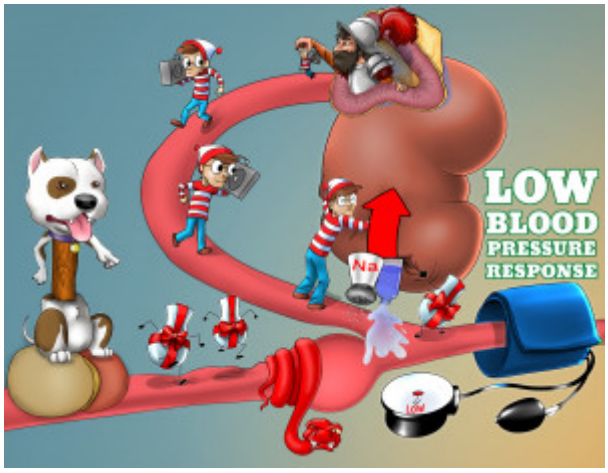
Low Blood Pressure Response

The body has a few ways of responding to low blood pressure as part of its homeostatic mechanisms. The adrenal cortex of the adrenal gland releases aldosterone in response to a variety of stimuli. The stimulus can come from the renin-angiotensin system, baroreceptors, carotid artery salt concentration receptors, and more. Aldosterone upregulates the sodium/potassium pump in the distal tubule and collecting duct, resulting in more sodium being reabsorbed and more potassium being secreted. Water follows the sodium absorption osmotically. The posterior pituitary releases vasopressin in response to reductions in blood volume, increases in blood osmolality, and cholecystokinin released from the small intestine. Vasopressin acts to constrict blood vessels and is an important response to hemorrhaging.



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Characteristics

Posterior Pituitary Releases Vasopressin

Post Pit-bull releases Vases-presents

The posterior pituitary releases vasopressin in response to reductions in blood plasma volume, increases in blood osmolality, and in response to cholecystokinin (CCK) secretion by the small intestine. Vasopressin increases the body's retention of water by increasing the permeability of the distal tubule and collecting ducts. This increases blood volume and blood pressure.

Vasoconstriction

Vessel-constrictor

Vasopressin also induces moderate vasoconstriction at high concentrations.

Adrenal Cortex Releases Aldosterone

Adrenal Cortez releasing Aldo-stereo

The adrenal cortex of the adrenal gland releases aldosterone in response to a variety of stimuli. Angiotensin II, part of the renin-angiotensin system, triggers aldosterone release. Carotid artery receptors can detect plasma concentration changes of potassium and baroreceptors in vessel walls can detect arterial pressure changes.

Increased Na+ and H2O Reabsorption

Up-arrow Salt-shaker and Water being squeezed out of kidney onto blood vessel

Aldosterone upregulates Na+/K+ pumps in the distal tubule and collecting duct of the nephron, resulting in more reabsorption of sodium (with water following osmotically) into the blood and secretion of potassium into urine.

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