Abstract

Sudden Cardiac Arrest Foundation (SCAF), based in USA has found out that leading cause of death among adults over the age of 40 in the United States and other countries is Sudden
Cardiac Arrest (SCA). In India, approximately 4280 out of every one lakh people die every year from this disease. There are many cardiac assisting techniques such as cardiopulmonary resuscitation (CPR), defibrillation, advanced cardiac life support, and mild therapeutic hypothermia present to help the patient survive through SCA. Four out of ten victims survive due to cardiac assist devices following above techniques. Due to the dearth of such cardiac-assist devices and low knowledge about such devices, rate of mortality has increased in India. Highlighting the need of cardiac assist device, this paper explains and presents the design and development of a prototype model of an Automated Pulse Retrieval Device which will give chest compressions in case of sudden cardiac arrest. This is an automatic, cost effective and portable Cardio Pulmonary Resuscitation (CPR) device which will automatically compress the chest 5 inches deep and help spontaneous circulation of blood to brain and restore normal breathing and circulation. This will increase the survival rate of the patient effectively.

References

- Krep, H, Mamier, M et al., "Out-of-hospital cardiopulmonary resuscitation with the Auto Pulse system: A prospective observational study with a new load-distributing band chest compression device", Resuscitation, Volume 73, Issue 1, April 2007, Pg. 86–95
- The Importance of Coronary Perfusion Pressure-http://www.zoll.com/uploadedFiles/Public_Site/Products/AutoPulse/autopulse-white-paper. pdf
- Servo. componentshttp://www.jameco.com/jameco/workshop/howitworks/how-servo-motors-work. html

Index Terms

Computer Science  Applied Sciences
Keywords
Cardiac Arrest  Cardio Pulmonary Resuscitation  Automated Portable Cardiopulmonary Resuscitation Device