

Anatomy and Physiology of Urinary System

New Anatomy and Physiology Video

The functions of the urinary system are not just as simple as making urine and getting rid of it I mean that is the primary function it 's the removal of metabolic wastes that 's really what urine contains solid waste of course would be in the fecal matter which is part of the digestive system. The primary function is to filter blood and get rid of metabolic waste out of your bodily fluids in addition to that you have the regulation of blood volume and blood pressure. Two kidneys on either side of the spine between the thoracic vertebrae at the bottom of the Thoracic curvature so number 12 where your last ribs are found and down to about the third lumbar vertebra. The left kidney is slightly superior slightly higher to the right one they are held in place by surrounding connective tissue. In a healthy individual over one litre of blood flows through kidneys each minute of your life that's incredible to think about because the average person has about five liters of blood in their body or ten pints. The term renal always applies to the kidneys the term renal.

A glomerulus is a bundle of capillaries and they go into this little capsule and then you have certain items water ions etc moving across into the capsular space which then leads to these little tubes these little tubules. 1. 25 million nephrons per kidney and 2. 5 million microscopic little amazing filters getting the job done. Fenestrated capillaries make it very easy for stuff to quickly pass through that small enough to fit through. Water and solutes coming through here and that's eventually going to be urine but at this point as you go through this tube you can suck out because of osmosis in diffusion some of the nutrients ions water and plasma proteins that happen to come in there. There is some final filtration that happens here secretion and reabsorption and then you finally get to what's called the collecting system. concentrated urine passes through the collecting duct this purple region which merges into papillary ducts. The collecting system gets all the different collections that you're in collected from the different nephrons in this region and finally empty into what 's called the minor calyx.