

Continuous Renal Replacement Therapy (CRRT)

What is CRRT?

CRRT is a type of dialysis that is used in the intensive care unit to support a child's kidneys when they are not working well. It is usually performed continuously, 24 hours a day, for as long as your child needs it. It is chosen when patients may be too sick for normal dialysis treatments. An intravenous (IV) catheter will be placed into a large vessel either in the neck or groin and used to pull blood from the body into the CRRT machine. The machine will pump the blood from your child into tubing through a filter, which cleans the blood. The machine will then return the blood to the body.

Why does my child need CRRT?

CRRT is needed when the kidney is unable to perform one or more of its roles. The roles include removing water, clearing waste products and balancing the electrolytes/minerals in the body. There are many possible causes for kidney injury/failure. These include but are not limited to:

- Medications that can be harmful to the kidney
- Sepsis
- Shock
- Decreased blood flow to the kidney

How can CRRT help my child?

- CRRT is used to help kidneys perform their job when they are not working well.
- CRRT can remove waste products
- Balance the electrolytes and minerals in the blood system
- Maintain fluid balance
- Maintain pH by balancing the acid and bases in the body
- Allow the patient to receive the medications, blood products and nutrition he/she will need without risking complications from too much fluid

What are the roles of the staff who support CRRT?

The ICU team and the Nephrology team will work together to set the goals of therapy. The nephrology and ICU team are available 24 hours a day to help with any problems that arise.

The bedside nurse will adjust the machine as needed (sometimes every hour) based on the agreed upon CRRT prescription.

The dialysis nurse will set up the machines for your child. The nurse is available 24 hours a day to help with any problems that arise.

What else do you need to know?

- The nurses in the ICU will frequently monitor your child's vital signs, including heart rate and blood pressure. These are ways to measure if your child's fluid balance is within normal limits.
- The machine may alarm for a number of reasons. It alarms to alert the nurses that dialysis fluid bags may need to be changed or emptied. The machine performs self-tests frequently and may alarm during this time as well.
- The filter and circuit tubing is changed frequently, about every 3-5 days. There are times when the filter/circuit/machine may clot and we will have to change it more often.
- Sometimes the IV catheter may not work as well as we want it to for the flow of the blood through the tubing. We may put a medicine into the IV catheter to help it flow better.

How long will your child need CRRT?

CRRT is a short-term therapy used for patients in the ICU. As your child becomes better, he/she may require a different type of dialysis or may not need dialysis. Every child's kidney injury is different. Many children with an acute kidney injury have full kidney recovery. Please ask your healthcare team to discuss your child's kidney injury with you.