

Ncs case – college essay



**ASSIGN
BUSTER**

1. Define the following terms as they relate to cardiodynamics: stroke volume, end systolic volume, and end diastolic volume. Define the following terms and state how each relates to systemic arterial blood pressure: cardiac output and total peripheral resistance. Stroke Volume- the amount of blood pumped out of the ventricle during a single heartbeat. End Systolic Volume- the amount of blood remaining in the ventricle at the end of ventricle systole. End Diastolic Volume- the amount of blood in the ventricle at the end of ventricle diastole. Cardiac Output- the blood volume pumped by each ventricle per minute. An increase in C. O. will result in an increase in arterial blood pressure. Total Peripheral Resistance- the total resistance of flow in the systemic blood vessels from the aorta to the vena cavae. An increase in resistance results in an increase in arterial blood pressure.

2. Explain the following: the Frank-Starling law of the heart, the control of cardiac activity by the autonomic nervous system, and the baroreceptor reflex in the maintenance of systemic blood pressure. The Frank-Starling law of the heart is the relationship between stroke volume and end diastolic volume. The heart is innervated by the PNS and SNS (both from the ANS). The PNS will lower heart rate while the SNS raises heart rate. Increasing heart rate will move blood through the body more quickly and will stimulate the baroreceptors. An increase in arterial pressure causes an increase in firing of the arterial baroreceptors which will decrease sympathetic outflow to the heart, arterioles, veins, and increase parasympathetic outflow to the heart.

3. Define the term dysautonomia and briefly describe the condition known as neurocardiogenic syncope (NCS). Dysautonomia- a broad term to describe

any disease of the ANS. Neurocardiogenic syncope- vessels can expand, which leads to pooling of blood in the lower parts of the body. This will make less blood reach the brain and can cause fainting.

4. What are the symptoms of NCS? Fainting while standing, fatigue, weakness, nausea, sweating, pallor, visual disturbances, abdominal discomfort, headaches, pin and needles, clamminess, tremors, confusion.

5. What is the mechanism by which NCS occurs? When an individual stands up, the pull of gravity will cause blood to pool in the lower half of the body. This creates a lack of blood flow to the brain and the heart. Usually the body will adjust itself because of the lack of blood. Vessels will contract, heart rate will increase. 6. Discuss how NCS is diagnosed and treated.