

Why Check Serum Chemistries on Healthy Pets?

- **The physical exam does not tell you much about metabolic function.** You can palpate kidneys and feel that they have a normal texture, size, and consistency, but this does not tell you if the kidneys are leaking protein or glucose into the urine. You can detect an irregular heart rate, but you can't tell if it's due to high potassium, low calcium, low magnesium, or a primary heart disease. Blood chemistries help determine the cause of physical examination abnormalities and detect problems that may not have symptoms early on.
- **Dogs and cats have no or minimal symptoms early in the course of most chronic diseases.** Puppies with portosystemic shunts often appear completely normal, but they have a condition that needs a surgery as soon as possible for a cure. Once puppies with portosystemic shunts have symptoms, surgery has a much lower chance of curing them. Increased thirst is a common symptom in dogs and cats. It's not usually something that worries owners when it's mild, but it might be an indication of early diabetes mellitus, hyperadrenocorticism, or renal failure. Blood work is used to rule out these conditions.
- **Early diagnosis of most chronic disease improves our ability to manage the disease and keep the pet feeling well for as long as possible.** The body has an amazing ability to compensate for organ dysfunction caused by disease. During the period where an organ can compensate for dysfunction, we can do a lot to help the body compensate. Eventually, however, the body will lose its ability to compensate. That's when owners notice that their pets are feeling very poorly. At that point, medical therapy is not nearly as effective. As an example, one of the first problems associated with kidney disease is loss of the ability of the kidneys to maintain a normal blood pH. Blood starts to get acidic. There is a buffer system in the blood that compensates for this to some degree, but it gets used up after a time. The body then exists in a state of chronic metabolic acidosis. Acidosis has a significant wear and tear effect on the body, further damaging the kidneys. Late in kidney disease, the chronic acidosis has already irreversibly damaged the kidneys. Early in the course of kidney disease, a simple diet change can prevent the acidosis and hence the damage to the kidneys from acidosis. This result is kidneys that last longer increasing the pet's quality of life and lifespan.
- **Aren't these blood tests going to be normal most of the time in healthy pets?** Fortunately, yes they are. Statistically, we expect that the majority of healthy pets will have normal metabolic function, but not all of them will. Since pets are valued family members and not statistics, we offer pet owners the ability to safeguard their pets' health by screening for the things we know our physical examination may not cover.