

Snake Cardiovascular System Anatomy

Know your snake inside and out with this snake cardiovascular system anatomy overview.

By Douglas Mader, M.S., DVM, DABVP

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Within the second quarter of the snake are the heart (H), lung (Lu), liver (Li) and esophagus (green arrow).

Photo: Mader / Wyneken Collection Cardiovascular System

The three-chambered reptilian heart is composed of two atria, which receive blood from the lungs and body, and a large ventricle, which pumps blood into arteries. This heart is evolutionarily more basic than the mammalian four-chambered heart, but because of divisions and valves within the ventricle, the snake heart still functions as a four-chambered heart very similar to its mammalian counterparts.

Snakes and other reptiles have an interesting adaptation to their cardiovascular system that mammals lack. It is called the renal portal system. In this type of system blood from the animal's tail passes through the kidneys first before returning to the general body circulation.

This may be significant, especially in sick reptiles, because many of the drugs used to treat infections are eliminated from the body through the kidneys. With certain drugs injected into a reptile's tail or rear legs, the renal portal system may cause the medication to lose some of its effectiveness. Veterinarians must understand the drugs they are using and how best to administer them.

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