

What About Digoxin, Lasix and Captopril?

Digoxin (brand name Lanoxin) is a medication that has been in use for over 250 years. It has two primary uses in treating children with heart problems. First, it is helpful to patients with structural heart disease such as a hole in the heart or a valve that leaks a lot. It is also helpful when a patient has a heart that is enlarged because the muscle doesn't work well. It does this by making the heart more efficient when it contracts. This cuts down the amount of energy used and increases the force of contraction of the heart muscle. Secondly, we use it to control various heart rhythm problems. The most common of these are rapid heartbeats. It does this by suppressing the activity of the AV node. In other words making the heart less likely to beat fast. Digoxin is usually very safe in the doses that are used in children. We recommend 10 micrograms per kilogram divided twice a day as a maintenance dose. This can be given as a liquid or as a tablet. The highest dose we usually use is 0.125 mg. twice a day, which is an adult dose. It is not necessary to check the heart rate before giving the dose. There are usually few side effects. These include nausea and vomiting. Patients can develop irregular heartbeats and sometimes-dangerous low heart rates or rapid heart rates. When the potassium level is low this can sometimes exaggerate the side effects of Digoxin. Digoxin is eliminated from the body by means of the kidney, thus anything that interferes with the ability of the kidneys to filter blood can cause the level of Digoxin to increase. Make sure to keep the bottle out of the reach of small children, as an overdose is a very serious problem. If someone does accidentally get and overdose call poison control or 911. Do not repeat the dose of medicine if the child spits up one dose. It is safer to get too little and too much medicine. If you forget a dose, do not worry, just give that dose as soon as you remember, and give the next dose at the regular time. Never give more than one days dose within 24 hours.

Lasix (or furosemide) is a type of medicine called a diuretic (more specifically a "loop" diuretic). This type of medicine causes the body to eliminate more urine (actually water) than normal through the kidneys. We use it primarily when the heart is enlarged either because of a structural defect such as a hole or leaky valve or if the heart muscle is weakened and cannot squeeze adequately. Remember that an enlarged heart requires more energy to contract than a normal heart. By using Lasix we try to reduce the size of the heart by decreasing the amount of blood it needs to pump and therefore reducing the work of the heart. When patients breathe too fast because of too much fluid or their hearts are not beating strong enough, Lasix can be very useful. The side effects are usually very rare. Lasix does increase the loss of potassium through the urine and this can cause a problem if another drug such as Digoxin is used as well. Sometimes patients can lose too much fluid and they can become dehydrated if too much is used or if they stop drinking for some reason. We usually don't see problems with this unless Lasix is used three times a day or more often. The usual dose of Lasix is 1 mg per kilogram given once or twice a day. Sometimes patients can have sun sensitivity, constipation, nausea, diarrhea, tinnitus, or weakness.

Captopril is a relatively new drug that is used in pediatrics. It works by decreasing the work of the heart. It does this by relaxing the muscles in the arteries of the body. This makes the size of the arteries bigger. The heart has to push against less pressure when it squeezes. This is very helpful in children with leaking Mitral and aortic valves. This can cause a lower blood pressure. In fact Captopril (or a relative drug) is used commonly in adults who have high blood pressure. We sometimes use Captopril in children with large Ventricular Septal Defects to help the heart because it tends to cause the blood flow to the lungs to decrease, Captopril is in a class of medicines called ACE inhibitors and is primarily controlled by the kidney. The dose used depends on the weight of the child and the desired effects. The usual maximum adult dose is 25 mg. three times per day. There are other ACE inhibitors called Vasotec or Accupril that are similar to Captopril that can be given twice a day. Captopril helps the body to keep potassium, so it benefits patients on Lasix. The side effects are usually rare. These include rash, coughing, protein in the urine, anemia, dizziness, nausea, or constipation.

If you have any questions, please ask one of the doctors.