

Your Child & Chronic Kidney Disease



Compiled by the members of the



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NHS Trust

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AN INTRODUCTORY MANUAL FOR FAMILIES

Phosphate binders - tablets used to reduce the level of phosphate in the blood. Taken with meals.

Plasma - The fluid portion of the blood.

Potassium - An electrolyte necessary to the body, but harmful when found in excess.

Prednisolone (Steroid) - drug used to reduce inflammation in the kidneys and to prevent and treat rejection. Also used to treat some causes of renal failure.

PTH - Parathyroid hormone which regulates bone health

Rejection - A vigorous response of the body's own cells to the renal transplant.

Renal - Referring to the kidney.

Saline - A salt water solution.

Sodium (Salt) - A mineral which helps regulate the fluid content in the body.

Systolic - The top number in a blood pressure measurement.

Sytron - oral iron solution.

Tacrolimus - drug used to prevent rejection

Tenckhoff catheter - silicon rubber tube placed in the peritoneal cavity for peritoneal dialysis.

Thrill - vibration or buzzing sensation felt over the vein of a cannula or fistula.

Ultrafiltration - The process of removing water from the blood during dialysis.

Ultrasound scan - A painless procedure which tells us the size and structure of the kidneys. Often done at the time of kidney biopsy.

Ureter - A tube which carries urine from each kidney to the bladder.

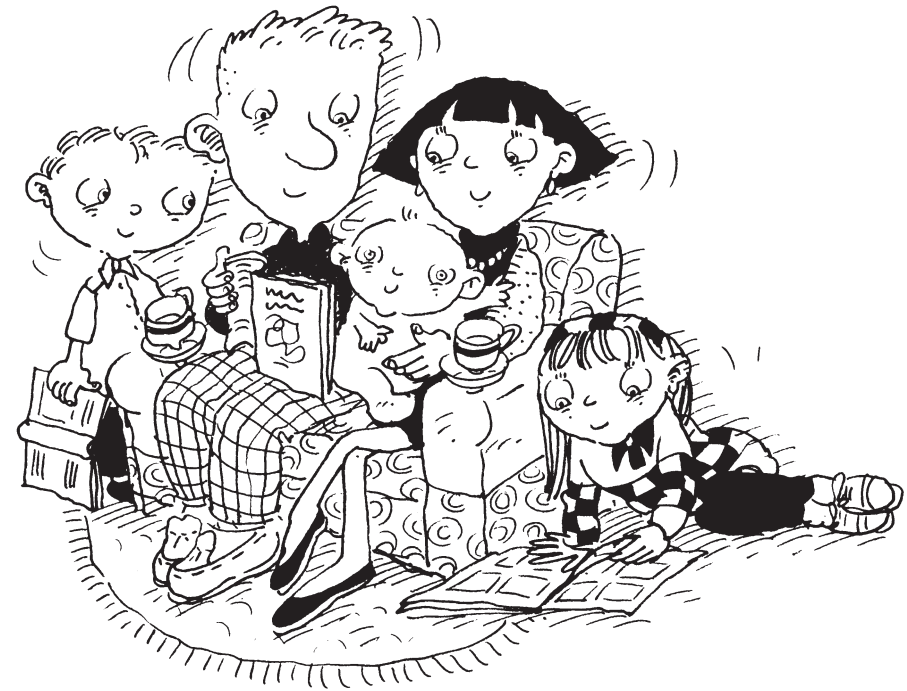
Urethra - The canal for the discharge of urine from the bladder.

Urea - The waste product in blood which is produced from protein breakdown.

Vein - A blood vessel which carries blood back to the heart from other parts of the body.

Venous - Referring to veins and the flow of blood to the heart.

Vitamins - Essential substances needed for proper body functioning.



You have recently learned that your child has chronic kidney disease (CKD). This will require careful treatment by members of our team whom you will meet either in hospital or at home.

This booklet has been prepared to help families understand the treatment and management of chronic kidney disease. It will provide you with some information about aspects of treatment including dialysis and transplantation.

WHAT DO THE KIDNEYS DO?

The kidneys are reddish brown organs about the size of their owner's fists. They lie either side of the back bone just below the ribs protected by all the muscles of the back. Although most people are born with two kidneys, one is enough to meet the body's needs.

The kidneys are attached to the bladder by thin tubes called **ureters** as you can see in the diagram. The tube leading from the bladder to the outside of the body is known as the **urethra**. The kidneys receive their blood supply from the main blood vessel of the body known as the aorta.

When you eat or drink, the excess water and the waste products of digestion are filtered from the blood by the kidney to produce urine. Kidneys also produce hormones which help to control blood pressure, healthy bone growth and the production of red blood cells.



Hypertension - High blood pressure.

Hypotension - Low blood pressure.

Immunosuppression - Use of drugs such as tacrolimus, MMF, azathioprine and prednisolone to damp down the body's response to the transplant kidney.

Isotope scan - requires a special injection into a vein and will show how the kidney(s) is functioning.

IPD - Intermittent Peritoneal Dialysis.

Jugular catheter - plastic tube placed into a large vein in the neck and used for haemodialysis. Also used for taking blood samples and giving fluids.

Kidney - One of the two organs which produce urine. Located at the back of the abdominal cavity on each side of the spinal column.

Lignocaine - Local anaesthetic.

MMF - Mycophenolate Moletil - drug used to prevent rejects of transplants.

Metabolism - Process by which foods are broken down and used for body energy and function.

Monitor - An electronic device used to check, remind, or warn.

Nasogastric - Tube passed through the nose into the stomach

Nephrectomy - Surgical removal of a kidney

Nephron - The functional unit of the kidney which acts to maintain the body's chemical balance. There are approximately one million nephrons in each kidney.

Oedema (Swelling) - An abnormal accumulation of fluid in the tissues, specially noticeable around the ankles, face (particularly the eyelids), and sometimes the abdomen.

Paediatric Dialyist - Vital mineral supplement

Peritoneal cavity - Space where peritoneal dialysis occurs.

Peritoneum - A porous lining surrounding the peritoneal cavity, through which water and waste products pass during peritoneal dialysis.

Peritonitis - Infection in the peritoneal cavity.

Phosphate - A mineral important for bone growth and body functioning. In chronic kidney disease there is a build up of phosphate in the body.

waste products. Stages 1-5 with 1 mild and 5 sever.

Contaminate - to make an accidental failure in aseptic technique.

Creatinine - A waste product in the blood produced by the breakdown of normal body tissues. It is removed from the blood stream by the kidneys.

Cyclosporin - Drug used to prevent rejection of transplants.

Dialysis - Process of removing waste products and excess waste from the blood stream.

Diastolic - The lower number in a blood pressure measurement.

Diffusion - Passage of particles from a solution of high concentration to a solution of low concentration.

Dry (or ideal) weight - The weight at which blood pressure is normal and no swelling (oedema) is present.

Electrolytes - include sodium, potassium, chloride and bicarbonate and usually measured together in the blood.

EMLA cream - Used to numb the skin before taking blood or giving an injection

End stage renal disease (ESRD) - The stage of poor kidney function that requires dialysis or transplantation to maintain life and health.

Erythropoietin (EPO) - A hormone that increases the number of red blood cells and which is normally produced by the kidney. Artificial hormone may now be given by injection to correct anaemia.

Fibrin - Strands of protein sometimes found in peritoneal dialysis fluid.

Fistula - Created surgically by joining an artery and a vein. The vein then 'matures' or dilates and provides a route to supply and return blood during dialysis.

Gastrostomy - Feeding tube or button inserted directly into the stomach.

Haemodialysis - The process by which excess body wastes and fluid are removed from the blood when passing through an artificial kidney.

Haemoglobin - The pigment in red blood cells that carries oxygen from the lungs to the tissue.

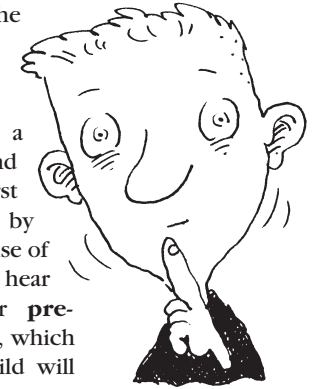
Heparin - A 'blood thinner' or anticoagulant used during dialysis to slow blood clotting or prevent fibrin problems.

WHAT IS CHRONIC KIDNEY DISEASE?

There are many different causes of chronic kidney disease and your child's condition will be discussed with you by the doctor who is a kidney specialist (nephrologist).

In chronic kidney disease there is a slow build up of waste products and sometimes fluid in the body. At first the effects of this can be helped by careful attention to the diet and the use of medicines. You may sometimes hear people call this **conservative** or **pre-dialysis** treatment. During this time, which may last for several years, your child will have regular assessments and investigations to see how well the kidneys are working.

However, when the build up of waste products increases such that your child's health shows signs of being affected, then **dialysis** and/or **kidney transplantation** become necessary.



STAGES OF CHRONIC KIDNEY DISEASE

There are 5 stages of chronic kidney disease. These are divided up according to the GFR (glomerular filtration rate). The GFR can be estimated from the child's height and blood test results or family measured as a day case on a ward.

The GFR is approximates to the percentage of overall kidney function.

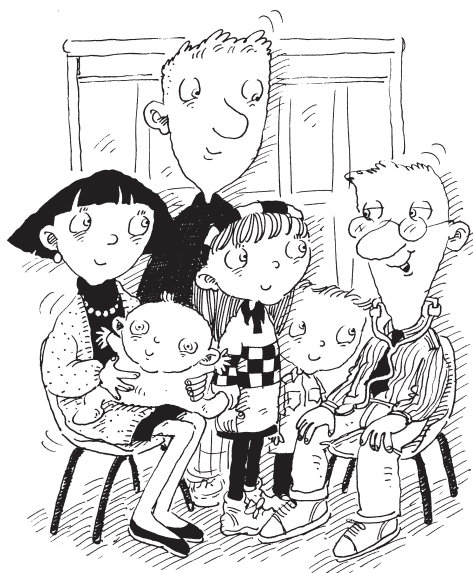
The 5 stages are shown in the table on the next page..

5 STAGES OF CHRONIC KIDNEY DISEASE		
Stage	GFR/Percentage Kidney Function	Description
1	90+	Normal kidney function but urine tests or other abnormalities point to kidney disease
2	60-90	Mildly reduced kidney function
3	30-60	Moderately reduced kidney function
4	15-30	Severely reduced kidney function
5	<15	Very severe or established renal failure, dialysis or transplantation needed at this stage

WHAT ARE KIDNEY INVESTIGATIONS?

After your child has been diagnosed with chronic kidney disease, he/she will be seen at regular intervals in the outpatient clinic.

Height, weight and blood pressure will be checked at the clinic. The nephrologist uses these results along with urine and blood tests to see how the kidneys are working.



GLOSSARY

Albumin - The main protein within the blood stream.

Alphacalcidol - Drug (active vitamin D) used to increase calcium absorption.

Ametop - used to numb the skin before taking blood

Anaemia - A condition in which there is a reduction in the haemoglobin concentration - the blood. This can cause paleness, weakness and fatigue.

Antibiotic - A drug used to combat infection.

Antihypertensives - Drugs used to control high blood pressure (eg. Nifedipine, Atenolol, Propranolol, Enalapril).

APD - Automatic Peritoneal Dialysis.

Artery - Vessel carrying blood away from the heart. Part of the circulatory system.

Artificial kidney - used in haemodialysis to filter waste products and excess fluid from the blood stream.

Artificial kidney machine - (haemodialysis machine). A machine which supports and monitors the function of the artificial kidney.

Aseptic technique - The use of sterile procedures to prevent bacteria from entering the body, thus limiting the risk of infection.

Azathioprine (Imuran) - drug used to prevent rejection of the kidney transplant. Lowers white blood cell levels in the blood stream.

Biopsy - Removal of a tiny piece of kidney tissue for special examination under the microscope.

Bladder - The sac in which urine produced by the kidneys is collected and stored until it is released from the body.

Blood Pressure - The pulsating pressure of blood flow through an artery.

Calcium - A mineral that is important for bone growth and body functioning.

Calcium Carbonate - Drug to reduce the uptake of phosphate from the gut.

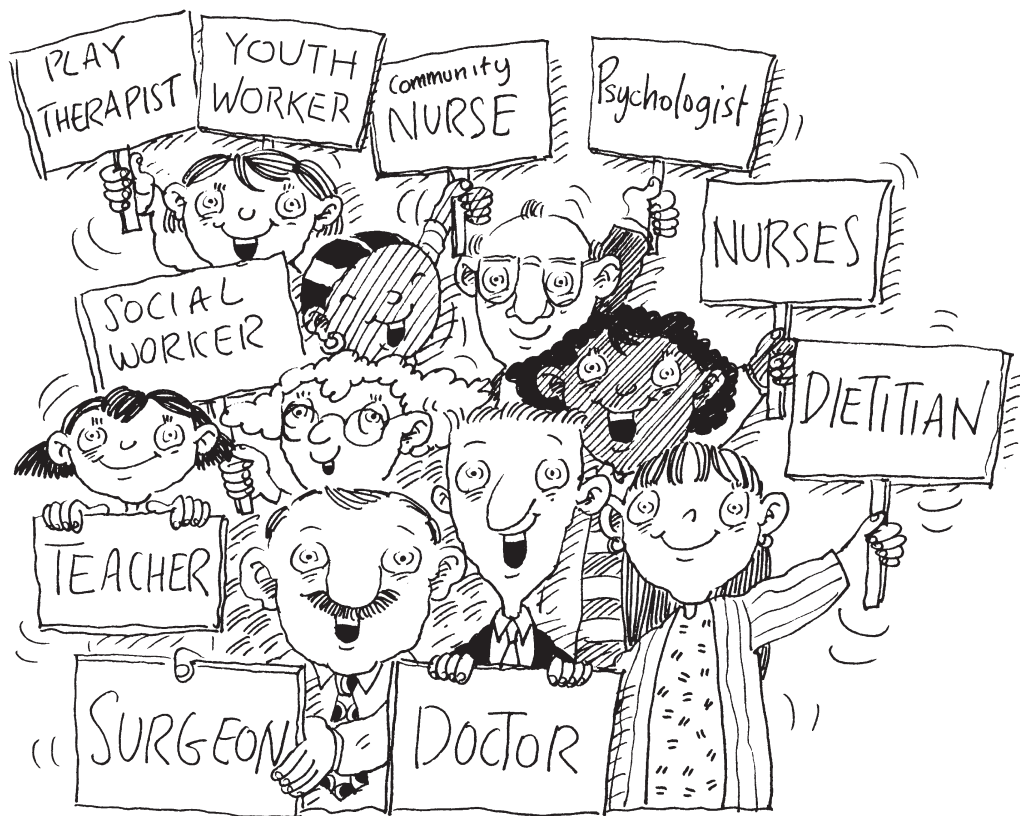
CAPD - Continuous Ambulatory Peritoneal Dialysis.

CCPD - Continuous Cycling Peritoneal Dialysis.

Chronic kidney disease (CKD) - A gradual reduction in kidney function that occurs over months or years, and results in the build up of

FURTHER INFORMATION

We never stop learning! We welcome your questions at any time and we are always willing to listen to suggestions.



WHAT ARE KIDNEY INVESTIGATIONS?

A sample of urine, preferably taken first thing in the morning and brought to the clinic will be required for testing for protein. The build up of waste products in the blood needs to be checked by blood tests. Naturally many children (and adults) are worried about needles, so, whenever possible we use a special cream or spray which can help numb the skin where the needle is going to be placed. The cream needs to be put on before the blood test is taken. The freezing spray can be used immediately.

Play preparation, stories and other methods can be used to prepare your child for any tests. Please ask the nursing or unit staff for advice or other information.

Occasionally your child may need to be admitted to the ward for a short stay in order to carry out more specialised tests. These may include:

1. Glomerular filtration rate (GFR) which is an accurate measurement of the overall kidney function. The test is carried out to monitor treatment and can help us to predict when your child may require dialysis and/or kidney transplant.

2. Renal biopsy - This is carried out if we are uncertain about the cause of the kidney failure. If a biopsy is necessary then the procedure will be fully explained to you.

3. X-ray investigations - When your child is found to have chronic kidney disease, he/she is likely to have a number of different tests performed in the x-ray department to investigate the problem. Most of these are carried out as an out patient.

The most frequent one is an ultrasound examination which does not involve any needles or tubes.

Another x-ray we use is to look at your child's bones (usually hands and wrists) to see how they are growing.

TREATMENT

Treatment is planned on a long term basis for each individual child. We always encourage regular exercise and normal school activities.

DIETARY ADVICE and MEDICATIONS will be required through all the stages of conservative, dialysis and transplant treatment.

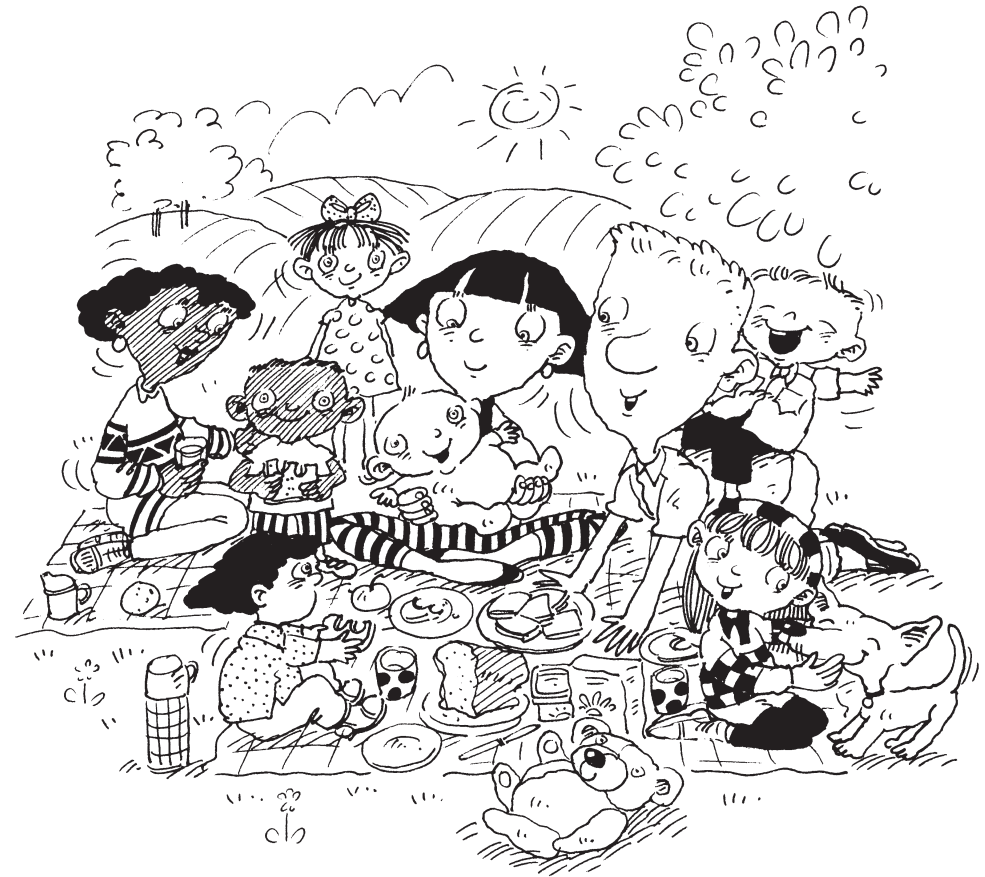


SPECIAL OCCASIONS

Many units organise get-together during the year where you can meet other families. These include parties, picnics, holidays and very special events such as the Transplant Olympics.

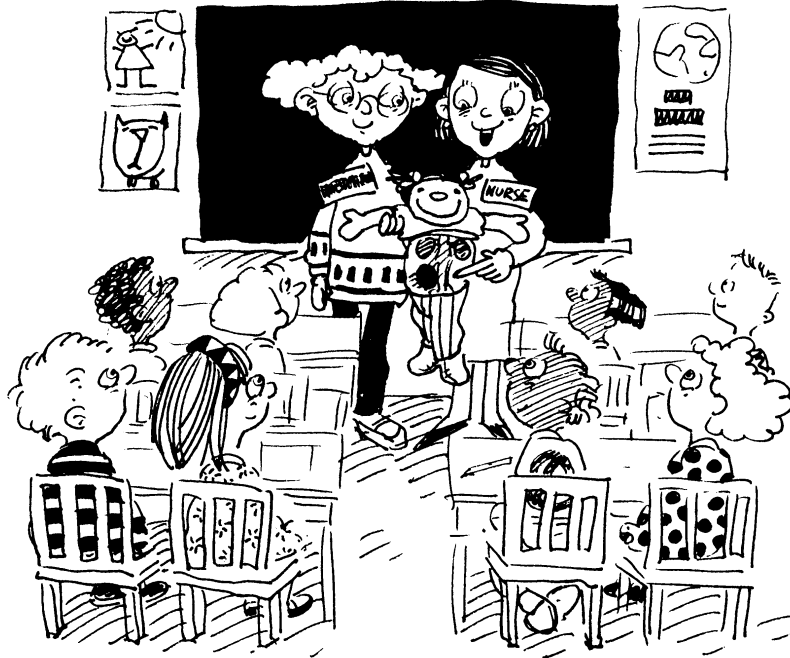
FAMILY ACCOMMODATION

Facilities are provided for family members to stay overnight when your child is in hospital.



HOME AND SCHOOL VISITS

We like to maintain close contact with both the family and school. It helps if teachers have some understanding of your child's care. Visits are organised whenever there are changes in treatment or if problems should arise.



We keep in touch by telephone and there is always someone from the unit for you to contact. In some units the community paediatric sister may also visit to help with home nursing problems.

IS THERE A SPECIAL DIET

Diet plays a very important part in the management of chronic kidney disease and the dietitian will discuss this with you. The family may be asked on occasions to keep a diary of the child's intake over three days in order that we can assess the diet.

WHY IS DIET IMPORTANT?

All children need a well balanced diet consisting of energy containing foods, proteins, vitamins and minerals in order to grow and develop into adults. Children with chronic renal failure have special requirements and need individual assessment. In general, energy intake may have to be increased and protein controlled.

PROTEIN

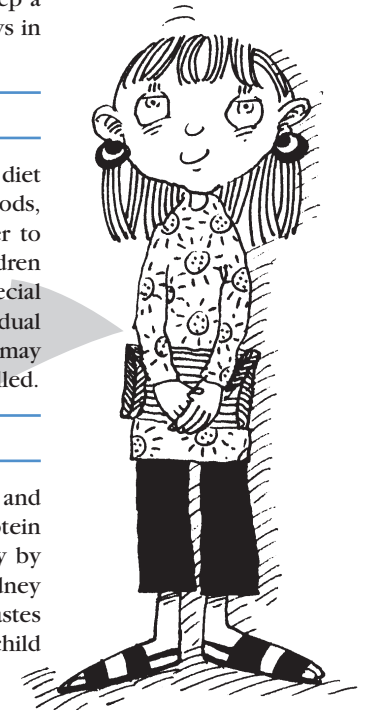
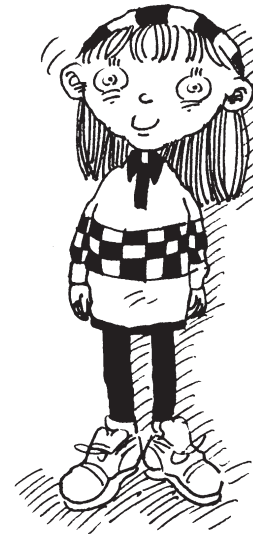
Children require protein for growth and repair. Urea is a waste product of protein digestion and is filtered out of the body by the kidneys into the urine. As the kidney function gets worse, urea and other wastes build up in the blood and make the child unwell.

Before dialysis, the dietitian looks at each individual child's diet and advises levels of protein intake to see that there is adequate protein for growth. Once dialysis has started the amount of protein required will depend upon the type and frequency of dialysis chosen.

There is usually no restriction on protein intake after a successful transplant.

ENERGY

Energy is provided in the diet from carbohydrates (sugars and starches) and fats.



ENERGY (continued)

It is very important that enough energy giving foods are included in the diet. Energy supplements may be necessary when intake is poor.



SODIUM (salt)

The kidneys control the amount of salt (sodium) the body needs and any excess is passed into the urine. When the kidneys are not working well sodium levels may build up in the body and cause thirst, puffiness (oedema) and possibly high blood pressure (hypertension). To prevent this you may be asked to reduce your child's intake of salt. You can do this by not adding salt to food at the dining table. The dietitian will teach you how to read food labels in order to select lower salt foods.

There are some children who actually lose sodium in their urine. If this is the case then there will be no salt restriction and sodium supplements may be necessary.

where you live to look to them to provide the necessary practical support for your family. The hospital may provide additional help in terms of arranging babysitting, special nurses to provide home care and arranging Parents Groups.

EDUCATION

The Education Department provides a school room in the hospital for children of school age to keep up with their work. The hospital school teacher will contact the child's own school if the child is going to spend a lot of time in hospital.



Home tutoring may be arranged if your child has to be at home for a prolonged time.

Many units now provide a special area on the ward for teenagers where they can enjoy their own activities with stereo, video etc.

Again it can help to talk this over with the social worker and look at different ways of supporting the family through this phase.

Brothers and sisters may feel neglected and confused. They too need time with their parents to talk over their worries and to feel part of the overall plan. Extended family members can be a good source of support but need time to understand and accept the illness.

The **social worker** is an important member of the team who will help to prepare and support the child and family throughout all the stages of chronic kidney disease treatment. Regular contact either at the clinic or at home will enable families to have their questions answered and worries discussed.

There are many adjustments to be made and individuals react differently. The **clinical psychologist** is the team member who can be called on to help with these adjustments and individual solutions to problems. Additional help with emotional problems may be offered from the family therapy unit. Our Youthworker can also help young people who may be having a difficult time via the youth club, residentials and contacts with other young people.

FINANCIAL HELP

The social worker can also advise about state benefits that are available because of your child's illness. We may also be able to advise and help with travel costs to hospital and arrange applications to other special funds such as the Family Fund and British Kidney Patient Association.

RESOURCES

The social worker may want to involve social services or the voluntary sector in the area

POTASSIUM



Poor kidney function may cause an increase in the level of potassium in the blood. This can be dangerous as it can be harmful to the **heart**. It is important that foods high in potassium are avoided. The dietitians advice will be tailored to each individual child's level of kidney function and other treatment.

CALCIUM AND PHOSPHATE

Calcium and phosphate are both important for the growth of strong **bones**.

In chronic kidney disease there is a build up of phosphate in the blood because the kidneys cannot excrete enough phosphate in the urine. There is also a lack of a very special form of vitamin D made by the kidneys. This can lead to a type of bone disease known as renal osteodystrophy. Importantly in the long term, we know that an imbalance of calcium and phosphate can also cause heart problems. We hope to prevent these problems with low phosphate dietary advice and a medicine called phosphate binders. We monitor calcium and phosphate and the level of a hormone called parathyroid hormone (PTH).



FLUID

The kidneys control fluid balance within the body. When the kidneys cannot get rid of excess water, fluid is held within the tissues causing weight gain, puffiness (oedema) and a rise in blood pressure (hypertension). If this happens it may be necessary to reduce the amount of fluid that your child drinks. Salty foods should also be reduced to avoid increasing thirst.

FLUID (continued)

With some types of kidney disease, the kidneys produce large amounts of weak urine. In this case it may be necessary to encourage lots of fluid. Children with this type of problem are at risk of dehydration if they develop diarrhoea or vomiting.

VITAMINS AND MINERALS

Vitamins and minerals are essential for good health. A good balanced diet should provide adequate amounts.

Children with chronic kidney disease may have poor appetites and therefore may need a daily vitamin and sometimes mineral supplement. Some vitamins are lost during dialysis and these will also need to be replaced by a renal specific vitamin and mineral supplement.



ANAEMIA

Anaemia is a condition in which there is a reduction in the haemoglobin concentration - the blood. The kidneys produce a hormone called erythropoietin (EPO) which helps the body to produce red blood cells. Children with chronic kidney disease can develop anaemia, the main symptoms are paleness and fatigue. Red blood cells contain iron, so we can treat the anaemia with iron supplements. Iron treatment can be given through the veins (we can give this treatment in clinic using the same needle that we use to take blood tests).

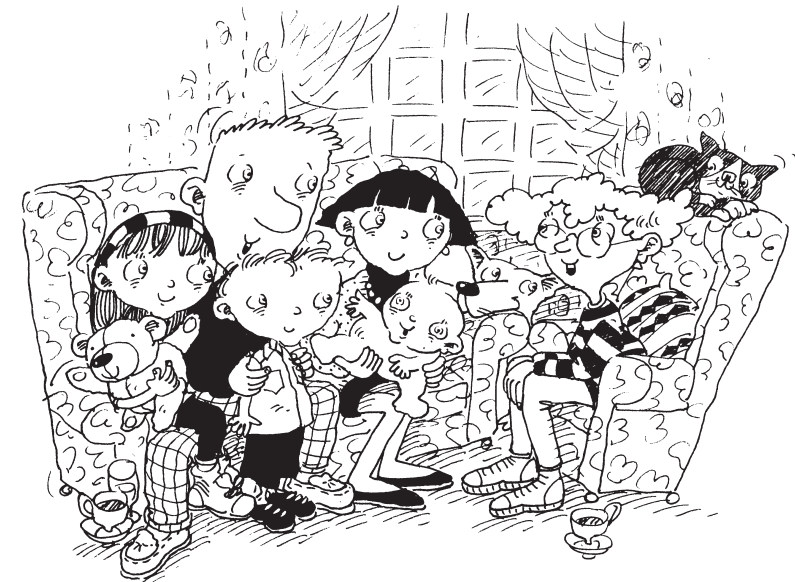
Some children will also need erythropoietin (EPO) treatment, this is given as a small injection, just under the skin.

The kidney team will work with local medical teams and families to provide supportive medical care in an appropriate environment.

IMPACT ON FAMILY LIFE

The impact on the family of the diagnosis of chronic kidney disease can have far reaching effects. Parents often describe the time following their child's diagnosis as the most difficult time, often with feelings of guilt, anger and sadness. Some parents say that they have benefited from being able to talk to someone at this time. This may be a professional within the renal team, for instance the social worker or clinical psychologist or another parent of a child with renal failure.

Parents are asked to understand complex medical information alongside providing special care at home and to be part of major decision making for their child. This can be a stressful time and partnerships /relationships can be put under strain.



will try to keep your child free of pain and discomfort.

Before your child goes home after a successful transplant the transplant nurse will discuss with you the importance of the drug treatment, signs of rejection and the arrangements for clinic visits.



TREATMENT WITHOUT DIALYSIS OR TRANSPLANT

In exceptional circumstances and when the child has other significant problems, parents/carers and renal team members come to a decision that it would be better not to treat with dialysis or a transplant. The children and their families will still receive supportive treatment from the kidney team. In this situation the child will not live for long as they might if they were on dialysis or had a successful kidney transplant.

DIETARY SUPPLEMENTS

There may be times when your child will need extra protein or energy in their diet. To achieve this, your doctor and dietitian will decide upon a suitable nutrient rich supplement that can either be taken as a ready made drink or as a soluble powder in drinks. If dietary supplements are prescribed they should be treated with the same importance as medications.



OTHER METHODS OF FEEDING

If your child's appetite is poor and they are unable to take enough food and supplements to meet their special dietary requirements, it may be necessary to consider additional feeding in the form of **tube feeding (gastrostomy or nasogastric)**. If this is required it will be discussed well in advance.

DIET AND EXERCISE FOLLOWING TRANSPLANTATION

There is usually no dietary restriction following transplantation. However it is important to avoid adding salt to food and reducing the number of salty snacks to help blood pressure control. We always encourage healthy eating and regular exercise which can be followed by all the family.



Most kidneys used for transplantation come from accident victims who have died in hospital (**deceased donor**). Details of each patient waiting for a transplant are held on a national computer in Bristol. The time that your child will have to wait will depend upon his/her tissue type and how closely he/she matches the donated kidney.

PREPARATION FOR THE RENAL TRANSPLANT

You and your child will be given information and preparation before he/she is put on the transplant list. This will be undertaken by the named nurse, play specialist or psychologist. Do feel free to ask questions as we appreciate it is a time of anxiety for all concerned. Special blood tests will be required before the transplant. These will include 'tissue typing' and testing for antibodies to viruses such as the hepatitis and AIDS virus. Your child may also require additional immunisations. Special bladder Xrays may also be required. Further details are included in the "Kidney Transplantation in Childhood" booklet you will be given.

THE RENAL TRANSPLANT OPERATION

The transplant kidney is placed in the abdominal cavity in the groin area. All that you will see is the scar and maybe a slight bulge. In younger children the kidney may be placed deep inside the abdomen.

Following the operation your child may need to spend the first few days in the intensive care or high dependency unit as the kidney function needs to be monitored closely and many tubes may be in place.

Frequent blood tests will be necessary following the transplant. Your child may also require a scan to check how the new kidney is working. If the kidney is not working well then a biopsy may be needed. At all times we

TRANSPLANTATION

Even if dialysis works well it is only regarded as a short term treatment until a kidney transplant becomes available for your child. Growth and development are usually better after a transplant. Life is more normal and overtime children will need to visit the hospital less often.

Occasionally children avoid dialysis altogether and go from conservative treatment to transplantation (**pre-emptive transplantation**).

A kidney may be donated by a family member (**living related donor**). This means a close relative such as mother, father, sister or brother. If you wish to be considered as a possible donor, make you views known to the kidney specialist or team member.



MEDICATIONS FOR TREATING RENAL FAILURE

Various medicines or drugs are used in the treatment of chronic kidney disease. Each child has different requirements and these will be explained to you in more detail by your doctor at the hospital.

IMPORTANT POINTS

1. Be sure you understand how the medicine should be taken.
2. Do ask questions about what the medicines are for and what are the side effects.
3. Some medicines are difficult to obtain. You should make sure you can get a supply either from the hospital or from the local pharmacist.
4. You should have an up to date list of all the medicines that your child is on at all times. This is very important in the event of an emergency. Remember to bring your list to clinic in case any changes need to be made.
5. All patients with chronic kidney disease should carry an information card and consider a medic alert bracelet, particularly while on steroid drugs after a renal transplant.
6. Make sure that other doctors and dentists who treat your child are aware of his/her medications.
7. Paracetamol is the only recommended medicine for headaches or pain relief. Please contact the Renal Unit if other medicines are being considered.

WARNINGS ABOUT MEDICINES

1. Dialysis and transplant patients **must** discuss other medicines, supplements or homeopathic remedies with their doctor.
2. Prescribed drugs must be taken regularly as directed. If the prescribed times are inconvenient for school or family life please discuss this with your school or hospital doctor.



3. Most drugs are released from the body through the kidney so many drugs may not be safe for patients with damaged kidneys.

4. Parents should **never** allow a chemist to substitute another drug for one that is prescribed without first consulting the doctor.

Always keep medications in a safe place out of reach of young children.

TEETH

Good dental care is essential and regular check ups at the dentist are advised.

PLAYING AND LEARNING

Play is an important way of reducing the anxiety of hospitalisation for young children. While on the ward the play specialist will meet with the family and arrange suitable activities. The playroom on the ward is where children are temporarily free of needles or doctors.

Specially designed dolls are used to prepare children for many of the procedures such as starting dialysis or transplantation. These procedures become less frightening when they are explained through play.

As a team, we feel that it is very important to inform the child as fully as possible about their treatment and help them to develop their own coping strategies. This helps minimise any distressing effects of treatment.

TREATMENT OPTIONS

When the kidneys can no longer remove enough of the waste products and excess water from the body we have to find some other way to do the work of the kidneys. Dialysis is a treatment which can help to do this until a kidney transplant becomes available.

catheter. Since haemodialysis usually takes place in hospital your child will need to be accompanied to the hospital for these sessions. Education will be provided by the hospital school. In some older children we use a fistula for access. This requires an operation to connect in gently to a vein, usually in the forearm. This takes time to develop and is accessed using a needle.



AUTOMATED PERITONEAL DIALYSIS (CAPD)

This method of dialysis is carried out by manual changes every 4 to 6 hours of dialysis fluid called bag changes. You will be taught how to connect a bag of dialysis fluid to the end of the catheter, run it in, leave to dwell and drain out. Again your child is free to enjoy normal activities and there should be no discomfort.

INTERMITTENT PERITONEAL DIALYSIS (IPD)

This may be carried out two or three times a week in hospital, usually overnight while your child is sleeping. It is the least efficient form of peritoneal dialysis and is very rarely used these days except when it is not possible to dialyse at home or when your child does not require as much dialysis.

HAEMODIALYSIS

Dialysis using an artificial kidney outside the body is called haemodialysis. A machine is used to pump blood from the child to the artificial kidney and it is inside the artificial kidney where the dialysis takes place usually over three to four hours, several times a week. To perform this type of dialysis it is necessary to gain access to the blood stream so that the blood can be taken from and given back to the child. The type of access used will depend upon the age of the child and how long the dialysis will be needed.

To gain access to the blood vessels we use a special catheter which is placed into one of the large veins in the neck and hidden under the skin so that only the end is exposed on the chest. Needles are not required for haemodialysis or blood sampling with this

In some children it may be possible to consider preparing your child for a **KIDNEY TRANSPLANT** before dialysis becomes necessary. We call this a **PRE-EMPTIVE TRANSPLANT**.

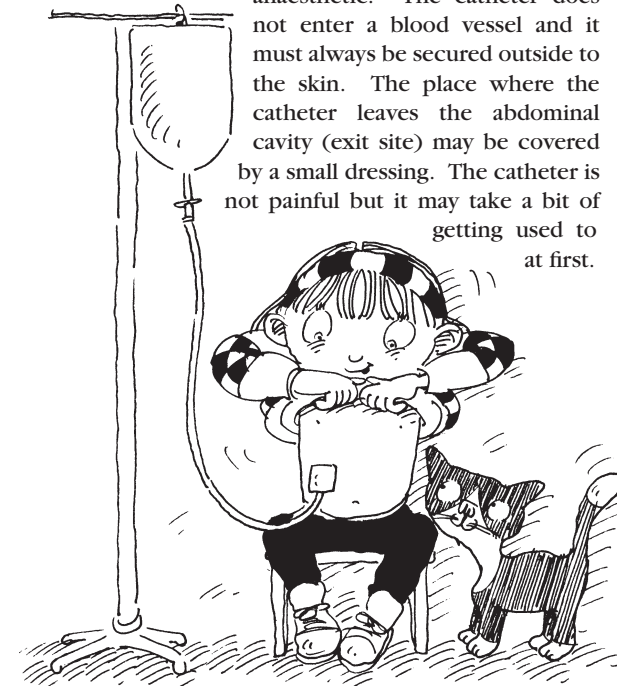
When dialysis is necessary two main types are considered.

- **PERITONEAL DIALYSIS** or
- **HAEMODIALYSIS**

The choice of dialysis for your child will be discussed with you after careful assessment. Peritoneal dialysis is usually carried out at home overnight whereas haemodialysis requires travel to the hospital several times a week.

PERITONEAL DIALYSIS

To be able to carry out peritoneal dialysis a soft tube (catheter) must be placed into the tummy (abdominal cavity) under general anaesthetic. The catheter does not enter a blood vessel and it must always be secured outside to the skin. The place where the catheter leaves the abdominal cavity (exit site) may be covered by a small dressing. The catheter is not painful but it may take a bit of getting used to at first.



HOW DOES CHRONIC PERITONEAL DIALYSIS WORK?

Peritoneal dialysis uses the body's own natural peritoneal membrane which lines the abdominal cavity. Dialysis fluid contains sterile water, salts and glucose (sugar). The fluid is run through the catheter into the abdomen and left to dwell. It draws out waste products and extra fluid from the blood vessels surrounding the peritoneal membrane which acts like a filter. After a certain amount of time the dialysis fluid is drained out through the same catheter and a fresh amount of fluid is run in to continue the process. This is what we understand by dialysis.

HOW CAN WE MANAGE THIS AT HOME

There are three different ways to carry out chronic peritoneal dialysis.

AUTOMATED PERITONEAL DIALYSIS (CAPD)

This is carried out at home overnight by a machine while the child and family sleep. The machine carefully measures the amount of fluid which runs in and out of the abdomen each cycle. The exact number of cycles will be decided by the kidney specialist. In the morning the dialysis will be stopped and the catheter capped. Your child can then attend school or enjoy normal activities. It may be possible for your child to have one night free from dialysis during the week if he/she is passing urine.

