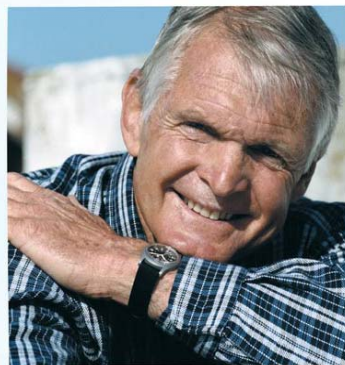


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Pre-Dialysis Education

Understanding Your Treatment Options



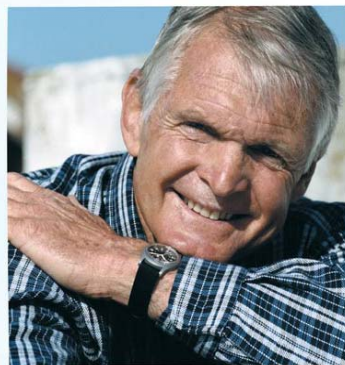
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RAYTED

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Understanding Your Treatment Options

Introduction



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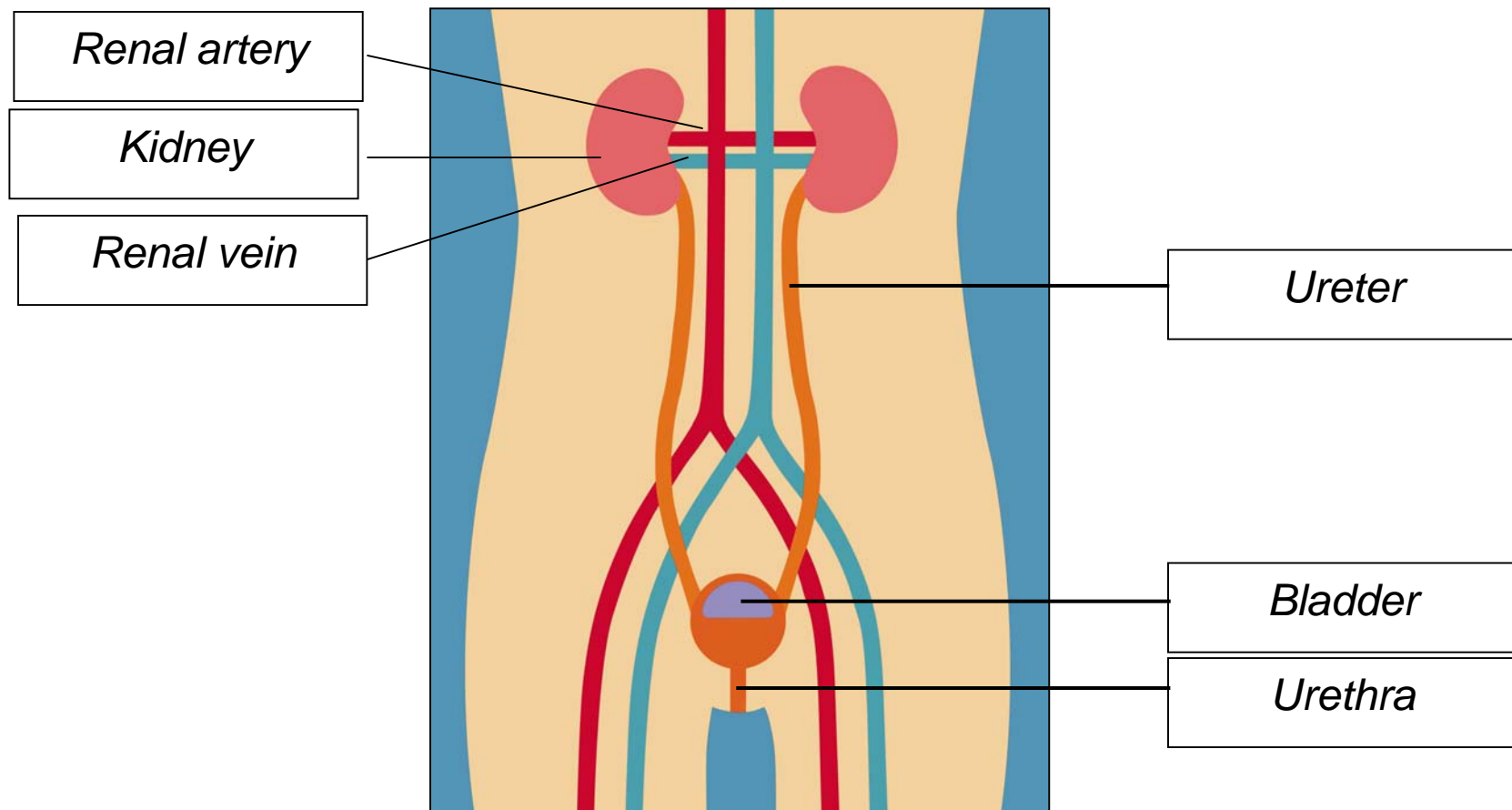
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Rate of kidney failure in Australia and New Zealand

- Kidney failure increasing by 6% per annum
- 600,000 patients are expected to be affected by kidney disease by 2010
- Dialysis is performed worldwide
- Anyone can have kidney failure

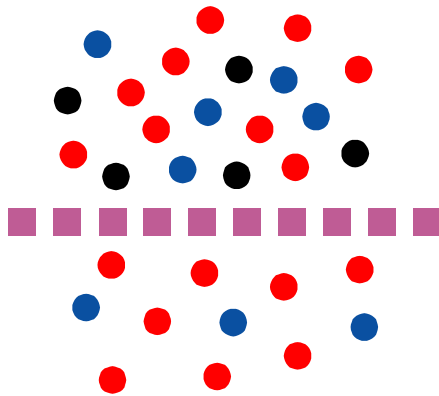


Where are the kidneys?

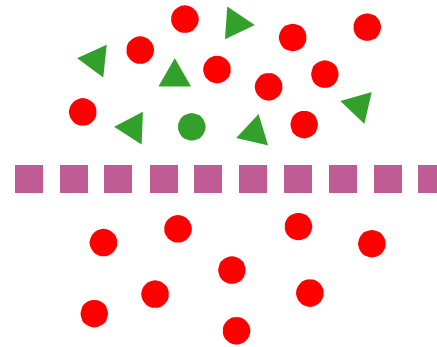


What do the kidneys do?

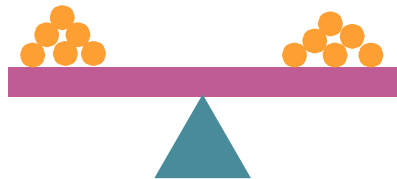
Clean the blood and remove extra fluid



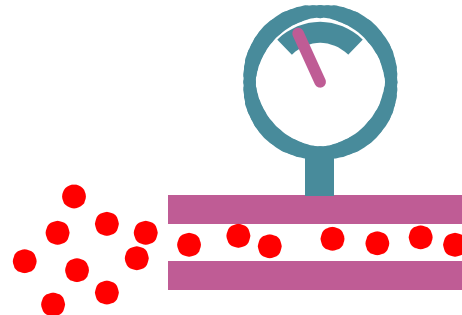
Filter out waste products



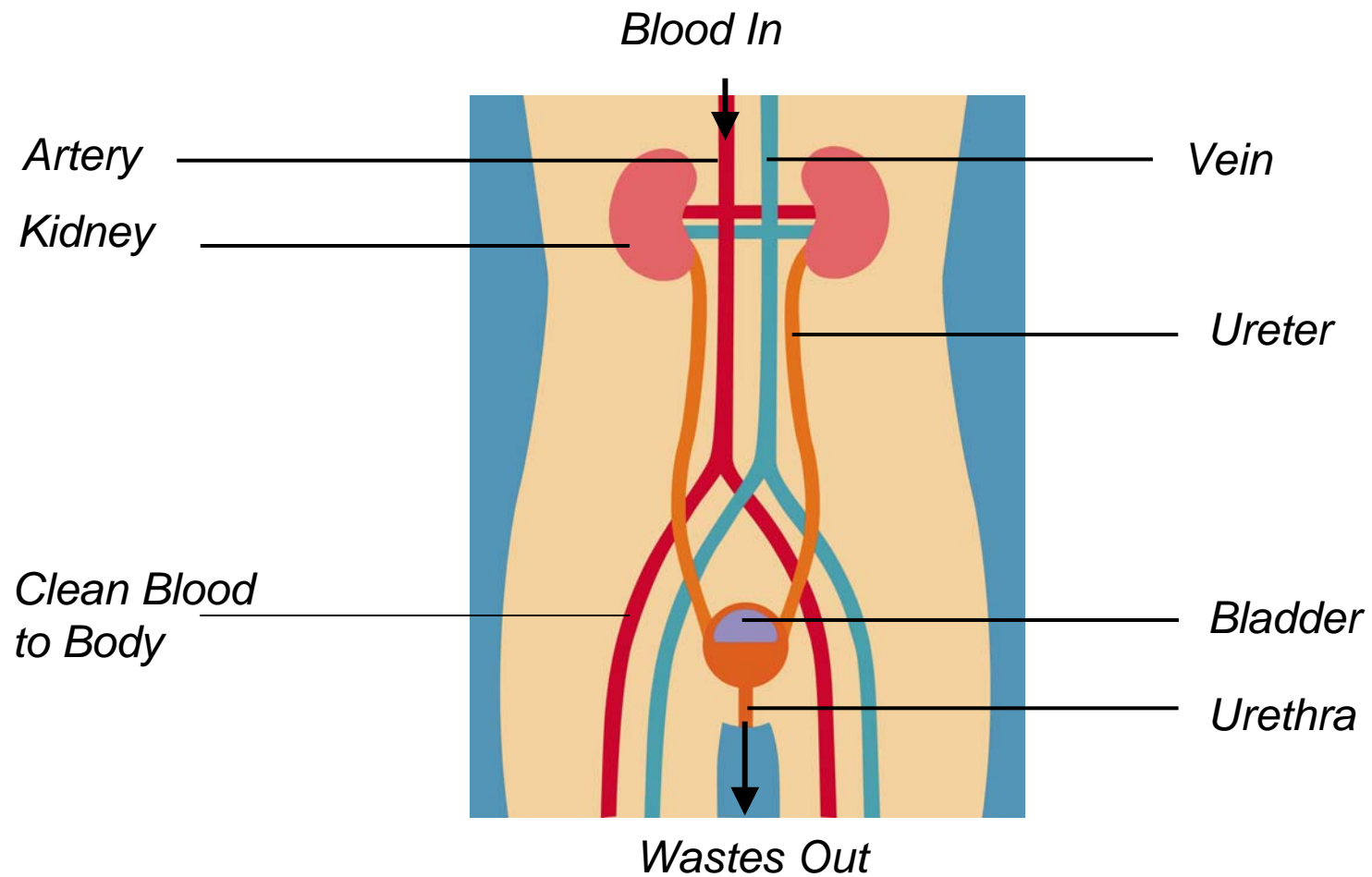
Keep your body chemicals in balance



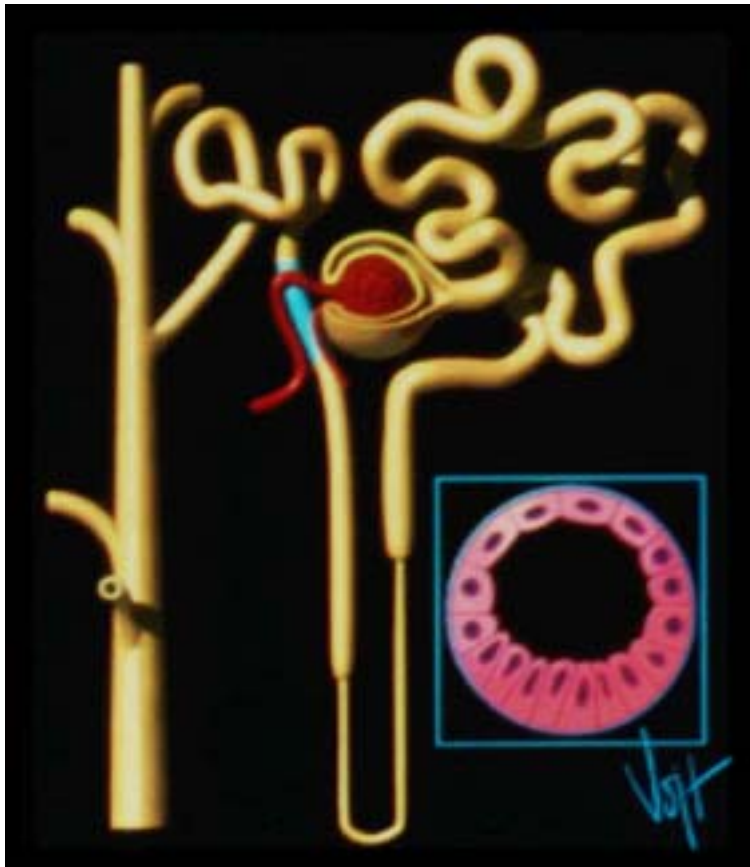
Control blood pressure and red blood cells



How do the kidneys work?



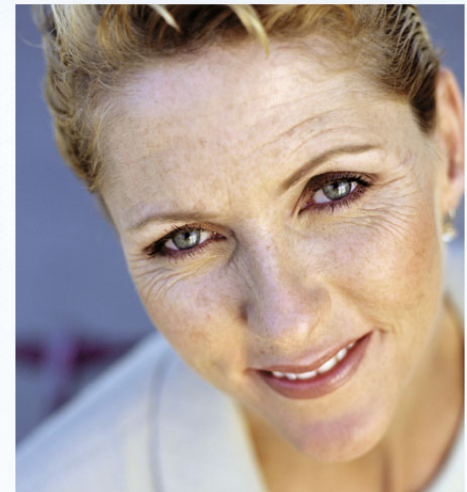
What do the Nephrons do?



- Nephrons are microscopic units inside the kidney that:
 - Filter blood to remove wastes and excess fluid
 - Balance the amount of fluid and chemicals your body needs
 - Discard what your body does not need as urine

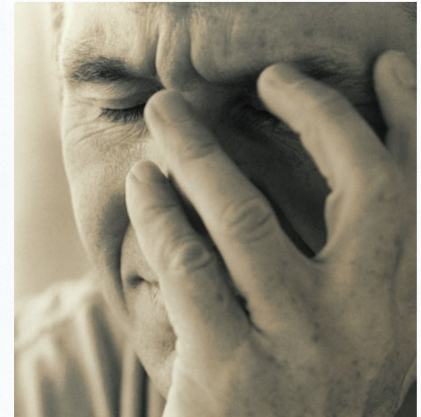
What is kidney failure?

- When kidneys stop working or when the level of working is less than 15%
- The result is a build-up of fluids and chemical wastes in the body
- This condition is life-threatening unless treated by dialysis or kidney transplantation



What is uremia?

- When waste products build up in the blood
- Possible symptoms:
 - Loss of appetite
 - Nausea and vomiting
 - Headache
 - Drowsiness or confusion
 - Trouble concentrating
 - Itching
 - Trouble sleeping
 - Bruising/bleeding easily
 - Swelling (edema)
 - Shortness of breath
 - High blood pressure
 - Puffiness around the eyes
 - Decreased sexual interest
 - Decrease or increase in frequency of urination



What is anemia?

- A low red blood cell count
- Possible symptoms:



- Ongoing fatigue
- Shortness of breath
- Rapid, irregular heartbeat
- Trouble concentrating
- Impotence
- Feeling dizzy or lightheaded
- Constant feeling of being cold

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What causes kidney failure?



- Diabetes
- Untreated high blood pressure
- Inflammation
- Heredity
- Chronic infection
- Obstruction
- Accidents

How do you treat patients with kidney failure?



- Diet and fluid management
- Medications
- Kidney dialysis
 - Haemodialysis
 - Peritoneal Dialysis
- Kidney transplantation
- Non-treatment

Selecting a treatment

You need to take an active role in your own care!

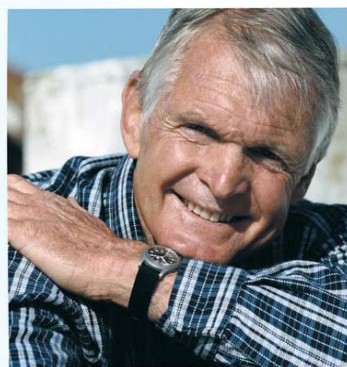


- Learn the facts
- Consider your medical condition and lifestyle
- Talk over your options with your health care team and your family
- Treatments may change as your needs change

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Understanding Your Treatment Options

Adjustment



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How does kidney disease affect the family?



- Roles
- Rules
- Style
- New roles
- Independence and dependence

Typical emotional reactions

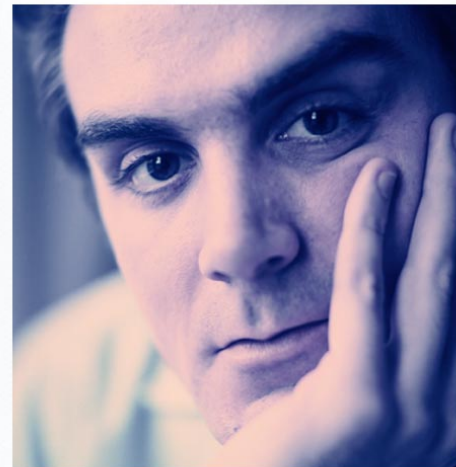
- Feelings
 - Denial
 - Acceptance
 - Depression
 - Anger
 - Fear
 - Guilt
- Having feelings is normal and healthy



Typical behaviour changes

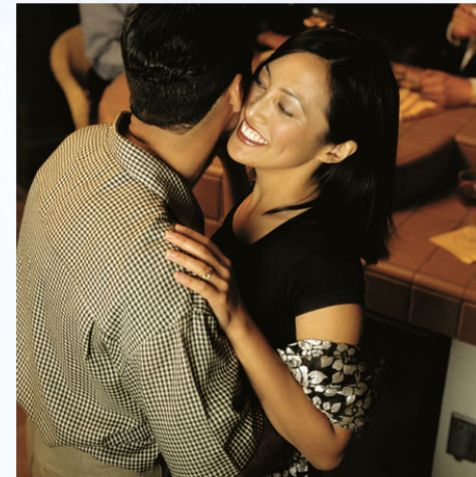
Many of these changes are temporary

- Irritability
- Moodiness
- Confusion
- Depression
- Easily tired
- Edginess
- Memory loss
- Problems with sleep
- Anger
- Lowered energy level



How will renal failure affect sexuality?

- It is important to discuss the physical and emotional changes that occur with renal failure
- Often a chronic illness will change one's desire for sexual intimacy
- These problems can often be treated and corrected



Children and/or the need for contraceptives



- Discuss the use of contraceptives with your physician
- Discuss the desire for children with your physician

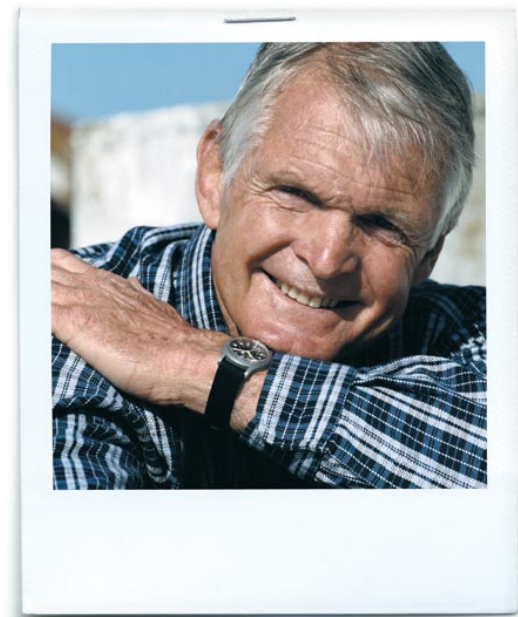
Successful adjustment

Signs of successful adjustment:

- Medical treatment becomes more routine
- Knowledge wins over anxiety
- Time passes
- Patient and family feel more settled
- A sense of calmness is experienced

Secrets of successful adjustment:

- Education
- Professional help
- Communication
- Attitude
- Sense of humor
- Activity



Secrets of successful adjustment

- Secret 1 - Education
- Secret 2 - Professional help
 - Knowledge conquers fear, so obtain as much education as possible about kidney disease and its treatment



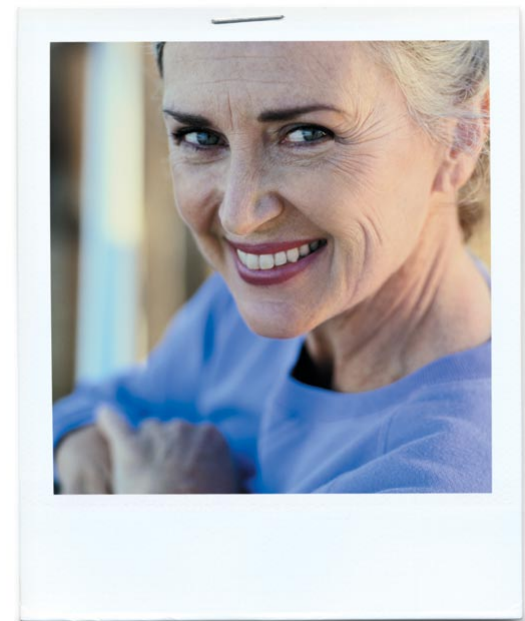
Secrets of successful adjustment

- Secret 3 – Communication
 - Keeping friendships and family relationships going is as important to your mental health as medical treatment is to your physical health



Secrets of successful adjustment

- Secret 4 - Attitude
- Secret 5 - Sense of humor
 - Having a positive attitude and a sense of humor will help you gain the best results from your treatment



Secrets of successful adjustment

- Secret 6 - Activity
 - Once you are feeling better, it will be important to return to as many of your past activities as possible



Selecting a treatment

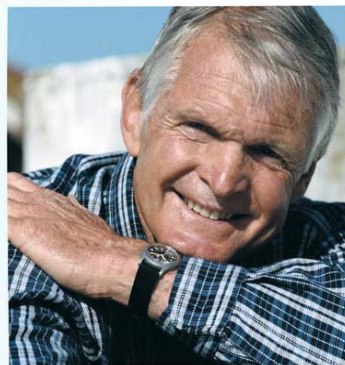
- Learn the facts about each treatment option
- Consider your medical condition and lifestyle
- Talk over your options with your health care team and your family
- Treatment may change as your needs change



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Understanding Your Treatment Options

Diet

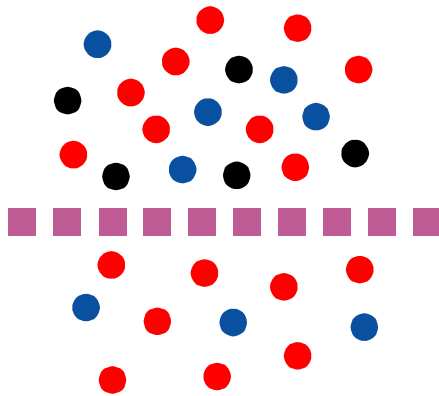


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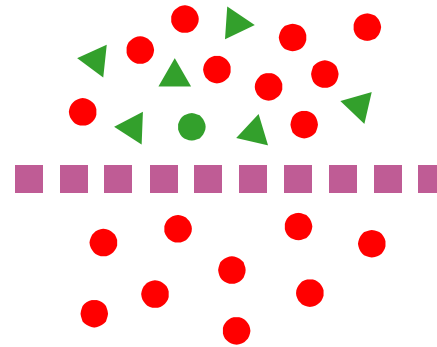
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What do the kidneys do?

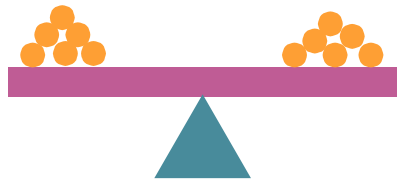
Clean the blood and remove extra fluid



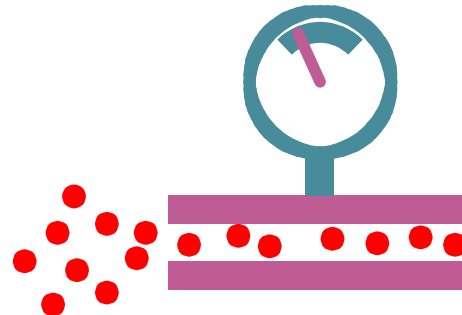
Filter out waste products



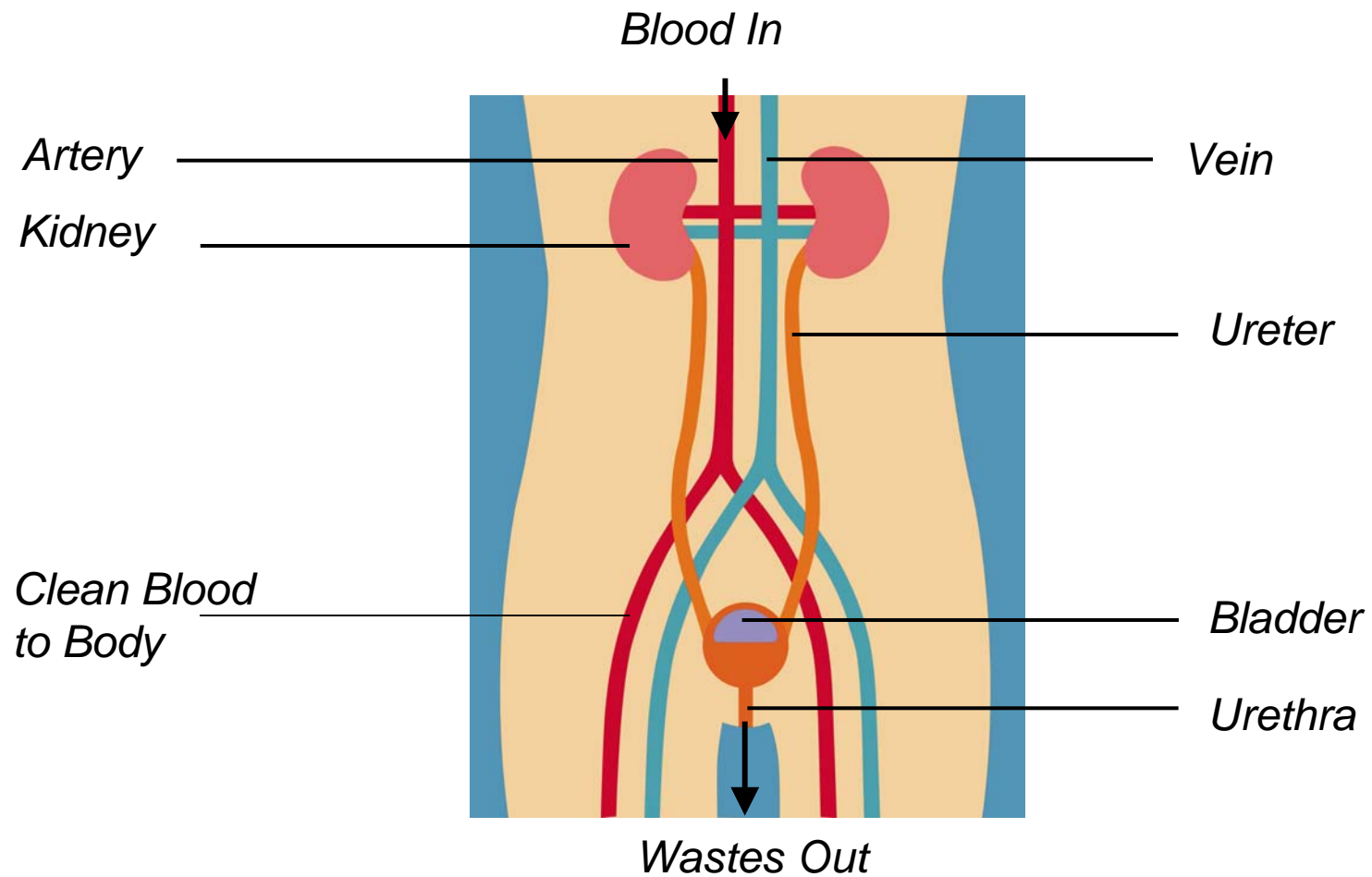
Keep your body chemicals in balance



Control blood pressure and red blood cells

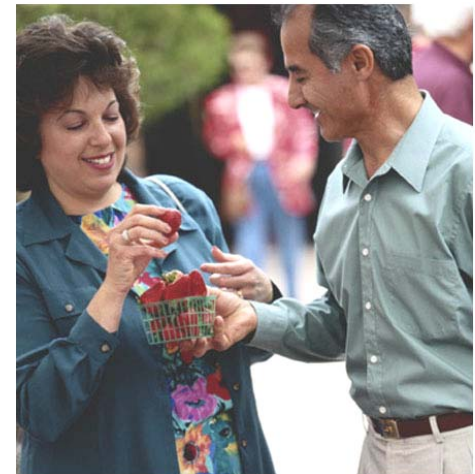


How do the kidneys work?



Why is diet important?

- Managing your diet can slow your renal disease
- The need for dialysis can be delayed
- Your diet affects how you feel



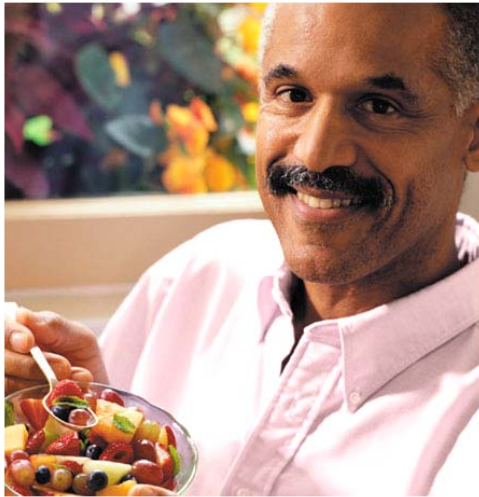
Managing your diet

- Each person's diet is individualised by the physician and dietitian
- Learn all you can about your diet
- Take an active role in planning your diet



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Controlling your diet



- The most important foods to control are those containing:
 - Protein
 - Potassium
 - Sodium
 - Phosphorous
 - Fluid

Proteins

- Proteins keep your body tissue healthy
- Proteins must be eaten each day
- High quality protein (animal protein)
 - Dairy (milk, cheese)
 - Meat (steak, pork)
 - Poultry (chicken, turkey)
 - Eggs
- Low quality protein (plant protein)
 - Vegetables
 - Breads
 - Cereals



Potassium

- Potassium is a mineral that helps muscles and nerves work the right way
- Damaged kidneys can cause a build-up of potassium in your body
- Major sources of potassium include:
 - Milk
 - Potatoes
 - Bananas
 - Oranges
 - Dried Fruit
 - Legumes
 - Nuts
 - Salt substitute
 - Chocolate

Sodium

- Sodium is a mineral that is important in controlling blood pressure
- Sodium is found in most processed foods, especially salt.
- Too much sodium can cause swelling, high blood pressure, weight gain and difficulty breathing
- Try using alternate food seasonings:
lemon and limes, spices,
seafood seasoning, Italian
seasoning, vinegars, peppers
- Avoid salt and salt alternatives e.g. low salt



Fluids

- Healthy kidneys remove fluids as urine
- As kidney function declines, you make less urine and fluids build up in your body
- Check for fluid and sodium retention
- You will need to restrict your fluid intake



Phosphorus

- Phosphorus is a mineral which combines with calcium to keep bones and teeth strong
- Too little calcium and too much phosphorus
- You will need to control the phosphorus in your diet
- You may need to take a phosphate binder or a calcium supplement



Do I need to limit calories?

- Calories are needed in your diet for energy and for maintaining your body weight
- It is important to eat enough calories every day



What about vitamins?

- Your physician will prescribe your vitamins, which may include:
 - Folic acid
 - Iron supplements
- Do not take OTC's without consulting your doctor.



How will I know that my diet is working?

- The best indicators of how well you are following your diet are:
 - Weight loss or gain
 - Blood pressure
 - Swelling of hands and feet
 - Blood samples



Know your numbers

Blood/Urine Test	Your Value	Normal for You
Serum Creatinine		
GFR (24 hour urine)		
Urea		
Potassium (K+)		
Phosphorus		
Calcium		
Albumin		
Haematocrit/Haemoglobin		

Grocery shopping and cooking

- All of the foods in your diet are easy to find in your grocery store
- Read all food labels for “hidden ingredients” such as salt, sodium chloride, potassium chloride and MSG

- Recommended Cookbook:

“Back On The Menu”

by Kidney Health Australia

Call 1800 682 531 for more information



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Dining out

- Once you understand your diet, you will be able to pick the correct foods to eat, whether you are at home or in a restaurant.



How is diet different for each treatment?

-
- | | |
|-----------------------|---------------------------------------------------------------------------------------------------------|
| ■ Haemodialysis | Diet and fluid restricted |
| <hr/> | |
| ■ Peritoneal Dialysis | May have fewer restrictions for proteins, fluids and potassium |
| <hr/> | |
| ■ Transplantation | May have fewer restrictions for proteins, fluids and potassium, but more restrictions on calorie intake |
-

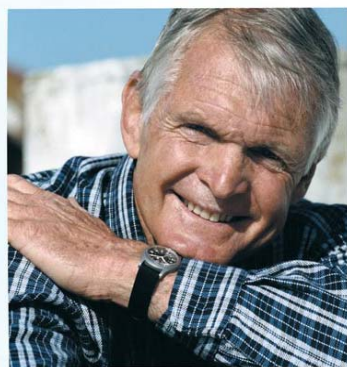
Summary

- Like learning a new skill, time and practice are needed to succeed in managing your renal diet
- Patience and good communication with your physician and dietitian are important
- Remember, each person's diet is set up for him or her, because no two people are alike
- You have excellent support in your dialysis unit to help you practice diet planning

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Understanding Your Treatment Options

My Treatment Options



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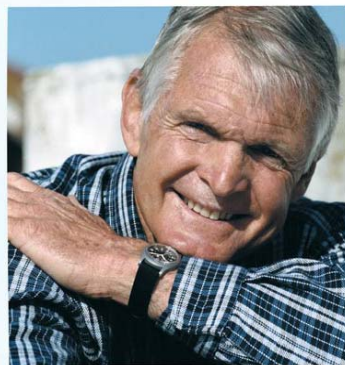
Summary

- The main treatment options for End Stage Renal Disease (ESRD), or kidney failure include:
 - Peritoneal Dialysis
 - Haemodialysis
 - Kidney Transplantation
- There are two options for **Peritoneal Dialysis** - performing the therapy manually (this method is called Continual Ambulatory Peritoneal Dialysis or CAPD), or automatically via the use of a cyclor machine (this is called Automated Peritoneal Dialysis or APD).
- There are also two options for **Haemodialysis** – having your therapy treated in a hospital ‘clinic’ setting with the assistance of nursing staff, or on your own or with the assistance of a partner at home.

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Understanding Your Treatment Options

Haemodialysis



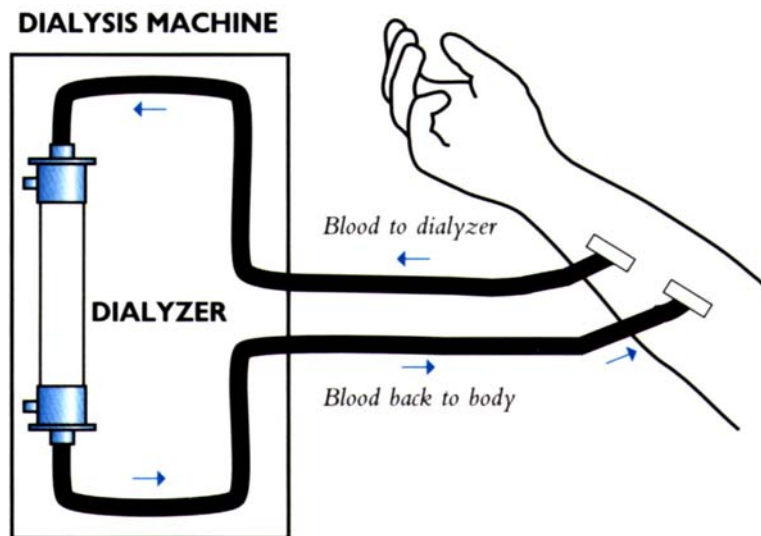
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What is Haemodialysis?

- The word “haemo” refers to blood. Haemodialysis is a process which balances blood chemistry (electrolytes) and filters wastes and fluids from the blood
- The blood travels outside the body through tubing and passes through a filter on a dialysis machine
- The filter cleans the blood
- The clean blood is returned to your body
- This therapy is typically performed at a self care dialysis center

What happens during Haemodialysis?



- The dialysis machine pumps the blood through the filter - called a dialyser
- Two needles are inserted into your arm for each treatment
 - One withdraws the blood
 - One returns the filtered blood to your body

Is there a risk of getting a blood disease from other patients?

- Haemodialysis staff are carefully trained resulting in a lowered risk to patients
- Your blood never touches any surface where another person's blood has been
- Each person has his/her own needles, tubing and filter which are attached to the dialysis machine just for that treatment



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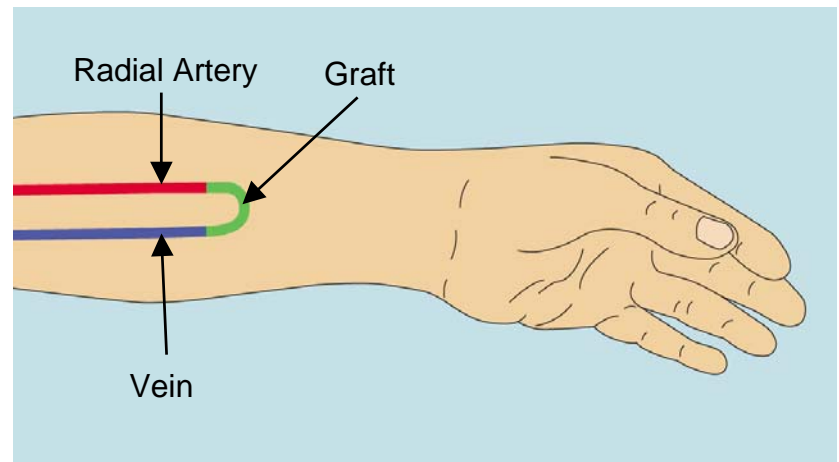
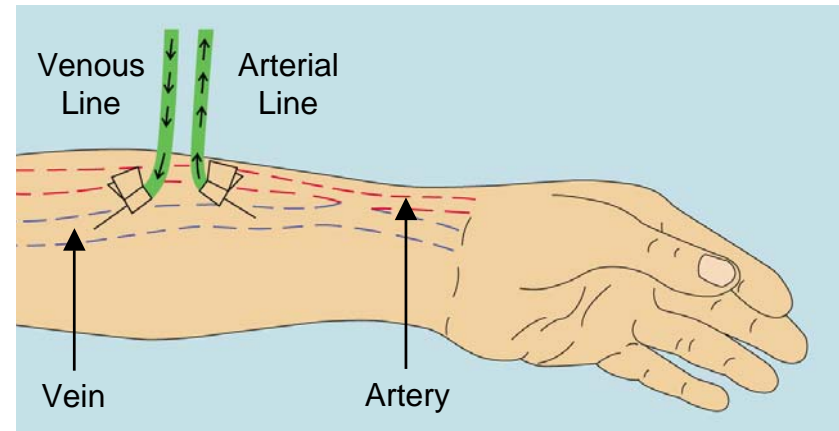
Your treatment schedule



- 3 days a week
- 4-5 hours per treatment
- Your Renal Care Team will work with you to determine the right schedule, diet and type of dialysis for you

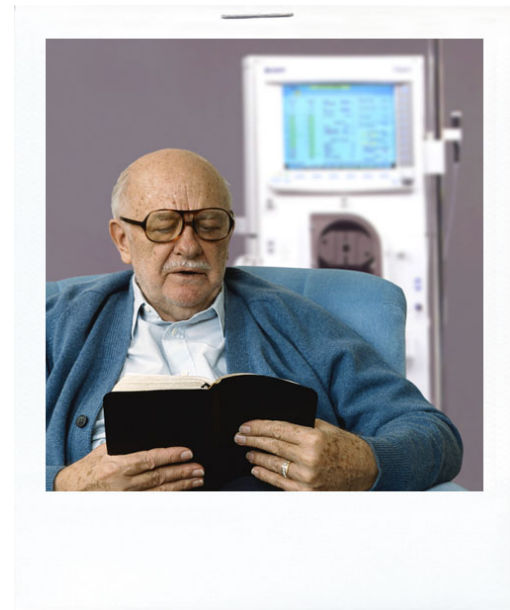
How is blood removed and replaced?

- A “Fistula” is the surgical linking of an artery to a vein providing access to blood vessels
- A “Graft” is tubing surgically placed under the skin, linking an artery to a vein



Possible access problems

- Clotting
Some people have problems with blood clots that grow in the fistula or graft
- Infection
Any redness, drainage, or signs of infections should be quickly reported



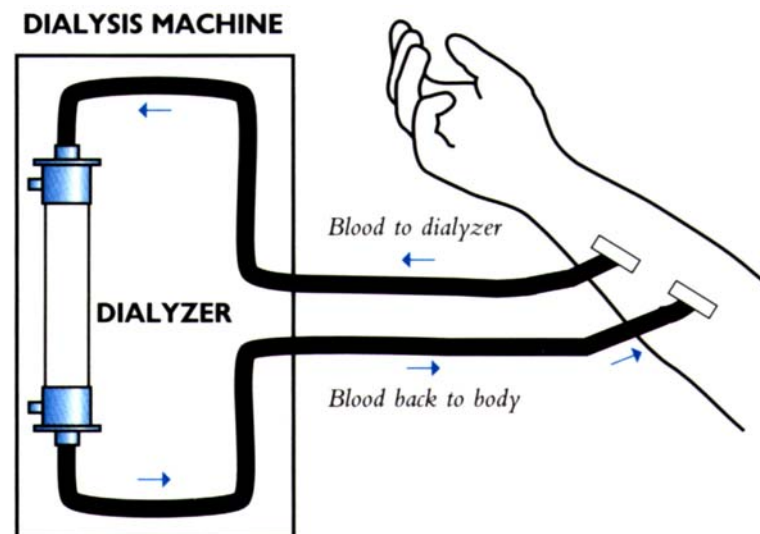
Caring for the access



- Avoid anything that puts pressure on the access
- Avoid sleeping on the access area
- Do not wear tight jewelry or elastic clothing over the access
- Do not let anyone draw blood from the access or use your access for taking blood pressure

A dialyser acts as an artificial kidney

- The 'Dialyser' is sometimes called an 'Artificial Kidney' because it is a man-made replacement for the damaged filters in your own kidneys



What does the dialysis machine do?



- Prepares the dialysate
- Monitors the treatment

Potential problems during Haemodialysis

- Although problems are rare, it is important to understand what could happen
 - Low blood pressure
 - Nausea
 - Cramping
 - Headaches
- Whether you experience problems depends greatly on how well you follow diet and fluid guidelines between treatments, your age and your general physical condition

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New developments in Haemodialysis



- Short daily dialysis
 - Not all patients are candidates
 - Not all dialysis centers offer this type of treatment
 - Your physician will prescribe the appropriate therapy to meet your individual needs
- Nightly Home Haemodialysis
 - Performed nightly while you sleep

Clinic Haemodialysis



- Patient takes an active role in clinic Haemodialysis treatment
- Dialysis staff are on hand to assist
- The patient is responsible for:
 - Preparing the dialysis machine
 - Placing the needles
 - Adjusting machine settings
 - Charting progress

Home Haemodialysis

- Patient and partners do the Haemodialysis treatments at home
- Usually takes as long as 1 to 2 months to learn
- Full nursing & clinic support

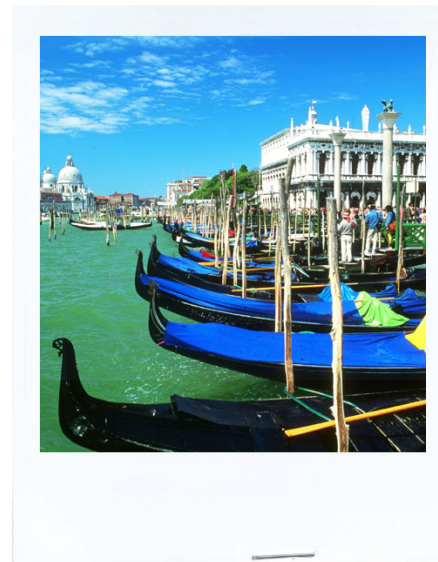


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How will my lifestyle change?



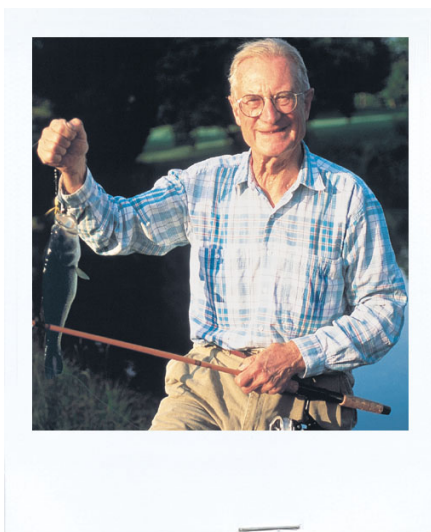
Diet



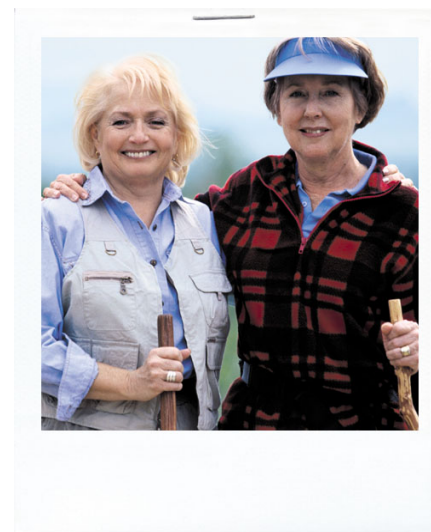
Travel

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How will my lifestyle change?



Sports



Activities

Clinic Haemodialysis

Advantages

- Regular contact with other Haemodialysis patients and staff
- 3 treatments per week (4 days off)
- No need for keeping equipment/supplies at home
- Immediate access to medical help during therapy

Disadvantages

- Travel to centre/ unit 3 times a week, on a fixed schedule
- Need a permanent access, usually in your arm
- Insertion of 2 needles for each treatment
- Restricted diet/limited fluid intake
- Possible discomfort such as headache, nausea, leg cramps, tiredness

Home Haemodialysis

Advantages

- Help from family members
- More control over when you dialyse
- No travel to a clinic for treatment
- Works during sleep, for some people

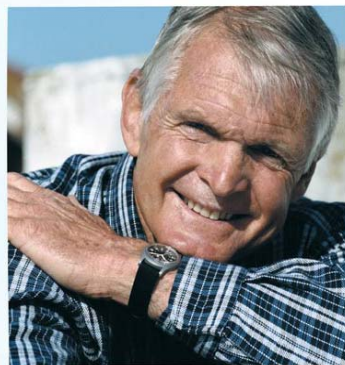
Disadvantages

- Need for a permanent access, usually through your arm
- Insertion of 2 needles for each treatment
- Restricted diet/ limited fluid intake
- You need to be trained
- Storage space required for equipment and supplies
- Need to call 000 (Aust) or 111 (NZ) in the event of an emergency during therapy

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Understanding Your Treatment Options

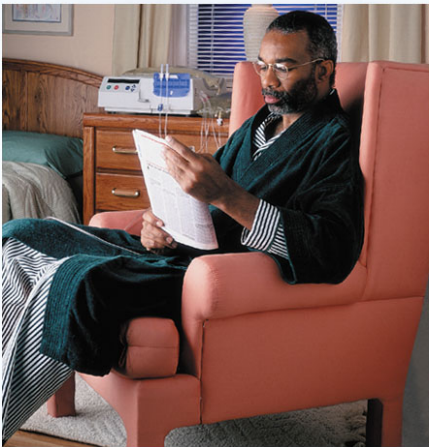
Peritoneal Dialysis



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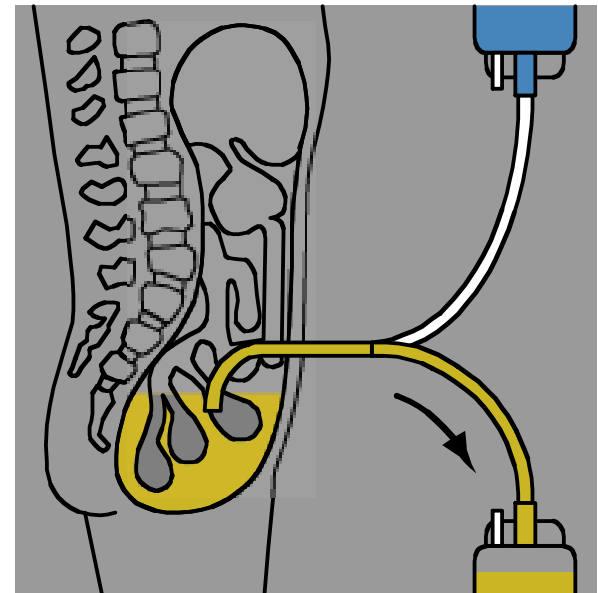
What is Peritoneal Dialysis



- Just like in Haemodialysis, Peritoneal Dialysis (PD) uses a filter to clean the blood and remove excess fluids
- With PD, the blood is cleansed inside the body using one of the body's own membranes, the peritoneum, as the filter
- PD is performed primarily as a home therapy

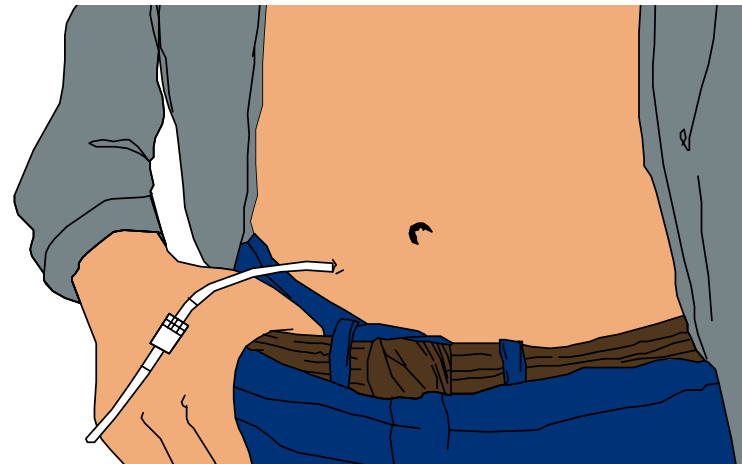
How does Peritoneal Dialysis work?

- PD uses your peritoneal membrane - the lining of your abdomen - as the filter
- Solution is placed in the abdomen in contact with the peritoneal membrane for several hours
- Waste and fluids pass through the filter, then the solution and waste are drained from your abdomen



The catheter

- For PD, a tube called a catheter is surgically placed through the wall of your abdomen as a permanent access for PD
- The catheter is usually placed about an inch below and to the side of the navel
- About 5-6 cm of the catheter extends out of the body



What is CAPD?



Continuous Ambulatory Peritoneal Dialysis

- CAPD is done manually and is a self-care therapy
- CAPD has been in use for over 28 years

What is APD?

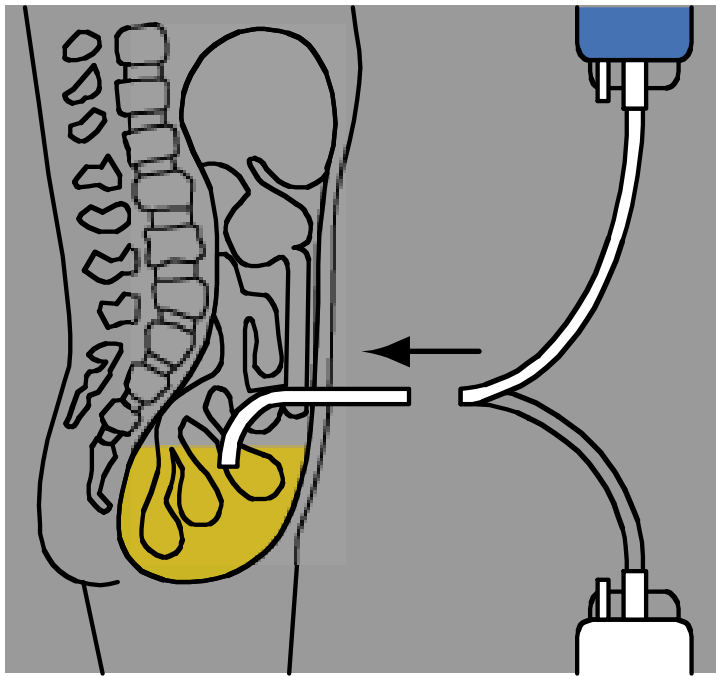
Automated Peritoneal Dialysis



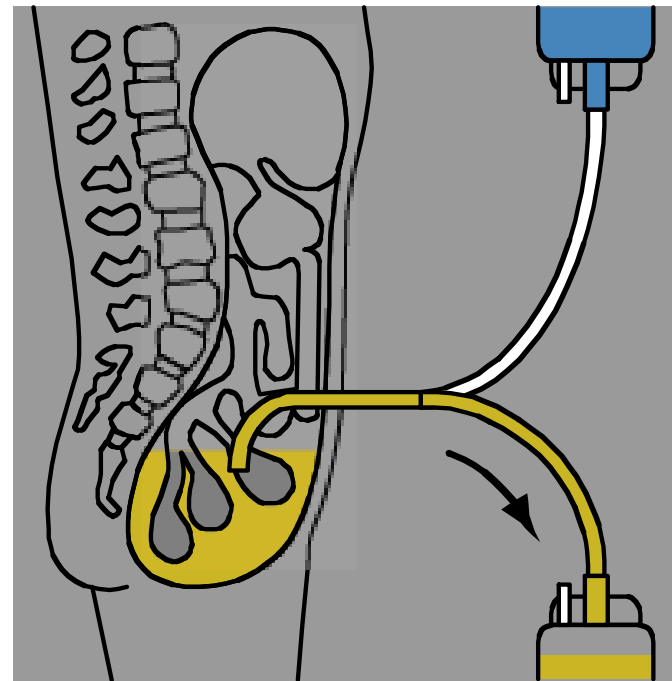
- Dialysis exchanges are done at home, with the help of a “cycler” machine
- The cycler machine does exchanges while you sleep and can be used additionally during the day
- In the morning, you detach the tubing from the cycler

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How do I perform a CAPD treatment?



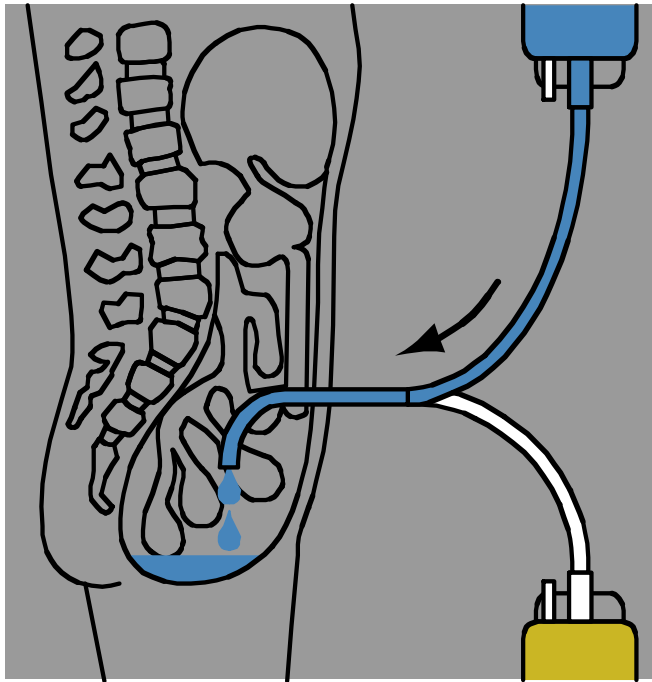
Connect



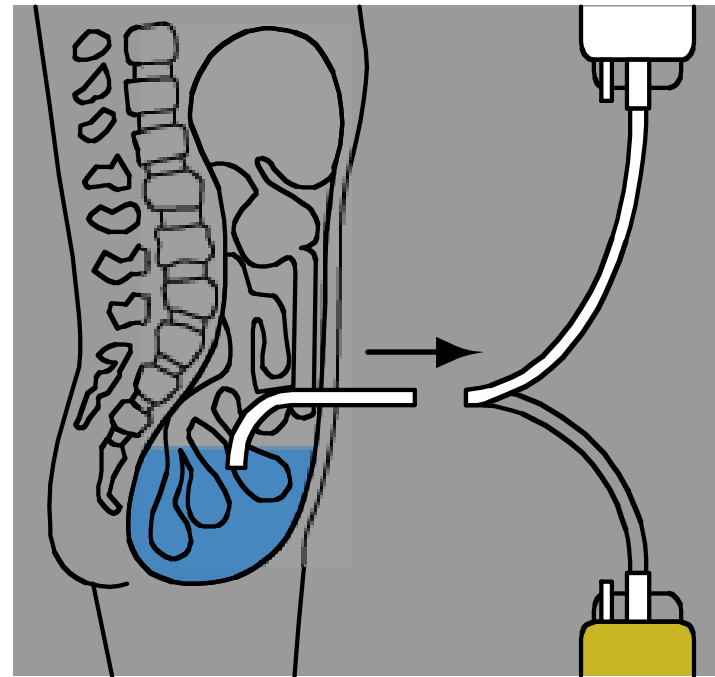
Drain

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How do I perform a CAPD treatment? (cont.)



Fill



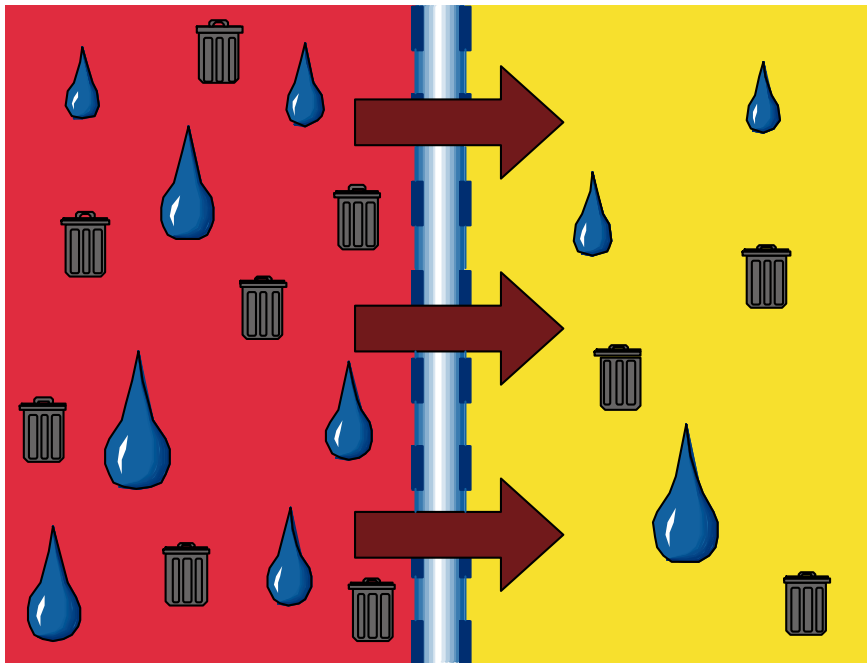
Disconnect/dwell

When and where can I perform a CAPD exchange?

- Exchanges are performed when you wake up in the morning, at lunch, near dinner and before going to bed
- An exchange takes about 30 minutes
- Exchanges can be performed in any clean area at home, at work, at school or even on holidays



What happens during Peritoneal Dialysis?



Waste products (shown by trash cans) and excess water (shown as water drops) cross the membrane and are drawn into the dialysis solution by the process of osmosis and diffusion

How do I learn how to do Peritoneal Dialysis?

During training you will learn how to:

- Do an exchange
- Take your blood pressure
- Check your weight and evaluate fluid
- Care for your exit site and catheter
- Understand your diet and medication
- Evaluate signs and symptoms of infection



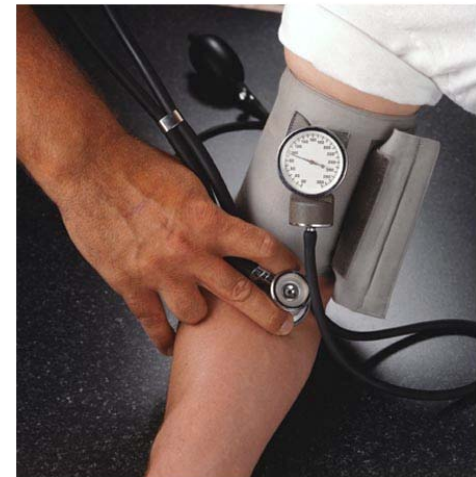
What about infection?



- Advances in PD have made infection less of a problem
- Early detection
- Antibiotics

What is involved in follow-up care?

- Regular clinic visits with your physician and PD team
 - Usually monthly, to see how you are doing
- Home visit
 - After initial training, to help you adjust to home care
- Phone calls
 - To answer any questions



How does a patient get supplies?

- Your physician writes your prescription
- You will learn how to order your supplies and arrange for delivery
- Supplies are delivered by a dialysis equipment and supply company
- Your HomeCare driver will carry and stack all of your supplies



Who would I call if I have a problem?

- Your dialysis unit has rules for you to follow on what to do if you need help
- Often you can wait until the next morning if you need to go to the clinic
- Your PD team has someone “on call” to help and advise you

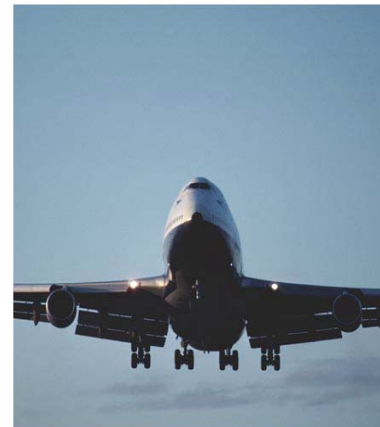


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How will my lifestyle change?



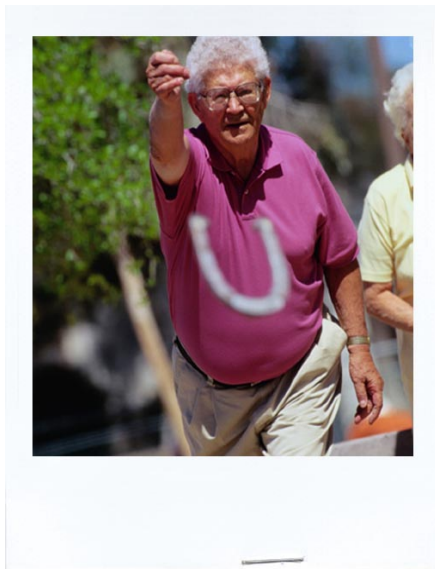
Diet



Travel

take**control**

How will my lifestyle change?



Sports



Activities

Peritoneal Dialysis

Advantages

- Fit your treatment around your lifestyle
- Independence – mostly you perform your therapy yourself
- Few fluid diet restrictions
- Fewer visits to the dialysis unit (usually once every month)
- No needles
- Better blood pressure control
- Continuous therapy is gentler and more like your natural kidney function
- Portable and flexible – easy to take your therapy with you when you travel

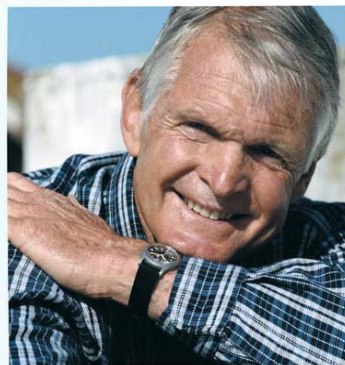
Disadvantages

- Exchanges need to be made daily
- Permanent catheter
- Some risk of infection
- May show a slightly larger waistline (due to carrying fluid)
- Storage space required in your home

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Understanding Your Treatment Options

Transplantation

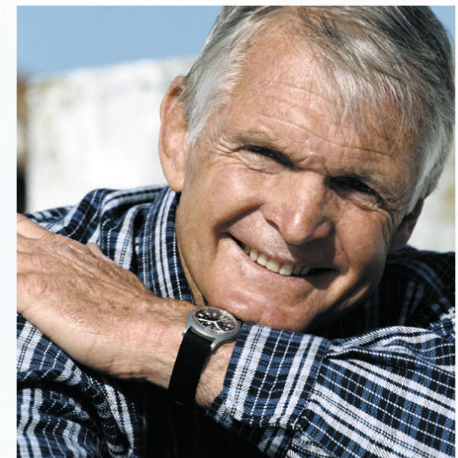


Baxter

RAYTED

What is kidney transplantation?

- A kidney transplant is an operation in which a healthy kidney from another person is placed into your body
- This new kidney performs the functions of your own non-working kidneys
- Dialysis will probably be required while awaiting your transplant



Sources of transplanted kidneys

- Living related donors
 - Family members make the closest tissue matches
- Living unrelated donors
 - Such as a spouse, good friend or others
- Cadaver Donors
 - From people who decide to donate their organs when they die
 - Today 80% of all transplanted kidneys are cadaver donor kidneys
 - Anyone can volunteer to donate a kidney or other organs

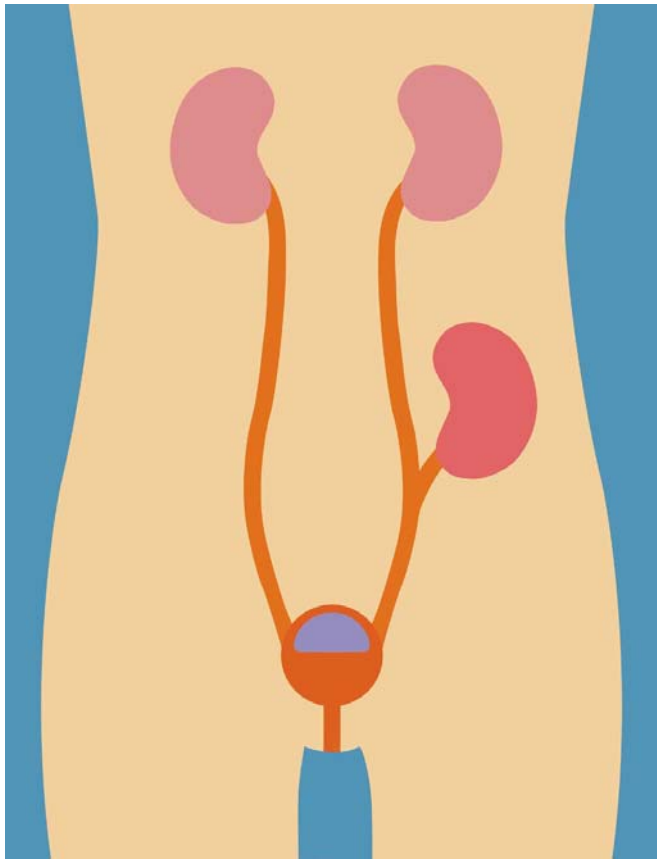
What is kidney transplantation?

- To determine a good, healthy match, the following steps are done:
 - Blood tests
 - Blood type
 - Tissue type
 - Cross-matching
 - Medical criteria
 - Age

*Healthy
Kidney
Match*



Where is the new kidney located?



- During the operation, a healthy kidney is placed deep under the muscle near the hip bone
- It can be placed on either the left or right side of the abdomen

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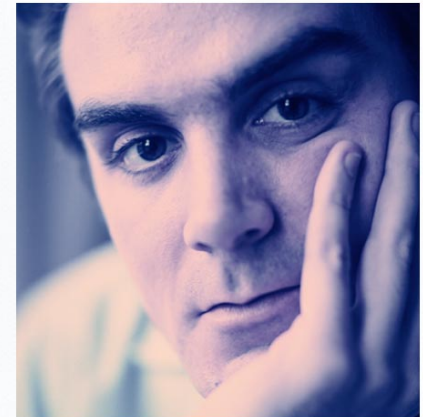
How do you take care of a transplanted kidney?

- Take your medicine every day
- Visit regularly with your physician
- Follow your physician's guidelines
- Control your diet
- Keep yourself active
- Watch for and report any problems



What lifestyle changes can the donor expect?

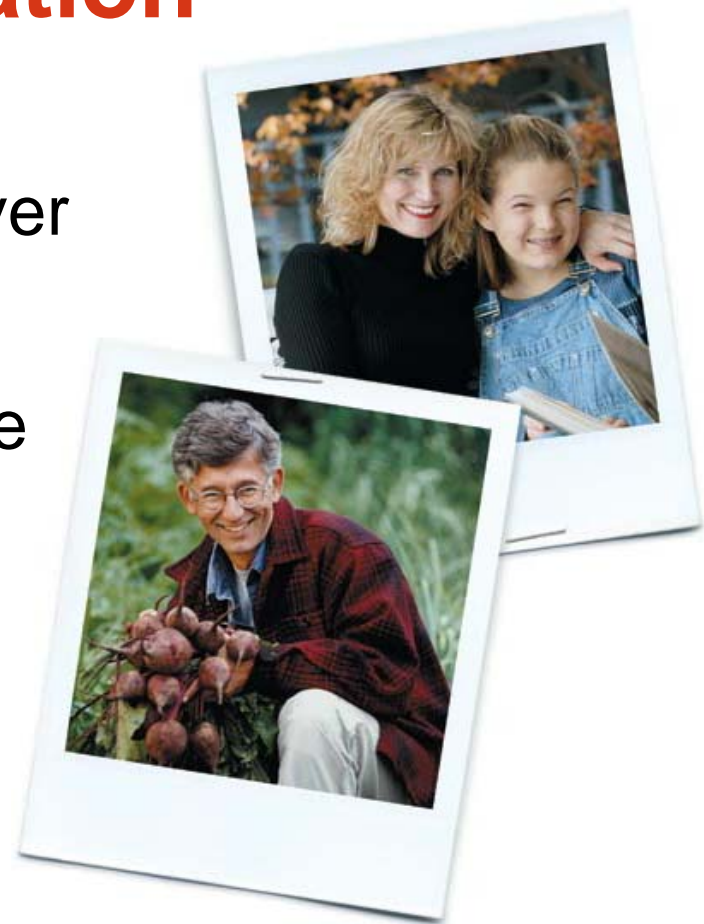
- 5-7 day hospital stay
- 1-2 weeks at home
- 1-2 months no heavy lifting/labor
- The donor may eat normally
- The donor should consider surgery risks
- The donor is left with one healthy functioning kidney



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Cadaver donor kidney transplantation

- Approximately 55-60% of all transplanted kidneys are cadaver donor kidneys
- Anyone can volunteer to donate a kidney or other organs, such as the heart, lungs, liver, pancreas

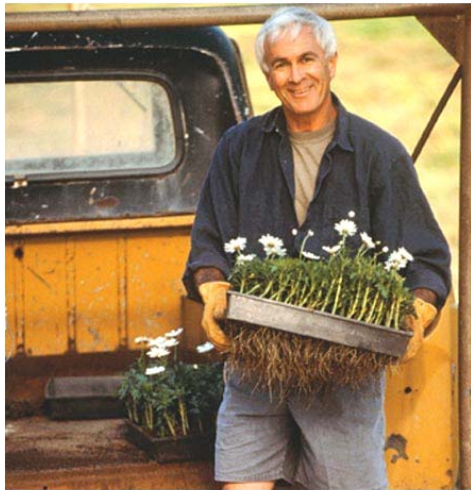


How are you evaluated for a kidney transplant?

- The recipient is the person who receives the kidney transplant
- As a recipient, you will need to:
 - Follow the treatment guidelines of your physician and treatment team
 - Take an ongoing interest in your health
 - Have a complete medical evaluation



Immunosuppressive medicines



- To suppress or stop the body's normal immune response to reject the donor kidney
 - Help you tolerate the new kidney
 - Must be taken daily
- Major advances in immunosuppressive therapy
 - Cyclosporine is the most common

Risks and possible side effects



Lowered resistance to illness

- Immunosuppressive medications lower your resistance to infection
- To stay healthy, you must protect yourself from coming in contact with infections
- Take the correct dosage of medication and see your doctor regularly

Risks and possible side effects (cont.)

Major surgery

- There are also risks associated with major surgery
- These should be discussed thoroughly with your transplant coordinator and treatment team

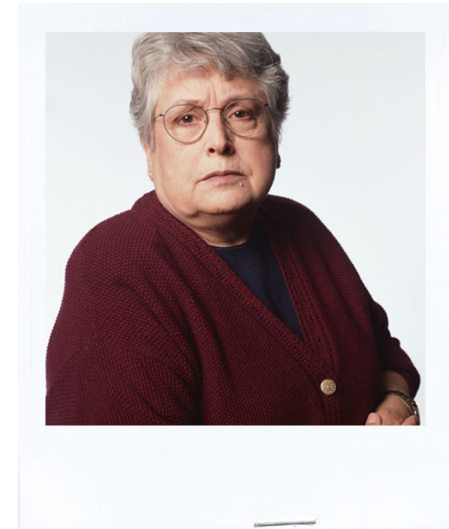
Side effects

- Use of immunosuppressive medications have been associated with many mild to severe side effects
- Some are temporary and do not last, and some are related to dosage

Risks and possible side effects (cont.)

Some of the most common side effects include:

- Weight gain
- Increased sweating
- Elevated blood pressure
- Acne
- Muscle weakness
- Gum problems
- Upset stomach
- Hand tremors
- Mood swings
- Puffiness of the face and abdomen
- Increased susceptibility to infection



What is rejection and how is it treated?

- Rejection means your body is trying to get rid of something that doesn't belong
- Rejection is the major problem with kidney transplants:
 - Immune system
 - Rejection stops the transplanted kidney from working
 - Rejection episodes are common in at least 1/2 of people in the first 3 months
- Treatment for rejection includes:
 - Medications
 - Following treatment guidelines
 - Treatment of rejection

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How will my lifestyle change?



Diet



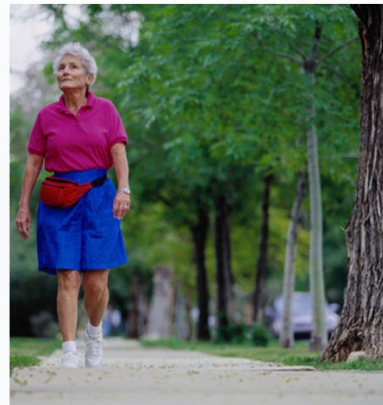
Travel

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How will my lifestyle change?



Sports



Activities

Transplantation

Advantages

- feels closest to having your own kidneys
- no dialysis treatments required
- lets you maintain a normal schedule and visit a clinic less often
- fewer fluid and diet restrictions
- feel healthier and have more energy
- work full-time without worrying about any dialysis schedule

Disadvantages

- the stress of waiting for a match
- risks associated with major surgery
- risk of rejection - your transplant may not last a lifetime
- take medications every day - which can have side effects
- you are more susceptible to illness
- possible changes in your appearance