

Pediatric Lab Values

Below are lab values that may be monitored in pediatric Nephrotic Syndrome patients. Values might differ in certain locations, but in general the values below are an approximate normal.

Urinalysis Values

Most lab urine dip stick read up to 10 different tests including pH, specific gravity, glucose, leukocytes, nitrites, blood, protein, ketones, bilirubin, and urobilinogen. They can also see white blood cells, red blood cells, epithelial cells and casts under a microscope. For the purpose of Nephrotic Syndrome the following values are important:

Protein in the urine above 2+ for 3 consecutive days on the first morning urine is considered to be abnormal. Proteins found in the urine can be albumin, serum globulins, proteins secreted by the nephron.

Normal Reading is Trace or Negative

Creatinine is a chemical waste product produced by muscle metabolism. When your kidneys are functioning normally, they filter creatinine and other waste products out of your blood. These waste products are removed from your body through urination. A creatinine urine test measures the amount of creatinine in your urine.

Normal Pediatric Range is 2-183 mg/dL

Protein Creatinine Ratio In children, the urine/protein creatinine ratio often takes the place of a 24 hour urine collection. It is a random urine specimen that can be used to approximate 24-hour excretion rates and measure how much protein is being spilled into the urine. The ratio is the calculation of urine protein divided by urine creatinine equals protein/creatinine ratio.

Normal Pediatric Levels are less than .2 gram of protein per gram of creatinine

Renal Lab Values

A renal function panel is a group of tests that may be performed together to evaluate kidney (renal) function. The tests measure levels of various substances, including several minerals, electrolytes, proteins, and glucose (sugar), in the blood to determine the current status of the kidneys.

Albumin a protein that makes up about 60% of protein in the blood and has many roles such as keeping fluid from leaking out of blood vessels and transporting hormones, vitamins, drugs, and ions like calcium throughout the body.

Normal Pediatric Range 3.0 - 5.0 gm/dL

BUN (Blood Urea Nitrogen) test measures the amount of nitrogen in your blood that comes from the waste product urea. Urea is made when protein is broken down in your body. Urea is made in the liver and passed out of your body in the urine. A **BUN** test is done to see how well your kidneys are working. Increases can be caused by excessive protein intake, kidney damage, certain drugs, low fluid intake, intestinal bleeding, exercise or heart failure. Decreased levels may be due to a poor diet, malabsorption, liver damage or low nitrogen intake.

Normal Pediatric Range is 5 - 18 mg/dL

Creatinine is a waste product from the normal breakdown of muscle tissue. As creatinine is produced, it's filtered through the kidneys and excreted in urine. Doctors measure the blood creatinine level as a test of kidney function. Elevated levels are sometimes seen in kidney disease due

to the kidneys job of excreting creatinine, muscle degeneration, and some drugs involved in impairment of kidney function.

Normal Pediatric Creatinine is under .5 mg/dL

Electrolytes are electrically charged chemicals that are vital to normal body processes, such as nerve and muscle function; among other things, they help regulate the amount of fluid in the body and maintain the acid-base balance. Electrolytes include:

Sodium: Normal Pediatric Range is 3.0 - 6.0 mg/dl depending on age

Potassium: Normal Pediatric Range is 3.5 - 5.5 mEq/L

Chloride: Normal Pediatric Range is 97 - 106 mEq/L

Bicarbonate: Normal Pediatric Range is 24 - 34 mEq/L

Phosphorus is a mineral that is vital for energy production, muscle and nerve function, and bone growth; it also plays an important role as a buffer, helping to maintain the body's acid-base balance.

Normal Pediatric Range 2.4 - 4.1 mg/dL

Calcium one of the most important minerals in the body; it essential for the proper functioning of muscles, nerves, and the heart and is required in blood clotting and in the formation of bones.

Normal Pediatric Range 8.8 - 10.4 mg/dL

Glucose is the energy source for the body; a steady supply must be available for use, and a relatively constant level of glucose must be maintained in the blood.

Normal Pediatric Range 60 - 100 mg/dL

Estimated Glomerular Filtration Rate (eGFR) is a calculated estimate of the actual glomerular filtration rate (GFR, the amount of blood filtered by the glomeruli in the kidneys per minute) derived from creatinine levels in the blood; the formula takes into account the person's age, gender, race, and sometimes height and weight.

Normal eGFR is above 90

Other Labs:

Cholesterol or lipid screening is an overall look at the fats in the blood. LDL (low-density lipoprotein) Cholesterol or "bad" cholesterol can contribute to the formation of plaque buildup in the arteries, known as atherosclerosis. Children with kidney disease are at a higher risk for high cholesterol.

Normal Total Cholesterol in Children Less than 170 mg/dL

Normal LDL in Children Less than 110 mg/dL