Improving Defibrillator use in Pediatrics using Computer Simulation

SCI Contributors

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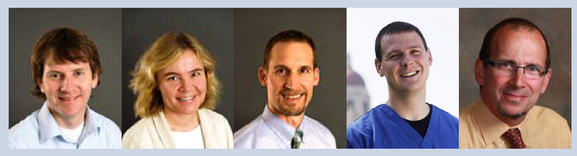
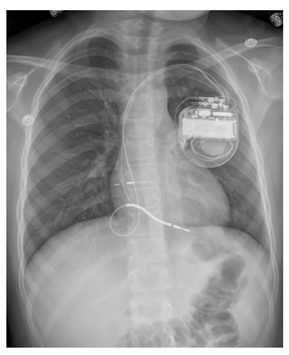
Clinical Collaborators



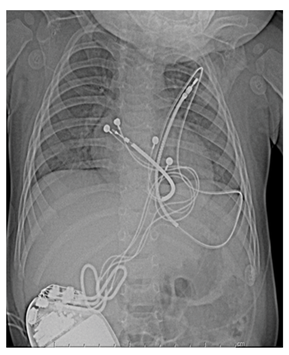
Thomas Pilcher, Elizabeth Saarel, Michael Puchalski, Matt Jolley, John Triedman

Medical Motivation:

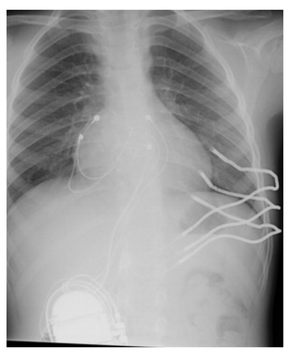
Provide physicians with a better understanding of the effects of Implantable Cardioverter Defibrillators (ICDs) on the patient through computer modelling.



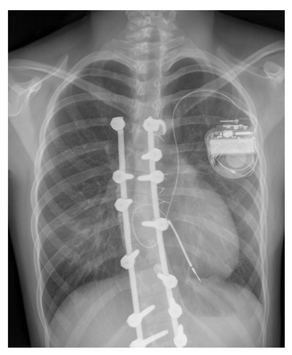
Normal ICD Placement



Comparing ICD placement in infants

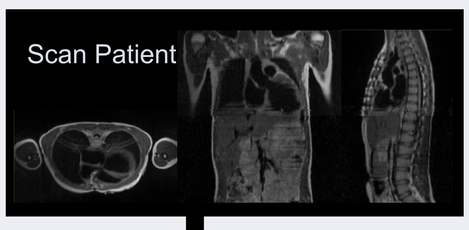


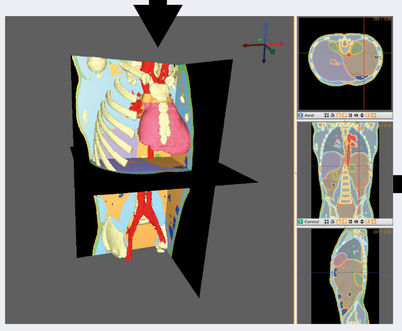
Testing subcutaneous ICD electrodes



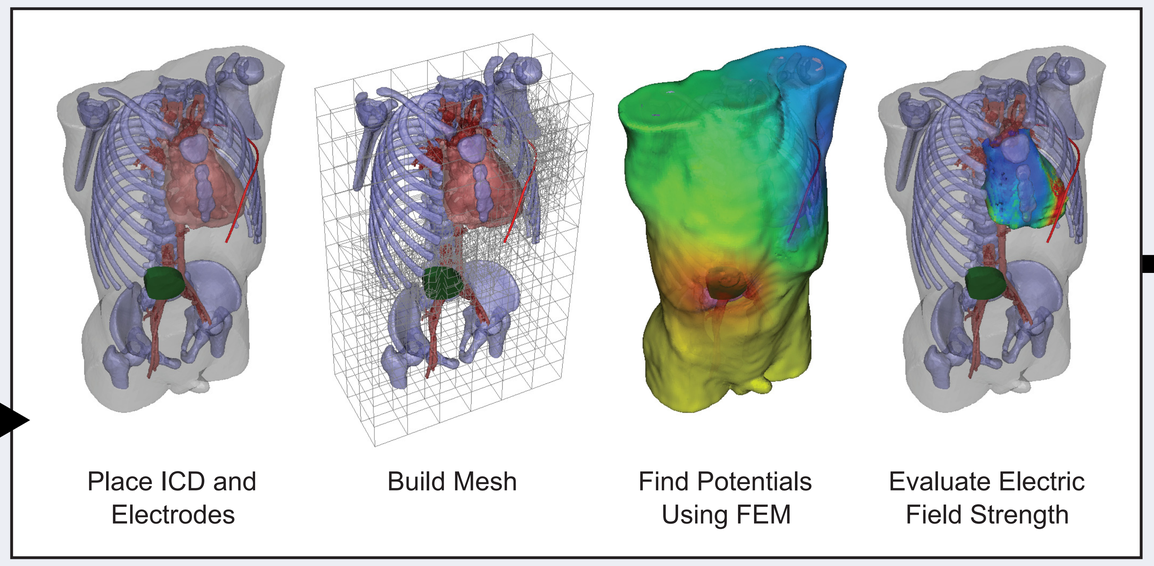
Evaluating role of surgical metal in the body

Patient Specific Pipeline

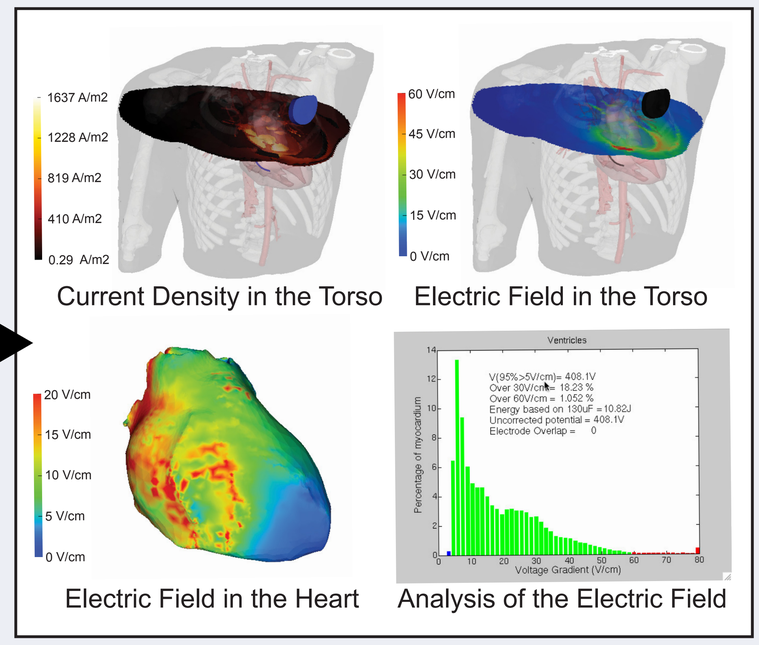




Segment Tissues

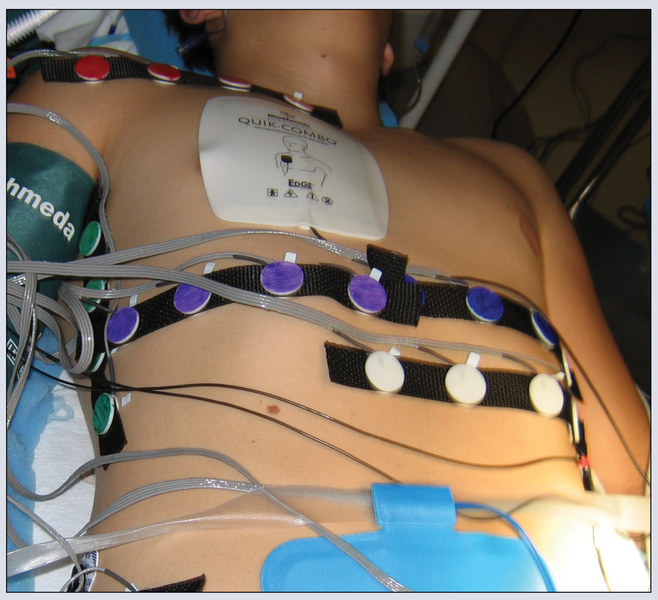


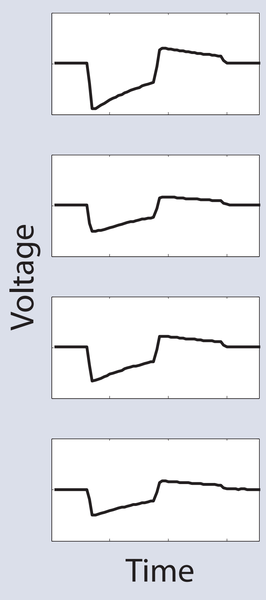
Run Simulation



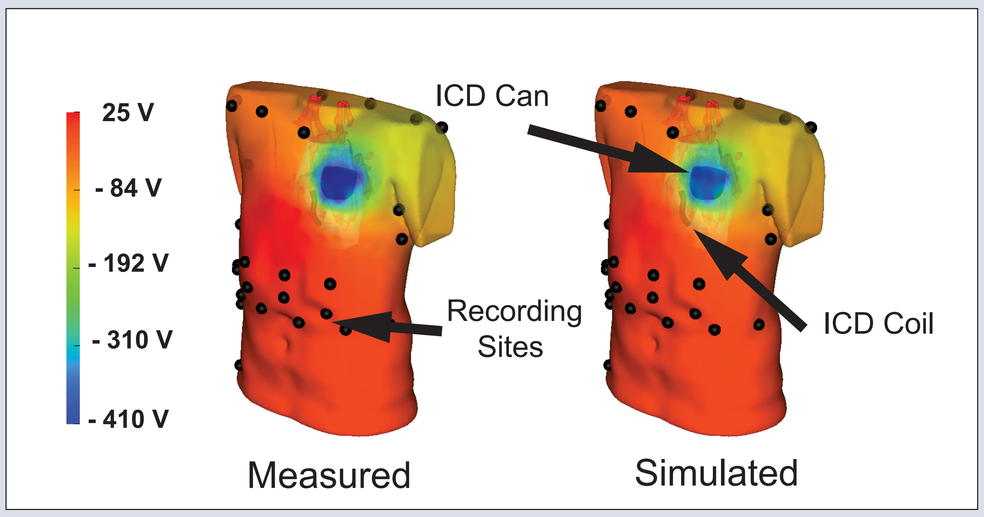
Use Results to Guide Placement

Model Validation





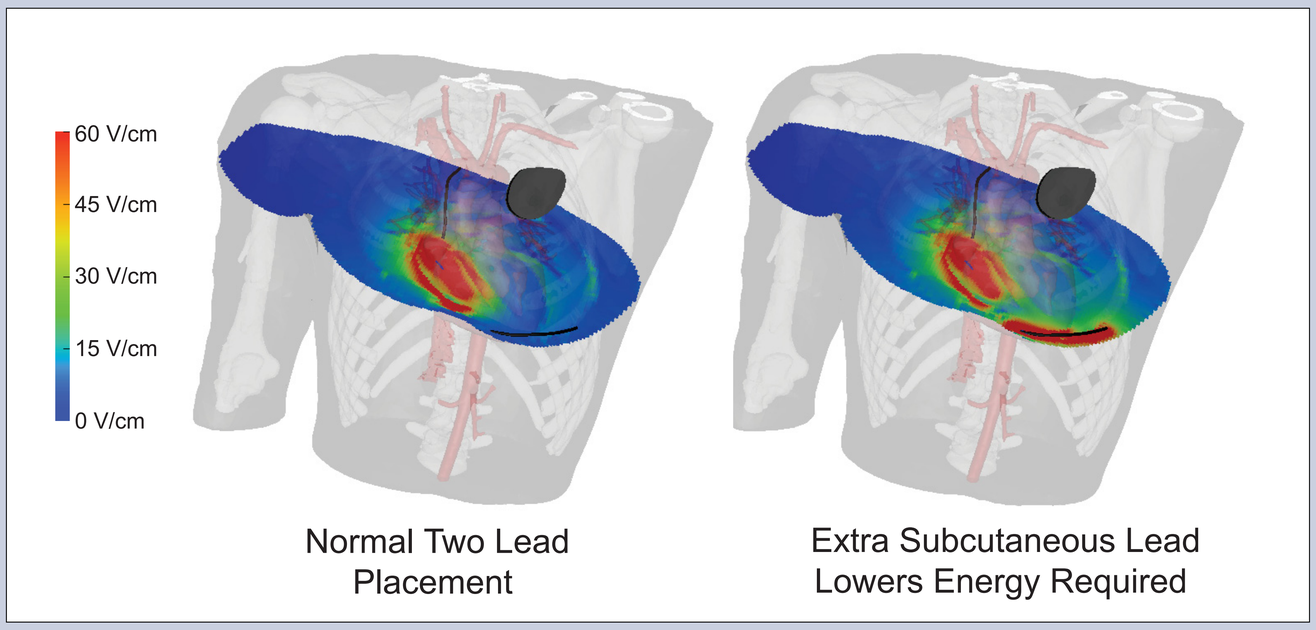
Recording ICD potentials on the body surface



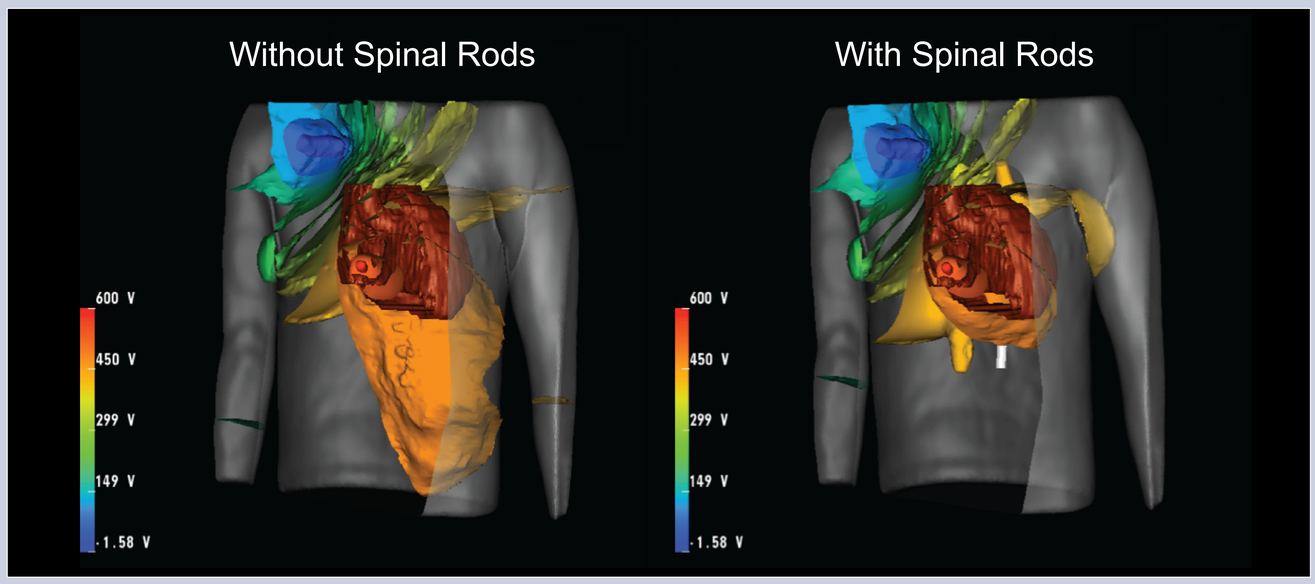
Comparisons of measured and simulated ICD potentials

Additional Applications

New Subcutaneous Implantations



Effects of Spinal Rods on Defibrillation



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