The Work Of Your Kidneys & When Your Kidneys Get Sick
This book is intended as an education tool for both health workers and patients. It contains detailed and comprehensive information about CKD conditions and treatments. It is designed primarily to be used electronically (PDF document), with the intention to form the basis of a script for an audio visual (DVD) resource.

These books are intended as tools for health workers and renal nurses to educate patients.

These books are intended as tools for renal nurses and dietitians to educate patients.

These books are intended as a resource for transplant nurses to educate patients.

Aboriginal and Torres Strait Islander people are advised that these resources contain illustrations that may have a resemblance to deceased people.

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The Work Of Your Kidneys

Most people have two kidneys.

Your kidneys are connected to other parts of your body through your blood vessels.

Your heart pumps all your blood around your body and through your kidneys many times every day.
The Work Of Your Kidneys

Your kidneys have 5 jobs that keep you healthy:

1. Balance the good parts and waste parts of your blood.

2. Remove the waste from your blood through your urine.

3. Help keep blood strong and healthy.

4. Help keep bones strong and healthy.

5. Help keep blood pressure right.
The Work Of Your Kidneys

Doctors have learned about the work of the kidneys by studying the body and using a microscope. A microscope can see things that cannot be seen by our eyes.

If you look at a sample of blood under a microscope you can see how blood is made up of different parts.

You can see the difference between healthy blood, and blood that is affected by kidney disease.

Healthy blood

Kidney disease blood
The Work Of Your Kidneys

This is the medical story about how the kidneys work.

Breathing and eating gives your body the energy that it needs to live.

Like a car, which makes energy to drive from a mixture of petrol and air, your body makes energy to live from a mixture of food and air.
The Work Of Your Kidneys

As your body uses the energy it also makes waste that the body needs to get rid of. Some of this waste is water, salt, creatinine and urea. This waste travels around your body in your blood.
The Work Of Your Kidneys

Your blood carries this waste through your kidneys.

Your kidneys do the important work of balancing the food and air mix that is in your blood.

As the blood passes through your kidneys the good parts go back into the blood system. The waste parts go into the urine so that your body can get rid of them.

Healthy kidneys are always working to keep your blood and body healthy.
The kidneys do this work of getting rid of the waste by working like a filter.

An example of how a filter works is a fishing net. A fishing net has an open weave that lets smaller fish through and catches bigger fish.

Your kidneys work in the same way. They filter out the waste from your blood. The waste goes out of your body in your urine. The good parts keep going around your body through your blood.

In this example of the fishing net, the net is like the kidney, the small fish are like the waste parts of the blood, and the big fish are like the good parts of the blood.
The Work Of Your Kidneys

As well as balancing and filtering the waste parts of your blood, the kidneys have other jobs that are important in keeping you alive and healthy.

Kidneys make liquid chemicals called ‘hormones’. Hormones travel around your body through your blood.

A hormone is like a messenger that communicates information between different parts of your body. This information causes different actions inside your body.
The Work Of Your Kidneys

The hormones that kidneys make help your body to:

- Keep your blood healthy and strong
- Keep your blood pressure right
- Keep your bones healthy and strong
There are different kinds of kidney disease. This book is about the kidney sickness called ‘Chronic Kidney Disease’. It is also known as CKD, Kidney Disease, Renal Failure, Renal Disease and End Stage Kidney Disease.
Why Your Kidneys Get Sick

There are many reasons why people get kidney disease. Some common causes are:

- Diabetes
- High blood pressure
- Being overweight
Why Your Kidneys Get Sick

Having lots of infections over many years.

- Boils
- Scabies
- Infected feet
- Coughs and colds
- Infected teeth
Why Your Kidneys Get Sick

- Family history

- Mothers smoking, not eating well and being unhealthy.
When Your Kidneys Get Sick

If you have kidney disease it means that your kidneys cannot do the important work of:

1. Balancing the good and waste parts of your blood

2. Filtering the waste from your blood
   It is like the fishing net is tangled and the small fish that should be getting out are caught inside the net.
When Your Kidneys Get Sick

3. Controlling blood pressure

4. Keeping bones strong

5. Keeping blood healthy and strong
You can have kidney disease and not know about it. As your kidneys get sicker and sicker the feeling in your body may be changing so slowly that you do not notice it.

It’s like a frog in a puddle of water on a hot sunny day. That frog gets into the puddle early in the morning while the water is still cool. As the day heats up the water gets hotter and hotter. But it gets hotter very slowly and the frog does not notice any changes to the temperature of that puddle. By late afternoon the water gets so hot that the frog dies from over heating.

If you have kidney disease then you are like that frog and your kidneys are like the puddle of water on a sunny day, slowly getting sicker and sicker with out you noticing.
Eventually you will feel sick and weak from your kidney disease.

The time it takes for this to happen is different for everyone. It could happen very quickly - over a few months. Or it could happen very slowly - over many years.

That is why it is very important to visit your health clinic - so you can find out if you have kidney disease.
The doctors and nurses will ask you questions about your health, how you feel, and about how you live.

They will take urine and blood samples, which can tell how healthy or sick your kidneys are.
When Your Kidneys Get Sick

Your blood can be tested for creatinine, which can give a number called the ‘estimated Glomerular Filtration Rate’, also known as ‘eGFR’. The eGFR number gives you an idea of how healthy or sick your kidneys are.

Kidney disease can be measured in stages.

Kidney disease can be measured in stages.

Stage 1
Early Stages
eGFR > 90

Stage 2
Mild
eGFR 89 - 60

Stage 3
Moderate
eGFR 59 - 30

Stage 4
Severe
eGFR 29 - 15

Stage 5
End Stage
eGFR < 15
When Your Kidneys Get Sick

If your kidneys get really sick you will feel some, or all or these:

- Itchy
- Headache
- Not feel like eating
- Short Wind
When Your Kidneys Get Sick

- Swollen ankles, fingers, eyes or stomach
- Tired & sleepy
- Confused
- Blurry vision
- Swollen ankles, fingers, eyes or stomach
When Your Kidneys Get Sick

If you have kidney disease then it is really important to take care of your kidneys. The renal team and your health workers will be able to help you manage your kidney disease. They can help you to:

Learn about good life choices that will slow down your kidney sickness. Learn about the medical treatments you can do if your kidneys get really sick.
When Your Kidneys Get Sick

It is important to take care of your whole body by visiting these clinics:

- Dental clinic
- Feet clinic
- Woman's clinic
- Men's clinic
When Your Kidneys Get Sick

It is good to talk about kidney disease with your family.
By managing your kidney disease with the help of the health workers and your family, you can slow down that kidney disease and live longer.
The Chronic Kidney Disease Book

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