at high risk (high blood pressure, high cholesterol, cigarette smoking), management for those who have had a stent or bypass and follow up treatment and guidelines to enable people to better manage their heart problems.

What are the aims of cardiac rehabilitation?

The broad aims of cardiac rehabilitation are to:

- maximise physical, psychological and social functioning to enable patients to live productively and with confidence
- assist and encourage behaviours that may minimise the risk of further cardiac events and conditions.

More specific aims cardiac of rehabilitation include:

- assisting and shortening the period of recovery after an acute cardiac event
- promoting strategies for achieving mutually agreed goals of secondary prevention
- developing and maintaining skills for behaviour change
- promoting appropriate use of health and community services.

Cardiac rehabilitation is an organised approach to achieve the above aims and should be integrated into the routine management of all patients.

The treating doctor, cardiac rehabilitation team members, Aboriginal Health Workers and the patient should all be involved in planning the patient's rehabilitation to ensure that the appropriate cardiac rehabilitation services are available to meet the needs of the patient and their family.

Presentation – What does cardiac rehabilitation consist of?



Handout 25 – What is cardiac rehabilitation

Discuss the diagram on the handout, explaining that cardiac rehabilitation (CR) includes:

- education
- counselling and support
- discharge planning
- mobilisation and exercise.

Cardiac rehabilitation (CR) aims to encourage behaviours that are likely to reduce the risk of further cardiovascular events and conditions, such as identifying and modifying risk factors and encouraging adherence to recommended medical therapies.

5.2 Components of cardiac rehabilitation

Aim

To provide an overview of the elements of cardiac rehabilitation

Duration 30 minutes

Presentation – Phases of cardiac rehabilitation



Handout 26 – Phases of cardiac rehabilitation

Discuss the phases of rehabilitation as explained on the handout.

Phase 1 – In patient

Begins as soon as possible after admission to hospital. It consists of basic information and reassurance for the person and their family. Time should also be given to devising a mobilisation and education plan and appropriate discharge plan.

Phase 2 – Outpatient

- This occurs on discharge from hospital and lasts until recovery has taken place.
- It takes place in a variety of settings (homes, clinics, hospitals, private sectors, community halls)
- Main elements of outpatient rehabilitation are:
 - education
 - exercise
 - counselling
 - lifestyle modification self-management.
- This phase of the recovery process focuses on empowering the person to adopt life-long, self-management strategies to prevent further cardiovascular events.

Phase 3 – Maintenance

Generally described as that stage of a person's recovery when they have successfully progressed through phase 1 and phase 2. The person has now progressed to self-management, with support from community-based services such as Aboriginal Health Workers (AHW), General Practitioners, Aboriginal Medical Services (AMS) etc.

Presentation – Who are the cardiac rehabilitation team?



Overhead 48 – Cardiac Rehabilitation team

The World Health Organisation recommends that cardiac rehabilitation be available and offered to all patients with cardiovascular disease (CVD) and be delivered by trained health professionals. The coordinator is usually a specially trained nurse, but other health professionals can also coordinate the team.

The patient is always the centre of the team.



Team members can include:

- Coordinator / Nurses
- Doctors
- Exercise Specialist
- Physiotherapist and Occupational Therapist
- Dietitians
- Social workers
- Psychologists
- Pharmacists
- Aboriginal Health Workers
- family
- community.

5.3 Cardiovascular disease – Impacts on Indigenous Australians and cardiac rehabilitation programs

Aim

To discuss the need for culturally appropriate cardiac rehabilitation programs for Aboriginal people

Duration 30 minutes



Presentation – Background information

State that:

- coronary heart disease affects 1 in 6 Australians and this figure is expected to grow. By mid-century it is anticipated to increase to 1 in 4.
- coronary heart disease (CHD) which includes heart attack and angina, is the leading cause of death for both Indigenous and non-Indigenous people
- the health and economic burden of coronary heart disease (CHD) exceeds that of any other disease
- the incidence and mortality from coronary heart disease (CHD) in Aboriginal populations is much greater than in non-Aboriginal populations
- Aboriginal people are twice as likely to die from coronary heart disease (CHD) with death rates greatest in the younger age groups 25-54 years
- Aboriginal people have higher rates of risk factors for coronary heart disease (CHD) compared to non-Aboriginal people
- the risk factors include physiological, behavioural, social, economic and biological risks. Within Aboriginal communities there is an evidence base to suggest that reducing risk factors is effective
- there are numerous programs throughout Australia, which address coronary heart disease (CHD) within a primary care model; there is however, a paucity of information in relation to the effectiveness of and barriers to cardiac rehabilitation (CR) in Aboriginal communities
- it is also well known that Aboriginal people do not access mainstream health including cardiac rehabilitation (CR) programs
- as the number of Aboriginal people trained in health professions increases it is hoped that more Aboriginal people will access culturally appropriate services.

Activity – Barriers to cardiac rehabilitation

Conduct an open group discussion, asking participants:



Q: What factors do you think have an effect on the involvement of Aboriginal people in cardiac rehabilitation?

Brainstorm ideas onto the whiteboard. The following information can be used in the discussion.

Participation rates in cardiac rehabilitation (CR) programs in all population groups have been slow with less than desirable numbers attending. Some of the reasons for the low participation rates are:

- time
- financial constraints
- transport issues
- work related issues
- failure by medical clinicians to refer their patients.

There are groups where participation rates are even lower, these include women, the aged, less educated patients and those from lower socio-economical groups. Amongst these groups are Aboriginal Australians, who have additional barriers such as:

- suitability of current programs
- inappropriate education material
- lack of support to enrol in programs
- culturally inappropriate venues.

There have been attempts to try to find out how to improve the rates of participation of Aboriginal people to undergo some form of cardiac rehabilitation(CR). The National Heart Foundation acknowledge that if identified by the patient as appropriate, Aboriginal Health Workers should be included in the cardiac rehabilitation(CR) team to work with other health professionals to provide best practice cardiac rehabilitation(CR) services to Indigenous people. There have also been suggestions that cardiac rehabilitation(CR) in the Aboriginal population should be offered as an outreach program.

Presentation – Alternate models of cardiac rehabilitation in Aboriginal communities

Ask participants for their ideas on how to make cardiac rehabilitation in their community more accessible to Aboriginal people.



Overhead 49 – Alternate models of care

Ensure the following points are addressed.

Aboriginal people do not access mainstream cardiac rehabilitation services. The National Heart Foundation (NHF) and the National Health Medical Research Council (NHMRC) are exploring alternative approaches for cardiac rehabilitation (CR) programs for Aboriginal communities, other than hospital-based cardiac rehabilitation(CR) programs. The following recommendations need to be considered in planning for alternative approaches:

- education sessions should include family and community members
- cardiovascular disease risk factor management using health promotion principles including developing patients skills
- creating supportive environments
- building healthy public policy
- reorienting health services
- conducting sessions in a culturally safe environment
- building community capacity
- community driven
- outreach services.

Self-management

Self-management is a process whereby patients can engage in activities that protect and promote their health, manage their symptoms and signs of illness, monitor behaviours and manage the impact of their condition.

Self-management support has been described as working in partnership focussing on empowering and preparing patients to manage their health and health care through :

- *emphasizing the patient's central role in managing their health*
- *use of effective self-management support strategies that include assessment, goal setting, action planning, problem solving and follow up*
- *organising internal and community resources to provide ongoing self-management support to patients*

Excerpt from Wagner, E.H. (1998). Chronic disease management: What will it take to improve care for chronic illness? Effective Clinical Practice. 1: p2-4

This recognises that most ongoing management of chronic conditions takes place in the community setting in the context of people's individual life situation and in the absence of health professionals. Self-management support incorporates a philosophical and practical approach of empowering people to make decisions and to manage their health and health care within the bounds of their circumstances and capacity. Building the evidence base demonstrating the effectiveness of self-management support is critical.

A self-management support approach involves:

- working in partnership with patients, their carers and families to ensure shared decision making and incorporation of patient preferences into clinical care and support
- enhancing self-efficacy (one's belief in oneself to undertake a particular task) to manage one's illness
- providing assessment, goal setting, action planning, problem solving and follow-up based on patient decision making and preferences
- linking patients, their carers and families with appropriate services and resources to support self-care and health enhancement
- providing information and education, which is tailored to the patient's needs and stage of the illness trajectory.

Activity – Where to now



Handout 27 – Where to now?

Ask participants to break into small groups to consider the questions on handout 27. Each group should nominate a spokesperson to feedback their ideas to the whole group.



Summary

Check question list generated at the start of the day. Note if any questions remain outstanding and how they will be followed up.



Handout 28 – References and resources

Distribute handout 28, a list of references and resources that may be used by health workers to access the most recent statistical information or to gather resources to distribute to community members.

Thank participants for their involvement in the workshop.

Workshop close

Module 5 Useful resources

Australian Institute of Health and Welfare

- *Heart, Stroke And Vascular Diseases, Australian Facts 2004.*
Australian Institute of Health and Welfare, National Heart Foundation of Australia, National Stroke Foundation of Australia, Canberra. Authored by AIHW Cat. No. CVD-27
- *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2004.*
Australian Bureau of Statistics, Australian Institute of Health and Welfare (2003) Canberra: Australian Bureau of Statistics, AIHW Cat.No.4704.0
- *Secondary prevention and rehabilitation after coronary events or stroke: a review of monitoring issues.* Australian Institute of Health and Welfare (2003) Cat. No. CVD 25. Canberra: Australian Institute of Health and Welfare.
- *National Health Priority Areas Report: Cardiovascular Health 1998.*
Commonwealth Department of Health and Aged Care, Australian Institute of Health and Welfare (1999) Canberra: Australian Institute of Health and Welfare

Cardiac Rehabilitation

- *Best Practice Guidelines For Cardiac Rehabilitation and Secondary Prevention,*
Goble, A. J. & Worcester M., (1999) Health Research Centre. Melbourne
- *Improving Access to Cardiac Rehabilitation for Remote Indigenous Clients*
Shepherd, F., Battye, K., Chalmers, E., & Bala, M (2001) Proceedings of the 6th National Rural Health Conference Canberra, Australian Capital Territory, 2001.
- *Recommended Framework for Cardiac Rehabilitation*
National Heart Foundation of Australia. (2004) (Online) Accessed on 31.05.05 . Available at www.heartfoundation.com.au/downloads/CR_04_Rec_Final.pdf
- *Rehabilitation after Cardiovascular Diseases, with Special Emphasis on Developing Countries*
World Health Organisation, Organisational Expert Committee (1993) Technical Report Series, No 831 Geneva WHO. Accessed on 31.05.05 . Available at www.who.int/bookorders/anglais/detart1.jsp?sesslan=1&codlan=1&codcol=10&codcch=831
- *Strengthening Cardiac Rehabilitation and Secondary Prevention for Aboriginal and Torres Strait Islander Peoples: A Guide for Health Professionals*
The National Health and Medical Research Council (NHMRC) has developed this guide with the aim of providing health services (including Aboriginal Health Services, hospitals, primary health care workers and Aboriginal Health Workers) with strategies to improve uptake and access to cardiac rehabilitation services. It is hoped that this will help to improve the general health and prevent further cardiac events in Aboriginal and Torres Strait Islander people with heart disease. To obtain details regarding NHMRC publications contact: Tel: Toll Free 1800 020 103 extension 9520, email: nhmrc.publications@nhmrc.gov.au, internet: www.nhmrc.gov.au
ISBN Print: 1864962666, National Health and Medical Research Council, Australian Government 2005, Canberra



Chronic Disease

- *Chronic disease management: What will it take to improve care for chronic illness?*
Wagner, E.H. (1998) Effective Clinical Practice. 1: p2-4. Accessed online on 31.05.05. Available from www.improvingchroniccare.org/change/model/smsupport.html

National Heart Foundation

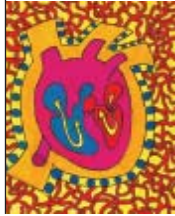
- The Heart Foundation produces a broad range of resources that are available for both members of the public on subjects including:
 - *Life after heart attack*
 - *Physical activity after heart attack and heart surgery*
 - *Lets talk about heart failure*
- *Taking Control of Your Life*
A short video for patients recovering from heart disease that outlines the main elements of cardiac rehabilitation and encourages participation in programs.
Publications and resources are available for ordering through Heartline 1300 36 27 87
- *Cardiac Rehabilitation Program National Datalist.*
The National Heart Foundation maintains a comprehensive data list of cardiac rehabilitation programs provided throughout Australia. For information about cardiac rehabilitation programs in your area contact Heartline 1300 36 27 87

NSW Department of Health

- *Clinical Service Framework for Heart Failure* (Volume 1 and 2).
The framework outlines best practice approaches for the management of patients with heart failure. Standards cover issues such as prevention, identification and management of factors that precipitate and exacerbate congestive heart failure (CHF), assessment and diagnosis, essential components of multidisciplinary care, best practice pharmacological and non-pharmacological management, self-management, rehabilitation and palliative care. SHPN(QCP) 030179 and SHPN (QCP) 030180. Copies of this document are available from the Better Health Centre on ph: (02) 9816 0452 or online www.health.nsw.gov.au/pubs/c/pdf/heartfailure_1.pdf
- *My Health Record* is a folder that holds information about a patient's health in one place. It contains details about a patient's medical condition and the treatment recommended by doctors and other health care providers. My Health Record allows patients and their health workers to keep track of important health records in a single place and be aware of what is being done. Copies of My Health Record are available from local health services including public hospitals or community health centres.

OVERHEADS

1. Introduction and Welcome
2. Aims and objectives
3. Overview of modules
4. Aboriginal people and cardiovascular disease
5. Aboriginal people and cardiovascular disease (continued)
6. Factors contributing to chronic health conditions in Aboriginal people
7. Functions of the cardiovascular system
8. Pathways of the blood vessels
9. Flow of the blood in the body
10. Location of the heart
11. Chambers of the heart
12. Blood flow around the heart
13. Great vessels of the heart
14. Blood supply to the heart
15. How does the heart beat happen?
16. What is cardiovascular disease?
17. Main cause of cardiovascular disease is atherosclerosis
18. What does atherosclerosis do?
19. Diagram showing atherosclerosis
20. Risk factors for cardiovascular disease
21. Coronary heart disease
22. Heart attack
23. Heart attack diagram
24. Signs and symptoms of heart attack
25. Angina
26. Signs and symptoms of angina
27. Heart failure
28. Symptoms of heart failure
29. Rheumatic fever
30. Blood pressure
31. What's so bad about high blood pressure?
32. Stroke
33. Risk factors for stroke

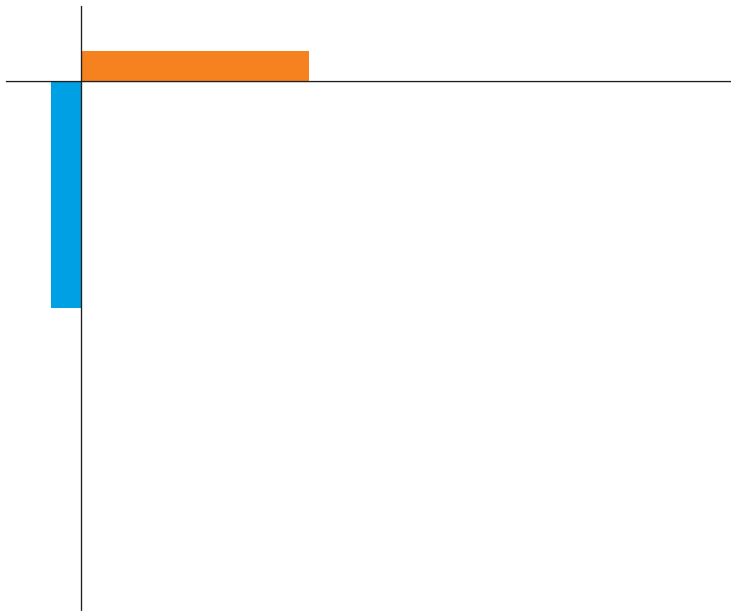


34. Peripheral vascular disease
35. Detection of cardiovascular disease
36. Diagrams of medical tests
37. Prevention of cardiovascular disease
38. Medications for heart disease
39. – 41. Table of medications for heart disease
42. Lifestyle changes
43. Coronary angioplasty
44. Coronary stenting
45. Coronary bypass
46. Cardiac arrest
47. Cardiac rehabilitation
48. Cardiac rehabilitation team
49. Alternate models of care

HANDOUTS

1. Aims and objectives of the workshop
2. Questions
3. Aboriginal view of health
4. Cardiovascular disease in the Aboriginal community
5. Factors contributing to chronic health conditions in Aboriginal people
6. Activity – Reflective practice
7. Blood flow to the heart and to the lungs then back into the heart
8. The cardiovascular system – how it works
9. Cardiac anatomy
10. Coronary blood flow or coronary arteries
11. Electrical conduction of the heart
12. The mechanical component of the heartbeat
13. Measuring the blood pressure
14. Types of cardiovascular disease
15. What is cardiovascular disease?
16. Risk factors for cardiovascular disease
17. Artherosclerosis risk factors
18. Types of cardiovascular disease
19. Prevention of cardiovascular disease
20. Activity – Role playing
21. Table of medications for cardiovascular disease
22. Coronary angioplasty
23. Coronary stenting
24. Coronary bypass
25. What is cardiac rehabilitation?
26. Phases of cardiac rehabilitation
27. Where to now?
28. References and resources





APPENDIX 1 – ADULT LEARNING PRINCIPLES

Training tips

- It is very important that everyone learns how to reduce his or her risk of getting heart disease.
- Education is very important. Educated health care professionals, patients and communities are the key to successful screening, detection and treatment of heart disease.
- Heart health education can take many forms such as individual counselling, individual education, having a yarn, group education, printed materials, videos and newsletters.

Here are some important practical suggestions for helping you pass on your knowledge, to your clients and communities.

Getting started

In order for you to start the process you need to have a basic understanding of how adults learn. Adult learning occurs best when certain principles are followed.

These principles are outlined below in this table.

| Participants learn best when... | The role of the trainer is to... |
|--|---|
| They feel valued and respected for the experiences and perspectives they bring to the training situation | Elicit participants' experiences and perspectives |
| The learning experience is active and not passive | Actively engage participants in their learning experience |
| The learning experience actually fills their immediate needs | Identify participants' needs and tie training concepts into these identified needs |
| They accept responsibility for their own learning | Make sure that training content and skills are directly relevant to participants' experiences so that they will want to learn |
| Their learning is self-directed and meaningful to them | Involve participants in deciding on the content and skills that will be covered during the training |
| Their learning experience addresses ideas, feelings, and actions | Use multiple training methods that address knowledge, attitudes, and skills |
| New material is related to what participants already know | Use training methods that enable participants to establish this relationship and integration of new material |
| The learning environment is conducive to learning | Take measures to ensure that the physical and social environment (training space) is safe, comfortable, and enjoyable |

Table continued overleaf



| Participants learn best when... | The role of the trainer is to... |
|--|---|
| Learning is reinforced | Use training methods that allow participants to practice new skills and ensure prompt, reinforcing feedback |
| Learning is applied immediately | Provide opportunities for participants to apply the new information and skills they have learned |
| Learning occurs in small groups | Use training methods that encourage participants to explore feelings, attitudes, and skills with other learners |
| The trainer values their contributions as both a learner and a teacher and experiences with others | Encourage participants to share their expertise |

Reference: Adapted from the Trainers Guide for Cancer Education, National Cancer Institute, U.S National Institutes of Health. Accessed on 31.05.05. Available at www.cancer.gov/clinicaltrials/resources/trainers-guide-cancer-education/page1#/

Adult learners

Are:

Goal-oriented

- Upon enrolling in a heart health session, the clients usually know what goal they want to attain i.e. lose weight, exercise more, eat less, know about their heart. They appreciate a program that is organised and has clearly defined elements. Trainers must show participants how the session will help them attain their goals. This classification of goals and course objectives must be done early in the course. Ask, early what do you want to learn? What do you want to achieve?

Practical

- Adults focus on the aspects of a session most useful to them. Learners may not be interested in knowledge for its own sake. As do all learners, adults need to be shown respect.

Autonomous and self-directed

- They need to be free to direct themselves.
- Their teachers must actively involve adult participants in the learning process and serve as facilitators for them. Remember to make them comfortable and encourage them to ask questions.
- Specifically, they must get participants' perspectives about what topics to cover and let them work on projects that reflect their interests (this is covered in the question group work at the outset of the training).
- You should allow the participants to assume responsibility for presentations and group leadership if they wish.
- Act as facilitators, guiding participants to their own knowledge rather than supplying them with facts. Finally, they must show participants how the facilitators will help them reach their goals (e.g. via a personal goals/ action plans sheet).

Adult learners have *accumulated a foundation* of life experiences and knowledge that may include work-related activities, family and community responsibilities, and previous education.

Trainers must acknowledge the wealth of experiences that adult participants bring to the sessions. These adults should be treated as equals in experience and knowledge and allowed to voice their opinions freely in class.

Trainers need to connect learning to this knowledge and experience base. To help them do so, they should draw out participants' experience and knowledge, which is relevant to the topic.



Motivating the adult learner

Another aspect of adult learning is motivation. At least six factors serve as sources of motivation for adult learning:

- **social relationships:** to make new friends, to meet a need for associations and friendships
- **external expectations:** to comply with instructions from someone else, to fulfil the expectations or recommendations of someone with formal authority.
- **social welfare:** to improve ability to serve mankind, prepare for service to the community, and improve ability to participate in community work
- **personal advancement:** to achieve higher status in a job, secure professional advancement, and stay abreast of competitors
- **escape/stimulation:** to relieve boredom, provide a break in the routine of home or work, and provide a contrast to other exacting details of life
- **cognitive interest:** to learn for the sake of learning, seek knowledge for its own sake, and to satisfy an inquiring mind

Barriers and motivation

Unlike children and teenagers, adults have many responsibilities that they must balance against the demands of learning. Because of these responsibilities, adults have barriers against participating in learning. Some of these barriers include:

- lack of time
- money
- shame factor
- confidence
- interest
- lack of information about opportunities to learn
- childcare
- transport.

The best way to motivate adult learners is simply to enhance their reasons for enrolling and decrease the barriers. Trainers must learn why their clients are enrolled (the motivators); they have to discover what is keeping them from learning. Then the instructors must plan their motivating strategies. A successful strategy includes showing adult learners the relationship between training and an expected outcome or goal.

Training tips



Trainers must remember that learning occurs within each individual as a continual process throughout life. People learn at different speeds, so it is natural for them to be anxious or nervous when faced with a learning situation. Positive reinforcement by the trainer can enhance learning, as can proper timing of the instruction. Learning results from stimulation of the senses. In some people, one sense is used more than others to learn or recall information. Instructors should present materials that stimulate as many senses (videos, worksheets, and activities) as possible in order to increase their chances of teaching success.

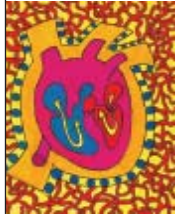
Remember to have fun.

Participants should remember what they have learnt from their lessons so they can apply the new information. The trainer's job is not finished until they have assisted the participants to remember the information. Participants must see a meaning or purpose for that information i.e. how this can make them healthier. They must also understand and be able to interpret and apply the information.

Retention of information by the participants is directly affected by their amount of practice during the learning. Instructors should emphasise retention and application. After the participants demonstrate correct (desired) performance, they should be urged to practice to maintain the desired performance.

Transfer of learning is the result of training – it is the ability to use the information taught in the course but in a new setting. **How can I teach this in my community?** As with reinforcement, there are two types of transfer – positive and negative.

- Positive transference, like positive reinforcement, occurs when the participant's uses the behaviour taught in the course.
- Negative transference occurs when the participants do not do what they are told not to do. This results in a positive (desired) outcome.



APPENDIX 2 – GLOSSARY

| | |
|------------------------|--|
| Ace inhibitors | Medications used to reduce blood pressure. |
| Afterload | Before the left ventricle can push blood through the aortic valve out into the body's circulatory system the pressure in the ventricle must equal that on the other side of the aortic valve in the aorta. Afterload then, is the amount of tension the left ventricular muscle must build up before it can start to contract. The amount of tension is dependent on the aortic pressure. |
| Angina | Temporary chest pain or discomfort resulting from a reduced blood supply to the heart muscle. Angina occurs because part of the heart is temporarily unable to get enough blood and oxygen to meet its needs, due to an abnormally narrowed artery in the heart. |
| Atherosclerosis | A disease process, leading to build-up of fatty deposits, called plaque, on the inside walls of arteries causing artery walls to thicken and lose elasticity. |
| Blood pressure | The measurement of the pressure of the blood. Normal blood pressure is less than 120/80. |
| Bypass surgery | An operation that bypasses the narrowed areas in the coronary arteries to allow blood to get to the heart muscle. The bypass is constructed from either an artery from inside the chest (the internal mammary artery), from arteries in the forearm or from leg veins. |
| Cardiac hypertrophy | The heart is larger than normal due to an increased workload. This can be the result of diseases or disorders such as long-term heavy alcohol use, obesity, high blood pressure, and coronary artery disease. |
| Cardiac output | The amount of blood the heart pumps through the body's circulatory system in one minute. |
| Cardiac rehabilitation | Programs for people who have had a heart attack, heart surgery, coronary angioplasty or other heart or blood vessel disease to support their gradual increase in physical activity and provide education, information and support to both them and their families. |
| Catheter | The doctor will insert a small tube (catheter) into the blood vessel usually in the groin, passing it up to the heart blood vessels and then he/she will inject x-ray dye (contrast) that makes the vessels visible when the x-ray pictures are being taken. This will then allow the doctor to determine how well the blood moves through the heart's arteries and to see how much and where the blockages are. |
| Coronary angiogram | An x-ray of the heart taken to identify blockages in arteries and to show how well the heart is pumping where coronary heart disease is suspected. |
| Coronary angioplasty | Medical procedure designed to release a blockage in an artery. |

| | |
|-------------------------|--|
| Coronary bypass | An operation where the narrowed areas in the coronary arteries are bypassed to allow blood to get to the heart muscle. The bypass is constructed from either an artery from inside the chest or from arteries in the forearm or leg veins. |
| Coronary heart disease | Blockages in the arteries that supply the heart with blood cause reduced blood flow, making it difficult for the heart to function properly. Can lead to angina or heart attack. |
| Coronary thrombosis | Formation of a blood clot in an artery that supplies blood to part of the heart muscle. |
| Diabetes | Diabetes is a chronic disease characterised by high blood glucose levels resulting from the body not producing insulin or using it properly. Diabetes is often associated with high blood pressure and high blood fats (cholesterol and triglycerides), which greatly increases the risk of heart attack and stroke. |
| Echocardiogram | A painless medical procedure that uses ultrasound waves to diagnose heart disorders or abnormalities in the heart structure and measure the volume of blood being pumped from the heart. |
| Electrocardiogram (ECG) | A reading of the heart's electrical impulses taken from electrical leads placed on the chest and limbs. The reading is either printed on to a continuous strip of paper or shown on a small television monitor. |
| Enzymes | Complex protein substances within the body which are capable of speeding up certain biochemical processes in the heart muscle. Abnormal levels of these cardiac enzymes can indicate damage to the heart muscle i.e. signal a heart attack. |
| Heart attack | A heart attack is typically caused by a blood clot that suddenly blocks a narrowed artery, cutting the blood supply to the heart muscle. This can result in heart muscle damage. |
| Heart failure | Heart failure occurs when the heart muscle has become too weak to pump blood through the body as effectively as normal. This causes blood to 'dam up' behind the heart and fluid to collect in the lungs and other body tissues. Caused by a previous heart attack, long standing high blood pressure or a faulty heart valve. |
| Hormones | Hormones are chemical substances that the body releases into the bloodstream. Hormones control different functions in the body, including responses to stress or illness metabolism, growth and sexual development. |
| Hypertension | High blood pressure. |
| Indigenous | The two Indigenous populations of Australia are Aboriginal people and Torres Strait Islander people. |
| Mortality rate | Mortality rate (death rate) describes the number of deaths in a group of people, usually expressed as deaths per one thousand of the population. |



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| Myocardial infarction | Commonly known as a heart attack. |
| Obesity | A person whose body mass index is greater than 30. Body mass index (BMI) is measured by the persons weight in kilograms divided by the square of his or her height in metres. |
| Peripheral vascular disease | Reduced blood flow, usually observed in the legs, caused by arthrosclerosis. |
| Pericardium | The double layered membrane that surrounds the heart. |
| Primary prevention | The prevention of disease in healthy people. Treatments (such as BP medication or lifestyle changes) to prevent atherosclerosis and coronary artery disease events in people who do not have evidence of coronary artery or other cardiovascular disease. |
| Rheumatic heart disease | Damage to the heart muscle and valves caused by a virus. |
| Saturated fats | Fats contained in dairy products, meat, poultry and some vegetables and are solid at room temperature eg butter. |
| Secondary prevention | Treatment to prevent recurrent cardiovascular events in people who have documented cardiovascular disease. |
| Self- management | Involves the person with the chronic disease engaging in activities that protect and promote health, monitor and manage the symptoms and signs of illness, managing the impacts of illness on functioning, emotions and interpersonal relationships and adhering to treatment plans. |
| Self-determination | The recognition that Aboriginal people and communities should be actively involved in all decision-making that affects their lives and empowering them to do so. |
| Sinoatrial node | The heart's natural pacemaker. Sends out electrical signals that cause the atria to contract. |
| Stent | A plastic or metal tube permanently inserted into an artery to hold the artery open for blood flow. |
| Stress test | Exercise test on treadmill or stationary bike to measure the heart's response to exercise. |
| Stroke | Caused by an artery that supplies blood to a part of the brain suddenly becoming blocked or bursting. As a result, that part of the brain is damaged because it is deprived of its blood supply, which it requires to function. |
| Stroke volume | The amount of blood pushed into the aorta with each beat of the heart. |