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1)

The function of the kidneys: it has glomerular filtration rates (GFR), renal plasma flows, and urine flow rates, when hydrated and dehydrated, which were lower. The GFR of is high, under hydrated and dehydrated conditions, and this was correlated with the occurrence of larger and more numerous glomeruli, particularly juxtamedullary glomeruli. The kidney had a less relative medullary thickness than that of the non dessert mammals; they have better urine-concentrating abilities. The reabsorbed significantly more urea from the filtrate when dehydrated is up to (69.2%).

Coping with water loss is a particular problem for animals that live in dry conditions. Some, like the camel, have developed great tolerance for dehydration. For example, under some conditions, camels can withstand the loss of one third of their body mass as water. They can also survive wide daily changes in temperature. This means they do not have to use large quantities of water in sweat to cool the body by evaporation.

Smaller animals are more able than large ones to avoid extremes of temperature or dry conditions by resting in sheltered more humid situations during the day and being active only at night.

The kangaroo rat is able to survive without access to any drinking water at all because it does not sweat and produces extremely concentrated urine. Water from its food and from chemical processes is sufficient to supply all its requirements.

2)

Damage to the glomerulus by disease can allow passage through the glomerular filtration barrier of red blood cells, white blood cells, platelets, and blood proteins such as albumin and globulin. Underlying causes for glomerular injury can be inflammatory, toxic or metabolic. These can be seen in the urine (urinalysis) on microscopic and chemical (dipstick) examination. Examples are diabetic kidney disease, glomerulonephritis, and IgA nephropathy.

Due to the connection between the glomerulus and the GFR, the GFR is of clinical significance when suspecting a kidney disease, or when following up a case with known kidney disease, or when risking a development of renal damage such as beginning medications with known nephrotoxicity.