

# The heart and an artificial pacemaker essay sample



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We cannot leave to chance things as important as our own heartbeats. The sinus node in our hearts are signaled to form waves of electricity that tells our hearts when to beat. In their perfect form, these jolts are quite dependable and are spaced to keep us healthy and active. But when our natural pacemaker system breaks down, signals won't be as reliable. When this happens, we need an artificial pacemaker to take over the job of the natural one. Patients suffering from sinus syndrome are prescribed to use artificial pacemakers. This is a condition when the heart occasionally beats too quickly, or at times too slowly. Other conditions that requires such use include heart block and arrhythmias. The former happens when the flow of electricity has been blocked on its way across your heart. While the later is a condition where heart rhythms are found to be abnormal. According to Chris Woolston in his article entitled, Pacemakers, " more than 500, 000 Americans are living with artificial pacemakers, and the number is steadily rising."

Woolston describes a pacemaker as " a small device that helps your heart beat in a regular pattern, if it doesn't do so naturally. A battery in the pacemaker sends pulses of electricity through wires to your heart to stimulate a consistent heartbeat. Pacemakers can be temporary or permanent, depending on your individual condition. A doctor must implant a permanent pacemaker directly into the chest, but temporary device is worn externally."

Patients recovering from a heart attack suffer temporary problems with their heart rhythm. In such cases, a temporary pacemaker is prescribed. A small device attached to the skin sends the electronic signal to their hearts. In <https://assignbuster.com/the-heart-and-an-artificial-pacemaker-essay-sample/>

most cases, artificial pacemakers are implanted into the body. This type consists of two parts, a “ pulse generator” and a “ lead.” The pulse generator which is about the size of three poker chips stacked together, is the one that emits electric signals while the lead (or wires) are the ones that carries the electricity to the heart. The pulse generator is usually placed below the collarbone. On the other hand, leads are threaded through the patient’s large veins until it finds its way to his heart. With the aid of recent technological advances, demand pacemakers and rate-adaptive pacemakers are now made available. The previously released pacemakers produced the same rhythm every time. Demand pacemakers are now more adaptable and flexible to a patient’s needs. One just have to turn them on in the event his heart drops below a certain level. Rate adaptive pacemakers can function like one’s old healthy heart. During exercise, it increases one’s heart rate automatically and slows it down during rest periods.

It is the role of the coronary arteries to provide the critical blood supply that the heart needs. Plaques in different sizes are formed when inflammatory cells, fatty matter, protein and calcium are built up within the arteries.

These plaques are characterized to be mushy and soft in the inside but are hard on the outside.

Myocardial infarction, more popularly known as heart attack happens when the plaque deposits are hard, there’s plaque rupture, platelets come to the area causing blood clots to form surrounding the plaque. The heart muscle, which is in constant need of energy becomes “ starved” from oxygen when the artery are totally blocked with blood clot. It just takes a short time for

the heart muscle cells to meet death. This death causes permanent damage, a damage known to us as heart attack.

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