

## Renal Replacement Therapy (RRT)



**Figure 1.** A patient undergoing RRT

### *What is this procedure?*

RRT is a therapy that replaces the normal blood-filtering function of the kidneys. The patient's blood is drawn and pumped through a haemofilter which is used to remove body wastes and excessive fluid. Afterwards, the blood is returned to the patient.

### *Why is there a need to do it?*

RRT is needed when the kidneys fail to function adequately to remove enough wastes and fluid from the body which may be life-threatening. Kidney failure can develop if there is kidney problem itself, or it can also develop because of another illness, most commonly severe infection.

### *How is it done?*

A haemo-catheter is inserted into a large vein on one side of the neck or groin areas. Blood is let out of the body through the catheter to the dialysis machine and then return to the patient. The above process can be done for several hours (intermittent haemodialysis), or continuously for days (continuous haemofiltration). The RRT choice depends on the patient's condition.

### *When to stop?*

RRT can be stopped when kidney function improved. When RRT is no longer required, the haemo-catheter can be removed. However, the kidney damage may be permanent. Whether a patient eventually recovers depends on a lot of other factors. Your doctor will assess and discuss with you if prolonged continuation of RRT is beneficial.

### *Risk and Complications*

- **Bleeding:** Bleeding occurs during haemo-catheter insertion or catheter removal. It may also due to puncture of artery inadvertently. Bleeding risk is higher in kidney failure patients because the clotting function is usually poorer. In very rare situation, the bleeding can be so severe to be life-threatening. In extremely rare

- conditions, bleeding may cause compression on the airway and impair breathing, injury to internal organs and air embolism, which can be life-threatening.
- ✦ Catheter site and related blood stream infection
  
  - Other risks: Hypotension, hypothermia, arrhythmias and electrolyte imbalance are common during the procedure. If severe, the RRT procedure may need to be terminated. Venous thrombosis or stenosis may be due to prolonged catheter used.

### ***Possibility that the procedure cannot be carried out***

Depends on patient's condition, e.g. haemodynamic instability and no vascular access.

### ***Other treatment options***

If the patient chooses not to perform this procedure, it will affect the overall condition. The change of the condition is affected by a variety of clinical factors, including the individual patient's physical condition before the onset of illness, the type of disease, the response to treatment and the progress, etc. Your doctor will explain other suitable options to you.

### ***Disclaimer***

The information provided in this booklet is for general reference only. The risks and complications listed above are not exhaustive. Please consult your attending doctor for details.