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DIALYSIS COUNSELLING



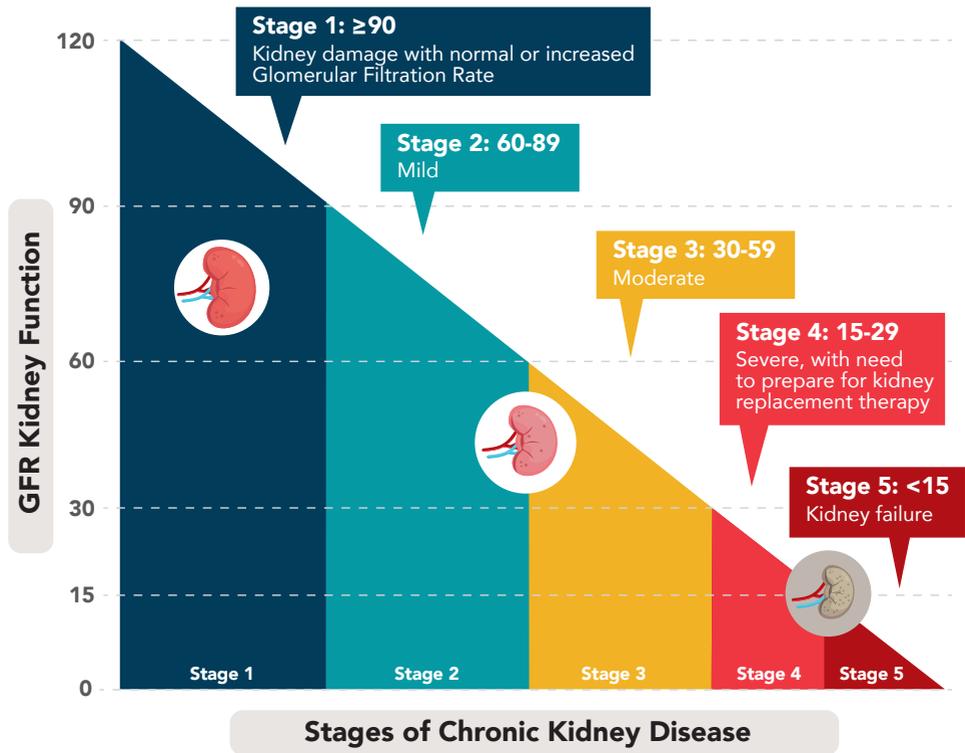
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Overview of Chronic Kidney Disease

End Stage Kidney Failure

Kidney disease progresses in stages. Your kidney function is measured by an assessment of your Glomerular Filtration Rate (GFR).



1. Remove toxins
2. Remove extra fluid
3. Balance body chemicals such as potassium, calcium, phosphate and acid
4. Produce hormones to maintain bone health and make red blood cells

Symptoms of End Stage Kidney Failure

as kidney function deteriorates, the following symptoms may arise:

Shortness of breath



Increased leg swelling



Poor appetite



Loss of energy



Itch



Abnormal heart rhythm



Fractures



Fits



Nausea and vomiting



"Symptoms may not appear at the same rate for everyone but delaying kidney replacement therapy is associated with worse outcomes.

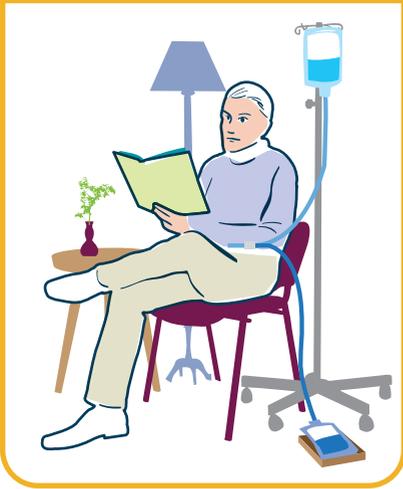
Without kidney replacement therapy, death will ensue."



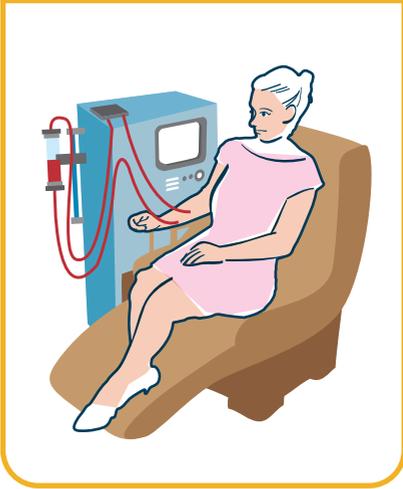
Options for End Stage Kidney Failure

Decision should be made based on patient's medical condition and preference after discussion with the medical doctor.

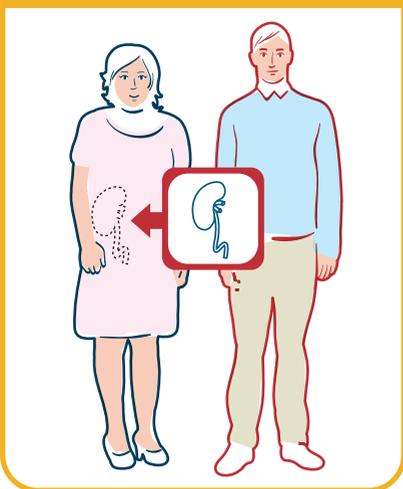
1 Peritoneal Dialysis



2 Hemodialysis



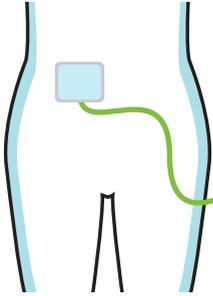
3 Kidney Transplant



4 Conservative Management



Peritoneal Dialysis

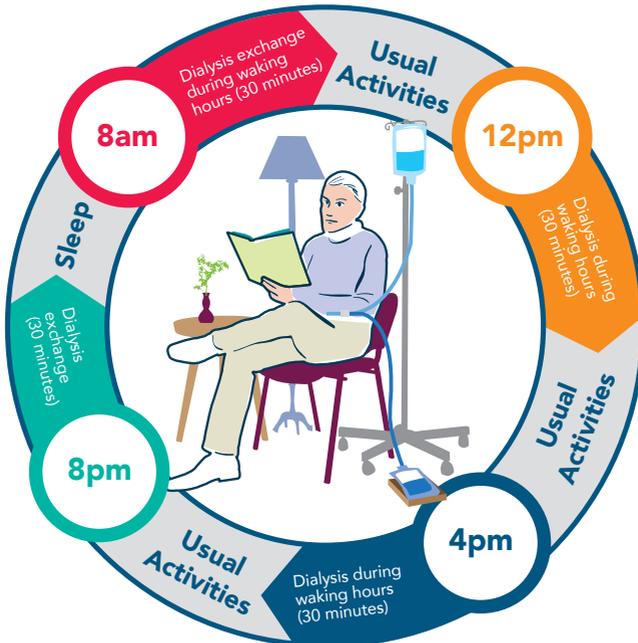


Daily home-based therapy which uses your own abdominal cavity as a filter to remove toxins and extra water. A small, soft tube is placed in the abdominal cavity. This allows fluid to be filled into and removed from the abdomen at regular intervals for dialysis.

There are two main forms of peritoneal dialysis:

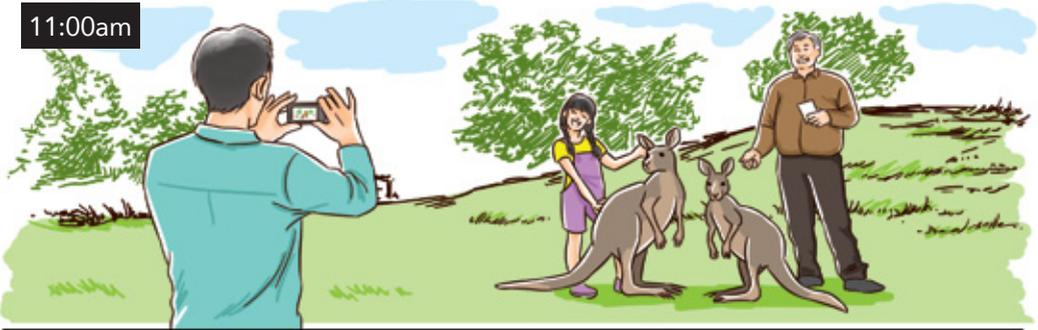
1 Continuous Ambulatory Peritoneal Dialysis (CAPD)

CAPD is a form of PD done manually. Each dialysis exchange is performed over 30 minutes following which, the patient can continue with daily activities until the next exchange. An exchange consists of a fill (filling the peritoneal cavity with dialysis fluid) period, dwell (dialysate is left inside the peritoneal cavity) period and finally a drain (removal of dialysate from the peritoneal cavity) period. See illustration below.



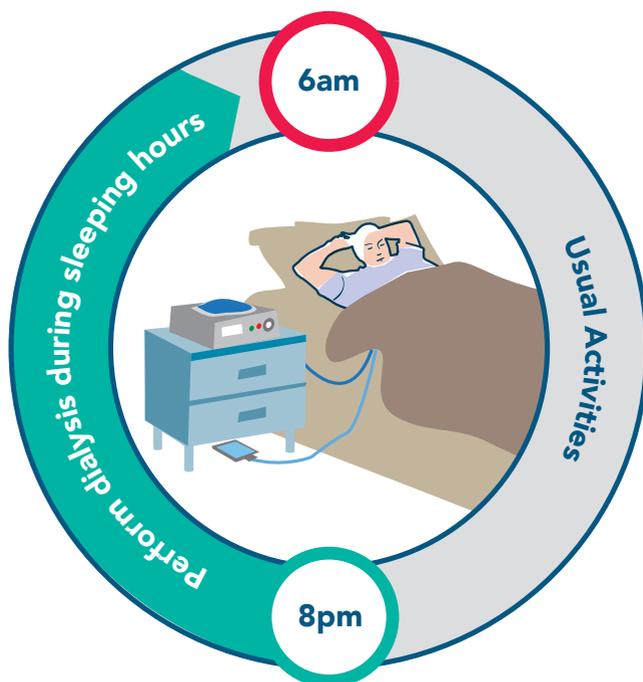
Story of a CAPD patient

It's Possible to Go Wherever Your Heart Takes You.



2 Automated Peritoneal Dialysis (APD)

This form of PD is performed using a PD machine typically at night whilst you are sleeping. The PD machine performs the fill, dwell and drain period of each cycle so that you can continue sleeping. You will usually connect yourself to the PD machine just before going to sleep, and remain attached to it for 8 - 10 hours every night. You will disconnect yourself from the PD machine in the morning and be able to continue with your usual daily activities.



Peritoneal dialysis can be performed by yourself or assisted by family members.

Training will be provided to ensure that you are able to perform the dialysis at home with confidence.



Story of a APD patient

It's Possible to Pursue Your Passions and Ambitions.

Even with kidney issues and a full-time office job, 32 years old Mr Chy can still afford to have an active lifestyle.

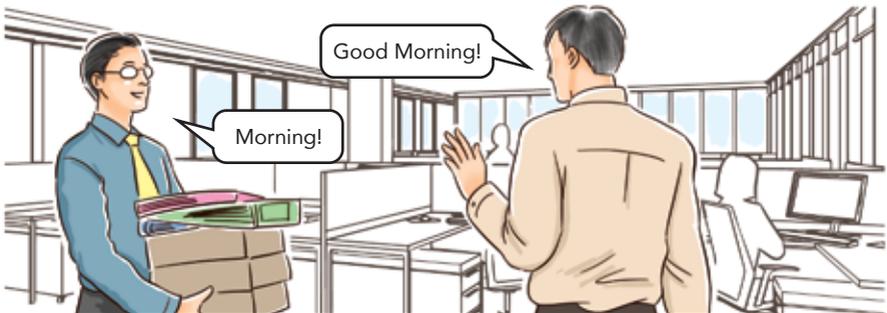
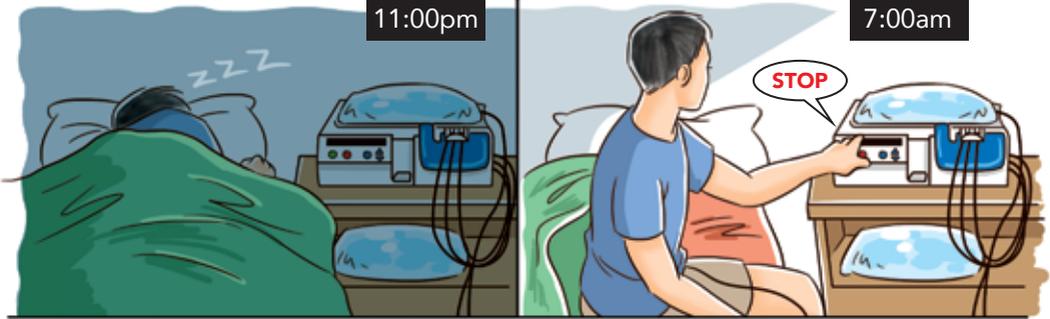
Hey Mr Chy, back from work? How have you been? I heard from your mother about your kidney issue?

Yes Mdm Lee, I just finished work. I am managing my kidney issue by doing Peritoneal Dialysis on my own at home.



11:00pm

7:00am



Good Morning!

Morning!



Potential advantages of Peritoneal Dialysis:

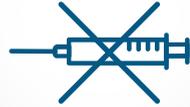
Home-based therapy



Daily but potentially flexible



Needle-free



Better protection of remaining kidney function



Less changes in blood pressure



Less expensive

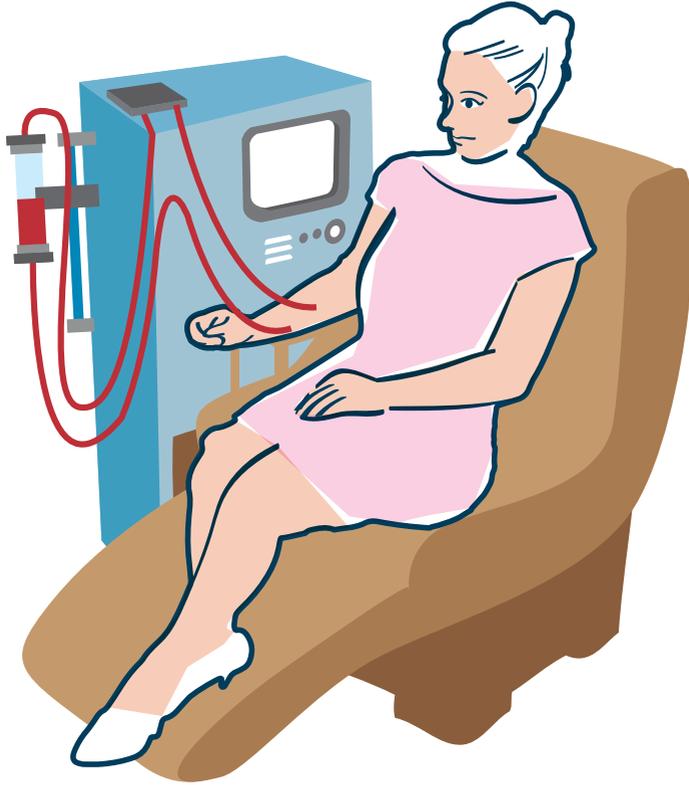


Potential disadvantages of Peritoneal Dialysis:

- A small tube will need to be inserted into the abdomen
- Daily dialysis is usually required
- Need for storage of dialysis equipment at home

Hemodialysis

Is a centre-based therapy. Hemodialysis involves an artificial filter attached to a machine that cleanses the blood.



Hemodialysis is usually carried out:

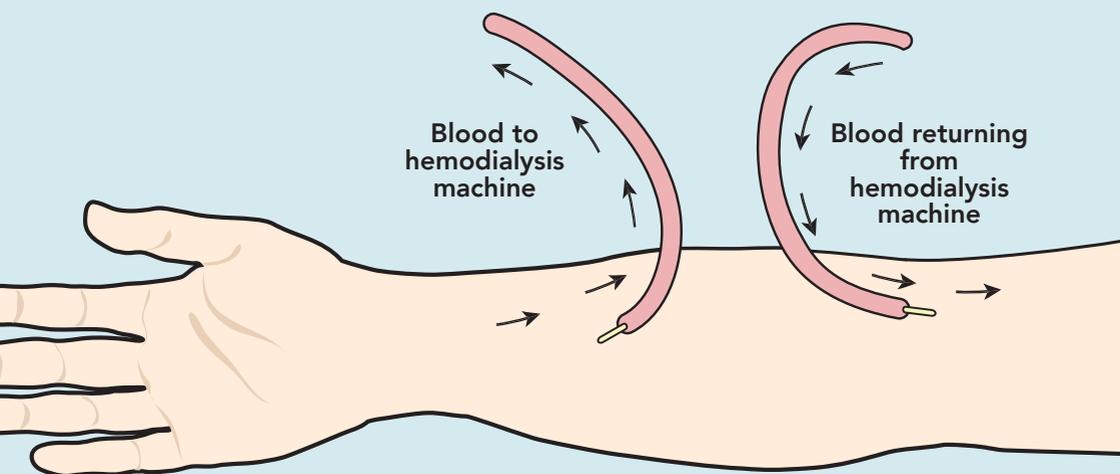


3 times
per week



4 hours
each time

A vascular access is surgically created to allow blood to be drawn out to be cleaned and returned. This vascular access is usually created in your upper arm either using your native vein AVF (Arteriovenous Fistula) or a synthetic graft AVG (Arteriovenous Graft).



"One needle is inserted into the access to draw blood out of the body into the machine. Another needle returns the filtered blood to the patient."



Story of a hemodialysis patient

It's Possible to Live an Active and Independent Life.

Mr Choo has been experiencing increased leg swelling and breathlessness due to his kidney failure.

Aiyo Choo!
Are you ok?

Before Hemodialysis



I have been told that my kidneys are failing and that this is causing me to be breathless and swollen.

After starting on hemodialysis

Hello Mr Choo, how are you feeling after the last session of dialysis?

After hemodialysis, my leg swelling has improved and I'm not breathless anymore! I can even walk to the dialysis centre on my own now!



Potential advantages of Hemodialysis:

Not daily therapy



Trained nurses will perform your dialysis in-centre



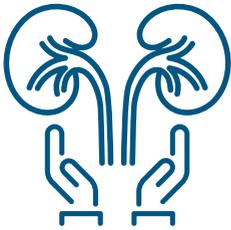
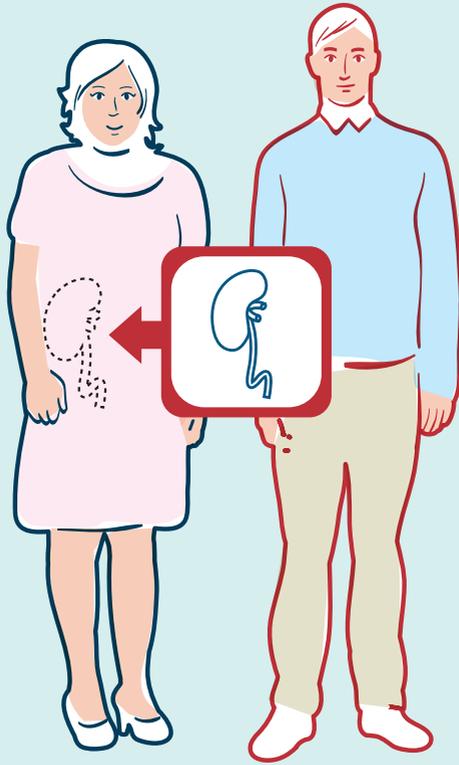
No requirements for storage of dialysis equipment at home



Potential disadvantages of Hemodialysis:

- Need for travel to and from the dialysis centre
- Need for vascular access creation in the arm
- Need for needling of the vascular access 3 times a week
- Possible risk of blood borne infections

Kidney Transplant



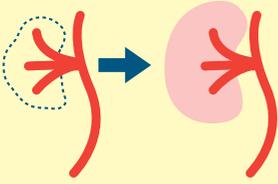
A kidney from a living or deceased donor is donated to the patient.



Surgery is required to implant the healthy kidney into the patient.



Subsequently, patients will need to take medications for life to prevent rejection.



Provides superior mortality benefits to dialysis. However, patients will first need to be carefully evaluated to assess suitability for transplantation.

Potential sources of donations:



Living related donors, healthy blood relatives such as parents, siblings or children (above 21 years old)

Living unrelated donors, healthy donors not related by blood such as spouses



Deceased donor, people who donate their organs after they have passed away

"Living donation is associated with better outcomes as compared to deceased donation. All living donors will be carefully evaluated for suitability prior to donation."



Story of a kidney transplanted patient

It's Possible to Enjoy a Wholesome Life Together with Your Loved Ones.

37-year old Mrs Lee received a living kidney transplant from her husband 4 months ago and wants to share the good news with her friend in person.



Lunch on Saturday?
Wait... Don't you have
to go for hemodialysis?



Mrs Lee

Not anymore! Tell you all
about it on Saturday!

Saturday 12 noon



So now I've got a new kidney,
thanks to my dear hubby. No
more dialysis for me! But I still
have to take some medication
and take care of my health.



Oh John, I would not have
guessed that you had donated
your kidney. You look to be in
good health and spirit.



Actually, we've never
been better!



Potential advantages of Kidney Transplant:

Survival benefit
higher than
remaining on
dialysis



Better quality
of life



No dialysis
needed



Potential Disadvantages of Kidney Transplant:

- Risks associated with major surgery
- Risk of rejection, hence the need for lifelong anti-rejection medications

Conservative Management



Not all patients would view dialysis as a way of life.

Conservative management involves the provision of medications to alleviate symptoms associated with kidney failure and to continue to support the patients till they pass on.

In spite of dialysis or transplantation, as we age and our bodies become more frail, conservative management may be required subsequently.

Advanced Care Planning can also be done to discuss future care preferences between an individual, their family and healthcare providers.



Summary

Comparison of Kidney Replacement Therapies

MY KIDNEY, MY PLAN	KIDNEY TRANSPLANT	DIALYSIS	CONSERVATIVE
 <p>Summary</p>	<p>You receive a kidney from someone else</p>	<p>Toxins are cleared using specialised equipment</p>	<p>Management via diet and medication. Specialised care to help with symptoms and end-of-life care</p>
 <p>My treatment</p>	<p>Surgical removal of a healthy kidney to be implanted into you</p>	<p>This can be done at home using peritoneal dialysis or at dialysis centre using a hemodialysis machine</p>	<p>Continue management of diet and medication with your renal doctor till symptoms arises</p>
 <p>My suitability</p>	<p>You need to be medically fit without heart disease, cancer or infection</p>	<p>Most are suitable unless you have serious illnesses affecting other body systems</p>	<p>This is suitable for all patients. It is particularly suitable for patients with limited life expectancy or poor quality of life</p>
 <p>My life and work</p>	<p>You can usually resume work 3 - 6 months after the transplant</p>	<p>Different dialysis schedules will have different impacts on lifestyle</p>	<p>Your health is expected to deteriorate with time and life expectancy is limited</p>

MY KIDNEY, MY PLAN	KIDNEY TRANSPLANT	DIALYSIS	CONSERVATIVE
 <p>My diet</p>	<p>You will need to eat healthily. You will need to take particular care as you will be taking medications which reduce your immunity</p>	<p>You will need to limit certain foods</p>	
 <p>My travel plan</p>	<p>You can travel safely after discussion with your doctor</p>	<p>Advance planning will be necessary to ensure you are able to continue your dialysis whilst abroad, but this may not be possible for some cases</p>	<p>You may be able to travel safely after discussion with your doctor</p>
 <p>My health</p>	<p>There may be complications after the surgery and you will need to take regular medications to reduce your immunity after the transplant but your health is expected to improve after and be better than a patient remaining on dialysis. There can however be complications associated with surgery</p>	<p>Your health is expected to improve after dialysis but will still be poorer than general population and kidney transplant</p>	<p>Your health will gradually decline</p>
 <p>My body</p>	<p>You will require a hospital admission for the surgery</p>	<p>You will require a day surgery to either create a AVF in your arm or insert a dialysis catheter in your tummy</p>	<p>No surgery is expected</p>
 <p>My home</p>	<p>No impact</p>	<p>You may need to store dialysis fluid or machine in your home</p>	<p>No impact</p>

Summary

Dialysis Modalities

MY KIDNEY, MY PLAN	CAPD	APD	HEMODIALYSIS
 <p>Summary</p>	<p>Clean dialysis fluid is introduced into your tummy to remove toxins and fluids</p>		<p>Blood is drawn and cleaned using an external dialysis machine</p>
 <p>My treatment</p>	<p>Dialysis is done 4 times a day usually for 30 minutes each time</p>	<p>A machine is placed at home that delivers dialysis while you are asleep over 8 - 10 hours</p>	<p>Needling of the AVF or AVG is done and blood is cleaned using a dialysis machine 3 times a week lasting usually 4 - 5 hours each time</p>
 <p>My suitability</p>	<p>You should not have had any previous major abdominal surgery</p>		<p>Patients with poor cardiac function may experience greater changes in blood pressure during hemodialysis</p>
 <p>My training and support</p>	<p>Dedicated training over 3 - 5 days will be done. Nurses can be contacted 24 hours a day for emergency consultation</p>		<p>Dialysis is done by healthcare providers</p>

MY KIDNEY, MY PLAN	CAPD	APD	HEMODIALYSIS
 <p>My life activities</p>	<p>Portable and can be carried out in many places</p>	<p>Dialysis done at rest and so minimal impact on daily activities</p>	<p>Dialysis is done in-centre 3 times a week and may interfere with daily activities</p>
 <p>My diet</p>	<p>There are some food and fluid limitations required</p>		
 <p>My treatment cost*</p>	<p>\$1100 - \$1500/month</p>	<p>\$1600 - \$1800/month not including electricity bill</p>	<p>\$2500 - \$3000/month not including cost of transportation</p>
 <p>My travel plan</p>	<p>You can travel easily with dialysis performed overseas</p>	<p>You may need to be converted to CAPD while overseas</p>	<p>Early planning will allow for travel but arranging for hemodialysis overseas is not eligible for subsidy and may be costly</p>
 <p>My body</p>	<p>There will be a day surgery to insert a catheter in your tummy</p>		
 <p>My home</p>	<p>Dialysis fluid will need to be stored in your house</p>	<p>Dialysis fluid and a small dialysis machine will need to be stored in your house</p>	<p>An AVF or AVG is created in your arm. Temporary neck blood catheter should be avoided</p> <p>No impact</p>

*Disclaimer: Costs quoted here are estimated and may change with time.

Frequently Asked Questions

Q1 Can my kidneys recover from dialysis?

Dialysis does not help recover kidney function. It only serves to replace the kidney function when the kidneys have failed.

Q2 What happens if I choose not to undergo dialysis?

Without dialysis, patients may experience progressive shortness of breath, increased nausea, poor appetite, itch, pain and confusion. Eventually, death occurs. The symptoms experienced and rate of deterioration varies greatly from patient to patient. In patients who are very certain that a conservative management is the best treatment plan, specialised care and medications to relieve symptoms will be provided.

Q3 If I have no symptoms, why must I undergo dialysis?

Symptoms of end-stage kidney failure are sometimes subtle. Emergent dialysis where patients have emergency insertion of dialysis lines for blood dialysis is associated with higher risk of death. Elective preparation for dialysis allows time for patients to prepare mentally, emotionally, physically and financially for a smooth transition to dialysis.

Q4 Do I still need to be on medications while on dialysis?

Yes. You will still need to be on medications to control other conditions that result from your kidney failure.

Q5 Will I feel better when I start dialysis?

Yes. Dialysis will help with some symptoms such as breathlessness due to extra fluid accumulation in the body. Dialysis also removes toxins that would otherwise make you feel nauseated and unwell.

Q6 Will there be side effects or discomfort while on dialysis?

Yes, there can be. This however varies from person to person.

Q7 Will my diet change on dialysis?

Regardless of the form of dialysis you choose, it is important to remember to limit salt and fluid intake, but patients on peritoneal dialysis may be allowed a slightly more liberal diet.

Q8 Will I be able to continue on my normal activities on dialysis?

Yes, you should be able to continue with work, school, housework and some sports. However depending on the dialysis choice, the impact may differ. For example, patients on hemodialysis will generally have dialysis 3 times a week for 4 hours each time which can interfere with the daily routines. Patients on peritoneal dialysis can have dialysis at night so this may have a smaller impact on their daily routines.

Q9 Will dialysis affect my sexual life?

It is possible for people on dialysis to have a fulfilling sexual life. However, some may feel self-conscious about their appearance so raising these concerns to your social worker and doctor may help.

Q10 Will I be able to travel overseas while on dialysis?

Yes. Patients on peritoneal dialysis can travel with their peritoneal dialysis fluid and perform peritoneal dialysis overseas. Patients on hemodialysis will need to arrange for hemodialysis at a hemodialysis centre overseas and this can be costly. It is important to inform your doctor of any travel plans so that all necessary arrangements can be made.

Q11 Who can I talk to about dialysis treatment options?

You can speak to your kidney doctor, nurse or kidney coordinator.

Q12 If I choose peritoneal dialysis, will I be trained?

Yes, you will receive dedicated training with a qualified peritoneal dialysis nurse over a span of 3 - 5 days.

Q13 If I run into issues with peritoneal dialysis, is there anyone I can contact?

Yes, there will be on-call nurses who are contactable 24 hours to provide advice over the phone.

Q14 I heard that infection is very common in peritoneal dialysis? Is that true?

While infection remains an important condition, with proper hand hygiene and technique, most peritoneal dialysis patients do not experience infections. Infections do not usually require an admission to hospital for treatment.

Q15 What kind of dialysis is most suitable?

The type of dialysis that is most suitable for you depends on your personal choice and your medical condition. Together, you, your kidney doctor and kidney counsellor will help you make the decision best suited for you.

Q16 What happens if I miss my dialysis?

If you miss your dialysis, the toxins and fluid could reach a point where they make you feel very unwell and could potentially be fatal.

Q17 How long can I live on dialysis?

Life expectancy on dialysis can vary depending on your other medical conditions and how well you follow your treatment plan.



The above booklet is not exhaustive in its discussion on kidney replacement. Do discuss with your kidney doctor, counsellor, nurses and family before you make your decision.

References:

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3. Tam P et al, Perit Dial Int 2009; 29(S2):S108-110
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5. Caylan R et al, Turk J Med Sci 2010; 40: 835-41
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