

A PRACTICAL GUIDE ON

CHRONIC DISEASE

• FOR ABORIGINAL HEALTH WORKERS •

RESOURCE TWO OF THE
'LIVING LONGER STRONGER RESOURCE KIT'

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02 9212 4777
ISBN: 978-0-9805159-4-7
July 2015

Funded by NSW Ministry of Health.

Aboriginal Health & Medical Research Council (AH&MRC) 2015.
Living Longer Stronger Resource Kit. Aboriginal Health & Medical
Research Council (AH&MRC), Sydney, NSW, Australia.

Note: The term 'Aboriginal' is used throughout this resource in preference
to 'Aboriginal and Torres Strait Islander' in recognition that Aboriginal
peoples are the original inhabitants of NSW.

This booklet is not exhaustive, and instead reflects a common list of health
professionals who may or may not be referred to. 'Doctor', 'expert' and
other terms listed in this booklet are often used by Aboriginal people in
NSW and may not be technically correct. Each individual's experience
with chronic disease is different and health professionals will help tailor
treatment to best suit the individuals need.

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ACKNOWLEDGEMENTS

We would like to acknowledge the Aboriginal peoples who are the traditional custodians of New South Wales, and pay our respects to Elders past and present.

This resource was produced by the Aboriginal Health and Medical Research Council of NSW (AH&MRC) Chronic Disease Program and the Reference Group members. A big and special 'Thank you' to the Reference Group that formulated ideas and designs for the three resources that make up the *'Living Longer Stronger Resource Kit'*.

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The AH&MRC would also like to thank the following organisations for their input and advice:

- Asthma Foundation NSW
- Diabetes NSW
- Kidney Health Australia
- Lung Foundation Australia
- National Heart Foundation of Australia

Design and Layout

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WHY WAS THIS KIT DEVELOPED?

This booklet *A Practical Guide On Chronic Disease For Aboriginal Health Workers*ⁱ is the second resource of the *Living Longer Stronger Resource Kit*. The two other components of the *Living Longer Stronger Resource Kit* include:

- Resource One (Poster):
A Guide To Your Health Professionals
- Resource Three (Patient booklet):
A Guide To Living Longer Stronger.

The *Living Longer Stronger Resource Kit* was developed to meet health professionals' need for a resource that: considered chronic diseases holistically; was practical; was culturally acceptable within Aboriginal communities; acknowledged the unique role of the Aboriginal Health Workers (AHWs); provided information using minimal medical jargon; and could be used to discuss with patients the importance of seeing a range of health professionals, and attending appointments.

The need and development of the *Living Longer Stronger Resource Kit* was guided by a reference group of AHWs and Nurses working in Aboriginal Community Controlled Health Services (ACCHSs) in NSW along with Aboriginal Health and Medical Research Council (AH&MRC) staff. Input and feedback was received from a range of non-government health organisations, other ACCHSs not involved in the Reference Group, and community members.

In the development phase of the *Living Longer Stronger Resource Kit* the need to focus on more than one chronic disease was identified, as was the need to include information on how one chronic disease may affect another (co-morbidities). Four chronic diseases have been included in the *Living Longer Stronger Resource Kit* as they are common chronic diseases that Aboriginal people are affected by.

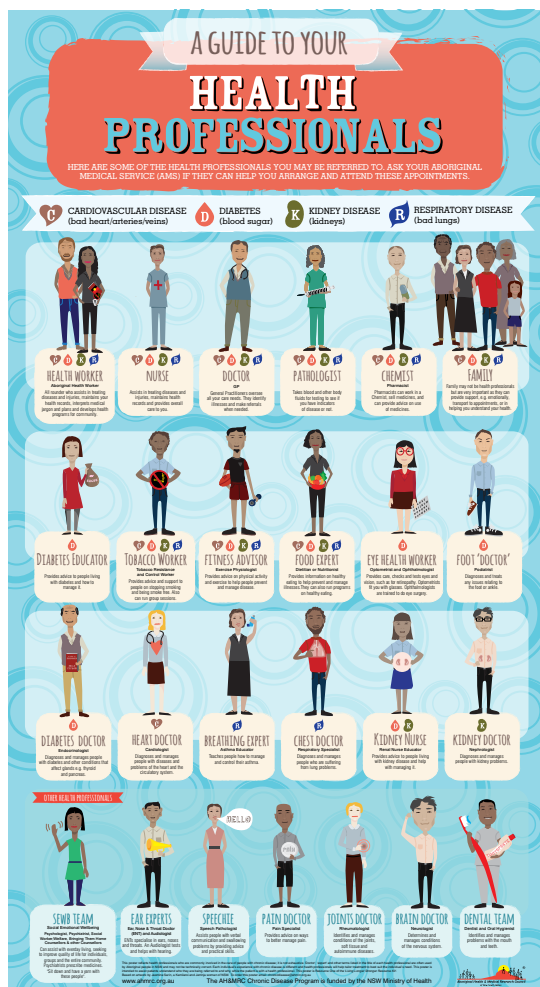
Professionals working in areas focusing on social and emotional wellbeing were included in the *Living Longer Stronger Resource Kit* and the importance of family in the care for chronic diseases is highlighted, acknowledging health in the context of Aboriginal health:

"Aboriginal health means not just the physical wellbeing of an individual but refers to the social, emotional and cultural wellbeing of the whole community in which each individual is able to achieve their full potential as a human being, thereby bringing about the total wellbeing of their community. It is a whole-of-life view and includes the cyclical concept of life-death-life."ⁱⁱ

i The use of Aboriginal Health Worker (AHW) in the *Living Longer Stronger Resource Kit* also includes Torres Strait Islander Health Workers, Aboriginal and Torres Strait Islander Health Workers, Aboriginal Health Practitioners, Torres Strait Islander Health Practitioners and Aboriginal and Torres Strait Islander Health Practitioners.

ii A National Aboriginal Health Strategy, 1989. Prepared by the National Aboriginal Health Strategy Working Party March 1989.

WHAT DIFFERENCE WILL THIS KIT MAKE?



Resource Two

The booklet, *A Practical Guide On Chronic Disease For Aboriginal Health Workers*, was developed for Aboriginal Health Workers (AHWs) in Aboriginal Community Controlled Health Services (ACCHS) in NSW. According to community needs AHWs provide health care to Aboriginal people in clinical and/or non-clinical settings based on their personal attributes, skills, education, experience and qualifications. AHWs provide care to Aboriginal and non - Aboriginal people. AHWs are multi-skilled and can assist in the clinic, medical administration, record keeping, planning and developing programs all while providing personalised culturally appropriate support, plus much, much more. Refer to the What's that word mean? section on page 52 for a more comprehensive definition of an Aboriginal Health Worker.

AHWs are key to providing culturally safe holistic care to community.

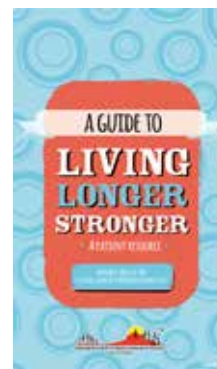
Information is formatted to assist AHWs in: defining what the disease is; why, what, and how often tests are to be completed for each disease; identifying the range of health professionals that patients may be referred to; providing examples of positive messages to give to patients.

Resource One

The poster, *A Guide To Your Health Professionals*, will help identify the health professionals a patient may need to see according to their chronic disease/s. It may also assist a patient to take lead in their health and ask questions around why they are not being referred to a health professional based on their chronic disease/s.

Resource Three

The third resource, *A Guide To Living Longer Stronger*, is for the patient. It will help them understand what parts of the body are affected by their disease/s. It also highlights some signs and symptoms.



HOW SHOULD THIS RESOURCE BE USED?

This resource has been designed to be used by AHWs working in NSW ACCHSs. Here are some ideas on how you can use this resource:



To refresh you on what tests are needed to be completed

To provide you with links to other information sources or contact details

To assist you to explain chronic disease/s to patients who have been newly diagnosed, or who are unsure about how the disease/s affects their body and what tests they may need

To provide you with some positive messages to pass onto your patients

To remind you to make sure your patients have health checks!

WHAT SHOULD HEALTH PROFESSIONALS CHECK?

There are some common items to check and to discuss with patients to help prevent chronic diseases. For patients with chronic diseases, there are many actions you may need to take as a health professional. Here are 6 actions strongly encouraged to be completed when a patient is seen by a health professional:

1. Checking on current smoking status
2. Discussing the benefits of participating in physical activity when patient physically able (remember physical activity can be increased just by sitting less, for example watching less TV)
3. Discussing options for good nutrition and keeping to the recommended alcohol guidelines
4. Checking immunisations are all up to date
5. Checking if a medicines review is required
6. Checking referrals to other health professionals are made when necessary.

Flowchart for health assessments and management plans for Aboriginal people

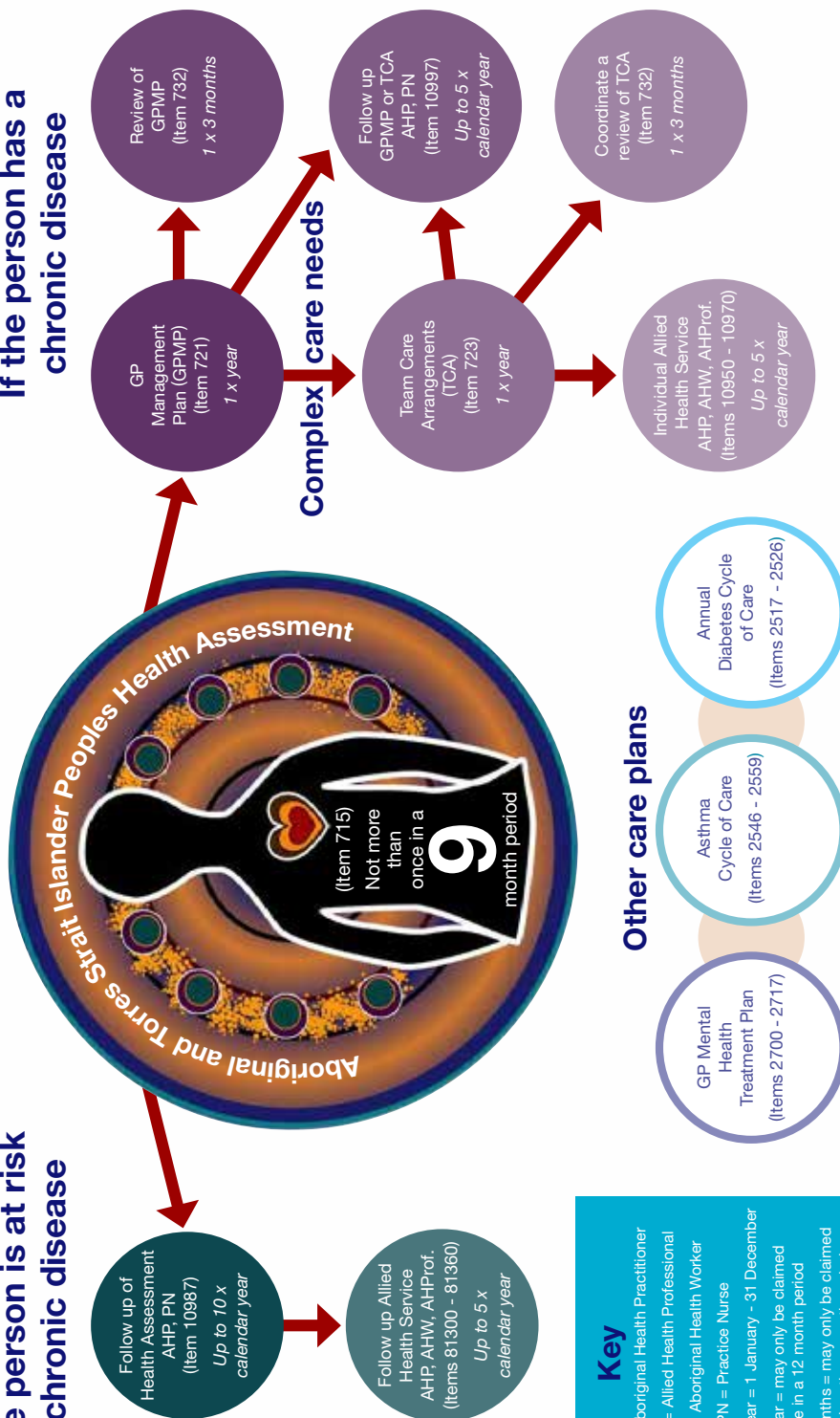
On the next page is a flow chart which provides an overview for what checks and plans can be done for preventative health, those people at risk of chronic diseases, and for people with more complex care needs.

FLOW CHART

FOR HEALTH ASSESSMENTS AND MANAGEMENT PLANS FOR ABORIGINAL PEOPLE

If the person is at risk of chronic disease

If the person has a chronic disease



Key

AHP = Aboriginal Health Practitioner
 AHPProf = Allied Health Professional
 AHW = Aboriginal Health Worker
 PN = Practice Nurse
 Calendar year = 1 January - 31 December
 1 x year = may only be claimed once in a 12 month period
 1 x 3 months = may only be claimed once in a three month period

Date: February 2014. This is a guide only. Always refer to the Australian Government Department of Health for current Medicare updates and comprehensive information.

ACRONYMS

ACCHS	Aboriginal Community Controlled Health Service
ACR	Albumin-Creatinine Ratio
AH&MRC	Aboriginal Health & Medical Research Council of NSW
AHW	Aboriginal Health Worker
AMS	Aboriginal Medical Service
BGL	Blood Glucose Levels
BMI	Body Mass Index
BP	Blood Pressure
CHD	Coronary Heart Disease
CKD	Chronic Kidney Disease
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
DM	Diabetes Mellitus
ECG	Electrocardiogram
eGFR	estimated Glomerular Filtration Rate
ESRD	End Stage Renal Disease
GFR	Glomerular Filtration Rate
GP	General Practitioner
HbA1c	Glycated Haemoglobin
HDL	High Density Lipoprotein
IHD	Ischaemic Heart Disease
LDL	Low Density Lipoprotein
NACCHO	National Aboriginal Community Controlled Health Organisation
POC test	Point-of-care test
TIA	Transient Ischaemic Attack

CARDIOVASCULAR DISEASE

IN THIS SECTION:

- WHAT IS IT?
- WHERE IS IT?
- HAS THE PATIENT HAD THESE CHECKED LATELY?
- NEED A CASE STUDY EXAMPLE?
- WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

WHAT IS IT?

Cardiovascular Disease (CVD) is a group of disorders of the heart and blood vessels.ⁱ CVD disorders include:

- Coronary Heart Disease (CHD) or Ischaemic Heart Disease (IHD) – disease of the blood vessels supplying the heart muscle;
- Cerebrovascular disease – disease of the blood vessels supplying the brain;
- Peripheral arterial disease – disease of blood vessels supplying the arms and legs;
- Rheumatic heart disease – damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria;
- Congenital heart disease – malformations of heart structure existing at birth;
- Deep vein thrombosis and pulmonary embolism – blood clots in the leg veins, which can dislodge and move to the heart and lungs.ⁱⁱ

If a person has CVD they have a higher risk of suffering a heart attack or stroke which are both usually acute (sudden) events. They are mainly caused by a blood clot which is a blockage that prevents blood from flowing to the heart or brain.

The most common reason for this is a build-up of fatty deposits on the inner walls of the blood vessels that supply the heart or brain. Strokes can also be caused by bleeding from a blood vessel in the brain.ⁱⁱⁱ

Signs and symptoms

CVD normally develops over a number of years sometimes without symptoms.

People with CVD also need to be aware of the warning signs of heart attacks, which can include a pain or heavy feeling in either side of their body, usually in their neck or chest. People with heart attacks usually have chest pain or discomfort. However, some people will only have mild chest discomfort and others may have none at all. You can read about other heart attack symptoms at www.heartattackfacts.org.au/warning-signs/. The most important thing with heart attacks is early treatment so that less damage is done ^{iv}.

What to look out for?

The 'Look out for this' flags refer to important checks which give greater insight to the patient's health. To check a patient's Absolute Cardiovascular Disease Risk, use the Australian Absolute Cardiovascular Disease Risk Calculator online calculator: www.cvdcheck.org.au.



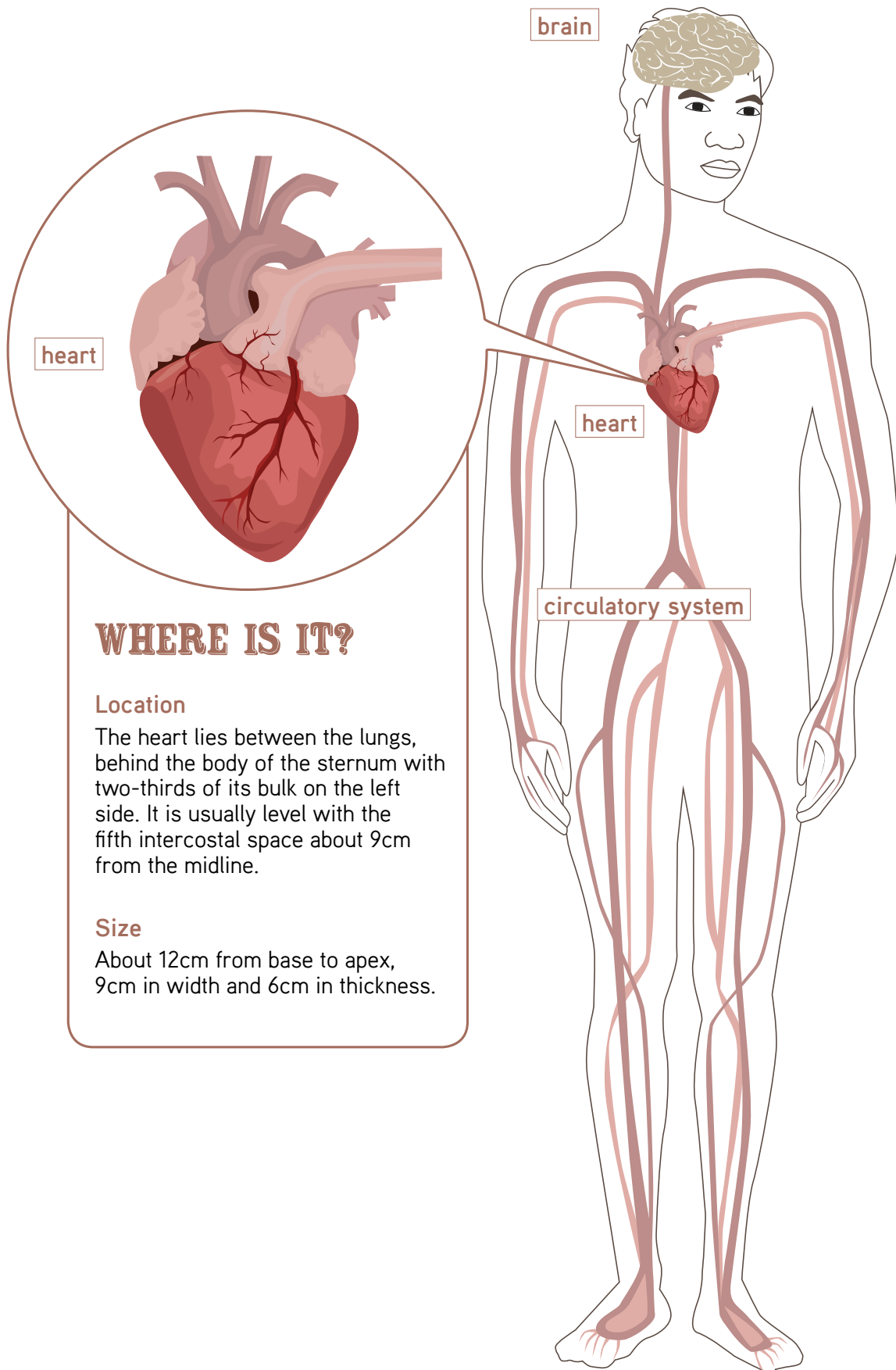
LOOK OUT
FOR THIS

ⁱ World Health Organisation. Cardiovascular Diseases. Fact Sheet Number 317. September 2012. Online: <http://www.who.int/mediacentre/factsheets/fs317/en/index.html>

ⁱⁱ National Heart Foundation of Australia 2013. Cardiovascular Conditions. Online: <http://www.heartfoundation.org.au/your-heart/cardiovascular-conditions/Pages/default.aspx>

ⁱⁱⁱ World Health Organisation. Cardiovascular Diseases. Fact Sheet Number 317. September 2012. Online: <http://www.who.int/mediacentre/factsheets/fs317/en/index.html>

^{iv} National Heart Foundation of Australia. 2013. Online: <http://testing.heartfoundation.org.au/driving-change/warning-signs-heart-attack/Pages/professional-information.aspx>



WHERE IS IT?

Location

The heart lies between the lungs, behind the body of the sternum with two-thirds of its bulk on the left side. It is usually level with the fifth intercostal space about 9cm from the midline.

Size

About 12cm from base to apex, 9cm in width and 6cm in thickness.

♥ CARDIOVASCULAR DISEASE

HAS THE PATIENT HAD THESE CHECKED LATELY?

Check Care Plans are completed and up to date. If plans are not up to date set an appointment to update them.

People with CVD are at higher risk of having a heart attack or stroke. To limit this risk their condition can be managed through diet, exercise, being smoke free and making sure medications are taken. It is also important that the following tests are carried out because the heart plays a vital role in moving blood to other organs, like the kidneys and lungs.

Cholesterol and/or Triglycerides test

Check approximately every 12 months

Cholesterol is a fat produced naturally by the body and found in foods made from animals (e.g. meat and dairy).

It is the combination of high cholesterol and CVD that causes concern as high cholesterol levels can increase risk of stroke and heart attack. Maintaining a healthy diet and a healthy active lifestyle will help to decrease cholesterol levels and limit further complications.

The blood test results for cholesterol show values for both High Density Lipoprotein (HDL) and Low Density Lipoprotein (LDL) cholesterol levels. An easy way to remember this is to refer to HDL as 'Happy' and LDL as 'Lousy'.

Triglycerides – the most common fat stored in the body are often linked to low HDL levels.^v



Electrocardiogram (ECG)

As recommended by GP or Cardiologist

An ECG is a reading of the heart's electrical impulses taken from electrical leads placed on the chest and limbs. Sometimes an additional ECG test is done while people exercise on a bike or treadmill. This is known as a 'stress test', 'stress ECG' or 'exercise ECG'.^{vi} See 'Stress Test' on page 16.



^v Australian Diabetes Council NSW & Kidney Health Australia 2010. Diabetes and Kidney Disease: Management and prevention of kidney disease in people with diabetes.

^{vi} National Heart Foundation of Australia. 2013. Cardiovascular Conditions, Coronary Heart Disease, Diagnoses. Online: <http://testing.heartfoundation.org.au/your-heart/cardiovascular-conditions/Pages/coronary-heart-disease.aspx>

Weight and waist circumference and/or Body Mass Index (BMI)

Every 12 months or opportunistically

Being above the healthy weight range increases the risk and complications for CVD and other chronic diseases. Being above the healthy weight range is often associated with increased blood pressure and the level of 'lousy' cholesterol in the blood.

Average weight varies depending on a person's age, sex and height. Body Mass Index (BMI) is a measure that takes these things into account. For the majority of people over 18 years old a healthy BMI range is between 18 – 24.99kg/m².^{vii} See page 50 for more information.

BMI can measure if someone is overweight or obese; however waist circumference is a better guide to a person's risk of chronic disease.^{viii} Even if a BMI is measured as being in the healthy weight range, fat around the waist can put people at risk as fat is sitting closer to organs. Waist circumference for women should be 80 cm or less, and for men should be 94 cm or less. For Aboriginal people, the risk for cardiovascular events is related to waist circumference independent of other cardiovascular factors.^{ix}



Blood pressure (BP)

Every time a patient visits

Blood Pressure (BP) is usually taken at rest and in a sitting position. BP goes up when the heart pumps because of the force needed for blood to flow around the body and back to the heart. High BP can lead to heart attacks, stroke and other complications.

When you take a BP reading, check the machine is lower than the level of the heart.

Patients with CVD should achieve and maintain a blood pressure (BP) measurement of < 130/80 mmHg. This includes patients with or without diabetes and/or stroke/transient ischemic attack (TIA) and/or microalbuminuria (men > 2.5 mg/mmol, women > 3.5 mg/mmol).^x

BP targets should be used for monitoring treatment effects and adherence to medication while considering the individual person's risk/benefit profile.



vii World Health Organisation. BMI classification. The International Classification of adult underweight, overweight and obesity according to BMI. Online: http://apps.who.int/bmi/index.jsp?introPage=intro_3.html.

viii Australian Institute of Health and Welfare 2015. Determinants key indicators. Online: <http://www.aihw.gov.au/chronic-diseases/key-indicators/determinants/>

ix National Health & Medical Research Council. Summary Guide for the Management of Overweight and Obesity in Primary Health. December 2013. Online: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/n57b_obesity_guidelines_summary_guide_131219.pdf

x National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand. Updated 2012. Reducing risk in heart disease: an expert guide to clinical practice for secondary prevention of coronary heart disease. Melbourne: National Heart Foundation of Australia

HAS THE PATIENT HAD THESE CHECKED LATELY?

Echocardiogram

As recommended by GP or Cardiologist

This test uses ultrasound waves that come from a small hand piece placed on the chest wall. An echocardiogram can help detect the size and structure of a person's heart and movement within the heart.



DOCTOR
GP

Stress Test

As recommended by GP or Cardiologist

A stress test is when a person is asked to exercise to make the heart work hard and beat fast while heart tests are done. As part of some stress tests, pictures are taken of the heart while the person exercises and while they rest. These stress tests can show how well blood is flowing in various parts of the heart and/or how well the heart squeezes out blood when it beats.^{xi}



HEART DOCTOR
Cardiologist

Angiogram

As recommended by the Cardiologist

An angiogram is a special X-ray that shows whether or not coronary arteries are narrowed or blocked.^{xii} Under a local anaesthetic, a small tube (catheter) is inserted into an artery in an arm or into the groin and guided into the heart.

xi National Heart Foundation of Australia. Cardiovascular Conditions, Angina, Diagnoses. Online: <http://www.heartfoundation.org.au/your-heart/cardiovascular-conditions/Pages/angina.aspx>

xii National Heart Foundation of Australia. 2013. Cardiovascular Conditions, Coronary Heart Disease, Diagnoses. Online: <http://testing.heartfoundation.org.au/your-heart/cardiovascular-conditions/Pages/coronary-heart-disease.aspx>

NEED A CASE STUDY EXAMPLE?

Cheryl Ann is 45 and has five children, does shift work and woke up one morning with chest pains

Cheryl Ann works shift work at the hospital as a nurse, and is a single mum. Her oldest kids help look after the younger ones while she is at work. She doesn't sleep that well, or for long periods of time because of the shift work, and her diet doesn't include many vegetables. Cheryl Ann also eats at different times during the day and when she gets home from work she just wants to sleep so she usually has quick meals like pizzas and meat pies. She also noticed she has put on a lot of weight.

In September, Cheryl Ann woke up and went for her morning walk but she started getting a severe chest pain, and thought she was having a heart attack so she called Triple Zero (000) straight away.

The Doctor at the hospital asked Cheryl Ann a few questions about her history and how she has been feeling generally. She had an ECG, and was then referred as an inpatient to do a stress test with the Cardiologist. The Cardiologist at the hospital said Cheryl Ann had angina (IHD) so he prescribed her medication before referring her back to her GP at the Aboriginal Medical Service (AMS).

At the AMS the GP and the Aboriginal Health Worker spoke more to Cheryl Ann about her health and lifestyle and how to manage it and the medications she was taking. By October, the AHW and Cheryl Ann had worked out some short term goals, and provided her with some tips on stress release and eating healthy. She was also referred to the Dietitian who helped her work out a meal plan.

"The AMS really helped me. They sat down with me and listened. I have a few extra health professionals I have to see, but they are actually helping me manage my health and I'm also seeing the Social and Emotional Wellbeing (SEWB) Worker. I feel relieved and grateful knowing the AMS is looking after me, and checking up on me with phone calls. As a Nurse they could have thought, 'ah she knows', but when you get sick yourself it is different, everyone needs help at times and it doesn't make you a wimp or anything to ask for help."

WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

Taking your medicines, for example statins (cholesterol lowering medication) and aspirin, lowers your risk of reoccurrence of a CVD event

Small changes can mean big differences

Any time is a good time to give up the smokes!

DIABETES

IN THIS SECTION:

- WHAT IS IT?
- WHERE IS IT?
- HAS THE PATIENT HAD THESE CHECKED LATELY?
- NEED A CASE STUDY EXAMPLE?
- WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

WHAT IS IT?

Diabetes Mellitus (DM) is the name given to a group of conditions that occurs when the level of glucose (a type of sugar) in the blood becomes higher than normal.ⁱ If someone has Diabetes Mellitus the pancreas, a gland near the stomach, is unable to make enough insulin or the insulin is not working efficiently to control the levels of blood glucose (insulin resistance).

Type 2 Diabetes Mellitus is the most common form of diabetes. Type 1 DM and gestational DM (in pregnant women only) also exist. These types of DM are also called 'blood sugar', 'sugar' or 'diabetes'.

Insulin helps keep the body working by moving glucose ('sugar' or 'energy'), from the break down of food, from the blood into the body cells for energy use.

In diabetes, this process does not work properly. If someone has diabetes, it is important to focus on what foods are eaten and how much activity is done.

Exercise or other physical activity increases the flow of blood around the body. As the blood has insulin and sugar in it, an increase in activity increases the need for glucose (sugar) to be broken down and used up. This improves the body's ability to control blood glucose levels.

Sometimes medications (oral or injections) also need to be considered to help keep glucose levels at the right level to keep a person feeling well.

Signs and symptoms

People with diabetes may have signs or symptoms of tiredness, passing excess urine (especially during the night), always being thirsty, sudden weight changes, and eye problems, such as blurred vision.

Hypoglycaemia (low blood glucose or a hypo) occurs when the blood glucose level (BGL) drops to below 4 mmol/L, or when symptoms are being experienced at a level close to this. Causes of hypoglycaemia can include: delaying or missing a meal, not eating enough carbohydrates, drinking alcohol and too much medication.ⁱⁱ

Low BGL symptoms can include: sweating, paleness, hunger, weakness, changes in mood or behaviour, weeping, irritability or drowsiness.

Hyperglycaemia occurs when BGLs are above 15mmol/L over a short period of time. Sometimes there are no signs and symptoms, but some can include: feeling unwell, tired, thirsty, or frequent urination.ⁱⁱⁱ

Early diagnosis through screening for diabetes may prevent complications; having a Health Check is important!

What to look out for?

The 'Look out for this' flags to refer to important test results which give greater insight into the patient's health.

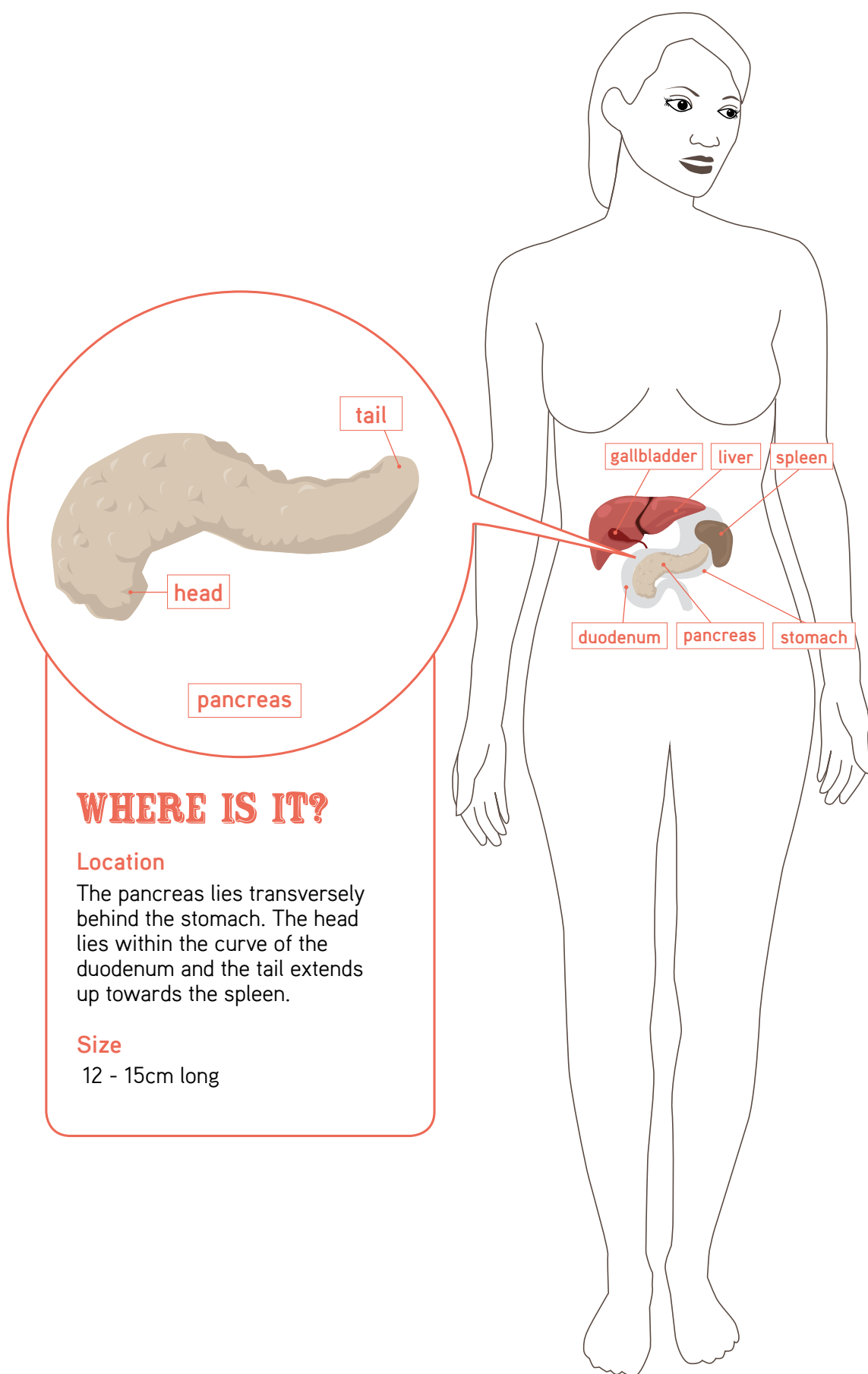


LOOK OUT
FOR THIS

ⁱ The Collaborative Handbook Phase 2 Version 3 July 2009, Improvement Foundation Australia, Australian Primary Care Collaboratives, Commonwealth of Australia

ⁱⁱ Diabetes NSW. Hypoglycaemia. Online: <http://diabetesnsw.com.au/wp-content/uploads/2014/12/DA-38-What-is-hypoglycaemia.pdf>

ⁱⁱⁱ Diabetes NSW. Hyperglycaemia. Online: <http://diabetesnsw.com.au/wp-content/uploads/2015/01/DNSW022-Hyperglycaemia-LR.pdf>



WHERE IS IT?

Location

The pancreas lies transversely behind the stomach. The head lies within the curve of the duodenum and the tail extends up towards the spleen.

Size

12 - 15cm long

HAS THE PATIENT HAD THESE CHECKED LATELY?

Check Care Plans are completed and up to date. If plans are not up to date set an appointment to update them.

People with diabetes can develop other health problems including high blood pressure, heart attacks and strokes, kidney disease, eye damage, nerve damage (especially to the feet), poor oral health and depression. Because glucose (sugar) is carried in the blood and blood moves throughout the body other complications can happen. It is important to check out the following:

Weight and waist circumference and/or Body Mass Index (BMI)

Every 12 months or opportunistically

Being overweight or obese is a risk for diabetes complications as it increases insulin resistance. Insulin resistance is a condition in which the body's cells fail to respond to the normal actions of the hormone (insulin).^{iv}

Although the body is producing insulin the cells become resistant and are unable to use insulin effectively, leading to hyperglycaemia (raised blood glucose levels).

Average healthy weight varies depending on a person's age, sex and height. Body Mass Index (BMI) is a measure that takes these things into account. A healthy BMI range is 18 - 24.99 kg/m².^v See page 50 for more information.

BMI can measure if someone is overweight or obese; however waist circumference is a better guide to a person's risk of chronic disease.^{vi} Even if a BMI is measured as being in the healthy weight range, excess fat around the waist can put people at risk of disease as fat is sitting closer to organs. Waist circumference aims for women should be 80 cm or less, and for men should be 94 cm or less.^{vii}



^{iv} Holt R., Cockram C., Flyvbjerg A. & Goldstein B.J. 2010 (4th Edition) Textbook of Diabetes. pg 174-179

^v Diabetes Management in General Practice 2012/13, Guidelines for Type 2 Diabetes. Diabetes Australia. Online: <http://www.diabetesaustralia.com.au/en/News--Events/Whats-New/Diabetes-Management-in-General-Practice-201213/>

^{vi} Australian Institute of Health and Welfare 2015. Determinants key indicators. Online: <http://www.aihw.gov.au/chronic-diseases/key-indicators/determinants/>

^{vii} NACCHO/RACGP. National guide to a preventative health assessment for assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012. Table 1.2. Combining measures to assess obesity and disease risk in adults.

Glycated haemoglobin (HbA1c)

Every 3 months

HbA1c, also known as glycated haemoglobin, is a blood test. It shows how much sugar has been carried in red blood cells in the last 3 months.^{viii} It is an indicator of how well the person's diabetes has been managed in the last 3 months.



PATHOLOGIST

Blood Glucose Level (BGL)

As recommended by Endocrinologist, Diabetes Educator or GP

Blood Glucose Level (BGL) is a measure of how much 'sugar' is in the blood. BGL can be used to both diagnose diabetes and illustrate how well diabetes is being managed; BGL measured from plasma (at the lab) can be diagnostic, fingerprick BGL is for monitoring.

A simple finger prick test can be done by the individual if they are advised by their doctor to self monitor. BGL gives an idea about how the patient is going and can help you work with your patient to understand and manage their diabetes.

General guidelines for BGL is 6-8mmol/l fasting or 6-10mmol/l two hours after the start of a main meal.^{ix}

The Oral Glucose Tolerance Test (OGTT) is a test used to diagnose diabetes. Blood tests are taken after fasting overnight and 2 hours after the 75gram glucose challenge drink to see how quickly it is cleared from the blood. Please note: there are variances in OGTT challenge drinks, depending on the amount of glucose given and when blood is taken.

Good control of blood glucose can also reduce the risk of a range of other diseases, such as cardiovascular disease and kidney disease.



DIABETES EDUCATOR

DIABETES DOCTOR
Endocrinologist

Foot problems

Podiatry check every 6 months, and daily self examination

High BGL can damage the blood vessels in legs and feet causing circulation difficulties and nerve damage. Suggest to patients to self examine, clean and dry their feet well, especially between the toes, every day. Also check they have comfortable, non rubbing foot wear and don't wear thongs to reduce risk of injury.



FOOT 'DOCTOR'
Podiatrist

viii National Prescribing Service (NPS). Online: <http://www.nps.org.au/conditions-and-topics/conditions/hormones-metabolism-and-nutritional-problems/diabetes-type-2-for-individuals/tests-and-monitoring/hba1c-unit-converter#affect>

ix Colagiuri S, Dickinson S, Girgis S, Colagiuri R. National Evidence Based Guideline for Blood Glucose Control in Type 2 Diabetes. Diabetes Australia and the NHMRC, Canberra 2009. Online: <http://www.diabetesaustralia.com.au/PageFiles/>

HAS THE PATIENT HAD THESE CHECKED LATELY?

Blood Pressure (BP)

Every time a patient visits

Blood Pressure (BP) is usually taken at rest and in a sitting position. BP goes up when the heart pumps because of the force needed for blood to flow around the body and back to the heart. When you take a BP reading, check the machine is lower than the level of the heart. People with diabetes (with no other known complications) should aim for a BP of $\leq 130/80$ mm Hg.^x



Eye examination

Check every 12 months

Eye complications include diabetic retinopathy and cataracts. It is important to have good control of BP, cholesterol and Blood Glucose Level (BGL) as it is the blood that supplies nutrients and oxygen to the nerves for the eye to see. To minimise damage to the blood vessels of the retina and capillaries, as well as other areas of the body, it is important to help patients control their BGL. Eyes are to be checked every 12 months.^{xi} If your patient notices any changes in eye sight refer them to the ophthalmologist.



estimated Glomerular Filtration Rate (eGFR)

Check every 12 months

Glomerular Filtration Rate (GFR) or the estimated GFR (eGFR) measures how well the kidneys filter waste products from the blood and is the best assessment of kidney function.^{xii} This blood test needs to be checked with every diabetes cycle of care. For further information on kidney checks refer to the kidney disease section of this booklet.



x Kidney Health Australia, The Royal College of General Practitioners & Australia and New Zealand Society of Nephrology, 2012. 2nd Edition. Chronic Kidney Disease (CKD) Management in General Practice. Guidance and clinical tips to help identify, manage and refer CKD in your practice.
xi NACCHO/RACGP. National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012.
xii Australian Diabetes Council NSW & Kidney Health Australia, 2010. Diabetes and Kidney Disease: Management and prevention of kidney disease in people with diabetes.

Albumin - Creatinine Ratio (ACR)

Check every 12 months

Albumin-Creatinine ratio (ACR) is a urine test to measure how much protein (albumin) is leaking from the kidneys. This test is looking for the smallest or micro amount of albumin in the urine (micro albuminuria) above a level of what would be expected for a person without any kidney damage. Diabetes affects how well kidneys filter blood so this test is particularly important for people with diabetes to ensure that further complications do not arise. For further information refer to the kidney disease section of this booklet.



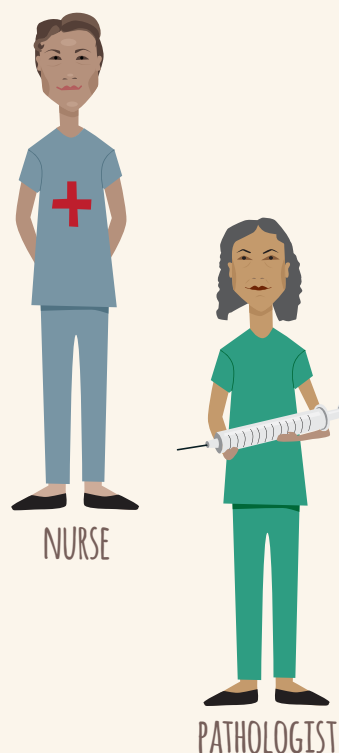
Cholesterol and/or triglycerides test

Check every 12 months

Cholesterol is a fat produced by your body and found in foods made from animals (e.g meat and dairy).

The combination of high cholesterol and diabetes causes concern as high cholesterol levels can increase the progression of diabetic kidney disease, and risk of stroke and heart attack. Maintaining a healthy diet and active lifestyle will help to decrease cholesterol levels and limit further complications. The blood test results for cholesterol show values for both High Density Lipoprotein (HDL) and Low Density Lipoprotein (LDL) cholesterol levels. An easy way to remember this is to refer to HDL as 'Happy' and LDL as 'Lousy'.

Triglycerides – the most common fat stored in the body are often linked to low HDL levels.^{xiii}



^{xiii} Australian Diabetes Council NSW & Kidney Health Australia 2010. Diabetes and Kidney Disease: Management and prevention of kidney disease in people with diabetes.

NEED A CASE STUDY EXAMPLE?

LaToya is 17, has elevated BGLs and asthma

About a year ago, LaToya was grumpy, tired and thirsty all the time, but because it was summer LaToya didn't think much about it, however LaToya's parents thought she should get checked out. At some stage a GP had mentioned LaToya had asthma.

The Aboriginal Health Worker (AHW) at the Aboriginal Medical Service (AMS) said a health check might be good because it had been a few years since it was done. The AHW took her pulse, blood pressure, urine sample, some bloods, checked her height and weight, and asked a few questions.

When LaToya went back for her results she was shocked to hear she had high BGLs like her Mum and was going to have to change her lifestyle. It was good that LaToya plays heaps of sport because it helped keep her Blood Glucose Levels (BGL) stable, but her diet needed changing to prevent diabetes.

LaToya said "The Health Worker helped make some appointments to see a Food Expert (Dietitian or Nutritionist), and Mum came too. They also checked out my asthma medication and made a new plan to manage it. Now I take my inhaler at the start of touch footy games and I don't have to come off the field. Sticking to my eating plan has stopped me feeling so grumpy and tired, and my asthma isn't a problem anymore. I've also got the Health Workers and Nurses checking up on me all the time which keeps me in line!".

WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

Manage ya diabetes... with support from ya health professional... take ya medicines!

Promote a strong spirit and culture of keepin' healthy, with good tucker and moving more!

A small weight loss can reduce many diabetes complications

Your mob can be a great support & getting to each of your diabetes check ups is the best way to monitor your diabetes



KIDNEY DISEASE

IN THIS SECTION:

- WHAT IS IT?
- WHERE IS IT?
- HAS THE PATIENT HAD THESE CHECKED LATELY?
- NEED A CASE STUDY EXAMPLE?
- WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

WHAT IS IT?

Chronic Kidney Disease (CKD) is defined as either kidney damage or Glomerular Filtration Rate (GFR) less than 60 mL/min/1.73 m², or both, persisting for at least 3 months.ⁱ Please refer to the Table: The Staging of CKD on page 35.

Renal means 'about the kidneys', and renal disease can be used interchangeably with kidney disease.

CKD is when the kidneys are not able to perform their normal functions. If kidney disease is found early this is good news as medication, dietary and lifestyle changes can increase the life of kidneys and keep people feeling their best for as long as possible.

Kidneys are a part of the urinary system. A major job of the kidneys is to get rid of waste (toxins) the body doesn't need. They act like a filter to make sure the right amount of waste and fluids are removed. As blood passes through the kidneys, water and waste products are removed through urine. Waste can be anything the body doesn't need, like extra nutrients, fluids or alcohol.

When the kidneys are damaged, the body can't do this properly and waste (toxins) stay in the body and can make people sick.

Signs and symptoms

During the early stages of kidney disease people are usually 'asymptomatic' (not having signs and symptoms). In the later stages the signs and symptoms of kidney disease include changes in the urine (such as reduced volume, discolouration, or blood), nausea, vomiting, appetite loss, fluid retention such as swollen ankles, and back pain.ⁱⁱ

What to look out for?

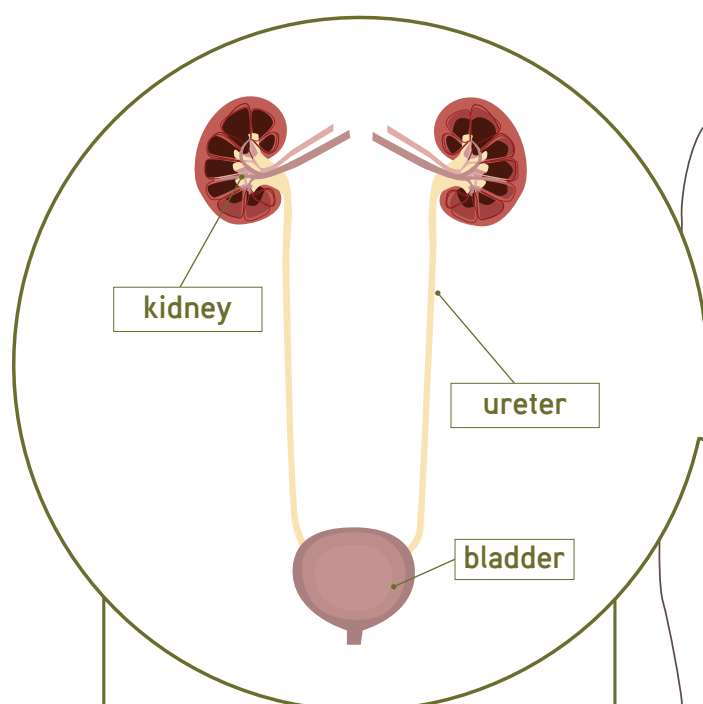
The 'Look out for this' flags refer to important checks which give greater insight to the patients health.



LOOK OUT
FOR THIS

i NACCHO/RACGP. National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012. Online: <http://www.racgp.org.au/your-practice/guidelines/national-guide/chronic-kidney-disease-prevention-and-management/>

ii Kidney Health Australia. What is Kidney Disease? Online: <http://www.kidney.org.au/KidneyDisease/tabid/578/Default.aspx>



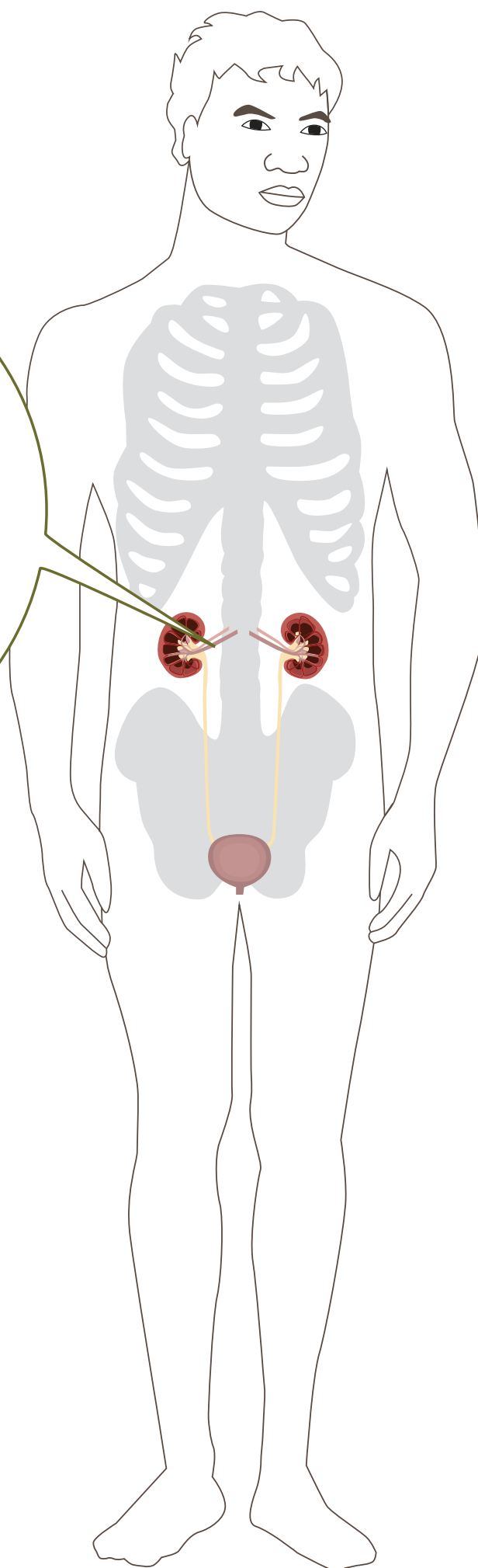
WHERE IS IT?

Location

Kidneys are two bean shaped organs which lie towards the back above the waist and below the lower ribs, one on each side of the spine, level to the 12th thoracic to third lumbar vertebrae, however the right kidney is usually lower than the left due to the placement of the liver.

Size

Each adult kidney is about the size of an adult fist, approximately 11cm long, 6cm wide and 3cm thick.



K KIDNEY DISEASE

HAS THE PATIENT HAD THESE CHECKED LATELY?

Check Care Plans are completed and up to date. If plans are not up to date set an appointment to update them.

Unless people are tested, it's hard to know if someone has kidney disease or not. Kidneys have a wonderful ability to re-adapt and function, so it is not uncommon for people to lose up to 90% of their kidney function before they know it...ⁱⁱⁱ

Sometimes CKD leads to end-stage kidney disease, which requires dialysis or a kidney transplant.^{iv} The following tests are carried out to check kidneys:

Checking protein in the urine Albumin: Creatinine Ratio (ACR)

**Every time the patient has a Health Check
or as recommended by the Nephrologist**

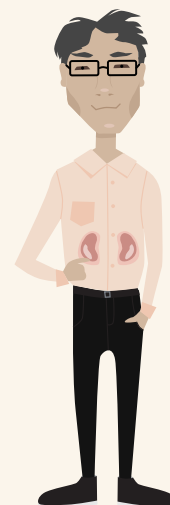
There is usually no, or very little, protein in the urine, so if protein shows up it could mean the kidney filters aren't working properly and are leaking proteins into urine, known as 'leaky kidneys'.

This test result is looking for the smallest or micro amount of albumin in the urine (micro albuminuria) above a level of what we would expect for a person without any kidney damage. This test could show or indicate the first sign of kidney disease.

The ACR test is regularly used for monitoring kidney health of all people with or at risk of CKD - including people with diabetes. The test involves a specific testing machine that usually only takes a few minutes. This can be referred to as a point-of-care (POC) test that is performed on a small portable device in a clinic. A small amount of urine is needed to test for albumin:creatinine ratio (ACR).

The urine dipsticks are now not generally recommended as they are not as reliable or accurate and may only show results for large amounts of protein.

People may need to have repeated tests if increased protein in the urine is shown.



KIDNEY DOCTOR
Nephrologist

ⁱⁱⁱ Kidney Health Australia. How your Kidneys work. Online: <http://www.kidney.org.au/Kidneydisease/HowourKidneyworks/tabid/590/Default.aspx>

^{iv} Kidney Health Australia. All About Chronic Kidney Disease. Online: <http://www.kidney.org.au/LinkClick.aspx?fileticket=Nc5lwAplrol%3d&tabid=609&mid=850>

Pathology test results

Check every 12 months

There are a number of tests that can show how well the kidneys are filtering toxins. The most common tests include looking at:

Urine Test

- ACR - compares the amount of Albumin to the amount of Creatinine in the urine to look at how much protein the kidneys are leaking. It can help determine if damage to kidneys is likely. ^v Further information can be found on page 32.

Blood Tests

- Albumin – an important protein in the body and it keeps fluid in place in blood circulation
- Calcium – needed to keep the cells working properly
- Creatinine – a muscle waste product, this is regularly tested in CKD to look at kidney function
- Glomerular filtration rate (GFR) – measures how well kidneys filter waste products from the blood (by volume or amount against time). It is the best assessment of kidney function (used to stage CKD – please refer to page 35)
- Phosphate – works with other minerals to help regulate the body. In CKD phosphate levels increase
- Potassium – important for the body cells. High or low potassium levels can cause an irregular heart beat
- Sodium – together with chloride makes up common salt. High levels of sodium may be a sign of dehydration
- Urea – a waste product from the breakdown of protein in the body and food. Levels increase with CKD, but can be lowered with low protein intake.^{vi}



^v Kimberly Aboriginal Medical Services Council (2002). Manage Medicines in Aboriginal Primary Health Care (Med II).

^{vi} Kidney Health Australia. What is Kidney Disease? Online: <http://www.kidney.org.au/KidneyDisease/tabid/578/Default.aspx>

HAS THE PATIENT HAD THESE CHECKED LATELY?

Cholesterol and/or Triglycerides test

Check approximately every 12 months

Cholesterol is a fat produced naturally by the body and found in foods made from animals (e.g. meat and dairy).

It is the combination of high cholesterol and CKD that causes concern as high cholesterol levels can increase the progression of CKD, and increase risk of stroke and heart attack. Maintaining a healthy diet and active lifestyle will help to decrease cholesterol levels and limit further complications.

The blood test results for cholesterol show values for both High Density Lipoprotein (HDL) and Low Density Lipoprotein (LDL) cholesterol levels. An easy way to remember this is to refer to HDL as 'Happy' and LDL as 'Lousy'.

Triglycerides - the most common fat stored in the body are often linked to low HDL levels.^{vii}



FOOD EXPERT
Dietitian or Nutritionist

Weight, waist circumference and/or Body Mass Index (BMI)

Every 12 months or opportunistically

Being overweight or obese can put extra stress on the kidneys. Blood Pressure (BP), the level of 'lousy' cholesterol in the blood, and being overweight or obese can increase the risk of CKD.

For the majority of people over 18 years old a healthy BMI range is 18 - 24.99kg/m².^{viii} See page 50 for more information.

BMI can measure if someone is overweight or obese; however waist circumference is a better guide to a person's risk of chronic disease.^{ix} Even if a BMI is measured as being in the healthy weight range, fat around the waist can put people at risk as fat is sitting closer to organs. Women should aim for a waist circumference of 80cm or less and for men 94cm or less.^x



DOCTOR
GP

NURSE

HEALTH WORKER
Aboriginal Health Worker

vii Australian Diabetes Council NSW & Kidney Health Australia 2010. Diabetes and Kidney Disease: Management and prevention of kidney disease in people with diabetes.

viii World Health Organisation. BMI classification. The International Classification of adult underweight, overweight and obesity according to BMI. Online: http://apps.who.int/bmi/index.jsp?introPage=intro_3.html

ix Australian Institute of Health and Welfare 2015. Determinants key indicators. Online: <http://www.aihw.gov.au/chronic-diseases/key-indicators/determinants/>

x NACCHO/RACGP. National guide to a preventative health assessment for assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012. Table 1.2. Combining measures to assess obesity and disease risk in adults.

Table: The Staging of CKD

There are six stages of CKD. Staging of CKD is now determined by the combined results of kidney function (the blood GFR) and the urine albumin creatinine ratio (please also see pages 32 and 33 for more information).

ALBUMINURIA STAGE				
Kidney Function Stage	GFR (mL/min/1.73m ²)	Normal (urine ACR mg/mmol) Male: <2.5 Female: < 3.5	Microalbuminuria (urine ACR mg/mmol) Male: 2.5-25 Female: 3.5-35	Microalbuminuria (urine ACR mg/mmol) Male: > 25 Female: > 35
1	≥90	Not CKD unless haematuria, structural or pathological abnormalities present		
2	60-89			
3a	45-59			
3b	30-44			
4	15-29			
5	<15 or on dialysis			

Source: Kidney Health Australia. Detecting CKD. Online 12 February 2014: <http://www.kidney.org.au/HealthProfessionals/DetectingCKD/tabid/632/Default.aspx>
As kidney disease progresses from yellow to amber to red, the symptoms will increase. The rise of needing dialysis will also increase.

Blood Pressure (BP)

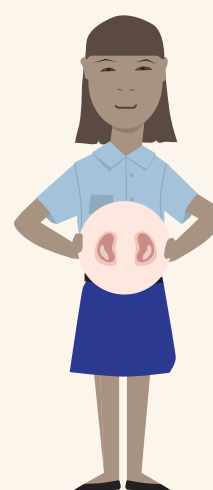
Every time a patient visits

Blood Pressure (BP) is usually taken at rest and in a sitting position. BP goes up when the heart pumps because of the force needed for blood to flow around the body and back to the heart.

High BP can cause kidney damage and kidney damage can cause high BP (so it can go both ways). High BP can also lead to heart attacks, stroke and other complications.

When you take a BP reading, check the machine is lower than the level of the heart.

In people with CKD, BP should be consistently below 140/90 mmHg. If albuminuria is present (urine ACR >3.5 mg/mmol in females and >2.5 mg/mmol in males) a consistent BP below 130/80 mmHg should be achieved. All people with diabetes should maintain a consistent blood pressure below 130/80 mmHg.^{xi}



KIDNEY NURSE
Renal Nurse Educator

Blood Glucose Level (BGL)

As recommended by GP and at every health check

Blood Glucose Levels (BGL) measure how much glucose (sugar) is in blood. General guidelines for BGL is 6–8mmol/l fasting or 6–10mmol/l two hours after the start of a main meal.^{xii}

It is important for people with diabetes to keep their BGLs under control with medicine, increasing physical activity or reducing weight, and being careful of what they eat and drink. Please refer to the diabetes section for further information on BGL.



DIABETES EDUCATOR

^{xi} Kidney Health Australia, The Royal College of General Practitioners & Australia and New Zealand Society of Nephrology, 2012. 2nd Edition. Chronic Kidney Disease (CKD) Management in General Practice. Guidance and clinical tips to help identify, manage and refer CKD in your practice.
^{xii} Colagiuri S, Dickinson S, Girgis S, Colagiuri R. National Evidence Based Guideline for Blood Glucose Control in Type 2 Diabetes. Diabetes Australia and the NHMRC, Canberra 2009. Online: <http://www.diabetesaustralia.com.au/PageFiles/>

NEED A CASE STUDY EXAMPLE?

Barry is 53 and had diabetes for eleven years before finding out he had chronic kidney disease

Before Barry was diagnosed with chronic kidney disease (CKD) he was feeling real crook so he called the Aboriginal Medical Service (AMS) to book in for a check up. Having had diabetes for 11 years, Barry thought it was just his diabetes playing up that was making him crook but Dave, the Aboriginal Health Worker at the AMS said it may not be his diabetes. Dave made a longer appointment for Barry's next visit as it had been a year since he had a Health Check.

Dave went through and checked Barry's height, weight, waist circumference, how much activity he was doing, discussed how his diabetes and diet was going and generally how he was feeling. On top of feeling crook (nauseated) Barry told him he was feeling more tired than usual and he found his wee had changed colour. Dave took a urine sample from Barry to check the protein in his urine using the Point-of-Care testing machine at the AMS before referring Barry to the GP. The GP made another appointment with Barry to discuss his results but more tests were needed to work out why Barry was feeling so crook.

Barry's tests came back which diagnosed him with CKD so the AMS referred him on to see a Nephrologist. The AMS helped Barry out by explaining why he had to see the specialist and what the tests meant. The Nephrologist discussed the things that would make Barry feel better and help manage his diabetes and CKD together. He also saw a Renal Nurse Educator who was able to answer really in-depth questions about his kidney disease. The AMS not only helped Barry make appointments, but also helped him get to appointments.

Dave is now seeing Barry about every 4 months and at times calls up just to make sure he is going okay. Barry says he is feeling much better since managing his diabetes and CKD. Barry has even started doing talks at the Men's Shed the AMS runs about his experiences with his health to help the younger ones take care of themselves.

WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

If people are tested early and kidney disease is managed well, deterioration in kidney function can be reduced by up to 50% and may even be reversible.^{xiii}

Early diagnosis, medication, dietary and lifestyle changes can increase the life of kidneys and keep people feeling their best for as long as possible.

Losing as little as 5% of your weight can improve your chronic kidney disease.^{xvi}

xiii Kidney Health Australia, RACGP & ANZSN, Second Edition 2012. Guidance and Clinical Tips to help identify, manage and refer CKD in your practice. Online: <http://www.kidney.org.au/LinkClick.aspx?fileticket=vfDcA4sEUMs%3d&tabid=635&mid=1584>

xvi Australian Government, 2013. National Health & Medical Research Council. Department of Health and Ageing. Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia. Online: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/n57_obesity_guidelines_130531.pdf

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RESPIRATORY DISEASE

IN THIS SECTION:

- WHAT IS IT?
- WHERE IS IT?
- HAS THE PATIENT HAD THESE CHECKED LATELY?
- NEED A CASE STUDY EXAMPLE?
- WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

WHAT IS IT?

Respiratory Diseases affect the flow of air in and out of the lungsⁱ. The two main conditions are Asthma & Chronic Obstructive Pulmonary Disease (COPD) which includes: emphysema, chronic bronchitis and chronic asthma which isn't fully reversible.

Acute Asthma

People with asthma have sensitive airways in their lungs. When they are exposed to triggers (e.g. cigarette smoke) their airways narrow, making it harder for them to breathe. This can cause the inside lining of the airways to become red and swollen (inflamed). Extra mucus can be produced and block airways and the muscles around the airways tighten (bronchoconstriction).ⁱⁱ Most people with acute asthma can be well managed with medicines and a healthy lifestyle, with changes to airways often fully reversible.

Chronic Obstructive Pulmonary Disease (COPD)

COPD is a number of lung conditions that are long-term, normally worsen over time, and cause shortness of breath by reducing the normal flow of air through the airways. The most common are emphysema, chronic bronchitis and chronic asthma which isn't fully reversible. The conditions can occur on their own, but it is common for people to have more than one of these conditions.

Emphysema: A condition where the elastic fibres in the breathing tubes (bronchi and bronchioles) become floppy and narrow and the air sacs (alveoli) of the lungs become stretched. This makes it harder to breathe air out and the air can get trapped in the lungs causing shortness of breath.

Chronic Bronchitis: Occurs when the airways in your lungs have become narrow and partly clogged with mucus making it harder to breathe. This is caused by constant swelling and irritation of the breathing tubes (bronchi and bronchioles), increasing the amount of mucus made (phlegm or spit). Acute Bronchitis only lasts up to a few weeks but if it is chronic, it is a long term condition. A definition of chronic bronchitis is a daily mucus-producing cough on most days of the month over three months of a year for two years in a row.

Chronic Asthma: Asthma which is well controlled usually only affects breathing occasionally. Chronic asthma is when there is long-term inflammation which becomes permanent, causing continued shortness of breath.ⁱⁱⁱ This normally happens when asthma has not been well treated, or has been very severe over a long period of time. It is not fully reversible with treatment.

Signs and symptoms

A patient with a respiratory disease can have different types of signs and symptoms. Some include coughing, wheezing, shortness of breath, a tight feeling in the chest, mucus production on most days or using the reliever puffer more than two times per week.^{iv}

What to look out for?

The 'Look out for this' flags refer to important checks which give greater insight to the patient's health.

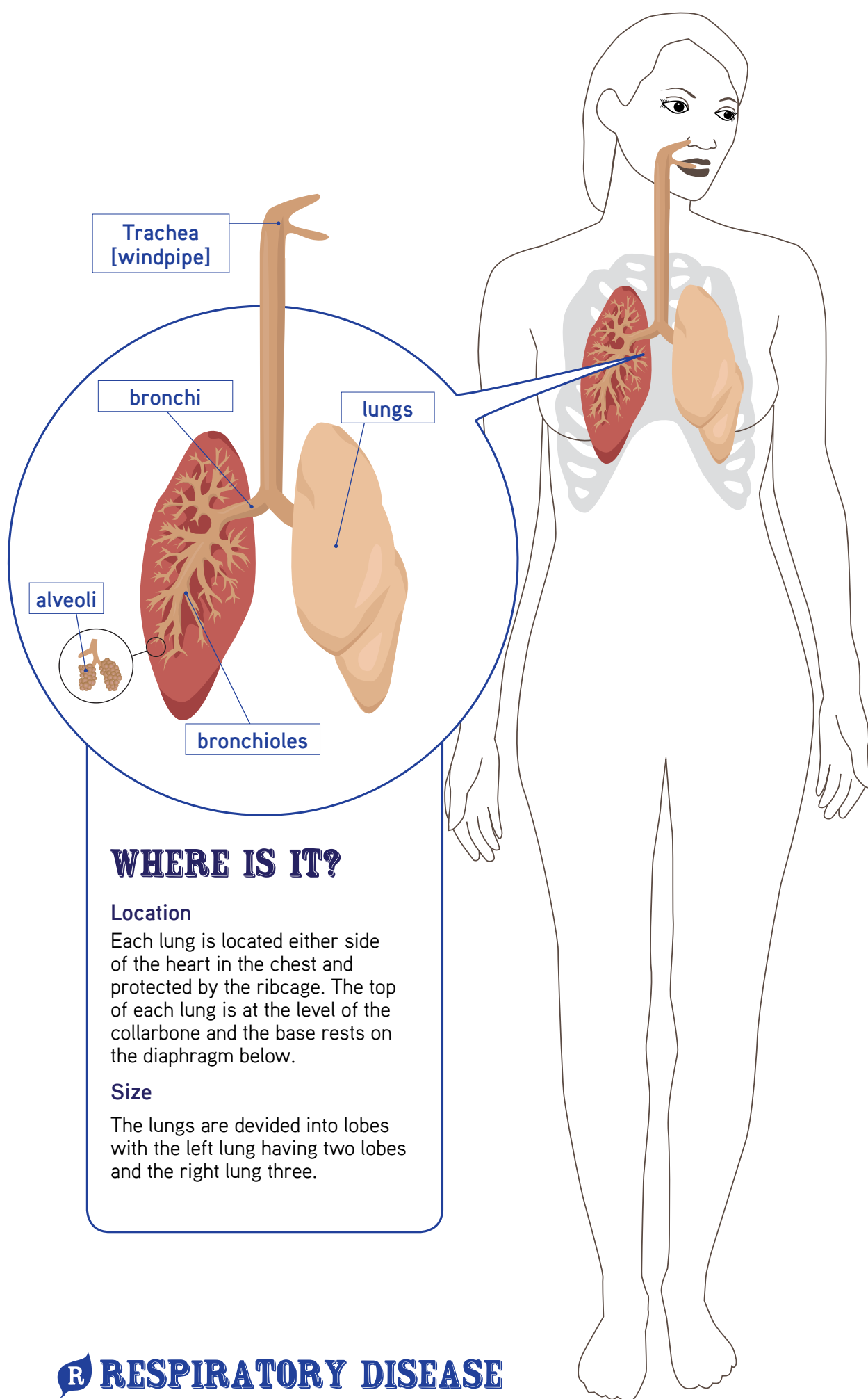


ⁱ Australia Institute of Health and Welfare (AIHW) 2013. Authoritative Information and Statistics to Promote Better Health and Wellbeing. Online <http://www.aihw.gov.au/chronic-respiratory-conditions/>

ⁱⁱ Asthma Foundation NSW 2013. Online http://www.asthmafoundation.org.au/What_is_asthma.aspx

ⁱⁱⁱ Asthma Foundation NSW 2013. Online <http://www.asthmafoundation.org.au/copd.aspx>

^{iv} National Asthma Council Australia. Australian Asthma Handbook, Version 1.0. National Asthma Council Australia, Melbourne, 2014. Page 11, Table G. Definition of levels of recent asthma symptom control in adults (regardless of current treatment regimen). Online: <http://www.asthmahandbook.org.au>



WHERE IS IT?

Location

Each lung is located either side of the heart in the chest and protected by the ribcage. The top of each lung is at the level of the collarbone and the base rests on the diaphragm below.

Size

The lungs are divided into lobes with the left lung having two lobes and the right lung three.

HAS THE PATIENT HAD THESE CHECKED LATELY?

Check Care Plans are completed and up to date. If plans are not up to date set an appointment to update them.

A person is diagnosed with a Respiratory Disease in a variety of ways. Some tools include taking a patient history (including current and past smoking status), noting signs and symptoms and performing tests such as spirometry. If a person currently smokes assess their readiness to quit smoking and provide support for smoking cessation. Smokerlyzers can be used to monitor the reduction of CO (Carbon Monoxide) levels in individuals who are trying to quit smoking. It is important that the following tests are not only used to diagnose but to monitor and manage conditions to help people breathe easier.

Weight and waist circumference and/or Body Mass Index (BMI)

Every 12 months or opportunistically

Excessive body weight and obesity increase the risk for other diseases such as diabetes and heart disease. Having a healthy weight range means the lungs don't have to work as hard to get oxygen (air) to all parts of the body. For people with respiratory disease being overweight or obese is a risk for overall health and wellbeing and other health complications. However, people underweight can also have poorer health outcomes than those in a healthy weight range (as seen in emphysema).

Average weight varies depending on a person's age, sex and height. Body Mass Index (BMI) is a measure that takes these things into account. For the majority of people over 18 years old a healthy BMI range is 18 – 24.99 kg/m²^{iv}. See page 50 for more information.

BMI can measure if someone is overweight or obese; however waist circumference is a better guide to a person's risk of chronic disease.^v Waist circumference for women should be 80 cm or less, and for men should be 94 cm or less.^{vi}



iv World Health Organisation. BMI classification. The International Classification of adult underweight, overweight and obesity according to BMI. Online: http://apps.who.int/bmi/index.jsp?introPage=intro_3.html

v Australian Institute of Health and Welfare 2015. Determinants key indicators. Online: <http://www.aihw.gov.au/chronic-diseases/key-indicators/determinants/>

vi NACCHO/RACGP. National guide to a preventative health assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012. Table 1.2. Combining measures to assess obesity and disease risk in adults.

Blood pressure (BP)

Every time a patient visits

Blood Pressure (BP) is usually taken at rest and in a sitting position. BP goes up when the heart pumps because of the force needed for blood to flow around the body and back to the heart.

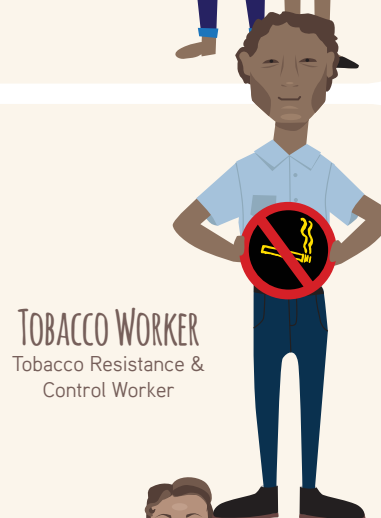
High BP can also lead to heart attacks, stroke and other complications. When you take a BP reading, check the machine is lower than the level of the heart. People with respiratory disease should aim for a BP of $\leq 130/80$ mm Hg.^{vii}



Smokerlyser test

Every visit, especially if giving up the smokes or is an ex-smoker

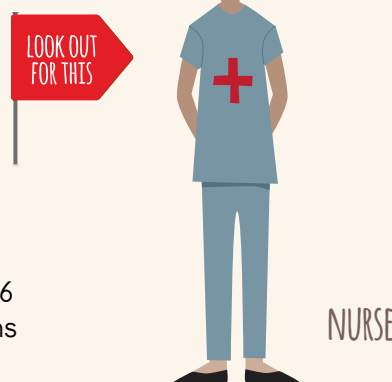
Smokerlyser tests measure breath carbon monoxide (toxic, odourless, colourless, tasteless gas) and provides the person with feedback about their exposure to carbon monoxide. This is important to test as cigarette smoke can trigger respiratory conditions. Not smoking is the most effective strategy to prevent COPD.



Spirometry

Once or twice a year

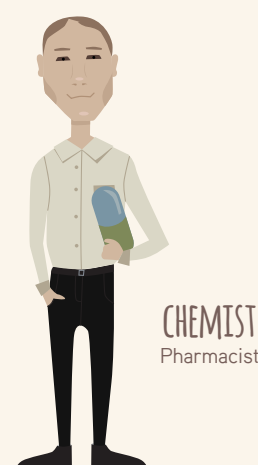
Everyone should have spirometry testing as part of the diagnosis of respiratory conditions. Spirometry measures airflow compared to the predicted normal.^{viii} Spirometry is the test used to confirm a diagnosis of COPD or Asthma and can be used to monitor severity of disease with reporting of symptoms. Other devices such as a Piko-6 or COPD6 can screen for COPD. For people with care plans spirometry needs to be done at least twice a year, but to check lung health it should be done at least once a year.



Medicines & Immunisations

As needed

Influenza vaccine should be given annually pre-flu season. Please refer to RACGP/ NACCHO pneumococcal disease prevention table on page 51 for pneumococcal vaccine recommendations.^{ix} Medicines will need to be reviewed regularly, and it is important to check correct inhaler device techniques at every visit. Other times that medicines need to be reviewed are: whenever a health check is done, when changes are reported by the patient, at times when there is a change in lung function, or the patient starts taking a new medicine even if it is not for a respiratory condition.



vii National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand. Updated 2012. Reducing risk in heart disease: an expert guide to clinical practice for secondary prevention of coronary heart disease. Melbourne: National Heart Foundation of Australia

viii National Asthma Council 2013. Online: <http://www.nationalasthma.org.au/health-professionals/spirometry-resources>

ix NACCHO/RACGP. National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012.

NEED A CASE STUDY EXAMPLE?

Mick is 34, and has asthma

Mick started smoking again because he was feeling really busy and stressed. He woke up one morning feeling anxious as he had been short of breath all night and had a bad cough. So he went to the Aboriginal Medical Service (AMS).

Dan, the new Aboriginal Health Worker (AHW) completed a health check on Mick, and found out he had been stressed and started smoking again a few months ago. Dan used the smokerlyser to show Mick his breath carbon monoxide levels were real high and this was used to start yarning about quitting smoking cause Dan doesn't want Mick's asthma to get worse. Dan explained to Mick that the smoke could cause long term damage to his lungs and recommended that he see the Tobacco Resistance and Control Worker.

Dan made note in Mick's file and got him to chat with the Tobacco Resistance and Control Worker. He also noted in Mick's file for the GP to consider a review of his asthma management plan. The GP agreed with Dan and went on to refer Mick to a Respiratory Specialist based on his Asthma Plan Review. Mick was also referred to Quitline and spoke to the Tobacco Resistance and Control Worker to help him quit the smokes.

Weeks later Mick returned to the AMS. Mick says that he is following the advice of the Respiratory Specialist, Tobacco Resistance and Control Worker and Quitline, and feels he is breathing easier.

With the support of the AMS, Mick is now taking his asthma medicine daily. When Mick is stressed and feels like a smoke he now goes for a walk instead. Mick is chuffed that he quit smoking and he has been feeling better than ever. The Respiratory Specialist gave advice to Mick about smoking cessation including using sport as a tool to help him give up the smokes. His family has seen big changes in him and he is back playing sports too.

WANT SOME POSITIVE MESSAGES TO GIVE TO YOUR PATIENTS?

Take your preventer medicine every day to keep the attacks away, even if you feel OK

Anytime is a good time to give up smoking

Asthma triggers are not your friend, knowing what yours are will help you in the end

Medicines work better when you're smoke free

Quitting gives you more time with your kids

NOTES

IN THIS SECTION:

- USEFUL LINKS
- RESOURCES
- WHAT'S THAT WORD MEAN?
- ARTWORK

USEFUL LINKS

Cardiovascular Disease

- Australian Absolute Cardiovascular Disease Risk Calculator www.cvdcheck.org.au
- National Heart Foundation www.heartfoundation.org.au
- National Stroke Foundation www.strokefoundation.com.au
- Rheumatic Heart Disease Australia www.rhdaustralia.org.au

Diabetes

- Diabetes Australia www.diabetesaustralia.com.au
- Diabetes NSW www.diabetesnsw.com.au
- National Diabetes Service Scheme www.ndss.com.au/
- National Prescribing Service 'HbA1c Online Converter tool' www.nps.org.au/conditions-and-topics/conditions/hormones-metabolism-and-nutritional-problems/diabetes-type-1/for-individuals/tests-and-monitoring/hba1c-unit-converter

Kidney Disease

- Kidney Health Australia www.kidney.org.au
- Kidney Health Australia Glossary "What Does that Word Mean" <http://www.kidney.org.au/kidneydisease/kidneyglossary/tabid/679/default.aspx>

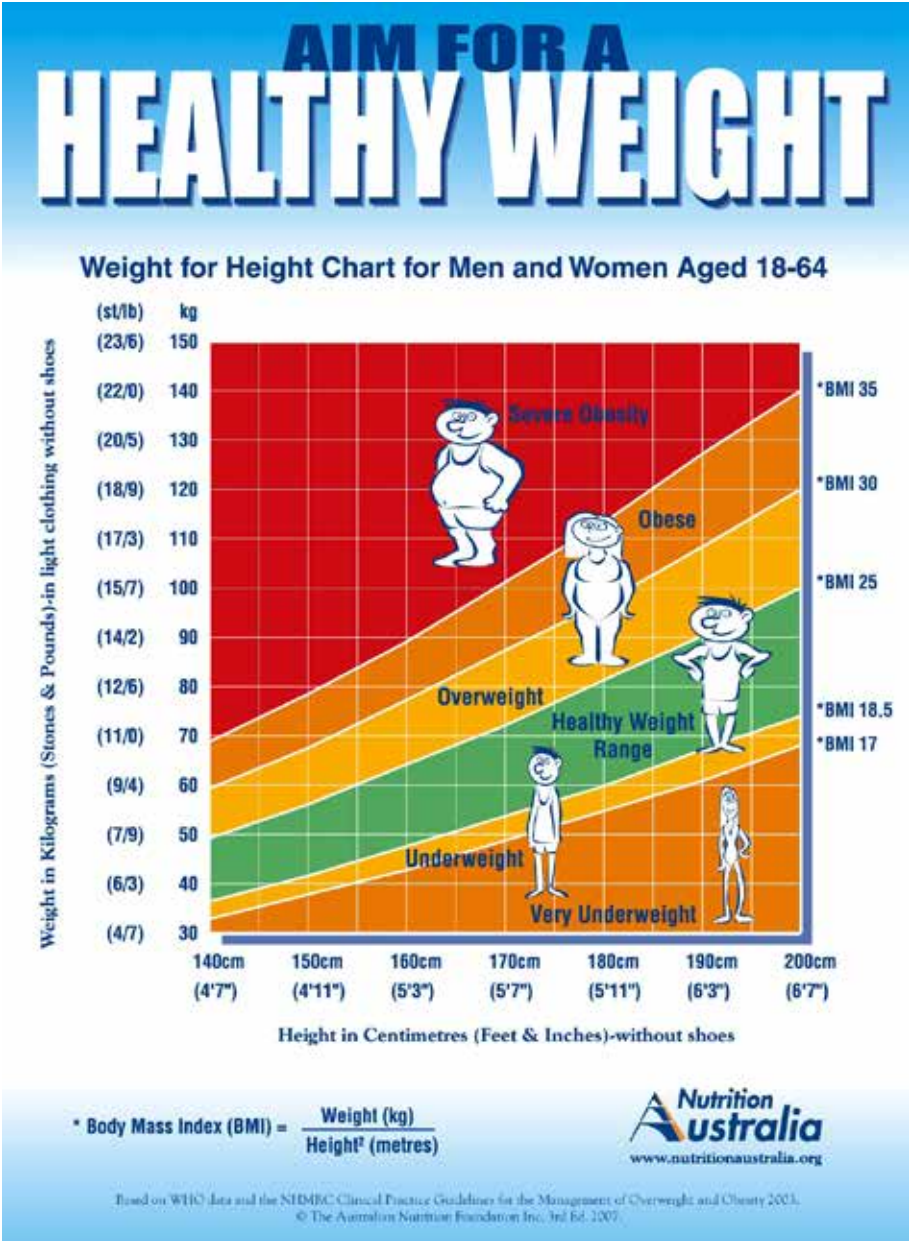
Respiratory Disease

- Asthma Foundation www.asthmaaustralia.org.au
- Australian Institute of Health and Welfare www.aihw.gov.au/chronic-respiratory-conditions
- Lung Foundation Australia www.lungfoundation.com.au

Other Support

- Aboriginal Health and Medical Research Council of NSW (AH&MRC) www.ahmrc.org.au
- Australian Hearing www.hearing.com.au
- Australian Indigenous HealthInfoNet www.healthinfonet.ecu.edu.au
- Brien Holden Vision Institute (formerly known as ICEE) www.brienholdenvision.org
- Carers NSW www.carersnsw.asn.au
- Get Healthy Information and Coaching Service® www.gethealthynsw.com.au
- Guide Dogs Australia ACT/NSW www.guidedogs.com.au
- Indigenous Allied Health Australia www.iaha.com.au
- Medicare Australia www.humanservices.gov.au/customer/information/welcome-medicare-customers-website
- National Aboriginal Community Controlled Health Organisation (NACCHO) www.naccho.org.au
- NSW Health www.health.nsw.gov.au
- Quitline www.icanquit.com.au

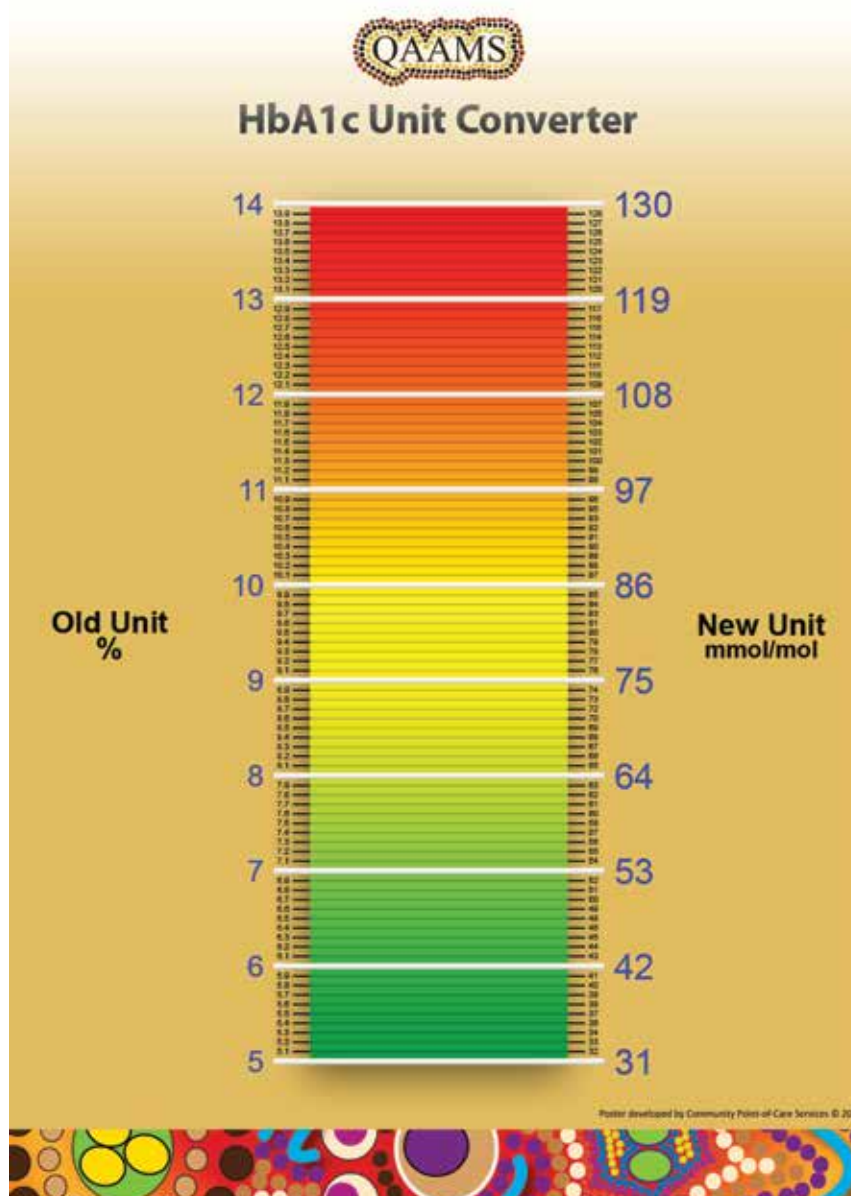
RESOURCES



Source: Nutrition Australia. The Australia Nutrition Foundation. 3rd Ed 2007. Online 6 February 2014.
http://www.nutritionaustralia.org/sites/default/files/imagecache/product_full/Aim%20for%20a%20Healthy%20Weight%20Poster_1.JPG

Table 1.2. Combining measures to assess obesity and disease risk* in adults			
Classification	Body mass index (kg/m ²)	Disease risk (relative to normal measures)	
		Waist circumference Men 94–102 cm Women 80–88 cm	Waist circumference Men >102 cm Women >88 cm
Underweight	<18.5	–	–
Healthy weight	18.5–24.9	–	Increased
Overweight	25.0–29.9	Increased	High
Obesity	30.0–39.9	High to very high	Very high
Severe obesity	>40	Extremely high	Extremely high
* Risk of type 2 diabetes, elevated blood pressure and cardiovascular disease		Source: NHMRC 2003a ²	

Source: NACCHO/RACGP. National guide to a preventative health assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP, 2012. Table 1.2. Combining measures to assess obesity and disease risk in adults.



Source: Flinders University, 2012. Quality Assurance for Aboriginal and Torres Strait Islander Medical Services (QAAMS) Community Point-Of-Care Services

Recommendations: Pneumococcal disease prevention

Preventive intervention type	Who is at risk?	What should be done?	How often?	Level/ strength of evidence
Immunisation	Healthy adults aged ≥50 years <i>See (http://www.racgp.org.au/yourpractice/guidelines/nationalguide/childhealth/immunisation/), for childhood vaccination recommendations</i>	Pneumococcal vaccine (23vPPV) is recommended for the prevention of invasive pneumococcal disease	Opportunistic: a second vaccination is recommended 5 years later	GPP
	People aged 15–49 years who are smokers or have an underlying high risk conditions (eg. chronic cardiac, renal or lung disease, diabetes, alcohol related problems, immunosuppression)	Pneumococcal vaccine(23vPPV) is recommended for the prevention of invasive pneumococcal disease	Opportunistic: A second vaccination is required 5 years later. A third vaccination is recommended 5 years later or at 50 years of age (whichever is later)	IIC
Environmental	n/a	Promote primary care, community based strategies to improve pneumococcal vaccination uptake and timeliness, particularly the implementation of reminder/recall systems	n/a	IA
	Communities	Promote community awareness of benefits and timeliness of vaccines and enhancing access to vaccination services		

Source: NACCHO/RACGP 2012. National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people. 2nd edn. South Melbourne: The RACGP 2012. Online: <http://www.racgp.org.au/your-practice/guidelines/national-guide/respiratory-health/pneumococcal-disease-prevention/>

WHAT'S THAT WORD MEAN?

Below are some common words that will come up in supporting patients with chronic disease prevention and management.

A

Aboriginal and Torres Strait Islander Health

Practitioner: Is a person registered by the Aboriginal and Torres Strait Islander Health Practice Board. The practitioner may use the titles:

- Aboriginal health practitioner,
- Aboriginal and Torres Strait Islander health practitioner,
- Torres Strait Islander health practitioner

Aboriginal Health Worker (AHW): All rounder who can assist in treating diseases and injuries, maintains health records, interprets medical jargon, plans and develops health programs for community

Acute: Is sudden, usually lasting for a short period of time but can get worse quickly and may require urgent attention

Angina: Chest pain or tightness from ischaemic heart disease (where blood vessels to the heart are narrowed)

Albumin: Is an important protein made by the liver that keeps fluid in place in the blood

Artery: A large blood vessel that takes blood from the heart to other parts of the bodyⁱ

Asymptomatic: Not having signs and symptoms of a disease

Audiologist: Tests and diagnoses hearing

B

Blood Glucose: Glucose (sugar) in a person's blood

Blood Vessels: The arteries, veins and capillaries that carry blood and products through out the body

Body Mass Index (BMI): Weight (in kilograms) divided by height (in metres squared)

Bronchial (tubes): The airways in the lung that branch from the windpipe (trachea)

C

Calcium: Needed for healthy bones and teeth and to keep the cells working properly

Carbon Monoxide: Colourless, tasteless toxic chemical with no smell. Can be found in smoke

Care Plans: Common term used to define a written statement about an individuals health needs and requirements. This can include any health care plan such as a Team Care Arrangement (TCA), General Practitioner Management Plan (GPMP), or Asthma Care Plan

Cardiologist: Specialist doctor who diagnoses and treats problems of the heart

Cataracts: A condition where the internal lens of the eye becomes less transparent (clear) making it hard for light to pass through to the retina and therefore harder to see

Chronic: Term used in health for conditions that are present for a long time (usually for at least 6 months)

Cilia: Small and hair-like, cilia line the airways to help clean out airways

Co-morbidities: When a person has been diagnosed with more than one chronic disease

Creatinine: A muscle waste product, this is regularly tested to look at kidney function

Credentialed Diabetes Educator (CDE): Is a health professional who has extensive knowledge and experience in diabetes prevention and management. CDEs are recognised by the Australian Diabetes Educators Association (ADEA)

D

Dentist: Specialises in examining, cleaning and repairing teeth

Diabetes Educator: Provides advice to people living with diabetes and how to manage it

ⁱ Kidney Health Australia. Kidney glossary - What does that word mean? Online: <http://www.kidney.org.au/KidneyDisease/KidneyGlossary/tabid/679/Default.aspx#V>



Diastolic blood pressure: Measure of blood pressure when your heart is at rest (when blood is being returned to your heart through veins). In a BP reading of 130/ 80 mm Hg the diastolic reading would be 80 mm Hgⁱⁱ

Dietitian: Provides information on healthy eating to help prevent and manage illness. Can also run programs to educate people on healthy eating either one on one or in a group setting

E

Emphysema: A condition where the elastic fibres in the breathing tubes (bronchi and bronchioles) become floppy and narrow and the air sacs (alveoli) of the lungs become stretched

Endocrine: 'Endo' means internal. The endocrine system secretes hormones from glands into the blood stream, such as the pancreas secreting insulin hormones into the bloodstream which is related to glucose metabolism

Endocrinologist: Diagnoses and manages people with diabetes and other conditions that affect glands e.g. thyroid and pancreas

estimated Glomerular Filtration Rate (eGFR): Measures the estimated volume of waste the kidneys filter against time

Exercise Physiologist: Provides advice on physical activity to help manage symptoms of conditions

F

Fasting Bloods: When an individual is required to fast (no eating or drinking) for a certain length of time before a blood test

G

General Practitioner (GP): Doctor who oversees all of a patient's care needs. GPs identify and manage illness, and make referrals when needed

General Practitioner Management Plan (GPMP): Plans developed and used by GPs to manage the health care of patientsⁱⁱⁱ

H

Health Check: A general term used to describe a range of activities undertaken to help prevent, determine the risk, identify, or manage, chronic diseases. Adult Health Checks are for people 15 years and over and are claimable under Medicare every 9-12 months and help earlier detection of disease.ⁱⁱⁱ It is the role of every health professional to encourage people to get an annual health check

Hypertension: Is high blood pressure, which can cause damage to the body. Normal blood pressure is usually expressed as 120/80mm Hg or lower

I

Insulin: Chemical or a hormone produced in the pancreas controlling the level of glucose (sugar) in the blood

Ischaemic: Inadequate supply of blood to an organ, or area of the body. This can cause strokes and heart attacks

Islets: Tiny cells in the pancreas, secreting the endocrine hormones. A degeneration of islet cells often leads to type 2 diabetes

J

Jaundice: Signs are yellowing of skin and/or in the whites of eyes. When the liver tries to process the body's breakdown of old and damaged red blood cells, bilirubin is then produced as a waste product. Excess bilirubin in the blood may mean the liver is not functioning well, leading to jaundice

K

Ketones: A chemical compound that builds up when the body needs to break down fats and fatty acids to use as energy because it isn't getting enough sugar or carbohydrates. This can result if diabetes is not managed well

Ketosis: When ketone levels are at a dangerous level. Symptoms include confusion and coma. This can result if diabetes is not managed well

ⁱⁱ Heart Foundation. Your blood pressure. Online: <http://www.heartfoundation.org.au/your-heart/cardiovascular-conditions/Pages/blood-pressure.aspx>

ⁱⁱⁱ Department of Health. April 2013. Online <http://www.health.gov.au/internet/main/publishing.nsf/content/mbsprimarycare-factsheet-chronicdisease.htm>

WHAT'S THAT WORD MEAN?

L

Lifestyle Changes: Recommendations made by health professionals for people to make changes to the way they live, with the aim of preventing and managing sickness and improving health

Liver Function Tests: Blood tests used to investigate and monitor patients with suspected liver disease. Also required when starting and monitoring use of hepatotoxic (liver-toxic) medications

M

Medicare: Australian government funding program that provides free or subsidised health care by health professionals such as doctors, specialists, optometrists, dentists and other allied health practitioners (in special circumstances only). Encourage all people to have a Medicare card

N

Nephrologist: Specialist doctor who diagnoses and treats kidneys

Nerve Damage: Caused by injury or lack of oxygen (carried by the blood stream) to an area of the body, and can result in no feeling in that area due to nerve damage

Neurologist: Specialist doctor who diagnoses and treats conditions of the nervous system, including the brain

Nurse Practitioner (NP): Is a Registered Nurse who has completed both advanced university study at a Masters Degree level and extensive clinical training to expand upon the traditional role of a Registered Nurse. NPs use extended skills, knowledge and experience in the assessment, planning, implementation, diagnosis and evaluation of care

Nutritionist: Helps people achieve good health by providing information, support and advice on food. They usually work with groups

O

'-ology/ -ologist': When located at the end of a word means the 'study of', or expert in that area of study

Ophthalmologist: Specialist doctor who provides care and tests eyes and vision, such as for retinopathy. Also trained to do eye surgery

Optometrist: Specialist doctor who detects, diagnoses and treats eye health and conditions that affects vision

P

Pathologist: Takes tests that involve examining blood, urine, tissue and cells in the body if a person has indicators of disease or not

Pharmaceutical Benefits Scheme (PBS): Australian government funding program that aims to cover costs of a wide range of prescription medicines

Pharmacist: Supplies and sells medication. Can provide advice on use of medicines

Phosphate: Works with other minerals to help regulate the body. In chronic kidney disease phosphate levels increase

Podiatrist: Diagnoses and treats any issues relating to the foot or ankle

Point-of-care (POC) test: Is a pathology test that is performed on a small portable medical device in the clinic

Posterior: Further back in position; opposite to anterior

Potassium: Important for the body cells. High or low potassium levels can cause an irregular heart beat

Prevention: Common actions to prevent chronic disease include adequate physical activity, nutritious diet, not smoking and limiting alcohol intake

Protein: A substance essential for growth and repair of cellular tissue

Q

Quality Assurance for Aboriginal & Torres Strait Islander Medical Services (QAAMS):

A program that can provide culturally appropriate and clinically effective diabetes management to Aboriginal and Torres Strait Islander people through the use of Point-of-Care Testing for HbA1c and urine ACR that is conducted under a quality management framework^{iv}



R

Renal Nurse Educator: A Registered Nurse with extensive renal experience who can provide further information to help kidneys stay healthy

Respiratory Specialist: Specialist doctor who diagnoses and treats people who are suffering from lung problems

Rheumatologist: Specialist doctor who diagnoses and manages conditions of the joints, soft tissues and autoimmune diseases

S

Smokerlyser: A simple hand held device able to measure carbon monoxide in the breath. Carbon monoxide is a toxic, odourless, colourless, tasteless gas. Smokerlysers can provide people with feedback about their exposure to carbon monoxide that is found in cigarette smoke

Sodium: Together with chloride makes up common salt. High levels of sodium may be a sign of dehydration

Speech Pathologist: Diagnose and treat people to assist with their communication or swallowing

Spirometry: Measures the level of obstruction and how hard and fast a person is able to breathe in and out. Spirometry confirms a diagnosis of COPD or Asthma

Statins: A group of medicines used to help lower cholesterol in the blood

Stress Test: A stress test is when a person is asked to exercise to make the heart work hard and beat fast while heart tests are done. As part of some stress tests, pictures are taken of the heart while the person exercises and while they rest. These stress tests can show how well blood is flowing in various parts of the heart and/or how well the heart squeezes out blood when it beats

Systolic blood pressure: Measure of the pressure of the blood being pumped around a body when it is at its highest peak (being pumped out of your heart through arteries). In a BP reading of 130/80 mm Hg the systolic reading would be 130 mm Hg

T

Team Care Arrangement: Arrangements made when patients with a chronic or terminal medical condition or complex care needs require care from a multidisciplinary team

Transversely: Crossing from side to side, lying crossways, or horizontally in anatomical position

U

Urea: A waste and breakdown product of protein in the body and food. Levels increase with chronic kidney disease, but can be lowered with low protein intake

Urinary System: Is made up of the kidneys, ureters (tubes between kidney and bladder), bladder and urethra (tube from bladder to opening of body)

V

Vascular: All the arteries, veins and capillaries that carry blood around the body

Veins: Carry deoxygenated blood around the body to the heart

W

Waist Circumference: Length around the waist, taken about 1 – 2 cms below the belly button and recorded in centimeters

Weight: A measurement of heaviness. For a person, weight is measured using kilograms

X

X-ray: Photo taken of the inside of bodies for both soft tissue and bones to help diagnose conditions

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal red lines across its entire width, typical of notebook or primary school writing paper. The background is a solid off-white color. There are no margins, text, or other markings present.

ARTWORK

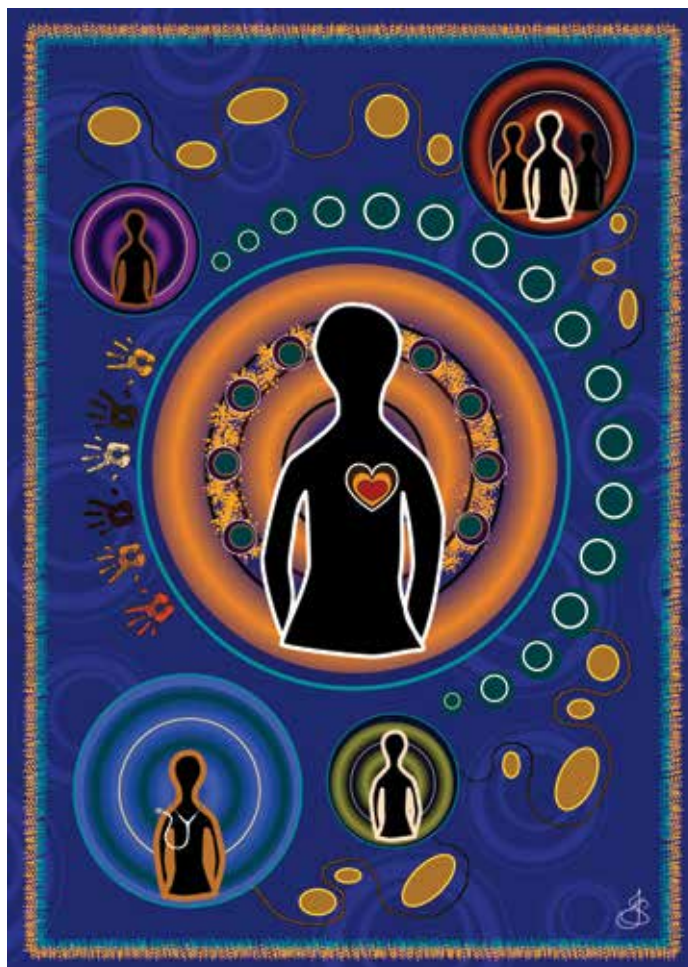
About the artwork

Chronic disease is an important issue in Aboriginal communities and requires care from a variety of people and professionals. The artwork illustrates the importance of chronic disease care by illustrating the different specialists, doctors, family and friends that may be needed to manage a chronic disease as this can often be many. The hands around the central figure symbolise 'healing hands', the other figures represent the many specialists and doctors that may be part of someone's health and wellbeing plan. There are also three figures that represent community and family which are vital in the continuity of care when at home.

Artist: Jasmine Sarin

I am a proud Aboriginal woman and acknowledge my family and mob from Kamilaroi country and Jeringa country both located in NSW. I have been raised mainly on the South Coast in Nowra and Wollongong but have country influences from Coonabarabran in Central West NSW.

My artwork tells the story of my experiences growing up and the aim to bring contemporary technologies and materials to one of the oldest cultures on earth. I pay my respects to my elders both past and present and acknowledge that the land on which I work and play on was, is and always will be Aboriginal land.





To order resources please contact
AH&MRC Chronic Disease Team
Phone: 02 9212 4777
Email: chronicdisease@ahmrc.org.au

All information was correct at time of printing.