Neonatal KIDNEY Collaborative

The mission of the NKC is to improve the health of newborns with or at risk for kidney disease through multidisciplinary collaborative research, advocacy, and education.

What jobs do the kidneys do?

Waste removal

The kidneys are responsible for removing normal waste products from the body through the urine. Creatinine and urea are waste products that a healthy kidney removes from the blood and sends out of the body in the urine.

Blood pressure control

The kidneys can tell when blood pressure is too high or low. They will send special messages to the heart to change how it is beating to help make the blood pressure normal.

Fluid removal

The kidneys remove excess fluid (from what you eat and drink) as urine.

Acid base balance

Kidneys work to keep the acids and bases in the body balanced. This helps patients to grow big and strong.

Electrolyte balance

Electrolytes are needed to control your body's functions. If you take in too many electrolytes from food or drink, the kidneys will remove what you don't need. Electrolytes include sodium, potassium, magnesium, calcium and phosphate.

Red blood cell stimulation

Red blood cells are made in your bone marrow. Red blood cells carry oxygen to your cells to help create energy. Not having enough red blood cells is called anemia. The kidneys send special messages to the bone marrow when it needs to make more red blood cells. This helps to prevent anemia.

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Electrolytes and their jobs in the body

Sodium - normal levels in the body 135-145

Sodium is needed to maintain proper water balance in your cells and around your cells. It is also important in muscle and nerve functions. Too much sodium can cause weight gain, nausea, dizziness, increase in blood pressure, increase in thirst, seizures, muscle twitching, a coma and heart failure.

Potassium – normal levels in the body 3.5-5

Potassium helps regulate fluid balance, muscle contractions and nerve signals. Too much or too little potassium can cause muscle cramps, muscle weakness, changes in the rhythm your heart beats and even death.

Phosphorous – normal levels in the body 4-6.7

Phosphorous helps form bones and teeth. It is needed in the body to help make proteins for growth and repair of cells and tissues. Low or high phosphorous can lead to poor bone growth and bones may break more easily.

Calcium – normal levels in the body 9.5-10.5

Calcium aids in muscle contraction, building strong bones and teeth, helping blood to clot when needed, nerve function and regulating heartbeat. Low or high calcium can cause the heart to not beat correctly and can cause bones that can break easily.

Magnesium – normal levels in the body 1.5-2.5

Magnesium helps your muscles and nerves to work properly. It keeps your heartbeat steady and supports strong bones. It aids in energy production. If magnesium is low, your bones can weaken, you can have a headache, feel nervous or even have heart problems.