Collaboration Group: Cardiac Defibrillation & Procedure Planning

DBP Partners
Collaborators
Service Partners

Boston Children's Hospital
Until every child is well

University of Utah School of Medicine | Department of Pediatrics

CardioThrive inc.

Washington University in St. Louis
Laboratory of Igor R. Efimov, Ph.D.

SCI Utah.edu

The University of Utah
From Images to Models

CT/MRI images

Seg3D

Database of torso models
2, 10, 29 and 40 year old torsos.
Case Summary
Residual Objects Can Alter Defibrillation

Example: Spinal Rods can change DFT by -20 to +5 J

Without Spinal Rods

With Spinal Rods
Sudden Cardiac Arrest:
Over 1,000 Americans a day experience SCA. Patient life and death is measured within a 6-10 minute period (max). EMS are rarely able to respond AND get to a patient AND to defibrillate them within the critical initial 3-4 minute window. What if there was a means on hand to keep a patient alive until professional help (Advanced Life Support) can arrive?
ARTICLE
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3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium

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Geometrical information → 3D printed model → 3D-MIM → Integrate with heart