

Tests and Procedures

BUN

- The liver and kidneys are both involved in maintaining the body's BUN (blood urea nitrogen) level.
- The BUN level can be affected by many things, including certain medications and various illnesses.
- If your pet's BUN level is abnormal, additional tests may be recommended to determine the cause.

What Is BUN?

BUN stands for *blood urea nitrogen*. The BUN level is a measurement that represents the level of urea in the blood. Urea is considered one of the body's waste products. It is produced when the liver participates in protein metabolism, and it is usually eliminated from the body by the kidneys. Therefore, both the liver and kidneys must be functioning properly for the body to maintain a normal level of urea in the blood.

The BUN level is an important part of a blood test known as a *chemistry panel*, so it is often evaluated during routine wellness checkups or pre-surgery screening in healthy pets. Often, it is evaluated along with other blood tests that screen for abnormalities involving the kidneys or liver. Because various illnesses can affect the BUN level, your veterinarian may recommend testing your pet's BUN level if your pet has any of the following signs of illness:

- Vomiting
- Appetite loss
- Lethargy (tiredness)
- Anemia
- Increased drinking and/or urination
- Weight loss
- Dehydration

How Is the BUN Level Measured?

To test your pet's BUN level, your veterinary team must obtain a small blood sample. This procedure is usually very quick; it may take only a few seconds if the patient is well behaved. For patients that are very frightened or not well behaved, your veterinary team may want to use a muzzle, towel, or other gentle

restraint device. In some cases, such as in patients with very thick fur, it may be necessary to shave the hair from the area where blood will be drawn. The hair will grow back, and this is often a good way to find the vein quickly.

Some veterinary offices have in-house blood analysis equipment, so they can perform the BUN level test in the office and have results the same day. Other offices send blood samples to an outside laboratory for the test to be performed. If an outside laboratory is used, results are generally available within 1 to 2 days.

Be sure to tell your veterinarian about any medications or supplements your pet may be receiving, as some products can alter the BUN level in the blood.

What Does the BUN Level Tell Your Veterinarian?

Although changes in the BUN level are commonly associated with kidney disease or inadequate liver function, many other factors can affect the BUN level. Some antibiotics, for example, can cause this level to increase. Additionally, various medical

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conditions, such as dehydration or stomach bleeding, can affect the BUN level.

An abnormal BUN level (whether too low or too high) can indicate medical problems. The following are a few conditions that cause an abnormal BUN level:

- Decreased liver function
- Kidney infection
- Kidney failure
- Urinary blockage
- Hemorrhage (bleeding) of the stomach or intestines

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- Severe burns or severe infection
- Starvation
- Shock

If your pet has an abnormal BUN level, your veterinarian will combine that information with other vital information about your pet to decide if further diagnostic testing is recommended to investigate the abnormal result. Additional tests may include a urinalysis (a screening test to evaluate components in the urine), radiographs (“x-rays”), or additional blood testing. Depending on your pet’s overall

condition, your veterinarian may recommend medications or other management.

Are There Risks Associated With Measuring the BUN Level?

Very few risks are associated with measuring the BUN level. Drawing blood takes only a few seconds, and your veterinary team will take precautions to ensure that your pet is not injured during this procedure. Once blood is obtained, all further processing is performed at the veterinarian’s office or at a diagnostic laboratory, so there is no risk of harm to your pet.