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PROJECT MY HEART YOUR HEART

Recycle Your Pacemakers!

There is a great disparity between high and low income countries in terms of pacemaker and defibrillator availability. Each year 1-2 million individuals worldwide die due to lack of access to pacemakers and defibrillators. Meanwhile, almost 90% of individuals with pacemakers would donate their device to others in need if given the chance.

The University of Michigan Frankel Cardiovascular Center is conducting a series of research projects to establish pacemaker and defibrillator reuse as a feasible, safe, and ethical means of delivering life saving therapy to patients with no resources. We are engaged with the US Food and Drug Administration (FDA) throughout the research and implementation processes.

Our focus in this technologically-oriented research breakthrough is on the need to improve humanity in the global community. Pacemaker reuse safely and effectively transforms a currently wasted resource into an opportunity for new life! Please come back and visit our archive in Deep Blue to keep track of ongoing progress. Research projects, and information about research projects, is stored on a permanent basis here. Please bookmark this location and track the progress of this great project to save millions of lives around the world!

Publications

All documents are in PDF format unless otherwise specified. Archived Deposits in this Deep Blue Collection More to come, as copyright permissions are obtained.

- Post-Mortem Cardiac Device Retrieval for Re-Use in Third World Nations: Views of Funeral Directors (PPT)
- Post-Mortem Cardiac Device Retrieval for Re-Use in Third World Nations: Views of the General Public & Patient Population
- Post-Mortem Cardiac Device Retrieval for Re-Use in Third World Nations: Views of the General Public & Patient Population (PPT)

Links to publications elsewhere

These may, or may not, have persistent availability of links

- Safety, efficacy, and performance of implanted recycled cardiac rhythm management (CRM) devices in underprivileged patients. *Pacing Clin Electrophysiol* 2011 Jun 21;34(6):653-8. Epub 2011 Mar 21. Reema Hasan, Hamid Ghanbari, Dustin Feldman, Daniel Menesses, Daniel Rivas, Nicole C Zakhem, Carlos Duarte, Christian Machado
- Safety of pacemaker reuse: a meta-analysis with implications for underserved

- nations. *Circ Arrhythm Electrophysiol*. 2011 Jun;4(3):318-23. doi: 10.1161/CIRCEP.110.960112. Epub 2011 Apr 14. Baman TS, Meier P, Romero J, Gakenheimer L, Kirkpatrick JN, Sovitch P, Oral H, Eagle KA.
- Cardiac device reutilization: is it time to "go green" in underserved countries? *Pacing Clin Electrophysiol*. 2011 Jun;34(6):651-2. doi: 10.1111/j.1540-8159.2011.03060.x. Epub 2011 Mar 21. Baman TS, Eagle KA.
 - Societal views of pacemaker reutilization for those with untreated symptomatic bradycardia in underserved nations. *J Interv Card Electrophysiol*. 2011 Apr;30(3):261-6. doi: 10.1007/s10840-010-9534-0. Epub 2011 Jan 20. Gakenheimer L, Lange DC, Romero J, Kirkpatrick JN, Sovitch P, Oral H, Eagle KA, Baman TS.
 - Pacemaker reuse: an initiative to alleviate the burden of symptomatic bradyarrhythmia in impoverished nations around the world. *Circulation*. 2010 Oct 19;122(16):1649-56. doi: 10.1161/CIRCULATIONAHA.110.970483. Baman TS, Kirkpatrick JN, Romero J, Gakenheimer L, Romero A, Lange DC, Nosowsky R, Fuller K, Sison EO, Tangco RV, Abelardo NS, Samson G, Sovitch P, Machado CE, Kemp SR, Morgenstern K, Goldman EB, Oral H, Eagle KA.
 - Safety and efficacy of pacemaker reuse in underdeveloped nations: a case series. *J Am Coll Cardiol*. 2009 Oct 13;54(16):1557-8. doi: 10.1016/j.jacc.2009.04.096. Baman TS, Romero A, Kirkpatrick JN, Romero J, Lange DC, Sison EO, Tangco RV, Abelardo NS, Samson G, Grezlik R, Goldman EB, Oral H, Eagle KA.
 - Reuse of pacemakers and defibrillators in developing countries: logistical, legal, and ethical barriers and solutions. *Heart Rhythm*. 2010 Nov;7(11):1623-7. doi: 10.1016/j.hrthm.2010.04.027. Epub 2010 Apr 26. Kirkpatrick JN, Papini C, Baman TS, Kota K, Eagle KA, Verdino RJ, Caplan AL.
 - Reuse of pacemakers: comparison of short and long-term performance. *Circulation*. 2013 Mar 19;127(11):1177-83. doi: 10.1161/CIRCULATIONAHA.113.001584. Epub 2013 Feb 20. Nava S, Morales JL, Márquez MF, Barrera F, Gómez J, Colín L, Brugada J, Iturralde P.
 - Feasibility of postmortem device acquisition for potential reuse in underserved nations. *Heart Rhythm*. 2012 Feb;9(2):211-4. doi: 10.1016/j.hrthm.2011.09.067. Epub 2011 Sep 25. Baman TS, Crawford T, Sovitch P, Meier P, Sovitch N, Gakenheimer L, Kirkpatrick J, Wasserman B, Samson G, Oral H, Eagle KA.
 - The ethics of pacemaker reuse: might the best be the enemy of the good? *Heart*. 2011 Dec;97(24):2005-6. doi: 10.1136/heartjnl-2011-301031. Epub 2011 Oct 13. Aragam KG, Baman TS, Kirkpatrick JN, Goldman EB, Brown AC, Crawford T, Oral H, Eagle KA.
 - Bridge to a better world. *ACBL Western Conference Contract Bridge Forum*, Sept. 2011, p. 8. Arlinghaus, SL

- Letter to the Editor. ACBL Bulletin, Nov. 2011. Arlinghaus, SL
- Pacemaker reuse for patients in resource poor countries: is something always better than nothing? *Prog Cardiovasc Dis*. 2012 Nov-Dec;55(3):300-6. doi: 10.1016/j.pcad.2012.10.002. VanArtsdalen J, Goold SD, Kirkpatrick JN, Goldman E, Eagle K, Crawford T.
- Cardiac implantable electronic device reutilization: battery life of explanted devices at a tertiary care center. *Pacing Clin Electrophysiol*. 2014 May;37(5):569-75. doi: 10.1111/pace.12321. Epub 2013 Dec 20. Gakenheimer L, Romero J, Baman TS, Montgomery D, Smith CA, Oral H, Eagle KA, Crawford T.
- Heart Rhythm Society members' views on pacemaker and implantable cardioverter-defibrillator reuse. *Pacing Clin Electrophysiol*. 2014 Aug;37(8):969-77. doi: 10.1111/pace.12418. Epub 2014 May 1. Hughey AB, Desai N, Baman TS, Gakenheimer L, Hagan L, Kirkpatrick JN, Oral H, Eagle KA, Crawford TC.
- *Scientific American: Promoting Cardiovascular Health Worldwide*. Free download of document is available.

Links to publications in other Deep Blue Collections

- Pacemaker Reuse in a 65-Year-Old Woman in the Philippines with Severe Medical Need. Romero, Joshua; Romero, Al; Kirkpatrick, James N.; Lange, David C.; Eagle, Kim A.; Baman, Timir S.
- The Diffusion of a Medical Innovation: Visualization Using Google Earth. Arlinghaus, Sandra L.; Crawford, Thomas C.; Eagle, Kim A. [Direct link](#) to pdf of article; [direct link](#) to associated Google Earth file (open in Google Earth).

My Heart Your Heart Board

- Thomas Crawford, M.D. Principal Investigator.
- Timir S. Baman, M.D. Co-Founder
- Kim A. Eagle, M.D., M.A.C.C. Co-Founder
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- Al Romero, M.D.
- Edward B. Goldman, J.D.
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- World Medical Relief
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This program has been approved by the [Michigan Funeral Directors Association](#) (Michigan Funeral Directors) and the University of Michigan Medical School Institutional Review Board. We work with the funeral and crematory industry as well as individuals who wish to donate their devices. For information beyond the research initiative, please visit our website:

<http://www.myheartyourheart.org/index.html>

News



- View the active MyHeartYourHeart website:
<http://www.myheartyourheart.org/index.html>
- Download the recent *Scientific American* issue containing material about this project; co-authored by team members. [Promoting Cardiovascular Health Worldwide](#).

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