**Epicardial Pacemaker**

**Background:**

Ever since their introduction in the ‘50s, cardiac pacemakers have taken the form of a surgically implanted pulse generator connected to flexible lead(s) passing through major veins into the right atrium and/or right ventricle, where they are anchored to the myocardium by a corkscrew electrode. This invasive approach is either impractical or non-ideal for many patients, including the very young (under age 3-5), those with clothing disorders, those with conduction defects requiring direct left ventricular pacing, as well as those in poor general health.

**Description:**

A fully epicardial pacemaker together with means for percutaneous implantation and fixation on the outside surface of the heart. This novel design eliminates the need for surgical opening of the chest. A novel hinge and sheath design enables pacemaker implantation. A special lead design minimizes dislodgement and fracture issues. This invention also permits fetal pacing, which has never been successful due to reliance on adult technologies.

**Benefits:**

- Minimally invasive, percutaneous implantation
- No endocardial lead placement
- Pacemaker not in contact with blood flow
- Works for more patients, including younger and sicker patients

**Applications:**

- Pediatric patients
- Juvenile patients depending on anatomy
- Elderly patients
- Contraindicated adult patients, including those with clotting disorders or those requiring direct LV pacing