Thought Questions – Lecture 3

1) What happens to flow through the heart if a valve is compromised?

The heart has to work harder to overcome the turbulent flow and blood can flow backwards in the system (one-way flow is no longer ensured).

2) Why is it important that the heart contracts from the bottom up?

The heart must contract from the bottom of the ventricles upward to eject as much of the blood present in the ventricles as possible.

3) What will happen to heart rate if the SA node stops functioning?

Pacemaker cells in the AV node will take over but the resting heart rate will be higher.

4) What happens to heart function if a large section of the heart dies?

Dead cells cannot conduct electricity and the electrical conduction in the heart could be disrupted. If a large enough section of heart muscle dies the heart will not be able to effectively pump blood.

Thought Questions Lecture 4

1) How would you increase or decrease blood viscosity?

Increase the number of red blood cells (blood doping) or decrease the amount of plasma (diuretics) will increase blood viscosity. Decreasing the number of red blood cells (anemia) or increasing the amount of blood plasma will decrease blood viscosity.

2) How might you prevent blood from pooling in your feet during a long plane trip or while standing for a long period of time?

Contract the large muscles in the legs

3) What happens when the valves in the large veins in the body preventing backflow are compromised?

Varicose veins

4) What would happen if all of the vessels in your body vasodilated at the same time?

Vascular shock