Supplementary Online Content


eAppendix. ROC Investigators and Participating Sites

This supplementary material has been provided by the authors to give readers additional information about their work.
eAppendix. ROC Investigators and Participating Sites
(Please click on ROC at http://www.uwctc.org for additional acknowledgments)

Alabama Resuscitation Center, University of Alabama at Birmingham, Birmingham, AL: Jeffrey D. Kerby, MD, PhD, Principal Investigator

Core Investigators: Richard L. George, MD, Henry E. Wang, MD, MS

Coordinators: Shannon W. Stephens, EMT-P, Carolyn R. Williams, BSN, BSME

EMS Investigators/Collaborators: Joe E. Acker, EMT-P, MPH, Michael L. Minor, EMT-P

Hospital Investigators/Collaborators: Paul A. MacLennan, PhD, Sandra Caldwell, MA, Katherine R. Lai, BS

Participating EMS Agencies: Alabama LifeSaver, Bessemer Fire Department, Birmingham Fire and Rescue, Center Point Fire District, Chelsea Fire and Rescue, Moody Fire and Rescue, Pelham Fire Dept, Regional Paramedical Services, Trussville Fire and Rescue, Vestavia Hills Fire Department and Rescue

Dallas/Fort Worth Center for Resuscitation Research, University of Texas Southwestern Medical Center, Dallas, TX: Ahamed H. Idris, MD, Principal Investigator

Core Investigators: Fernando Benitez, MD, Raymond Fowler, MD, Dorothy Lemecha, MD, Joseph Minei, MD, Paul Pepe, MD, Michael Ramsay, MD, Robert Simonson, MD, Jane Wigginton, MD, Rajesh Gandhi, MD, John Smithson, MD, John Griswell, MD

Coordinators: Dixie Climer, RN, Melinda Moffat, RN, Kate Newman, RN, Pamela Owens, Andrea Bennett, BS

EMS Investigators/Collaborators: Richard Black, EMTP, Debra Cason, RN, Billy Craft, EMTP, Lucy Detamble, RN, Ryan Dykes, EMTP, Tony Harvey, EMTP, Suzanne Hewitt, RN, Marshal Isaacs, MD, Joe Kay, EMTP, Tami Kayea, EMTP, Richard LaChance, EMTP, Thomas Lehman, Paul Mayer, MD, Jeffrey Metzger, MD, Danny Miller, EMTP, Kenneth Navarro, EMTP, Steven Parker, EMTP, Karen Pickard, RN, Warren Porter, EMTP, TJ Starling, EMTP, Tommy Tine, EMTP, Chris Vinson, EMTP, Kyle Roach, EMTP-P

Hospital Investigators/Coordinators: David Abebefe, MD, Steven Arze, MD, Sean Black, MD, Matthew Bush, MD, Michael Forman, MD, Jeffery Goodloe, MD, Ralph Kelly, DO, Gregory Lachar, MD, Alicia Mangram, MD, Marc Morales, MD, Edward Thornton, MD, Robert Wiebe, MD, Paula Novonty, RN, Linda Haynes, PhD, RN

Participating EMS Agencies: Carrollton Fire Dept, Dallas Fire Dispatch Center, DeSoto Fire Dept, Duncanville Fire Dept, Garland Police and Fire Communications, Highland Park Dept of Public Safety, Irving Fire Communications Center, Lancaster Fire Dept, Mesquite Communications Center, North Central Texas Services, PHI Air Medical, Plano Fire Dept, University Park Fire Dept, Medstar

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University of Iowa Carver College of Medicine-Iowa Resuscitation Network, University of Iowa, Iowa City, IA: Richard Kerber, MD, Principal Investigator

Core Investigators: Steve Hata, MD, Dianne Atkins, MD

Coordinators: Catherine Rost, RN, Alexander Drum, EMT-P

Participating EMS Agencies: Area Ambulance Service, Davenport Hospital Ambulance Corporation, Covenant Health System - Covenant Ambulance, Covenant Health System - Mercy Oelwein, Covenant Health System - Sartori, City of Dubuque Fire Dept, Dallas County Emergency Medical Services, West Des Moines Emergency Medical Services, Des Moines Fire Department EMS, Henry County Health Center Emergency Medical Services, Johnson County Ambulance, Siouxland Paramedics, Inc.

University of Tennessee Health Science Center, Memphis, TN

Core Investigators: Timothy Fabian, MD, Martin Croce, MD, Ben Zarzaur, MD, Louis Magnotti, MD, Thomas Schroeppe1l, MD, George Maish, MD, Tiffany Bee, MD

Coordinators: Suzanne Wilson, RN, Stephanie Panzer-Baggett, RN, Lynda Waddle-Smith, BSN

Participating EMS Agencies: Memphis Medical Center Air Ambulance Service (Hospital Wing)

Milwaukee Resuscitation Research Center, Medical College of Wisconsin, Milwaukee, WI: Tom P. Aufderheide, MD, Principal Investigator

Core Investigators: Ronald G. Pirrallo, MD, MHSA, Karen J. Brasel, MD, MPH, Andrea L. Winthrop, MD, John P. Klein, PhD

Coordinators: Joseph Brandt, BS, NREMT-P, Walter Bialkowski, MS, Jennifer Noldin, BS, David J. Kitscha, BS, MS, Barbara J. Burja, BA, EMT, Heather Bertelson, BS, Chris von Briesen, BA, CCRC, Christopher W. Sparks, EMT, Pamela Walsh, EMS

**Hospital Investigators/Collaborators:** Thomas Reminga, MD, Dennis Shepherd, MD, Peter Holzhauer, MD, Jonathan Rubin, MD, Craig Skold, MD, Orlando Alvarez, MD, Heidi Harkins, MD, Edward Barthell, MD, William Haslow, MD, Albert Yee, MD, John Whitcomb, MD, Eduardo E. Castro, MD, Steven Motarjeme, MD Paul Coogan, MD, Keith Rader, MD, Jeff Glaspy, MD, Gary Gerschke, MD, Howie Croft, MD, Mike Brin, MD, Cory Wilson, MD, Anne Johnson, MD, William Kumprey, MD

**Participating EMS Agencies:** Cudahy Fire Dept, Flight for Life, Franklin Fire Dept, Greendale Fire Dept, Greenfield Fire Dept, Hales Corners Fire Dept, Milwaukee County Airport Fire Dept, Milwaukee Fire Dept, North Shore Fire Dept, Oak Creek Fire Dept, South Milwaukee Fire Dept, St. Francis Fire Dept, Wauwatosa Fire Dept, West Allis Fire Department

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**University of California Irvine, Orange County, CA**

**Core Investigators:**
David B. Hoyt, MD, John Shaver, MD, Frank Nastanski, MD

**Coordinator:** Bernardine Donato, RN, BS

**EMS Investigators/Collaborators:** Sam Stratton, MD, Ken Miller, MD, PhD, Ruth Grubb, RN, John Herrera EMT-P, Larry Grihalva, EMT-P

**Hospital Investigators/Collaborators:** Cristobal Barrios, MD, Michael Lekawa, MD, Marianne Cinat, MD, Darren Malinoski, MD, Matthew Dolich, MD, Humberto Sauri, MD

**Participating EMS Agencies:** Orange County Fire Authority, Costa Mesa Fire Department, Garden Grove Fire Department, Mercy Air

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**Ottawa/OPALS/British Columbia RCC, Ottawa Health Research Institute, University of Ottawa, Ottawa, Ontario and St. Paul’s Hospital, University of British Columbia, British Columbia, Canada:** Ian Stiell, MD, Principal Investigator

**Core Investigators:** Jim Christenson, MD, Martin Osmond, MD, Morad Hameed, MD, David Evans, MD, Randi van Heest, MD, Christian Vaillancourt, MD

**Coordinators:** Patrick Lefaivre, B.Sc., A-EMCA, Marc-Andre Da Ponti, A-EMCA, ACP, Jane Banek, CHIM, Irene Watpool, RN, Tracy McArthur, RN, Julia Foxall, RT, Mary-Jo Lewis, RT, Barb Boychuk, RN, Sarah Pennington, RN

**EMS Investigators/Collaborators:** Jonathan Dreyer, MD, Douglas Munkley, MD, Justin Maloney, MD, Paul Colella, MD, Andrew Affleck, MD, David Waldbillig, MD, Paul Bradford, MD, Andrew Reid, MD, Kenneth Boyle, EMCA, RRT, CMA, Lorraine Luinstra-Toohey, BScN, MHA, John Trickett, BScN, Nicole Sykes, BScN, RN, Elaine Graham, ACP, Kieran Ballah, EMCA, Cathy
Hedges, A-EMCA, ACP, Dug Andrusiek, PCP, Dan Bishop, ACP, Ron Straight, ACP, Brian Twaites, ACP, Stuart Donn, PhD


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**Pittsburgh Resuscitation Network, the University of Pittsburgh, Pittsburgh, PA:**
Clifton Callaway, MD, PhD, Principal Investigator

**Core Investigators:** Samuel Tisherman, MD, Jon Rittenberger, MD, David Hostler, PhD

**Coordinators:** Joseph Condle, Mitch Kampmeyer, Timothy Markham, Maureen Morgan

**EMS Investigators/Collaborators:** Paul Sabol, Gina Sicchitano, Scott Sherry, Anthony Shrader, Greg Stull, Manuel Torres, MS, William Groft, Robert McCaughan, Rodney Rohrer, John Cole, MD, David Fuchs, MD, Francis Guyette, MD, MS, William Jenkins, MD, Ronald Roth, MD, Heather Walker, MD

**Hospital Investigators:** Alain Corcos, MD, Ankur Doshi, MD, Adrian Ong, MD, Andrew Peitzman, MD

**Participating EMS Agencies:** Washington Ambulance and Chair, Pittsburgh Bureau of Emergency Medical Services, Pittsburgh Bureau of Fire, Mutual Aid Ambulance Service, STAT Medevac

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**Portland Resuscitation Outcomes Consortium, Oregon Health and Science University, Portland, OR:** Terri Schmidt, MD, Principal Investigator

**Core Investigators:** Jerris R. Hedges, MD, MS, Martin A. Schreiber, MD, Craig D. Newgard, MD, MPH, Mohamud R. Daya, MD, MS, Robert A. Lowe MD, MPH

**Coordinators:** Denise E. Griffiths, BS, CCRP, Dana M. Zive, MPH, Aaron W. Monnig, EMT-P, Abdolaziz Yekrang, MPA, MA, John Brett, EMT-P


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**Hospital Investigators/Coordinators:** Jim Anderson, MD, Ameen I. Ramzy, MD, K. Dean Gubler, DO, Lynn K. Wittwer, MD, Riyad Karmy-Jones, MD, Greg Hoskins, MD, Samantha Underwood, MS, Denise Haun-Taylor, RN, Elizabeth Bryant, RN, Joanne Miller, ARNP, Brooke Barone, BS, Kristine Patterson, RN

**Participating EMS Agencies:** American Medical Response - Clackamas, Clark, and Multnomah Counties, Camas Fire Department, Clackamas County Fire District #1, Clark County Fire District #6, Gresham Fire and Emergency Services, Lake Oswego Fire Department, LifeFlight, Metro West Ambulance, North Country Ambulance, Portland Fire and Rescue, Portland International Airport Fire Department, Tualatin Valley Fire and Rescue, Vancouver Fire Department

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**UCSD-San Diego Resuscitation Research Center, University of California at San Diego, San Diego, CA:** Daniel Davis, MD, Principal Investigator

**Core Investigators:** Raul Coimbra, MD, PhD, Gary Vilke, MD, James Dunford, MD

**Coordinators:** Donna Kelly Aker, RN, Lana McCallum-Brown, RN

**EMS Investigators/Collaborators:** Bruce Haynes, MD, Brad Schwartz, MD

**Hospital Investigators:** Michael Sise, MD, Frank Kennedy, MD, Fred Simon, MD, Gail Tominaga, MD, John Steele, MD


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**Seattle-King County Center for Resuscitation Research at the University of Washington, University of Washington, Seattle, WA:** Peter J. Kudenchuk, MD, Principal Investigator

**Core Investigators:** Eileen Bulger, MD, Michael Copass, MD, Mickey S. Eisenberg, MD, Tom D. Rea, MD

**Coordinator:** Pat Klotz, RN

**EMS Investigators/Collaborators:** Jonathan Larsen, Mike Helbock

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Participating EMS Agencies: Airlift Northwest, Bellevue Fire Dept, Redmond Fire Dept, Seattle Fire Dept, Shoreline Fire Dept, King Co Medic 1, Vashon Island Medic One

Toronto Regional Resuscitation Research out of hospital Network (Toronto Regional RESCUeNET), University of Toronto, Toronto, Ontario, Canada:
Arthur Slutsky, MD, Principal Investigator

Core Investigators: Laurie J Morrison, MD, MSc, Paul Dorian MD, PhD
Alan Craig, Andrew Baker, James Hutchison, Ori Rotstein, P. Richard Verbeek
Russell MacDonald, Sandra Black, Sandro Rizoli, Sheldon Cheskes, Steven Brooks

Coordinators: Cathy Zhan, Merita Simitciu, Morgan Slater, Precilla D'Souza, Suzanne Chung, Tyrone Perreira

EMS Investigators/Collaborators: Bruce Cameron, David Austin, Grant Burse, Jamie Frank, Jennifer Shield, John Locke, Kyle Grant, Michelle Welsford, Philip Moran, Rob Burgess, Roy Suthons, Russell MacDonald, Steve Darling, Steve Dewar, Steve Tyukodi, Tim Dodd, Verena Jones

Hospital Investigators/Coordinators: Andrew Arcand, Chris O'Connor, Eric Letovsky, Hy Dwosh, Julie Spence, Karen Choong, Niv Sne, Steven Segal, Boris Bojilov, Caitlin Wenkstern, Jennifer Watson, Leslie Cicero, Marlene Santos, Rose Geiteiro, Rosemarie Farrell, Sherry Rodgerson, Yangmei Li

Participating Agencies: Centre for Paramedic Education & Research, Hamilton Emergency Medical Services, Ornge Transport Medicine, Peel Regional Paramedic Services, Sunnybrook Osler Centre for Prehospital Care, Toronto Emergency Medical Services, York Region Emergency Medical Services

Steering Committee:

Chair: Myron Weisfeldt, MD, Johns Hopkins University School of Medicine, Baltimore, MD

Co-Chair–Trauma: David B. Hoyt, MD, University of California San Diego, CA, replacing Col. John B. Holcomb, MD, Commander, U.S. Army ISR

National Heart, Lung, and Blood Institute, Bethesda, MD: George Sopko, MD, MPH, Debra Egan, MPH, David Lathrop, PhD, Alice Mascette, MD, Patrice Desvigne Nickens, MD, Colin Wu, PhD, Phyllis Mitchell, PhD, Tracey Hoke, MD

Clinical Trial Center, University of Washington, Seattle, WA: Gerald van Belle, PhD, Scott Emerson, MD, PhD, Graham Nichol, MD, MPH, Susanne May, PhD, Eileen Bulger, MD, Judy Powell, BSN, Berit Bardarson, RN, Amy Gest, MPA, Andrea Cook, PhD, Eric Meier, BS, Luis Crouch, BS, Sean Devlin, MS, Danielle Schroeder, BS, Colleen Sitlani, MS, Kent Koprivnicz, MS, Siobhan Everson-Stewart, MS, Liz Thomas, MS, Erin Gabriel, MS, Ken Wu, MS, Rob Schmicker,