**Circulatory System: Blood Pressure – Guided Notes**

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| **(Outcome 21 & 27)** |

**Blood Pressure**

* – the pressure of blood in the circulatory system
* when the heart is  and when the heart is
* Sphygmomanometer is used to measure blood pressure
* Typical blood pressure is 120/80 mmHg

***Question:*** *What do the numbers 120/80 mmHg actually mean?*

**Systolic vs Diastolic**

Systolic Blood Pressure

* the force felt when arteries
*  number on blood pressure reading

Diastolic Blood Pressure

* force felt when arteries
* number on blood pressure reading

**Valves of the Heart**

* valves prevent of blood
* "lub dub”

1. Pulmonary Valve
2. Tricuspid Valve
3. Aortic Valve
4. Mitral Valve

***Do you remember?*** *why do valves only exist in veins and not arteries?*

**How is blood pressure controlled?**

1. Sensory receptors

* Detect levels of blood pressure, sending impulses to the medulla oblongata region of the brain stem
* If pressure is  **,** the autonomic system releases neurotransmitters causing smooth muscles in blood vessels to
* If pressure is  neurotransmitters are released that elevate blood pressure by causing smooth muscles to

***Extension:*** *what part in the feedback loop would the medulla oblongata be for blood pressure?*

2. Kidneys

* Regulate blood pressure by removing water from the blood as directed by hormones released by the heart and other organs
* If blood pressure is  **,** kidneys remove water from the blood **reducing the blood volume**

🡪  **blood pressure**

* If blood pressure is  a hormone is released to stimulate the retention of sodium and water, **increasing the blood volume**

🡪  **blood pressure**

***Extension:*** *How does this relate to homeostasis?*

**BP & Homeostasis**

Diagram

Description automatically generated

**Hypertension**

* High blood pressure is considered 140/90 mmHg or higher
* Can weaken or damage heart muscles and blood vessels
* People with high blood pressure are more susceptible to coronary heart disease and have an increased risk of heart attack and stroke

Prevention

* regular exercise
* balanced diet
* no smoking