

Kidney disease and exercise

The main functions of the kidneys are to remove waste products and excess water from the body and to produce important hormones which help to form red blood cells. A loss of these kidney functions causes kidney disease and many factors can contribute, such as: diabetes, high blood pressure, blood vessel disease and kidney inflammation.

How does regular exercise help people with kidney disease?

A review of scientific studies (1) concluded that exercise training:

- increases aerobic fitness (the ability to exercise for a long time);
- improves muscle mass and strength/function, and reduces falls;
- decreases blood pressure in people with chronic kidney disease;
- reduces diabetes risk and improves glucose control in diabetics;
- aids weight loss and managing body weight; and
- reduces anxiety and depression.

Is exercise safe for people with kidney disease?

People with kidney disease can exercise safely, provided that:

- the exercise program begins slowly and progresses gradually; and
- all exercises are performed using the correct technique.

Many people with kidney disease also have other associated conditions; therefore exercise programs should be delivered by an accredited exercise physiologist who is qualified to recognise the exercise needs of people with kidney disease.

What types of exercise are recommended?

People with kidney disease should aim for a combination of (2):

Type of exercise	Intensity	Duration	Frequency
Aerobic (endurance) Resistance (strength) Flexibility (stretching)	Somewhat hard**	5-7 days per week	30 minutes per day

** Somewhat hard = your breathing and heart rate should increase, making it difficult to talk continuously while exercising

How should a resistance training program be created?

Type of exercise	How many days?	How many sets?	How many exercises?	How hard?
Resistance training (e.g. weight lifting)	Two non-consecutive days	1 set to fatigue	8-12 exercises, prioritising major muscle groups	A weight which can be lifted for 12-15 repetitions

What is a typical exercise session?

Each session should include:

- warm-up exercise of 5–10 minutes before the main exercise phase, with exercises including: light aerobic and stretching exercises; and
- main exercise phase involving aerobic exercise that targets large muscle groups with exercises including: walking, jogging, cycling or swimming.

TIP: Try exercising with a partner or in a group, so that you develop a support network.

What about exercise for people on dialysis?

It is possible to exercise during haemodialysis e.g. by cycling on a stationary bicycle (2); however it may be more convenient for patients to exercise on nondialysis days. Also a patient may become hypotensive (low blood pressure) after haemodialysis and should avoid exercising directly afterward.

References and further information

Exercise is Medicine Australia www.exerciseismedicine.org.au

Find an Accredited Exercise Physiologist www.essa.org.au

Exercise Right www.exerciseright.com.au

1. Howden EJ et al. Sports Med; 42:473-8 2012.

2. Smart NA et al. JSAMS; 16:406-411, 2013

