Pre-natal Circulation

Oxygenated/deoxygenated blood comes from the placenta and travels to the heart through the _____ and mixes with *oxygenated/deoxygenated* blood returning from the _____. Blood then enters the _____ of the heart.

Because the fetal lungs are not functional, most blood will bypass the _____, and be shunted to the _____ via the _____. This is due to pressure in the right atrium being *higher/lower* than pressure in the left atrium. Blood will then travel into the _____ and be pumped out through the _____ for *systemic/pulmonary* circulation.

Some blood will enter the _____ from the right atrium and proceed into the _____. However, most of this blood will be shunted away from the _____ and into the _____ via the _____.

Post-Natal Circulation

Changes due to *increased/decreased* alveolar pressure in the lungs lead to anatomical and physiological alterations in the circulatory system.

With the first breath, increased alveolar O2 pressure causes _____ in the pulmonary vessels. Within 10-15 hours after birth (but can be up to 72 hours), the _____ constricts, becoming the _____.

Decreased/Increased left atrial pressure and *decreased/increased* right atrial pressure cause the _____ to close. Because of this closure, blood will now flow from the _____ to the _____.

Pre-natal Circulation

Oxygenated*/deoxygenated* blood comes from the placenta and travels to the heart through the inferior vena cava and mixes with *oxygenated/****deoxygenated*** blood returning from the **superior vena cava**. Blood then enters the **right atrium** of the heart.

Because the fetal lungs are not functional, most blood will bypass the **pulmonary trunk**, and be shunted to the **left atrium** via the **foramen ovale**. This is due to pressure in the right atrium being ***higher****/lower* than pressure in the left atrium. Blood will then travel into the **left ventricle** and be pumped out through the **aorta** for ***systemic****/ pulmonary* circulation.

Some blood will enter the **right ventricle** from the right atrium and proceed into the **pulmonary trunk**. However, most of this blood will be shunted away from the **pulmonary circulation** and into the **aorta** via the **ductus arteriosus**.

Post-Natal Circulation

Changes due to ***increased****/decreased* alveolar pressure in the lungs lead to anatomical and physiological alterations in the circulatory system. With the first breath, increased alveolar O2 pressure causes **vasodilation** in the pulmonary vessels. Within 10-15 hours after birth (but can be up to 72 hours), the **ductus arteriosus** constricts and becomes the **ligamentum arteriousum.**

*Decreased/****Increased*** left atrial pressure and ***decreased****/increased* right atrial pressure cause the **foramen ovale** to close. Because of this closure, blood will now flow from the **right atrium** to the **right ventricle.**

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