

Nerve Supply to the Heart

The main control of the heart resides with the **medulla oblongata**. There is an area called the **cardio-acceleratory center**, or **pressor center**, in the upper part of the medulla oblongata, and an area called the **cardioinhibitory center**, or **depressor center**, in the lower part. Together they are called the **cardio-regulatory center**, since they interact to control heart rate, etc. The nervous supply to the heart is **autonomic**, consisting of both sympathetic and parasympathetic parts. The sympathetic fibres arise from the pressor centre, while the parasympathetic fibres arise in the depressor centre.

The **sympathetic nervous system** acts on the sinoatrial node, speeding up the depolarisation rate, and therefore increasing the heart rate. The **parasympathetic system** works in reverse in order to slow the heart rate down. The heart itself has a natural pacemaker, the sinoatrial node, which does not need a nervous supply to function. If you sever all the nerves to the heart, then it will continue to beat. In fact, it will beat faster than normal, since there is normally a parasympathetic supply slowing the heart down. The sympathetic fibres, arising from the superior, middle, and inferior cervical ganglia (but originating in the medulla oblongata), and the parasympathetic fibres, which originate in the medulla oblongata, and pass down by way of the vagus nerve, join in the cardiac plexus (which has superficial and deep parts). From here they enter the heart.

