<table>
<thead>
<tr>
<th>Time</th>
<th>Friday, Nov. 9</th>
<th>Saturday, Nov. 10</th>
<th>Sunday, Nov. 11</th>
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</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>8:00-8:15 AM Symposium Opening: Welcome and Introduction</td>
<td>8:00-9:15 AM Oral Abstract Session New Insights Into Post-Arrest Assessment and Care</td>
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<tr>
<td>8:30 AM</td>
<td>8:15-9:30 AM Plenary 1 Dispatch-Assisted CPR: From Saving Lives to Implementation</td>
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<tr>
<td>9:00 AM</td>
<td>9:30-10:15 AM 2018 Awards for Lifetime Achievement in Cardiac Resuscitation Science and Trauma Resuscitation Science, Presentation of the Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science and Resuscitation Champion Award</td>
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<tr>
<td>9:30 AM</td>
<td>10:15-10:30 AM Break</td>
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<tr>
<td>10:00 AM</td>
<td>10:15-10:30 AM Break</td>
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<tr>
<td>10:30 AM</td>
<td>10:30-11:45 AM Best of the Best Oral Abstract Presentations and Presentation of the Best Abstract Awards for Cardiac and Trauma Resuscitation Science</td>
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<tr>
<td>Noon</td>
<td>Noon Registration Opens</td>
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<tr>
<td>1:00 PM</td>
<td>1:15-2:45 PM Poster Session</td>
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<tr>
<td>2:30 PM</td>
<td>2:45-4:00 PM Plenary 2 Circulatory Support for Cardiac and Traumatic Emergencies</td>
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<td>3:00 PM</td>
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<td>4:00 PM</td>
<td>4:00-4:15 PM Break</td>
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<tr>
<td>4:30 PM</td>
<td>4:15-5:30 PM Late-Breaking Resuscitation Science</td>
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<td>5:00 PM</td>
<td>5:30 PM</td>
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<tr>
<td>6:00 PM</td>
<td>6:30-9:30 PM Young Investigator Dinner and Presentation of the YI Awards 7:00 PM 3CPR Council Networking Event (ticketed event)</td>
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Measure to Improve

The science behind cardiopulmonary resuscitation (CPR) has changed. Today, we know that performing high-quality CPR is crucial for increasing survival from cardiac arrest, but did you know that the quality of CPR provided during training and clinical events can be improved with real-time feedback devices?¹

Across the spectrum, from training to patient care, Laerdal’s QCPR feedback enables both individuals and teams to measure their performance in real time to help optimize the quality of CPR provided.

To learn more about Laerdal’s solutions with QCPR feedback, visit Laerdal.com

¹ CPR Quality: Improving Cardiac Resuscitation: Outcomes Both Inside and Outside the Hospital: A Consensus Statement From the American Heart Association
Program Committee

The American Heart Association thanks the members of the Program Committee for their dedication and leadership in planning this year’s meeting.

Program Committee Chairs:
Benjamin S. Abella, MD, MPhil, FACEP, FAHA, Symposium Co-Chair, University of Pennsylvania, Philadelphia, Pennsylvania
Tom P. Aufderheide, MD, MS, FACEP, FACC, FAHA, Symposium Co-Chair, Medical College of Wisconsin, Milwaukee, Wisconsin

Members:
Monique L. Anderson Starks, MD, MHS, Duke University Medical Center, Durham, North Carolina
Mark Angelos, MD, FAHA, Ohio State University, Columbus, Ohio
Lance B. Becker, MD, FAHA, Northwell Health, Manhasset, New York
Marc Berg, MD, University of Arizona, Tucson, Arizona
John S. Berry IV, MD, Brooke Army Medical Center, San Antonio, Texas
Clifton W. Callaway, MD, PhD, University of Pittsburgh, Pittsburgh, Pennsylvania
Leopoldo Cancio, MD, U.S. Army Institute of Surgical Research, Fort Sam Houston, Texas
Maaret Castrén, MD, PhD, FERC, Helsinki University Hospital, Helsinki, Finland
Irshad H. Chaudry, PhD, University of Alabama at Birmingham, Birmingham, Alabama
Michael W. Donnino, MD, Beth Israel Deaconess Medical Center, Boston, Massachusetts
Dana P. Edelson, MD, MS, FAHA, FHM, University of Chicago, Chicago, Illinois
Judith Finn, PhD, MEDSt, GradDipPH, BSc, DipAppSc, RN, RM, ICCert, FACN, FAHA, Curtin University and Monash University, Perth and Melbourne, Australia
Raul J. Gazmuri, MD, PhD, FCCM, Rosalind Franklin University of Medicine and Science, North Chicago, Illinois
Fumito Ichinose, MD, PhD, FAHA, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts
Tami L. Kayea, LP, MSML, Dallas Fire-Rescue Department, Dallas, Texas
Monica E. Kleinman, MD, Boston Children’s Hospital, Boston, Massachusetts
Matthew Huei-Ming Ma, MD, PhD, Department of Emergency Medicine, National Taiwan University Hospital, Taipei, Taiwan
Linda Mattrisch, BS, EMT-P, Medical College of Wisconsin, Milwaukee, Wisconsin
Raina M. Merchant, MD, MSHP, FAHA, University of Pennsylvania, Philadelphia, Pennsylvania
Laurie W. Morrison, MD, MSc, FRCPc, Li Ka Shing Knowledge Institute, St. Michael’s Hospital, University of Toronto
Sarah B. Murthi, MD, FACS, University of Maryland, The R. Adams Cowley Shock Trauma Center, Baltimore, Maryland
Robert W. Neumar, MD, PhD, FAHA, University of Michigan, Ann Arbor, Michigan
Graham Nichol, MD, MPH, FRCP(C), FAHA, University of Washington, Harborview Center for Prehospital Emergency Care, Seattle, Washington
Jerry Nolan, FRCA, FRCP, FFICM, FRCEM (Hon), University of Bristol, Royal United Hospital, Bath, United Kingdom
Theresa M. Olasveengen, MD, PhD, Oslo University Hospital, Oslo, Norway
Brian O’Neil, MD, Wayne State University, Department of Emergency Medicine, Detroit, Michigan
Melissa Parker, MD, MSc, FRCPc, FAAP (PEM, PCCM), McMaster University, Hamilton, Ontario, Canada
Joshua C. Reynolds, MD, Michigan State University, Grand Rapids, Michigan
John C. Rittenberger, MD, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania
Kelly Sawyer, MD, MS, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania
Jane D. Scott, ScD, MSN, National Heart, Lung, and Blood Institute, NIH, Bethesda, Maryland
Carrie Sims, MD, MS, University of Pennsylvania, Philadelphia, Pennsylvania
Jasmeet Soar, MA, MB, BCir, FRCA, FERC, FFICM, FRCP, Southmead Hospital, Bristol, United Kingdom
Samuel A. Tisherman, MD, FACS, FCCM, University of Maryland, Baltimore, Maryland
Sandra Wanek, MD, Legacy Emanuel Medical Center, Portland, Oregon
Demetris Yannopoulos, MD, University of Minnesota, Minneapolis, Minnesota

Conference Learning Objectives

- Identify best practices for improved outcomes in cardiopulmonary arrest.
- Discuss research and advancements in the field of cardiopulmonary arrest.
- Identify best practices for improved outcomes in life-threatening traumatic injury.
- Assess research and advancements in the field of life-threatening traumatic injury.
The American Heart Association would like to thank the following supporters of ReSS 2018

Physio Control, now part of Stryker
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(as of October 16, 2018)

<table>
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<tr>
<th>Invited Speakers</th>
<th>Moderators</th>
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<tbody>
<tr>
<td>Tom P. Aufderheide, Milwaukee, Wisconsin</td>
<td>Jerry Nolan, Bath, United Kingdom</td>
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<tr>
<td>Jason Bartos, Minneapolis, Minnesota</td>
<td>Per Nordberg, Stockholm, Sweden</td>
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<tr>
<td>Mir Babar Basir, Detroit, Michigan</td>
<td>Theresa M. Olasveengen, Oslo, Norway</td>
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<tr>
<td>Bernd Boettiger, Cologne, Germany</td>
<td>Gavin D. Perkins, Coventry, United Kingdom</td>
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<tr>
<td>Jeff Callaghan, Gurnee, Illinois</td>
<td>Thomas Rea, Seattle, Washington</td>
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<tr>
<td>Clifton W. Callaway, Pittsburgh, Pennsylvania</td>
<td>Jon C. Rittenberger, Pittsburgh, Pennsylvania</td>
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<tr>
<td>Mary Chang, Dallas, Texas</td>
<td>Jasmeet Soar, Bristol, United Kingdom</td>
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<tr>
<td>Paula Ferrada, Richmond, Virginia</td>
<td>Daniel W. Spaite, Chandler, Arizona</td>
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<tr>
<td>Jeff Gould, Chicago, Illinois</td>
<td>Yoshio Tahara, Osaka, Japan</td>
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<tr>
<td>Carolina Hansen, Copenhagen, Denmark</td>
<td>Samuel Tisherman, Baltimore, Maryland</td>
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<tr>
<td>Eiji Hirakawa, Nagasaki, Japan</td>
<td>Alexis Topjian, Philadelphia, Pennsylvania</td>
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<td>Henry E. Wang, Houston, Texas</td>
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<tbody>
<tr>
<td>Jennelle Badulak, Seattle, Washington</td>
<td>Rudolph W. Koster, Amsterdam, Netherlands</td>
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<tr>
<td>Katherine Berg, Boston, Massachusetts</td>
<td>Andrew Lockey, Halifax, United Kingdom</td>
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<tr>
<td>Janet Bray, Melbourne, Australia</td>
<td>Matthew Ma, Taipei, Taiwan</td>
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<tr>
<td>Pierre Carli, Paris, France</td>
<td>Mary M. Newman, Wexford, Pennsylvania</td>
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<tr>
<td>Katie N. Dainty, Toronto, ON, Canada</td>
<td>Jerry Nolan, Bath, United Kingdom</td>
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<tr>
<td>Marina Del Rios, Chicago, Illinois</td>
<td>Hiroshi Nonogi, Shizuoka, Japan</td>
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<tr>
<td>Sharon Einav, Jerusalem, Israel</td>
<td>Kunio Ohta, Kanazawa, Japan</td>
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<tr>
<td>Michael Fries, Aachen, Germany</td>
<td>Joseph P. Ornato, Richmond, Virginia</td>
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<tr>
<td>Marianne Gausehe-Hill, Torrance, California</td>
<td>Sarah M. Peman, Aurora, Colorado</td>
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<tr>
<td>Raul J. Gazmuri, North Chicago, Illinois</td>
<td>Jon C. Rittenberger, Pittsburgh, Pennsylvania</td>
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<tr>
<td>Anne V. Grossestreuer, Boston, Massachusetts</td>
<td>David B. Seder, Portland, Maine</td>
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<tr>
<td>Taku Iwami, Kyoto, Japan</td>
<td>Federico Semeraro, Bologna, Italy</td>
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<tr>
<td>Monica E. Kleinman, Boston, Massachusetts</td>
<td>Demetris Yannopoulos, Minneapolis, Minnesota</td>
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<tr>
<th>Poster Professors</th>
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<tbody>
<tr>
<td>Benjamin S. Abella, Philadelphia, Pennsylvania</td>
<td>Rudolph W. Koster, Amsterdam, Netherlands</td>
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<tr>
<td>Lars W. Andersen, Boston, Massachusetts</td>
<td>Eric Lavonas, Denver, Colorado</td>
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<tr>
<td>Jason Bartos, Minneapolis, Minnesota</td>
<td>Keith Marill, Boston, Massachusetts</td>
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<tr>
<td>Lance Becker, Manhasset, New York</td>
<td>Vinay M. Nadkarni, Philadelphia, Pennsylvania</td>
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<tr>
<td>Marc D. Berg, Tucson, Arizona</td>
<td>Robert W. Neumar, Anne Arbor, Michigan</td>
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<tr>
<td>Audrey L. Blewer, Philadelphia, Pennsylvania</td>
<td>Giuseppe Ristagno, Milan, Italy</td>
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<tr>
<td>Anne V. Grossestreuer, Boston, Massachusetts</td>
<td>Felipe Teran, New York, New York</td>
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<tr>
<td>Henry R. Halperin, Baltimore, Maryland</td>
<td>Sam Tisherman, Baltimore, Maryland</td>
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<tr>
<td>Mathias Johan Holmberg, Brighton, Massachusetts</td>
<td>Alexis Topjian, Philadelphia, Pennsylvania</td>
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<tr>
<td>Fumito Ichinose, Boston, Massachusetts</td>
<td>Henry E. Wang, Houston, Texas</td>
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<tr>
<td>Jesper Kjaergaard, Copenhagen, Denmark</td>
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(as of October 16)
Information for Presenters

**On-Site Registration**
Registration will be in the **Crystal Ballroom Foyer** at the Hyatt Regency Chicago. Hours for on-site registration are:

- Friday, November 9  Noon-5:30 PM
- Saturday, November 10  7:00 AM-5:30 PM
- Sunday, November 11  7:00 AM-5:30 PM

**Speaker Resource Room**
All speakers must submit their presentations at least three hours before their session is scheduled to begin. Please note that **no personal laptops will be permitted**.

The Speaker Resource Room is located in the **New Orleans Room** and will be open during the following times:

- Friday, November 9  Noon-5:30 PM
- Saturday, November 10  7:00 AM-5:30 PM
- Sunday, November 11  7:00 AM-4:00 PM

**Abstract Presentations**
Abstracts from ReSS 2018 will be available in *Circulation* online (circ.ahajournals.org).

Abstracts and presentations are embargoed for release at the date and time of presentation or the time of the AHA news event. Written embargoed information can’t be shared with anyone, but one-on-one embargoed media interviews can be conducted as long as the reporter agrees to abide by the embargo policy. Failure to honor embargo policies will result in the abstract being withdrawn and barred from presentation.

**Oral abstracts** The following oral abstracts will be presented on Saturday and Sunday:

- **Saturday, November 10**
  - 10:30-11:45 AM
    - Best of the Best Oral Abstract Presentations
  - 4:15-5:30 PM
    - Late-Breaking Resuscitation Science

- **Sunday, November 11**
  - 8:00-9:15 AM
    - New Insights into Post-Arrest Assessment and Care
  - 10:45-11:45 AM
    - Concurrent Session A: Laboratory Studies of CPR and Post-Arrest Recovery
    - Concurrent Session B: Clinical Resuscitation Science: Exploring Devices and Algorithms
  - 2:45-4:00 PM
    - Concurrent Session A: Resuscitation Health Services Research, Adult and Pediatric Epidemiology
    - Concurrent Session B: Improving CPR Education for Laypersons and Professionals

**Poster abstracts** will be presented in the **Regency Ballroom**. The poster hall will be available for set-up beginning at 10:00 AM Saturday, November 10. To maximize the poster viewing time for attendees, all posters will be available for viewing throughout both days of ReSS (Saturday and Sunday). Attendees are encouraged to visit the posters during breaks and lunch.

Poster abstract presenters will be available for questions and discussion during the dates/times specified below:

- **Saturday, November 10**  1:15-2:45 PM
- **Sunday, November 11**  4:00-5:30 PM

The Sunday poster session will include a special reception with hors d’oeuvres and a cash bar. Please plan to attend this special event. For more poster information, please see pages 19-20.

**ePosters**
In addition to the traditional poster format, presenters were invited to upload their posters electronically. During the meeting, ePosters are available to attendees on the Resuscitation Science Symposium website.

**QR Codes**
QR codes enable attendees with smart phones to view ePosters and, if applicable, the author’s narration of the poster. QR codes for all ReSS posters will be displayed on the poster boards.
Exhibits

Please be sure to visit our 2018 exhibitors. Exhibits will be in the Crystal Foyer near registration on Saturday and Sunday. An exhibitor guide is available at the registration desk.

ReSS Highlights

Women in Resuscitation Science Networking Meeting

The annual Women in Resuscitation Science Networking Meeting begins at Noon Saturday, November 10 in Crystal Ballroom A. This year will be a special interactive and lively session on salary negotiation skills with the American Association of University Women. Information on how to identify and articulate your personal value, strategies to use when negotiating, and how to conduct objective research to benchmark a target salary and benefits will be covered. RSVP was required but please check the registration desk to see if space is still available.

Joint AHA/Japanese Circulation Society Session

Join us in Crystal BC at 12:15-1:15 PM Saturday, November 10.

Year in Review

This popular annual session is scheduled at 12:15 PM Sunday, November 11. Join us in Crystal Ballroom BC.

Late-Breaking Abstracts in Resuscitation Science

Late-breaking resuscitation abstracts were evaluated based on their impact and the novelty of the science. Late-breaking oral abstracts will be presented at 4:15-5:30 PM Saturday, November 10 in the Late-Breaking Resuscitation Science Session. The session will include two talks highlighting recent trials and guidelines.

Professional Membership

Become an integral partner with an impactful organization that is leading the way in the mission to improve heart and brain health.

As a member you can benefit from access to:

- Choosing up to three scientific councils
- 11 online journals
- Savings for online and in-person learnings
- Grant and research opportunities
- Access to the latest research
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- and much more.

Receive a gift when you join or renew your AHA Professional Membership at the Membership Booth.

**Depends on membership tier. **While supplies last.

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Lifetime Achievement Awards

The AHA Committee on Emergency Cardiovascular Care established the Lifetime Achievement Awards in Cardiac and Trauma Resuscitation Science in 2003 to honor scientists for their outstanding contributions in cardiac and trauma science. The 2018 Awards for Lifetime Achievement will be presented at 9:30 AM Saturday. Plan to join us to celebrate and recognize these giants in cardiac and trauma resuscitation science.

The 2018 Award for Lifetime Achievement in Cardiac Resuscitation Science will be presented to Clifton W. Callaway, MD, PhD. Dr. Callaway is Professor, Vice-Chair, and Ronald D. Stewart Endowed Chair in Emergency Medicine Research at the University of Pittsburgh. He completed medical and graduate training at the University of California, San Diego, followed by residency at the University of Pittsburgh. With his partners in Pittsburgh, he developed a multidisciplinary clinical service to advance the care of patients after cardiac arrest. His research efforts center on improving brain injury after cardiac arrest. The core message of this research has been the requirement for a multidisciplinary, multiorgan, and titrated approach to each patient. This work has been funded by the National Institutes of Health and multiple foundations. Specific lines of research include studies on biochemical events in brain after ischemia-reperfusion, mechanisms for the effects of temperature manipulation, quantitative measures of ECG organization, prognostication of coma after cardiac arrest, and methodological challenges for clinical trials in critical illness. He has conducted trials in resuscitation as one of the investigators in the Resuscitations Outcome Consortium (ROC) and in the Neurological Emergencies Treatment Trial (NETT) network. He is part of the clinical coordinating center leadership for SIREN, the National Institutes of Health emergency research trial network designated to conduct clinical trials in acute care.

Dr. Callaway serves as co-chair of the National Cardiac Arrest Collaborative, which brings AHA together with other stakeholder organizations committed to reducing the societal burden of cardiac arrest by addressing the Institutes of Medicine recommendations. He is past chair of the AHA Emergency Cardiovascular Care Committee (2015-2017), and past co-chair of the ILCOR Advanced Life Support Committee (2012-2016). He has contributed or co-authored advanced cardiac life support guidelines since 2008, with particular focus on post-cadiac arrest care. Dr. Callaway's group has published over 300 peer-reviewed articles, over 50 book chapters or monographs, and three patents. He has been recognized by the Society for Academic Emergency Medicine for Excellence in Research and the American College of Emergency Physicians for Outstanding Contribution in Research. He has served as program director for National Heart, Lung and Blood Institute K12 and T32 scholar programs at the University of Pittsburgh to train investigators in the resuscitation field.

The 2018 Award for Lifetime Achievement in Trauma Resuscitation Science will be presented to Martin Schreiber, MD. Martin Schreiber is the Chief of the Division of Trauma, Critical Care & Acute Care Surgery at Oregon Health & Science University. He has been continuously funded by the federal government for the past 16 years. Dr. Schreiber has published 300 peer reviewed manuscripts largely related to resuscitation. He has developed several models of uncontrolled hemorrhage designed to study multiple therapeutic agents to include recombinant factor VII, hypertonic saline, prothrombin complex concentrate and stem cells. He has held leadership positions in multiple research consortia to include the Resuscitation Outcomes Consortium, Linking Investigations in Trauma and Emergency Services (LITES) and the Emergency Care Clinical Trials Network (SIREN). He recently completed a trial of nearly 1000 patients showing a beneficial effect of tranexamic acid given in the prehospital setting for traumatic brain injury. He has previously been awarded the Asmund S. Laerdal Memorial Lecture Award for Extensive Involvement in Resuscitation Research and Publishing by SCCM.

In addition to his civilian accomplishments, Dr. Schreiber is a Colonel in the United States Army Reserve. He is a highly decorated veteran of three deployments to Iraq and Afghanistan including as the Joint Theater Trauma System director. As the JTTS director, Dr. Schreiber played a significant role in developing and executing hypotensive resuscitation and balanced resuscitation strategies for the care of injured warfighters and he then translated these strategies back to civilian practice. Dr. Schreiber continues to play an important role in combat related research advances as a member of the Combat Surgical Critical Care Committee.
Previous winners of the Lifetime Achievement Awards

### Cardiac Resuscitation Award Recipients

2003  Myron L. Weisfeldt, MD, FAHA  
2004  Max Harry Weil, MD, PhD  
2005  Petter Steen, MD, PhD  
2006  Robert Berg, MD, FAHA, FAAP  
2007  Joseph P. Ornato, MD, FAHA, FACP, FACC, FACEP  
2008  Douglas Chamberlain, CBE, DSc (Hon), FRCP, FRCA, FACC, FESC  
2009  Mickey S. Eisenberg, MD, PhD  
2010  G. Guy Knickerbocker, PhD, and James R. Jude, MD  
2011  Lance Becker, MD, FAHA  
2012  Michael K. Copass, MD  
2013  Robert Berg, MD, FAHA, FAAP  
2014  Leo A. Cobb, MD  
2015  Mary Fran Hazinski, MSN, FAAN, FAHA, FERC  
2016  Jerry P. Nolan, FRCA, FRCP, FFICM, FCEM (Hon)  
2017  Vinay Nadkarni, MD, FAAP, FAHA

### Trauma Resuscitation Award Recipients

2003  James Atkins, MD  
2004  G. Tom Shires, MD  
2005  Irshad H. Chaudry, PhD  
2006  David B. Hoyt, MD, FACS  
2007  Ronald V. Maier, MD, FACS  
2008  John B. Holcomb, MD, FAHA, FACS  
2009  Samuel A. Fisherman, MD  
2010  Donald Trunkey, MD  
2011  Thomas M. Scalea, MD  
2012  Ernest Moore, MD  
2013  Demetrios Demetriades, MD, PhD, FACS  
2014  Kenneth L. Mattax, MD  
2015  Ellen MacKenzie, PhD  
2016  Karim Brohi, BSc, MBBS, FRCS, FRCA  
2017  Hasan Alam, MD

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### 2018 Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science

This award was established in 2010 to recognize international collaboration among individuals over an extended time that has resulted in major contributions to fundamental or clinical science related to cardiac arrest or traumatic injury. The award was named posthumously in honor of professor Ian George Jacobs, PhD, OStJ, FERC, FAHA, in 2014 in recognition of his tireless efforts to bring clinicians and researchers together from multiple disciplines and countries to improve acute resuscitation care throughout the world.

The 2018 award will be presented to the **Core Outcome Set for Cardiac Arrest (COSCA)**. COSCA is a partnership between patients, their partners, clinicians, research scientists, and the International Liaison Committee on Resuscitation. It has developed a core outcome set that acknowledges the values and preferences of all stakeholders and in particular, patients and families.

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### 2018 Resuscitation Champion Award

Established by the ReSS co-chairs in 2017, the inaugural awardee was selected and honored during the NIH breakout session. This award recognizes an individual who has demonstrated commitment to the field of resuscitation science through championing research and/or clinical improvements, supporting resuscitation scholars and serving as a passionate advocate for our field. This award is designated for an individual who is not a full-time healthcare professional, but someone who supports our field through their work in government, industry or public advocacy.

The 2018 Award will be presented to **George Sopko, MD, MPH** and **Debra Egan, MPH**.

---

**Debra Egan, MPH** is currently at the National Center for Complementary and Integrative Health as a Senior Clinical Advisor on several studies including TACT2 and the Pain Management Collaboratory. She worked at the National Heart, Lung, and Blood Institute (NHLBI) from 1989-2000 in the Clinical Trials Branch where she oversaw several trials as a Project Officer and Deputy Project Officer. These included the Digitalis Investigation Group Trial (DIG), the Arterial Disease Multiple Intervention Trial (ADMIT), the CABG-PATCH Trial and the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) Trial. She re-joined the institute in 2007, where she oversaw numerous clinical trials, primarily serving as deputy project officer of the Resuscitation Outcomes Consortium, a network of 10 regional centers that conducted clinical trials of treatments for cardiac arrest and severe trauma/traumatic brain injury. Other trials in her portfolio include the PumpKIN Trial which evaluated ventricular assist devices for children; TACT and TACT2 and SIREN. She has also led and co-led several workshops at NHLBI including the Pulseless Electrical Activity Workshop, The Sudden Cardiac Death workshop, The Role of Thyroid Dysfunction and Cardiovascular Disease Workshop and the Next Generation Resuscitation Research Workshop.

Debra’s interest in resuscitation started earlier in her career where she worked on hemorrhagic, septic and burn shock models at Cornell University Medical College in the Surgery Department. Ms. Egan earned her M.P.H. in epidemiology in 1988 from the University of Washington, Seattle, and her M.Sc. in community health from Trinity College in Dublin, Ireland, in 1983 and was a graduate of the Presidential Management Program in 1991. She also served as a Legislative Fellow in the US Senate concentrating on health policy.
George Sopko MD, MPH is a senior staff member in the Division of Cardiovascular Sciences (DCVS), the National Heart, Lung, and Blood Institute (NHLBI), at the National Institutes of Health (NIH), Bethesda, Maryland.

In 1987, he joined the NHLBI where he remains to this day. From 1994 to 2000 he was the Branch Chief (formerly known as Leader) of the Pediatric and Adult Cardiovascular Medicine and Nutrition Scientific Research Group (SRG), Division of Heart and Vascular Diseases, NHLBI. He plans, develops, directs, coordinates, and conducts applied, clinical, and basic research in cardiovascular disease. He has responsibility for promoting efforts to enhance our understanding of the etiology and pathophysiology of heart disease; to improve methods of diagnosis, treatment and prevention of these diseases; to participate in developing policy and prioritization regarding pioneering research programs, both domestic and international, to meet national needs. He has served as the Program or Deputy Program Director for many NIH-supported clinical trials or studies involving international cooperation.

Dr. Sopko received his first MD from Masaryk University (formerly Purkyne University), Brno, Czech Republic in 1967; served in the Czech Air Force from 1967-68 as Flight and Oral Surgeon and was honorably discharged as Second Lieutenant. After Soviet invasion of Czechoslovakia in 1968 he entered the United States in 1969 and worked as manual laborer and orderly for two years in Cleveland while learning English. He received his second MD from Case Western Reserve University in 1973, completed internal medicine residency at Georgetown University Medical Service at the D.C. General Hospital in Washington, DC and fellowship in cardiology at the University of Vermont, joined the University of Minnesota in 1978 as an NIH Postdoctoral Individual National Research Service Award Fellow (T32) at the Laboratory of Physiologic Hygiene, School of Public Health under Dr. Henry Blackburn, received an M.P.H in physiologic hygiene/cardiovascular disease prevention and epidemiology in 1981 and joined the university cardiology faculty as Assistant Professor of Medicine. During that time he was Clinic Cardiologist for the Lipid Research Clinic (LRC), Coronary Primary Prevention Trial (CPPT), and the Multiple Risk Intervention Trial (MRFIT) at the University of Minnesota. In 1983, Dr. Sopko joined the Department of Medicine, at the St. Louis University Medical Center developing and directing the Cardiovascular Risk Reduction Center in the Division of Cardiology and the Executive Cardiovascular Improvement Program, Cardiovascular Fitness and Rehabilitation Center. He also collaborated with St. Louis County and City public school systems to develop a new health curriculum that focused on diet, exercise, and smoking prevention and, with the Missouri State Department of Health to develop and implement a state-wide intervention on smoking, nutrition, and hypertension. He also developed a health prevention program for major corporations in the St. Louis Metropolitan Area (e.g., McDonald-Douglas, Mallinckrodt, and Southwestern Bell).

He has been a guest reviewer for several journals, including the Journal of the American Medical Association, Circulation, and the Journal of Cardiac Rehabilitation. He has over 240 scientific publications in peer review journals. He is a Diplomate of the American Board of Internal Medicine and Cardiоvascular Diseases. He continues to practice clinical medicine and see patients at Seven Corner Medical Center in Falls Church, Va.

**2018 Best Abstract Awards**

Four recipients have been selected to receive this award for the top-scoring abstracts submitted to the Resuscitation Science Symposium. The winners of the Best Abstract Awards will be recognized during the Best of the Best Oral Abstract Presentations at 10:30 AM Saturday.

<table>
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<th>Title</th>
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<tr>
<td>Linn Andelius</td>
<td>01</td>
<td>Dispatching Lay Rescuers Through a Smartphone Application is Associated With Increased Bystander Defibrillation in Out-of-Hospital Cardiac Arrest</td>
<td>Cardiac Resuscitation Science</td>
</tr>
<tr>
<td>Emmanuel O. Akintoye</td>
<td>02</td>
<td>Association Between Hospital Volume of Cardiopulmonary Resuscitation for In-Hospital Cardiac Arrest and Survival to Hospital Discharge</td>
<td>Cardiac Resuscitation Science</td>
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2018 Young Investigator Awards

These awards are presented for the top-scoring abstracts submitted by young investigators within the first five years of their appointment. The Young Investigator Event will recognize the following winners of these awards on Friday, November 9.

<table>
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<tr>
<th>Name</th>
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<td>Sachin Agarwal</td>
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<td>Cardiac Arrest-induced Posttraumatic Stress Increases 1-year Risk of Major Adverse Cardiovascular Events and All-cause Mortality</td>
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<td>Lars Andersen</td>
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<td>Jason Bartos</td>
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<td>Progressive Metabolic Derangement During Prolonged Resuscitation for Refractory VT/VF Cardiac Arrest and the Relationship to Neurologically Intact Survival with Extracorporeal Cardiopulmonary Resuscitation</td>
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<td>Audrey Blewer</td>
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<td>Variation In Both Layperson Cardiopulmonary Resuscitation Delivery And Subsequent Survival From Sudden Cardiac Arrest Based On Neighborhood-level Ethnic Characteristics</td>
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<td>Jose Juarez</td>
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<td>Cardiopulmonary Resuscitation Process Measures Associated with Return of Spontaneous Circulation in Non-Shockable Out-of-Hospital Cardiac Arrest</td>
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<tr>
<td>Rohan Khera</td>
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<td>Pulselessness Despite Cardiopulmonary Resuscitation for Bradycardia in Hospitalized Children: Prevalence, Predictors of Survival, and Implications for Hospital Profiling</td>
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<tr>
<td>Matthias Kohlhauer</td>
<td>09</td>
<td>Ultra-fast Hypothermia Inhibit Early Cerebral Consumption Of Lactate After Experimental Cardiac Arrest In Rabbits: A Microdialysis Study.</td>
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<tr>
<td>Christina Miyake</td>
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<td>A Population Based Study in a Large Ethnically Diverse Metropolitan City Reveals Racial and Ethnic Disparities in Pediatric Cardiac Arrest</td>
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<td>Purav Mody</td>
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<td>Sex Differences in Outcomes after Out-of-Hospital Cardiac Arrest Patients: Insights from the Resuscitation Outcomes Consortium Continuous Chest Compression Trial</td>
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<tr>
<td>Adrian Ripeckyj</td>
<td>257</td>
<td>Unselective Pulmonary Vasodilation Is An Important Factor In Sodium Nitroprusside Enhanced Cardiopulmonary Resuscitation Improved Blood Flow</td>
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ReSS Awards  (continued)

2018 3CPR Emergency Medical Services Travel Stipends

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR), the EMS travel stipends allow EMS chiefs, educators and other non-physician EMS leadership to attend ReSS. The recipients of the 2018 travel stipends were selected based on their commitment and interest in cardiac arrest, CPR and resuscitation care, their potential to make an impact in out-of-hospital resuscitation care, and their record of EMS accomplishments.

The 2018 3CPR EMS Travel Stipend recipients are:
Jason Trojan
Karen R. Lang
Benjamin M. Tysor
Scott Kier
Mike Janczyszyn

Policy Information

Disclaimer
The Resuscitation Science Symposium is a scientific and educational conference for exchanging and discussing research results and scientific developments in the field of cardiovascular outcomes research. Accordingly, the American Heart Association cannot offer any assurance or warranty of the accuracy, truthfulness or originality of the information presented at the conference.

AHA Harassment Policy
The AHA requires that all attendees, exhibitors, presenters, contractors, vendor and volunteers of the AHA meeting comply with all federal, state and local laws and regulations, including those that prohibit harassment and discrimination against individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin.

Embargo Guidelines
Abstracts, lectures and presentations in ReSS 2018 are embargoed for release at the time of presentation. Information may not be released before the scheduled presentation time.

Photography/Recording Policy
Unauthorized recording of the AHA Scientific Sessions, scientific conferences and the ASA International Stroke Conference is prohibited, whether by video, still or digital photography, audio or any other recording or reproduction mechanism. This includes recording of presentations and supporting audio-visual materials, poster presentations and supporting poster materials.

The American Heart Association and America Stroke Association reserve the rights to all recordings or reproductions of presentations at AHA/ASA scientific conferences and meetings. Check the program for information about the availability of videotapes or audiocassettes for purchase. Exceptions to this policy prohibition are:
1. Non-flash photography of the speaker and his/her presentation materials is permitted by attendees or AHA/ASA accredited reports upon the prior written consent of the AHA/ASA and the speaker.
2. Audio recording for strictly personal and non-commercial use is permitted if not disruptive; and exhibitors may photograph their own booth for promotional purposes upon prior written consent of the AHA/ASA.

Conference Photography
Please be aware that during ReSS 2018 attendees, vendors and guests may be photographed and videotaped by AHA vendors. Some of these images may be displayed in publications or materials connected with the event. If you don’t want your image to be displayed by the AHA, please contact the AHA in writing at 7272 Greenville Avenue, Dallas, TX 75231, Attention: Manager, Scientific Conferences, Resuscitation Science Symposium 2018, no later than November 1, 2018.

No Smoking Policy
AHA policy prohibits smoking in all conference meeting rooms and exhibits/registration areas. Thank you for your cooperation.

Seating/Badge Requirement
Seating is on a first-come, first-serve basis. According to fire code, a session must be closed if the room fills to capacity. You must wear your name badge at all times during the symposium. Nonregistered guests may not be permitted into the sessions or food and beverage events. Be sure to remove your badge when you leave the conference or your hotel room. The American Heart Association reserves the right to revoke or deny attendance to any registered participant, speaker, exhibitor, news media reporter, or photographer of presentations or activities at AHA/ASA scientific conferences and meetings.
ReSS Program Agenda

Friday, November 9

6:30–9:30 PM
Young Investigator Dinner
(RSVP required)

Saturday, November 10

8:00–8:15 AM
Crystal Ballroom BC
Session 01
Symposium Opening:
Welcome and Introduction

8:15–9:30 AM
Crystal Ballroom BC
Session 02
Plenary 1: Dispatch-Assisted CPR:
From Saving Lives to Implementation

Moderators:
Mary M. Newman, Wexford, Pennsylvania
Joseph P. Ornato, Richmond, Virginia

8:15  My Story of Surviving Cardiac Arrest
Tom Gould, Chicago, Illinois

8:30  My Story of Providing Layperson CPR
Jeff Gould, Chicago, Illinois

8:45  CPR: A Dispatcher Perspective
Jeff Callaghan, Gurnee, Illinois

9:00  The Potential of Dispatch-Assisted CPR
Thomas Rea, Seattle, Washington

9:15  Discussion

9:30–10:15 AM
Crystal Ballroom BC
Session 03
2018 Awards for Lifetime Achievement in Cardiac Resuscitation Science and Trauma Resuscitation Science and Presentation of the Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science

Moderators:
Benjamin S. Abella, Philadelphia, Pennsylvania
Tom P. Aufderheide, Milwaukee, Wisconsin

9:30  Lifetime Achievement Award in Cardiac Resuscitation Science Recipient
Clifton W. Callaway, Pittsburgh, Pennsylvania

9:45  Lifetime Achievement Award in Trauma Resuscitation Science Recipient
Martin Schreiber, Portland, Oregon

10:00  Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science
Core Outcome Set for Cardiac Arrest (COSCA)

ReSS Champion Award
George Sopko, Rockville, Maryland
Debra Egan, Bethesda, Maryland

10:15–10:30 AM
Crystal Foyer
Break and Exhibits

10:30–11:45 AM
Crystal Ballroom BC
Session 04
Best of the Best Oral Abstract Presentations and Presentation of the Best Abstract Awards for Cardiac and Trauma Resuscitation Science

Moderators:
Rudolph W. Koster, Amsterdam, Netherlands
Andrew Lockey, Halifax, United Kingdom

10:30  Dispatching Lay Rescuers Through a Smartphone Application is Associated With Increased Bystander Defibrillation in Out-of-Hospital Cardiac Arrest
Linn Andelius, Carolina Malta Hansen, Freddy Lippert, Lena Karlsson, Emergency Medical Services Copenhagen, Univ of Copenhagen, Copenhagen, Denmark; Christian Torp-Pedersen, The Dept of Health Science and Technology, Aalborg Univ, Aalborg, Denmark; Gunnar Gislason, Dept of Cardiology, Copenhagen Univ Hosp Herlev and Gentofte, Denmark, Copenhagen, Denmark; Fredrik Folke, Emergency Medical Services Copenhagen, Univ of Copenhagen, Copenhagen, Denmark

10:45  Association Between Hospital Volume of Cardiopulmonary Resuscitation for In-Hospital Cardiac Arrest and Survival to Hospital Discharge
Emmanuel O Akintoye, Univ of Iowa Hosp and Clinics, Iowa, IA; Ando Tomo, Wayne State Univ Sch of Med, Detroit, MI; Oluwole Adegbala, Seton Hall Univ, Detroit, MI; Adebolotun Alade, Univ of Ibadan, Ibadan, Nigeria; Alexandros Briasoulis, Univ of Iowa Hosp and Clinics, Iowa, IA; Alexander Egbe, Mayo Clinic, Rochester, MN; Luis Afonso, Wayne State Univ Sch of Med, Detroit, MI
11:00  Antithrombin III Contributes to the Vascular Protective and Reparative Effects of Fresh Frozen Plasma Following Hemorrhagic Shock
Ernesto Lopez, Zhanglong Peng, Charles E. Wade, Jessica C. Cardenas, UT Health, Houston, TX

11:15  The Most Accurate Massive Transfusion Prediction Score at the Scene of Injury: The Pre-Hospital Traumatic Bleeding Severity Score
Takayuki Ogura, Keibun Liu, Hiroshi Machida, Kenji Fujizuka, Mitsunobu Nakamura, Minoru Nakano, Japan Red Cross Maebashi Hosp, Maebashi, Japan

11:30  Awards Presentations

11:45 AM–12:15 PM
Lunch Break

Noon–1:15 PM
Crystal Ballroom A
Session 05
Women in Resuscitation Networking Meeting

12:15–1:15 pm
Crystal Ballroom BC
Session 06
Joint Session: Japanese Circulation Society/ American Heart Association

Moderators:
Sarah M. Perman, Denver, Colorado
Kunio Ohta, Kanazawa, Japan

12:15 Post-Arrest Care for Adults: Perspective from Japan
Yoshio Tahara, Osaka, Japan

12:30 Post-Arrest Care for Adults: Perspective from the US
Jon Rittenberger, Pittsburgh, Pennsylvania

12:45 Pediatric Post-Arrest Care: Perspective from Japan
Eiji Hirakawa, Osaka, Japan

1:00 Pediatric Post-Arrest Care: Perspective from the US
Alexis Topjian, Philadelphia, Pennsylvania

1:15–2:45 PM
Regency Ballroom
Poster Session 1

For details please see page 19.
4:45 Survival after Intravenous Vs Intraosseous Amiodarone, Lidocaine or Placebo in Out-of-Hospital Ventricular Fibrillation Cardiac Arrest
Mohamud R. Daya, Oregon Health & Sciences Univ, Portland, OR; Brian G Leroux, Thomas D. Rea, Univ Washington School Med, Seattle, WA; Paul Dorian, Univ of Toronto, Toronto, ON, Canada; Joshua Lupton, Oregon Health & Sciences Univ, Portland, OR; Laurie J. Morrison, Univ of Toronto, Toronto, ON, Canada; James A. Menegazzi, Univ of Pittsburgh, Pittsburgh, PA; Gary M. Vilke, Univ of California - San Diego, San Diego, CA; Tom P Aufderheide, Medical Coll of Wisconsin, Milwaukee, WI; Jim Christun, Univ of British Columbia, Vancouver, BC, Canada; Craig D Newgard, Oregon Health & Sciences Univ, Portland, OR; David Barbic, Univ of British Columbia, Vancouver, BC, Canada; Caroline Herdeman, Medical Coll of Wisconsin, Milwaukee, WI; Peter J. Kudenchuk, Univ Washington School Med, Seattle, WA

5:00 Incidence of Definite Stent Thrombosis in Comatose Survivors of Out-of-Hospital Cardiac Arrest Undergoing Percutaneous Coronary Intervention and Therapeutic Hypothermia - Preliminary Results
Martin Rauber, UMC Ljubljana, Ljubljana, Slovenia; Philipp Nicol, Michael Joner, Deutsches Herzzentrum München, München, Germany; Matjaz Bunc, Marko Noc, UMC Ljubljana, Ljubljana, Slovenia

5:15 Invited talk ILCOR Summary Recommendations
Jasmeet Soar, Bristol, United Kingdom

7:00 PM Plaza Ballroom (Lobby Level, East Tower)
3CPR Council Networking Event (Ticketeted event)

8:00 Ultra-Fast Hypothermia Inhibit Early Cerebral Consumption of Lactate After Experimental Cardiac Arrest in Rabbits: A Microdialysis Study
Matthias Kohlhauer, Alexandra Dernelos, Emilie Boissady, Bijan Ghaleh, Renaud Tissier, Inserm U955Eq3, Maisons-Alfort, France

8:15 Transcriptional Profiling of the Neuroprotective Mechanisms of Inhaled Nitric Oxide in a Swine Model of Pediatric Cardiac Arrest

8:30 Beneficial Effects of Hcn Inhibitor on Post-Resuscitation Myocardial Dysfunction in a Porcine Model of Cardiac Arrest
Min Yang, Tianfeng Hua, Limin Chen, Yangyang Zou, The Second Hosp of Anhui Medical Univ, Hefei, China

8:45 Cerebrovascular Pressure Reactivity Predicts Outcome in Diffuse Hypoxic-Ischemic Brain Injury
Ramani Balu, Univ of Pennsylvania, Philadelphia, PA; Sanam Baghshomali, Univ of Pennsylvania, Philadelphia, PA; Benjamin S. Abella, William A. Kofke, Univ of Pennsylvania, Philadelphia, PA

9:00 Cardiac Arrest-Induced Posttraumatic Stress Increases 1-Year Risk of Major Adverse Cardiovascular Events and All-Cause Mortality
Sachin Agarwal, Alex Presciutti, Talea Cornelius, Jeffrey L. Birk, David J. Roh, Soojin Park, Jan Claassen, Mitchell S. Elkind, Donald E. Edmondson, Columbia Univ Medical Ctr, New York, NY
9:15–10:30 AM
Crystal Ballroom BC
Session 10
Plenary 3: Saving Lives Through Public Health Initiatives
Moderators:
Federico Semeraro, Bologna, Italy
Jerry Nolan, Bath, United Kingdom

9:15 Kids Save Lives: CPR Training in Europe
Bernd Boettiger, Cologne, Germany
9:30 Stop the Bleed Campaign for Public Trauma Response
Amy Stewart, Chicago, Illinois
9:45 CPR Training Kiosks in the Public Setting
Mary Chang, Dallas, TX
10:00 CPR in Schools: Denmark
Carolina Hansen, Copenhagen, Denmark

10:30–10:45 AM
Crystal Foyer
Break and Exhibits

10:45–11:45 AM
Crystal Ballroom A
Session 11
Concurrent A: Laboratory Studies of CPR and Post-Arrest Recovery
Moderators:
Michael Fries, Aachen, Germany
Raul J. Gazmuri, North Chicago, Illinois

10:45 Polyethylene Glycol-20k Improves Post-Resuscitation Cerebral Microcirculation in a Rat Model of Cardiac Arrest
Qinyue Guo, Jin Yang, Zhangle Hu, Yan Xiao, Xiaobo Wu, Jennifer Bradley, Mary Ann Peberdy, Joseph Ornato, Virginia Commonwealth Univ, Richmond, VA

11:00 Repopulation of CA1 Region in the Hippocampus is Accompanied by Increased Diameter and Reduced Glial Scarring After 20 Weeks of Survival in an 8 Min Ventricular Fibrillation Cardiac Arrest Rat Model
Wolfgang Weihls, Florian Ettl, Ingrid A. Magnet, Alexandra M. Warenits, Andreas Janata, Medical Univ of Vienna, Vienna, Austria; Sandra Högler, Univ of Veterinary Med, Vienna, Austria

10:45–11:45 AM
Crystal Ballroom BC
Session 12
Concurrent B: Clinical Resuscitation Science: Exploring Devices and Algorithms
Moderator:
Katherine Berg, Boston, Massachusetts
Janet Bray, Melbourne, Australia

10:45 Analyzing Heart Rhythm During Chest Compressions in Out-of-Hospital Cardiac Arrest Patients Using New Algorithm for Automated External Defibrillators
Corina de Graaf, Stefanie G. Beesems, Academic Medical Ctr, A.M.C, Amsterdam, Netherlands; Ronald E Stickney, Paula Larik, Fred W. Chapman, Physio Control, now part of Stryker, Redmond, WA; Rudolph W. Koster, Academic Medical Ctr, AMC, Amsterdam, Netherlands

11:00 Progressive Metabolic Derangement During Prolonged Resuscitation for Refractory VT/VF Cardiac Arrest and the Relationship to Neurologically Intact Survival With Extracorporeal Cardiopulmonary Resuscitation
Jason A. Bartos, Claire Carlson, Ganesh Raveendran, Ranjit John, Univ of Minnesota, Minneapolis, MN; Tom P. Aufderheide, Medical Coll of Wisconsin, Milwaukee, WI; Demetris Yannopoulos, Univ of Minnesota, Minneapolis, MN

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11:15 Intraosseous vs. Intravenously Administered Advanced Life Support Drugs in Patients With Out-of-Hospital Cardiac Arrest: Insights From the Resuscitation Outcomes Consortium Continuous Chest Compression Trial
Purav Mody, UT Southwestern, Dallas, TX; Siobhan Brown, Univ of Washington, Seattle, WA; Rohan Khera, Ambarish Pandey, Colby Ayers, UT Southwestern, Dallas, TX; Peter Kudenchuk, Univ of Washington, Seattle, WA; Paul S. Chan, Mid America Heart Inst, Kansas City, MO; James A. de Lemos, UT Southwestern, Dallas, TX; Karl Kern, Univ of Arizona, Saver Heart Inst, Tucson, AZ; Mark Link, Ahamed Idris, UT Southwestern, Dallas, TX

11:30 Resuscitative Transesophageal Echocardiography in the Emergency Department Evaluation of Out-of-Hospital Cardiac Arrest
Felipe Teran, Univ of Pennsylvania, Philadelphia, PA; Mark Andreeae, Clark Owyang, Icahn Sch of Med at Mount Sinai, New York City, NY; Claire Centeno, Alex Wong, Univ of Pennsylvania, Philadelphia, PA; Phillip Andrus, Bret P. Nelson, Icahn Sch of Med at Mount Sinai, New York City, NY; Nova L Panebianco, Anthony J. Dean, Benjamin S. Abella, Univ of Pennsylvania, Philadelphia, PA

11:45 AM–12:15 PM
Lunch Break

12:15 Year in Review: Cardiac Arrest
Clifton W. Callaway, Pittsburgh, Pennsylvania

12:35 Year in Review: Trauma
Samuel Tisherman, Baltimore, Maryland

12:55 Special presentation: A Randomized Controlled Trial of Intra-Arrest Brain Cooling - The Princess Trial
Per Nordberg, Stockholm, Sweden

1:15–2:30 PM
Crystal Ballroom BC
Session 14
Plenary 4: Managing the Airway During Resuscitation
Moderators:
Matthew Ma, Taipei, Taiwan
Marianne Gausche-Hill, Torrance, California

1:15 EMS Approaches to Airway in the US: The PART Trial
Henry E. Wang, Houston, Texas
1:30 EMS Approaches to Airway in Europe: The CAAM Trial
TBD
1:45 The Airways-2 Trial
Jerry Nolan, Bath, United Kingdom
2:00 Airway Management and Ventilation During Traumatic Injury
Daniel W. Spaite, Chandler, Arizona
2:15 Discussion

2:30–2:45 PM
Crystal Foyer
Break and Exhibits

2:45–4:00 PM
Crystal Ballroom BC
Session 15
Concurrent A: Resuscitation Health Services Research, Adult and Pediatric Epidemiology
Moderators:
Anne V. Grossestreuer, Boston, Massachusetts
Sharon Einav, Jerusalem, Israel

2:45 When Laws Save Lives: Impact of Legislation Requiring Cardiopulmonary Resuscitation Education in High Schools on Survival After Sudden Cardiac Arrest
3:00  Incidence of Adult In-Hospital Cardiac Arrest in the United States
Mathias J. Holmberg, Beth Israel Deaconess Medical Ctr, Boston, MA; Catherine Ross, Boston Children’s Hosp, Boston, MA; Paul S. Chan, Saint Luke’s Mid America Heart Inst, Kansas City, MO; Jordan Duval-Arnould, Johns Hopkins Univ Sch of Med, Baltimore, MD; Anne V. Grosssteure, Tuyen Yankama, Michael W. Donnino, Beth Israel Deaconess Medical Ctr, Boston, MA; Lars W. Andersen, Res Ctr for Emergency Med, Aarhus, Denmark

3:15  Sex Differences in Outcomes After Out-of-Hospital Cardiac Arrest Patients: Insights From the Resuscitation Outcomes Consortium Continuous Chest Compression Trial
Purav Mody, Ambarish Pandey, Rohan Khera, Colby Ayers, Mark Link, Ahamed Idris, UT Southwestern, Dallas, TX

3:30  Cost-Effectiveness of Public Automated External Defibrillators
Lars W. Andersen, Mathias J. Holmberg, Res Ctr for Emergency Med, Aarhus, Denmark; Asger Granfeld, Dept Intensive Care Med, Aarhus, Denmark; Lyndon P. James, Ctr for Health Decision Science, Harvard T. H. Chan Sch of Public Health, Boston, MA; Lisa Caulley, Dept of Epidemiology, Erasmus MC, Rotterdam, Netherlands

3:45  Evaluating Variation in Return of Spontaneous Circulation Rates Across EMS Agencies in Michigan
Mahshid Abir, Univ of Michigan; RAND Corp, Ann Arbor, MI; Rama Salhi, Jason Goldstick, Jessica Lehrich, Sydney Fouche, Univ of Michigan, Ann Arbor, MI; Claude Setodji, RAND Corp, Pittsburgh, PA; Bill Forbush, Alpena Fire Dept/Alpena County EMS, Alpena, MI; Steve Kronick, Teri Shields, Univ of Michigan, Ann Arbor, MI; Erin Brennan, Wayne State Univ, Detroit, MI; Robert Swor, Oakland Univ William Beaumont Sch of Med, Royal Oak, MI; Brian O’Neil, Wayne State Univ, Detroit, MI; Robert Neumar, Brahmane Nallamothu, Univ of Michigan, Ann Arbor, MI; CARES Surveillance Group, CARES, Atlanta, GA

2:45–4:00 PM
Crystal Ballroom A
Session 16
Concurrent B: Improving CPR Education for Laypersons and Professionals
Moderators:
Marina Del Rios, Chicago, Illinois
Taku Iwami, Kyoto, Japan

2:45  Implications of Legislative Efforts on Layperson CPR Education

3:00  A Database of Sudden Cardiac Arrest Videos Describes Victim Pre and Post Arrest Appearance and Bystander Response
Matthew John Douma, Univ Coll Dublin, Dublin, Ireland

3:15  A Neighborhood Local Volunteer Response Network Improves Response Time for Cardiac Arrest
Karl B. Kern, Carter Newton, Univ of Arizona, Tucson, AZ; Charles “Chuck” Wunder Jr., Green Valley Fire Dept, Green Valley, AZ; Thomas P. Colberg, CardioSpark, LLC, Tucson, AZ; Marvin J. Slepian, Univ of Arizona, Tucson, AZ

3:30  Increasing the Uptake of Cardiopulmonary Resuscitation Training Within Australian Cardiac Rehabilitation Programs
Susie Cartledge, Janet E. Bray, Dion Stub, Monash Univ, Melbourne, Australia; Judith Finn, Curtin Univ, Perth, Australia; Lis Neubeck, Edinburgh Napier Univ, Edinburgh, United Kingdom

3:45  “Cold” Debriefing After Pediatric In-Hospital Cardiac Arrests

4:00–5:30 PM
Regency Ballroom
Poster Session 2 and Reception

For details please see page 20.
Poster Sessions

All poster abstracts will be presented in the Regency Ballroom. The poster hall will be available for set-up beginning at 10:00 AM Saturday, Nov. 10. To maximize the poster viewing time for attendees, all posters will be available for viewing throughout both days of ReSS (Saturday and Sunday).

Poster abstract presenters will be available for questions and discussion during the dates/times specified below.

- Saturday, November 10 1:15–2:45 PM
- Sunday, November 11 4:00–5:30 PM

The Sunday poster session will include a special reception with hors d’oeuvres and a cash bar. Please plan to attend this special event.

Saturday, November 10
1:15–2:45 PM
Poster Session 1

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<td>Post-arrest Outcome Prediction</td>
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<td>Biomarkers in Cardiac Arrest</td>
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<td>Patient and Family Perspectives</td>
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ALL CITIZENS of the world can SAVE a life

OCT 16 2018 World Restart a Heart Day

Restart a heart in 2 simple steps!

1 Call 911
2 Push Hard & Fast in the Center of the Chest

MORE INFO
WWW.ILCOR.ORG/WRAH #WORLDRESTARTAHEART
100 Intravenous Calcium as a Pressor After Hypoxic Cardiac Arrest

Joshua W. Lampe, ZOLL Medical Corp, Chelmsford, MA; Alexander L. Linquist, Geisel Sch of Med, Dartmouth Coll, Hanover, NH; William B. Welte, Dartmouth Hitchcock Medical Ctr, Hanover, NH; Jeffrey R. Gould, ZOLL Medical Corp, Chelmsford, MA; Karen L. Moolde, Dartmouth Coll, Hanover, NH; Christopher L. Kaufman, ZOLL Medical Corp, Chelmsford, MA; Norman A. Paradis, Geisel Sch of Med, Dartmouth Coll, Hanover, NH

101 PHLPP Inhibitory Peptide Administered During CPR Improves Survival After Prolonged Cardiac Arrest

Jing Li, Xiangdong Zhu, Chunpei Lee, Rong-Wen Tain, Kejia Cai, Terry Vanden Hoek, Univ Illinois at Chicago, Chicago, IL

102 Inhaled Nitric Oxide Mitigates Pulmonary Hypertension and Improves Cerebral Hemodynamics During Prolonged Cardiopulmonary Resuscitation in a Swine Model of Pediatric Cardiac Arrest


103 Propofol Infusion in the Early Post-Cardiac Arrest Phase Improves Cerebral Perfusion and Confers Anti-Apoptotic Neuroprotection via Akt-eNOS-NO Signaling

Wei-Tien Chang, Min-Hsuan Hsu, Woan-Yi Wang, Chunpei Lee, Chih-Hung Wang, Min-Shan Tsai, Ming-Ju Hsieh, Hsiao-Ju Cheng, Chien-Hua Huang, Wen-Jone Chen, Nati Taiwan Univ Hosp and Coll of Med, Taipei, Taiwan

104 N-Acetyl Cysteine Improves Post-Reperfusion Myocardial Dysfunction in a Rat Model of Cardiac Arrest and Return of Spontaneous Circulation

Fenglian He IV, Weil Inst of Emergency and Critical Care Res, Richmond, VA

105 Accuracy of Team Perception of Performance With Actual CPR Quality Metrics in Children

Lynda Knight, Stanford Children's Health, Palo Alto, CA; Todd Sweberg, Northwell Health, Lake Success, NY; Pual Mullan, Childrens Natl, Washington, DC; Anita Sen, Columbia Univ Medical Ctr, New York, NY; Matthew Braga, Dartmouth-Hitchcock Medical Ctr, Lebanon, NH; Priti Jani, Comer Children's -Univ of Chicago, chicago, IL; Felice Su, Stanford Children's Health, Palo Alto, CA; Shilpa Balkai, Univ of Iowa Healthcare, Iowa City, IA; David Kessler, NewYork-Presbyterian Morgan Stanley Children's, New York, NY; Joan Roberts, Seattle Children's, Seattle, WA; Aaron Donoghue, Childrens Hosp Of Philadelphia, Philadelphia, PA; Jesse Wenger, Seattle Children's, Seattle, WA; Dana Niles, Vinay Nadkarni, Childrens Hosp Of Philadelphia, Philadelphia, PA; Marc Berg, Stanford Children's Health, Palo Alto, CA

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Rohan Khera, Univ of Texas Southwestern Med Ctr, Dallas, TX; Yuanyuan Tang, Mid-America Heart Inst, Kansas City, MO; Saket Girotra, Univ of Iowa, Iowa City, IA; Vinay M Nadkarni, Children's Hosp of Philadelphia, Philadelphia, PA; Mark S. Link, Univ of Texas Southwestern Medical Ctr, Dallas, TX; Tia Raymond, Medical City Children's Hosp, Dallas, TX; Anne-Marie Guerguerian, The Hosp for Sick Children, Ontario, ON, Canada; Robert Berg, Children's Hosp of Philadelphia, Philadelphia, PA; Paul S Chan, Mid-America Heart Inst, Kansas City, MO

109 Pediatric CPR in the Emergency Department: Initial Findings From the Videography in Pediatric Emergency Research Collaborative


110 The Dynamic Clinical Course of Resuscitation in Children With Cardiac Arrest

Trond Nordseth, St. Olav Univ Hosp, Trondheim, Norway; Dana Niles, Children’s Hosp of Philadelphia, Philadelphia, PA; Trygve Effestol, Univ of Stavanger, Stavanger, Norway; Benjamin T. Kerrey, Cincinnati Children's Hosp Medical Ctr, Cincinnati, OH; Sage R. Myers, Children's Hosp of Philadelphia, Philadelphia, PA; Robert Sutton, Children's Hosp of Philadelphia, Philadelphia, PA; Robert Berg, Children's Hosp of Philadelphia, Pennsylvania, PA; Unai Irusta, Univ of the Basque Country, Bilbao, Spain; Jan T. Kvale, Univ of Stavanger, Stavanger, Norway; Benjamin S. Abela, Univ of Pennsylvania, Philadelphia, PA; Eirik Skogvoll, St. Olav Univ Hosp, Trondheim, Norway
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112 Internal Consistency Between Cognitive Tests for Survivors of Cardiac Arrest
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113 Signs of Perfusion During Cardiopulmonary Resuscitation as Noted by First Responders is Predictive of Good Neurologic Outcome in Cardiac Arrest
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116 Delta Neutrophil Index as a Useful Prognostic Marker in Pediatric Cardiac Arrest
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Christina Y. Miyake, Saranya Srinivasan, Texas Children’s Hosp, Houston, TX; Daniel Ostermayer, Houston Fire Dept, Houston, TX; Dwayne Wolf, Harris County Inst of Forensic Sciences, Houston, TX; Jeffrey J. Kim, Caridad M. delaUz, Santiago O Valdes, Texas Children’s Hosp, Houston, TX; Claudia Pedroza, UT Health Sciences, Houston, TX; Shaine A Morris, Keila N. Lopez, Vinh V. Tran, Texas Children’s Hosp, Houston, TX; Eric J. Lee, Dianna Milewicz, UT Health Sciences, Houston, TX; Paul E. Sirbaugh, Texas Children’s Hosp, Houston, TX

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130 Pediatric Cardiac Arrest: Adult Defibrillation Energies are Safe and Effective When Treating a Pediatric Porcine Model
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131 The Impact of Double Sequential External Defibrillation on Termination of Ventricular Fibrillation and Return of Spontaneous Circulation in Shock-Refractory Out-of-Hospital Cardiac Arrest
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Katie N. Dainty, Bianca Seaton, North York General Hosp, Toronto, ON, Canada; Richard Verbeek, Sunnybrook Health Sciences Ctr, Toronto, ON, Canada

134 Patients’ Perspectives on Enrollment in Research Using the Exception From Informed Consent: An Integrated Survey
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137 The Impact of Psychological Distress on Six-Month Recovery Perceptions in Survivors of Cardiac Arrest
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Johanna C. Moore, Michael Grahl, Hennepin County Medical Ctr, Minneapolis, MN; Tracy Marko, Regions Hosp, St. Paul, MN; Ariel Blythe-Reske, Hennepin County Medical Ctr, Minneapolis, MN; Amber Lage, Minneapolis Fire Dept, Minneapolis, MN; Erin Hedge, Andrew Bancroft-Howard, Hennepin Emergency Medical Services, Minneapolis, MN; Lauren Klein, Hennepin County Medical Ctr, Minneapolis, MN; Sarah Scharber, Duke Univ Sch of Med, Durham, NC; Clayton Garthe, Jeffrey Ho, Hennepin County Medical Ctr, Minneapolis, MN

139 Impedance Threshold Device and Active Decompression Improve Hemodynamics in a Swine Model of Prolonged CPR
Joshua W. Lampe, ZOLL Medical Corp, Chelmsford, MA; Yin Tai, Feinstein Inst for Medical Res, Manhasset, NY; Anja K. Metzger, Christopher L. Kaufman, ZOLL Medical Corp, Chelmsford, MA; Lance B. Becker, Feinstein Inst for Medical Res, Manhasset, NY

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David G. Buckler, Nabil Abdulhay, Konstantinos Totolos, Benjamin Abella, Univ of Pennsylvania, Philadelphia, PA

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Michael K. Levy, Univ of Alaska Anchorage Coll of Health and Anchorage Fire Dept, Anchorage, AK; Karl B. Kern, Univ of Arizona, Tucson, AZ; Dana Yost, Resurgent Biomedical Consulting LLC, Shoreline, WA; Bjarne Madsen Hardig, Physio-Control/Jolife AB, Lund, Sweden; Fred W. Chapman, Physio Control, Newcastle, WA

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143 Electrocardiographic Changes Preceding In-Hospital Cardiac Arrests From Pulseless Electrical Activity/Asystole Provide Insights into Underlying Cause and Pathophysiology
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144 Differing Pattern of ECG Changes During Resuscitation From Pulseless Electrical Activity Depending on Etiology
Gunnar Waage Skjeflo, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology and Dept of Anaesthesiology, Nordland Hosp, Trondheim /Bodo, Norway; Trond Nordseth, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology and St. Olav Univ Hosp, Dept of Anesthesia and Intensive Care Med, Trondheim, Norway; Jan Pål Loennechen, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology and St. Olav Univ Hosp, Dept of Cardiology, Trondheim, Norway; Daniel Bergum, Eirik Skogvoll, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology and St. Olav Univ Hosp, Dept of Anesthesia and Intensive Care Med and Intensive Care Med, Trondheim, Norway

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146 Association Between Quantitative Waveform Measures of the Ventricular Fibrillation Electrocardiogram and Defibrillation Success in the ROC ALPS Trial
David D. Salcido, Univ of Pittsburgh, Pittsburgh, PA; Robert H. Schmicker, Univ of Washington, Seattle, WA; Allison C. Koller, Matthew L. Sundermann, Katharyn L. Flickinger, James J. Menegazzi, Univ of Pittsburgh, Pittsburgh, PA

147 Impact of Recording Direction on the Amplitude Spectrum Area of the Ventricular Fibrillation Waveform: A Study on Limb and Precordial ECG-Leads
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148 The Time Interval Between the R-Wave and Maximum Aortic Pressure Affects Chest Compression Hemodynamics in a Swine Model of Pseudo Electro-Mechanical Dissociation
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Caelie E. Kern, David D. Salcido, Univ of Pittsburgh, Pittsburgh, PA
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Gunnar W. Skjeflo, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology and Dept of Anaesthesiology, Nordland Hosp, Trondheim/Bodo, Norway; Eirik Skogvoll, Jan Pål Loennechen, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology, Trondheim, Norway; Theresa M Olaveveenga, Dept of Anaesthesiology, Oslo Univ Hosp, Oslo, Norway; Lars Wik, Norwegian Nati Advisory Unit on Prehospital Emergency Med, Oslo Univ Hosp, Oslo, Norway; Trond Nordseth, Dept of Circulation and Medical Imaging, Norwegian Univ of Science and Technology, Trondheim, Norway
151 Do the Simplified 2015 ERC Guidelines Improve Basic Life Support Performance Compared to 2010 ERC Guidelines?
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152 Effect of the 2010 CPR Guidelines for Patients With Out-of-Hospital Cardiac Arrest Due to Non-Shockable Rhythm
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153 Does the Revision of Resuscitation Guidelines Improve the Outcome of In-Hospital Cardiac Arrest?
Akihiro Miyake, Hiroshi Nonogi, Shizuoka General Hosp, Shizuoka, Japan; Yoshihisa Fujimoto, Tokyo Bay Urayasu Ichikawa Medical Ctr, Urayasu, Japan; Shinshuke Fujiwara, NHU Ureshino Medical Ctr, Ureshino, Japan; Takaki Naito, St. Marianna Univ Sch of Med, Kawasaki, Japan; Takuya Morooka, Osaka City General Hosp, Osaka, Japan; Nobuyuki Hatatsko, Kainan Hosp, Yatomi, Japan; Naoki Tosa, Shizuoka General Hosp, Shizuoka, Japan; Hiroyuki Yokoyama, Yokoyama Medical Clinic, Higashimatsuyama, Japan; Shigeki Fujitani, St. Marianna Univ Sch of Med, Kawasaki, Japan
154 Guideline Removal of Atropine and Survival After Adult In-Hospital Cardiac Arrest With Non-Shockable Rhythms
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182 Survival Outcome Analysis of Public Automated External Defibrillators in Taiwan
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184 AED Application in Non-Shockable Out-of-Hospital Cardiac Arrest Does Not Reduce Survival
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185 Optimization of Public Access Defibrillators Compared to Actual Deployment: An In Silico Trial
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189 Intraosseous Transfusion With Hemoglobin Vesicles for Severe Hemorrhagic Shock Rabbits
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191 Effects of Anesthetic Agents on Blood Parameters in Rats With Acute Hemorrhagic Shock
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192 Pressure Methods for Primary Hemorrhage Control
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193 Intraosseous Transfusion With Liposome-Encapsulated Hemoglobin (HbV) Comparably Improves Rat Survival and its Arrhythmogenesis Undergoing Progressive Lethal 85% Hemorrhage With Central Venous Infusion: Possible Implication for Pre-Hospital Settings
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194 Public Perception Towards Out-of-Hospital Cardiac Arrest Victims: Potential Reasons Influencing the Decision to Perform Bystander Cardiopulmonary Resuscitation
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195 Stages of Bystander Intervention to Sudden Cardiac Arrest in a Virtual Reality Environment
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196 Comparing Bystander Response to an Unannounced Cardiac Arrest Based on Victim Gender Using an Immersive Virtual Reality System
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197 What Limits the Use of AEDs by Bystanders?
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198 Public Perceptions on Why Women Receive Less Bystander CPR Than Men in Out of Hospital Cardiac Arrest
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199 Pulmonary Embolism and Accidental Hypothermia Have a Favorable Outcome in Cardiac Arrest With PEA Treated by ECPR
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200 Glycopyrrolate Does Not Ameliorate Bradycardia During Prolonged Cooling in Awake Subjects
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201 Neuroprotective Effect of Hypothermic Total Liquid Ventilation in Newborn Piglets Subjected to Neonatal Cardiac Arrest
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202 Fast Hypothermia Induced by Continuous Renal Replacement Therapy Alleviates Systemic Inflammation and Intestinal Injury After Cardiopulmonary Resuscitation in Swine
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203 A Pilot Study of Using Ice Slurry to Rapidly Induce Hypothermia in a Swine Model of Cardiac Arrest
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204 Conventional vs. Compression-Only Cardiopulmonary Resuscitation for Geriatric Out-of-Hospital Cardiac Arrest
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205 Blood Flow Backward into the Vein During Chest Compression; The Correlation Between the Vessel Pressure and Return of Circulation in Out-of-Hospital Cardiac Arrest
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206 Cardiopulmonary Resuscitation Process Measures Associated With Return of Spontaneous Circulation in Non-Abnormal Out-of-Hospital Cardiac Arrest
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207 Dissemination of Hands-Only Cardiopulmonary Resuscitation and the Impact on the Outcome in School Students and Young Adults After Out-of-Hospital Cardiac Arrest of Presumed Cardiac Origin: A Japanese Nationwide Utstein Registry Study
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208 Can Transesophageal Echocardiography During CPR Change Resuscitation Outcomes in Prolonged Cardiac Arrest?
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209 The Triple CPR 16 study: Does rhythm truly needed to be checked every 2 minutes in Cardiopulmonary Arrest Patients? Ryosuke Takegawa, Tatadaito Shiozaki, Mitsuo Ohnishi, Jotaro Tachino, Osaka Univ Graduate school, Suita, Japan; Takashi Muroya, Kansai Medical Univ Hosp, Hirakata, Japan; Tomohiko Sakai, Osaka Univ Graduate school, Suita, Japan; Koichi Hayakawa, Kansai Medical Univ Medical Ctr, Moriguchi, Japan; Takeshi Shimazu, Osaka Univ Graduate school, Suita, Japan

210 Goal-Directed CPR is Less Effective With an Increased Interval From Cardiac Arrest Onset to Initiation of Chest Compressions Pavel Hala, Matias Caceres, Aaron Prater, Josh Jung, Jens VanZalen, Brendan M McCracken, Mohamad H. Tiba, Cindy H. Hsu, Stephen Harvey, Alyssa Enciso, Jake Pitcher, Brandon C. Cummings, Robert H. Bartlett, Alvaro Rojas-Pena, Robert W. Neumar, Univ of Michigan, Ann Arbor, MI

211 The Effect of Competitive Gamification on Self-Directed CPR Training Among Healthcare Professionals: A Multi-National Randomized-Control Study Todd P. Chang, Children’s Hosp Los Angeles, Los Angeles, CA; Tia Raymond, Medical City Dallas, Dallas, TX; Maya Dewan, Cincinnati Children’s Hosp & Medical Ctr, Cincinnati, OH; Travis Whitfill, Yale Univ, New Haven, CT; Ilana Harwayne-Gidansky, Stony Brook Univ, Stony Brook, NY; Cara B. Doughty, Texas Children’s Hosp, Houston, TX; Karin Frisell, Måleråskukhuset, Eskilstuna, Sweden; David O. Kessler, Columbia Univ, New York, NY; Heather Wolfe, Children’s Hosp of Philadelphia, Philadelphia, PA; Marc A. Auerbach, Yale Univ, New Haven, CT; Chrystal Rutledge, Children’s Hosp of Alabama, Birmingham, AL; Ralph MacKinnon, Royal Manchester Children’s Hosp, Manchester, United Kingdom; Diana Mitchell, Priti Jani, Univ of Chicago, Chicago, IL; Catharine M Walsh, Hosp for Sick Children, Toronto, ON, Canada

212 Renal Failure After Cardiac Arrest and the role of Targeted Temperature Management Abhishek Bhardwaj, Steve Balian, David G. Buckler, Benjamin S. Abella, Univ of Pennsylvania, Philadelphia, PA

213 Secondary CPR Training via Mobile Application Compared to Video Self Instruction Kit Andrew Murray, Shaun McGovern, Marion Leary, Benjamin Abella, Audrey L Blewer, Univ Pennsylvania, Philadelphia, PA

214 Basic Life Support Instructors Overestimate Their Own Ability to Perform Cardiopulmonary Resuscitation Mathilde Stærk, Randers Regional Hosp, Randers, Denmark; Lauge Vammen, Aarhus Univ Hosp, Aarhus, Denmark; Camilla Hansen, Randers Regional Hosp, Randers, Denmark; Kristian Krogh, Aarhus Univ Hosp, Aarhus, Denmark; Bo Lefgren, Randers Regional Hosp, Randers, Denmark

215 New Mannequin Made by Recyclable Plastic Bottles for Training Thoracic Compressions at Schools Agnaldo Piscopo, SOCESP Training Ctr, Sao Paulo, Brazil; Isabella Camargo Piscopo, Unisa, Sao Paulo, Brazil; Alvaro AVEZUM, Ibrain Masciarelli Pinto, Francisco Kher Saraiva, SOCESP Training Ctr, Sao Paulo, Brazil

216 Cooling Beneficially Impacts Cardiac Performance on Arrest Survivors Undergoing Targeted Temperature Management Kevin Chen, Alido L. Schenone, Bashaer Gheyath, Nyal Borges, Abhijit Duggal, Zoran Popovic, Venu Menon, Cleveland Clinic, Cleveland, OH

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218 The Effect of Therapeutic Hypothermia for Patients With Cardiovascular Shock: Results From the Japanese Circulation Society Cardiovascular Shock Registry Tsukasa Yagi, Dept of Cardiology, Kawaguchi Municipal Medical Ctr, Kawaguchi, Japan; Ken Nagao, Dept of Cardiology, Nihon Univ Hosp, Tokyo, Japan; Eizo Tachibana, Dept of Cardiology, Kawaguchi Municipal Medical Ctr, Kawaguchi, Japan; Naohiro Yonemoto, Dept of Biostatistics, Kyoto Univ Sch of Public Health, Kyoto, Japan; Kazuo Sakamoto, Saiseikai Fukuoka General Hosp, Fukuoka, Japan; Yuushi Ueki, Hiroshi Imamura, Shinshu Univ Hosp, Matsumoto, Japan; Takanichi Miyamoto, Musashino Red Cross Hosp, Musashino, Japan; Hiroshi Takahashi, Steel Memorial Muronan Hosp, Muroran, Japan; Hiroyuki Hanada, Aomori Prefectural Central Hosp Emergency & Critical Care Ctr, Aomori, Japan; Nobutaka Chiba, Dept of Emergency and Critical Care Med, Nihon Univ Hosp, Tokyo, Japan; Shimogasai Tani, Naoyu Matsumoto, Dept of Cardiology, Nihon Univ Hosp, Tokyo, Japan

219 More Patience to the Patient? -The Timing of Initiating Targeted Temperature Management Pei-I Su, Chih-Heng Chang, Chien-Hua Huang, Min-Shan Tsai, Wei-Tien Chang, Huei-Ming Ma, Wen-Jone Chen, Dept of Emergency Med, Natl Taiwan Univ Hosp, Natl Taiwan Univ Medical Coll, Taipei city, Taiwan

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222 Role of Pathologic Calpain Activity in Post-Cardiac Arrest Hypothermic Targeted Temperature Management
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223 Pilot Study of a Rewarming Rate of 0.15c/h vs. 0.25c/h and Outcome in Post Cardiac Arrest Patients
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224 Socioeconomic Disparities in Layperson CPR Training Within a Large U.S. City
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225 Sudden Cardiac Arrest Messaging Study. The Public’s Motivation to Learn CPR/AED Skills and to Act in an Emergency Increases With A Clear Understanding of SCA and the Impact These Skills Have on Increasing Survival
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226 Comparison of a Low and High Resource Model to Effectively Train College Students in Compression Only Cardiopulmonary Resuscitation
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227 The Acceptability and Impact of a Pilot Community Hands-Only Cardiopulmonary Resuscitation Training Program in India
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228 Comparing a Virtual Reality Mobile App vs. a Standard Mobile App for CPR Training
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229 Engagement With Text Messaged CPR Reminder Videos After Hands-Only CPR Training in Undergraduate Students
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230 Differential Effects of Prehospital Hypotension and Injury Severity in Isolated vs. Multisystem Major Traumatic Brain Injury
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231 Difference of the Trauma-Induced Coagulopathy Between Penetrating and Blunt Trauma
Keita Kanehata, Takayuki Ogura, Maebashi Red Cross Hosp, Maebashi-city, Japan

232 Three-Dimensional Models of Complex Interactions Between Age, Prehospital Blood Pressure, and Mortality in Major Traumatic Brain Injury
Daniel W. Spaite, Chengcheng Hu, The Univ of Arizona, Phoenix, AZ; Bentley J. Bobrow, Arizona Dept of Health Services, Phoenix, AZ; Bruce J. Barnhart, The Univ of Arizona, Phoenix, AZ; Vatsal Chikani, Arizona Dept of Health Services, Phoenix, AZ; Joshua B. Gaither, The Univ of Arizona, Phoenix, AZ; Kurt R. Denninghoff, The Univ of Arizona, Tucson, AZ; Amber D. Rice, The Univ of Arizona, Phoenix, AZ; Samuel M. Keim, The Univ of Arizona, Tucson, AZ

233 Prehospital End-Tidal CO2 Measurement in Non-Intubated Traumatic Brain Injury Patients: Concordance Between EMS Provider Documentation and Non-Invasive Monitor Data Tracking
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234 The Variability of Visual Assessment of Traditional Capillary Refill Measurement
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235 End-Tidal CO2 Monitoring in Non-Intubated Traumatic Brain Injury Patients Receiving O2 via Nasal Cannula vs. Non-Rebreather Mask
Bruce J. Barnhart, Daniel W. Spaite, The Univ of Arizona, Phoenix, AZ; Eric Helfenbein, Saeed Babaeizadeh, Dawn B. Jorgenson, Philips Healthcare, Bothell, WA; Chengcheng Hu, Amber D. Rice, The Univ of Arizona, Phoenix, AZ; Samuel M. Keim, The Univ of Arizona, Tucson, AZ; Octavio Perez, The Univ of Arizona, Phoenix, AZ
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236 Lactate Level at the Scene of Injury can Accurately Predict the Need for Massive Transfusion
Takayuki Ogura, Mio Okada, Keita Kanehata, Japan Red Cross Maebashi Hosp, Maebashi, Japan

237 Less is More When Using Gauze to Stop Bleeding
Nathan P. Charlton, Robert Solberg, Justin Rizer, Eunice Singletary, William Woods, Univ of Virginia, Charlottesville, VA

238 In-Hospital Cardiac Arrest: The Dynamic Clinical Course During Advanced Cardiac Life Support
Eirik Skogvoll, St. Olav Univ Hosp, Trondheim, Norway; David G. Buckler, Univ of Pennsylvania, Philadelphia, PA; Trond Nordseth, Maria Børnstad, St. Olav Univ Hosp, Trondheim, Norway; Trygve Eftestøl, Jan T. Kvaløy, Univ of Stavanger, Stavanger, Norway; Unai Irusta, Univ of the Basque Country, Bilbao, Spain; Benjamin S. Abella, Univ of Pennsylvania, Philadelphia, PA

239 Frequency of Advanced Cardiac Life Support Medication Use and Association With Survival During In-Hospital Cardiac Arrest
Paul Benz, Georgetown Univ Sch of Med, Washington, DC; Nicole Brenner, Washington Hosp Ctr, Washington, DC; Stephanie Woo, Stephen Chong, Georgetown Univ Sch of Med, Washington, DC; Matthew Wilson, Dorothy Heinrichs, Jeffrey Dubin, Munish Goyal, Washington Hosp Ctr, Washington, DC

240 Are the Same Resuscitation Protocols Needed for Highly Aged Victims With Out-of-Hospital Cardiac Arrest as Middle or Younger Aged?
Hiroyuki Hanada, Aomori Prefectural Central Hosp, Aomori, Japan; Yoshio Tahara, Satoshi Yasuda, Teruo Noguchi, Kunihiro Nishimura, Nihon University Medical Ctr, Tokyo, Japan; Hiroki Shimokawa, Tohoku Univ, Sendai, Japan; Hiroshi Nonogi, Shizuoka General Hosp, Shizuoka, Japan; Ken Nagao, Nihon Univ, Tokyo, Japan

241 Incidence of Definite Stent Thrombosis in Comatose Survivors of Out-of-Hospital Cardiac Arrest Undergoing Percutaneous Coronary Intervention and Therapeutic Hypothermia - Preliminary Results
Martin Rauber, UMC Ljubljana, Ljubljana, Slovenia; Philipp Nicol, Michael Joner, Deutsches Herzzentrum München, München, Germany; Matjaz Bunc, Marko Noc, UMC Ljubljana, Ljubljana, Slovenia

242 Incidence, Predictors, Causes, and Costs for 30-day Readmission After In-Hospital Cardiopulmonary Resuscitation Discharge in United States
Yusuke Morita, Tetsuya Haruna, Yoshisumi Haruna, Eisaku Nakane, Yuhei Yamaji, Hideyuki Hayashi, Michiya Hanyu, Morio Ikoko, Cardiovascular Ctr, Tazuke Kofuki Fndn, Medical Res Inst, Kitano Hosp, Osaka, Japan

243 Variation in Both Layperson Cardiopulmonary Resuscitation Delivery and Subsequent Survival From Sudden Cardiac Arrest Based on Neighborhood-Level Ethnic Characteristics
Audrey L Blewer, Shaun McGovern, Univ Pennsylvania, Philadelphia, PA; Robert Schmicker, Susanne May, Univ of Washington, Seattle, WA; Laurie Morrison, Univ of Toronto, Toronto, ON, Canada; Tom Aufderheide, Medical Coll of Wisconsin, Milwaukee, WI; Mohamud Daya, Oregon Health and Science Univ, Portland, OR; Anhamed Idris, Univ of Texas Southwestern Medical Ctr, Dallas, TX; Clifton Callaway, Univ of Pittsburgh, Pittsburgh, PA; Peter Kudenchuk, Univ of Washington, Seattle, WA; Gary Vilke, Univ of California San Diego, San Diego, CA; Benjamin Abella, Univ Pennsylvania, Philadelphia, PA

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245 Racial Disparities in Cardiopulmonary Training Status in the United States
Shaun K. McGovern, Andrew Murray, Benjamin S. Abella, Marion Leary, Audrey L Blewer, Univ Pennsylvania, Philadelphia, PA

246 Impact of the Socio-Economic Factors on Clinical Outcome in the Patients With the Cardiac Arrest: A National Health Insurance Database Study
Su Jin Kim, Sung Woo Lee, Kap Su Han, Korea Univ Medical College, Seoul, Korea, Republic of

247 Age- and Gender-Dependent Differences in Circadian Variation of Out-of-Hospital Ventricular Fibrillation in Japan: The JCS-ReSS Study
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248 Geographic Variability in Population Outcomes for Out-of-Hospital Cardiac Arrest
249 The Effect of Response Time on Out-Of-Hospital Cardiac Arrest Survival Varies by Patient Subpopulation
Clara Stoesser, Toronto, ON, Canada; Justin Boutilier, Christopher L. Sun, Univ of Toronto, Toronto, ON, Canada; Katie N. Dainty, Steve Lin, Dennis Ko, Steven C. Brooks, Laurie J. Morrison, St. Michael’s Hosp, Toronto, ON, Canada; Damon C. Scales, Michael Feldman, Sheldon Cheskes, Sunnybrook Health Sciences Ctr, Toronto, ON, Canada; Timothy C. Chan, Univ of Toronto, Toronto, ON, Canada

250 Pre-Hospital Factors and Survival After Out-of-Hospital Cardiac Arrest According to Patient Income and Education; a Danish Nationwide Study
Sidsel Møller, Dept of Cardiology, Hellerup, Denmark; Fredrik Folke, Dept of Cardiology, Hellerup, Denmark; Carolina Mala Hansen Hansen, Emergency Medical Services Copenhagen, Ballerup, Denmark; Steen Møller Hansen, Unit of Epidemiology and Biostatistics, Hobrovej 18-22, Denmark; Freddy Lippert, Emergency Medical Services Copenhagen, Baltorbakken 13, Denmark; Lars Kober, Dept of Cardiology Rigshospitalet, Blegdamsvej, Denmark; Shahzeen Rajan, Dept of Cardiology, Hellerup, Denmark; Kristian Kragholm, Unit of Epidemiology and Biostatistics, Hobrovej 18-22, Denmark; Lena Karlsson, Gunnar Gislason, Dept of Cardiology, Hellerup, Denmark; Christian Thorp-Pedersen, Unit of Epidemiology and Biostatistics, Aalborg, Denmark; Mads Wissenberg, Dept of Cardiology, Hellerup, Denmark

251 Comparison of Ischemia-Reperfusion Injury in Langendorff-Prepared Hearts From Zucker Diabetic Fatty and Lean Rats
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252 Older Brains vs. Younger Brains: Effect of Cardiac Arrest on Hemodynamic Fluctuations and Neurologic Impairment in a Rodent Model
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253 Increased Blood Brain Barrier Permeability After Successful Resuscitation in a Rat Model of Cardiac Arrest
Qinyue Guo, Jin Yang, Zhangle Hu, Yan Xiao, Xiaobo Wu, Jennifer Bradley, Mary Ann Peberdy, Joseph Ornato, Martin Mangino, Wanchun Tang, Virginia Commonwealth Univ, Richmond, VA

254 Ultrasound Improves the Outcomes After Cardiopulmonary Resuscitation by Stimulating the Cholinergic Anti-Inflammatory Pathway
Peng Sun, Yuan Zhang, Tingting Shu, Licai Liang, Weijing Shao, Lang Guo, Li Xu, Union Hosp, Tongji Medical Coll, Huazhong Univ of Science and Technology, Wuhan, China

255 Dendrimer-Based N-Acetyl-L-Cysteine Therapy Improves 7 Days Outcomes After Cardiac Arrest in a Rat Model
Hiren R. Modi, Qihong Wang, Sarah J. Bertrand, Rangaramanujam Kannan, Sujatha Kannan, Romergyko G. Geocadin, Nitish V. Thakor, Johns Hopkins Univ, Baltimore, MD

256 Amplitude Screening Improves Performance of AMSA Method for Predicting Success of Defibrillation in a Porcine Model of Ventricular Fibrillation
Zhengfei Yang, Sun Yat-sen Memorial Hosp, Sun Yat-sen Univ, Guangzhou, China

257 Unselective Pulmonary Vasodilation is an Important Factor in Sodium Nitroprusside Enhanced Cardiopulmonary Resuscitation Improved Blood Flow
Adriam Ripeckyj, Kadambari Chandra Shekar, Univ of Minnesota, Minneapolis, MN; Sebastian Voicu, Dept of Cardiology, INSERM U942, Lariboisiere Hosp, AP-HP, Paris Diderot Univ, Paris, France; Jennifer Rees, Timothy Matsuura, Jason A. Bartos, Demetris Yannopoulos, Univ of Minnesota, Minneapolis, MN

258 Dynamic Assessment of Lung Injury by Ultrasound in a Porcine Model of Cardiac Arrest Undergoing Therapeutic Hypothermia
Chunshuang Wu, Jiefeng Xu, Xiaohong Jin, Qijiang Chen, Dept of Emergency Med, Second Affiliated Hosp, Zhejiang Univ Sch of Med, Hangzhou, China; Moli Wang, Zilong Li, Dept of Emergency Med, Yuyao People’s Hosp, Medical Sch of Ningbo Univ, Ningbo, China; Mao Zhang, Dept of Emergency Med, Second Affiliated Hosp, Zhejiang Univ Sch of Med, Hangzhou, China

259 Characteristics of Patients With Sudden in Hospital Cardiac Arrest With a Shockable Initial Rhythm in a System With Mature Rapid Response and Code Blue Teams

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261  **Assessment of Area Duty Cycle in Manual Chest Compressions During Out-of-Hospital Cardiopulmonary Resuscitation**  
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262  **Hemodynamically-Guided Optimum Chest Compression Point in a Rat Model of Cardiopulmonary Resuscitation**  
Davide Olivari, Mario Negri for Phar, Milano, Italy; Daria De Giorgio, Deborah Novelli, Aurora Magliocca, Mario Negri for Phar, Milan, Italy; Laura Ruggeri, Mario Negri for Phar, Milano, Italy; Giuseppe Ristagno, Mario Negri for Phar, Milan, Italy

263  **CPR Posture for Life-Threatening Bleeding**  
Nathan P Charlton, Robert Solberg, Justin Rizer, William Woods, Eunice Singletary, Univ of Virginia, Charlottesville, VA; Craig Goolsby, Uniformed Services Univ of the Health Sciences, Bethesda, MD

264  **Use of an Acronym to Reduce Medical Emergency Call Time and Improve Survival**  
Karen M. Graves, Lee Anne Siegmund, Cleveland Clinic, Cleveland, OH

265  **Impact of Changes in the Telephone Cardiopulmonary Resuscitation Instruction After Out-of-Hospital Cardiac Arrest**  
Ken Nagao, Nihon Univ Hosp, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Tokyo, Japan; Hiroyuki Hanada, Aomori Prefectural Central Hosp, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Aomori, Japan; Yoshio Tahara, Nati Cerebral and Cardiovascular Ctr, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Osaka, Japan; Hiroshi Nonogi, Shizuoka General Hosp, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Shizuoka, Japan; Nachiro Yonemoto, Kyoto Univ Sch of Public Health, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Kyoto, Japan; David F Gaieski, Sidney Kimmel Medical Coll at Thomas Jefferson Univ, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Philadelphia, PA; Noritoshi Ito, Kawasaki Saiwai Hosp, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Kawasaki, Japan; Hitoshi Hirose, Sidney Kimmel Medical Coll at Thomas Jefferson Univ, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Philadelphia, PA; Tsukasa Yagi, Nihon Univ Hosp, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Tokyo, Japan; Nobutaka Chiba, Nihon Univ Hosp, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Tokyo, Japan; Eizo Tachibana, Kawasaki Municipal Medical Ctr, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Saitama, Japan; Keijiro Saku, Fukuoka Univ of Sch of Med, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Fukuoka, Japan; Hiroaki Simokawa, Tohoku Univ Sch of Med, the Japanese Circulation Society with Resuscitation Science Study (JCS-ReSS) Group, Sendai, Japan

266  **Cardiac Arrest in the Intensive Care Unit: A Preventable Problem**  
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267  **Photoplethysmography-Based Algorithm Uninterruptedly Supports Pulse Detection in Porcine Automatic 30:2 Cardiopulmonary Resuscitation Data by Handling Transitions Between Compressions and Pauses**  
Ralph Wijshoff, Jakob Van de Laar, Jens Muelhsteff, Philips Res, Eindhoven, Netherlands; Gerrit Jan Noordergraaf, Elisabeth-TweeSteden Ziekenhuis, Tilburg, Netherlands

268  **A Convolutional Neural Network for Real-Time Discrimination of Shock-Indicated Rhythms During CPR**  
Tetsuo Hatanaka, Kenwakai Otemachi Hosp, Kitakyushu, Japan; Hiroshi Kaneko, Nagoya City Fire Dept, Nagoya, Japan; Aki Nagase, Osaka Univ, Osaka, Japan; Seihiro Marukawa, Iseikai Hosp, Osaka, Japan

269  **Bedside Monitoring of Peripheral Blood Perfusion Using Pulse Oximetry Sensor and its Reliability and Clinical Usefulness Compared With Traditional Capillary Refill Measurement**  
Koichiro Shinozaki, Feinstein Inst for Medical Res, Manhasset, NY; Kota SaeKI, Nihon Kohden Innovation Ctr Inc., Cambridge, MA; Lee Jacobson, Julianne Falotico, Timmy Li, North Shore Univ Hosp, Manhasset, NY; Lance B. Becker, Feinstein Inst for Medical Res, Manhasset, NY

270  **Non-Invasive Cerebral Perfusion and Autoregulation Monitoring Post-Cardiac Arrest**  
Reem Kashlan, Wayne State Univ Sch of Med, Detroit, MI; Kaleem Chaudhry, Eric Ohlson, Joseph B. Miller, Henry Ford Hosp, Detroit, MI

271  **Discrimination Performance of a Non-Invasive and Single-Channel Electroencephalography-Based Brain Cell Viability for Comparing High vs. Low Quality Cardiopulmonary Resuscitation; A Porcine Cardiac Arrest Experimental Study**  
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272 Feasibility of Non-Invasive Cerebral Blood Flow Monitoring During CPR
Nathan Haas, Amanda Pennington, Univ of Michigan, Ann Arbor, MI; Ryan Coute, Kansas City Univ of Med and Biosciences, Kansas City, MO; Robert Neumar, Univ of Michigan, Ann Arbor, MI

273 Alpha-Delta Ratio Peak Appears Early After Return of Spontaneous Circulation in the Continuous Electroencephalogram of Patients With Good Outcome After Cardiac Arrest
Joo Suk Oh, Sang Hoon Oh, Kyu Nam Park, The Catholic Univ of Korea, Seoul, Korea, Republic of Korea

274 Verbal Prompts During Pediatric Cardiopulmonary Resuscitation in Emergency Department: A Report From the Videography in Pediatric Emergency Resuscitation (VIPER) Collaborative
Ichiro Watanabe, Richard S. Hanna, Sage R Myers, Children's Hosp of Philadelphia, Philadelphia, PA; Benjamin Kerrey, Cincinnati Children's Hosp Medical Ctr, Cincinnati, OH; Mary Frey, Cincinnati Children's Hosp Medcal Ctr, Cincinnati, OH; Karen O'Connell, Alexis Sandler, Children's Natl Health System, Washington, DC; Aaron Donoghue, Children's Hosp of Philadelphia, Philadelphia, PA

275 Arterial Hyperoxia Exposure and Survival Among Resuscitated Patients With Out-of-Hospital Cardiac Arrest. Jaam-ohca Registry in Japan
Takeyuki Kiguchi, Kyoto Univ, Kyoto, Japan; Tetsuhsa Kitamura, Osaka Univ, Suita, Japan; Daisuke Kobayashi, Chika Nishiyama, Kyoto Univ, Kyoto, Japan; Satoshi Fujimi, Osaka General Medical Ctr, Osaka, Japan; Takashi Kawamura, Taku Iwami, Kyoto Univ, Japan

276 Impact of Skin Color on Accuracy of Capillary Refill Time Measurement by Pulse Oximeter

277 Prediction of Return of Spontaneous Circulation: Comparison of Cerebral Oximetry and End Tidal CO2
Thomas W. Engel II, Cook County Hospital Department of Emergency Medicine, Chicago IL; Craig Thomas, Central Michigan University College of Medicine, Saginaw, MI; Patrick Medado, Department of Emergency Medicine, Wayne State University, Detroit, MI; Brian Reed, Wayne State University, Detroit MI; Brian J. O’Neil, Department of Emergency Medicine, Wayne State University, Detroit, MI

278 A Randomized, Blinded Trial of 100% Oxygen vs. Room Air During Cardiopulmonary Resuscitation in a Large Animal Model of Pediatric Cardiac Arrest

279 Cardiac Arrest is Associated With a Global Level Alteration in Oxygen Metabolism: A Clinical Pilot Study
Koichiro Shinzaki, Feinstein Inst for Medical Res, Manhasset, NY; Kota Sae, Nihon Kohden Innovation Ctr Inc., Cambridge, MA; Qiuping Zhou, Long Island Jewish Medical Ctr, Manhasset, NY; Hugh Cassiere, Lee Jacobson, Daniel Rolston, Juliane Falotico, Timmy Li, Marc Olshan, Matthew Levitus, North Shore Univ Hosp, Manhasset, NY; Joshua W. Lampe, Feinstein Inst for Medical Res; Zoll Medical, Manhasset, NY; Lance B. Becker, Feinstein Inst for Medical Res, Manhasset, NY

280 Cerebral Blood Flow and Oxygenation During CPR
Jeffrey R. Gould, Zoll Medical Corp, Chelmsford, MA; Michael C. Lick, Hennepin County Medical Ctr, Minneapolis, MN; Christopher L. Kaufman, Joshua W. Lampe, Annemarie E. Silver, Paul S. Berger, Anja Metzger, Zoll Medical Corp, Chelmsford, MA

281 Is Cerebral Regional Oxygen Saturation (rSO2) Useful as a Physiological Monitoring Tool During CPR in Pre-Hospital Settings? An Analysis of 72 Cases in Osaka, Japan
Tomohiko Sakai, Tadahiko Shiozaki, Mitsuo Ohnishi, Ryosuke Takegawa, Jotaro Tachino, Takeshi Shimazu, Osaka Univ, Suita, Japan

282 Relation Between the Post-Cardiac Arrest Cerebral Regional Saturation of Oxygen and Outcomes
Chih-Heng Chang, Pei-I Su, Min-Shan Tsai, Wei-Ting Chen, Wei-Tien Chang, Wen-Jone Chen, Chien-Hua Huang, Natl Taiwan Univ Hosp, Taipei City, Taiwan

283 Estimating the Impact of Bystander Interventions on Disability-Adjusted Life Years Following Adult Out-of-Hospital Cardiac Arrest in the United States
Ryan A. Coute, Univ of Alabama at Birmingham, Birmingham, AL; Brian Nathanson, OptiStatim LLC, Longmeadow, MA; Ashish Panchal, Ohio State Univ, Columbus, OH; Michael Kurz, Univ of Alabama at Birmingham, Birmingham, AL; Nathan Haas, Univ of Michigan, Ann Arbor, MI; Bryan McNally, Emory Univ, Atlanta, GA; Robert Neumar, Univ of Michigan, Ann Arbor, MI; Timothy Mader, Univ of Massachusetts-Baystate, Springfield, MA

284 Association of Neurological Outcome and Survival With Interventions by Bystander and Emergency Medical Service for Unwitnessed Out-of-Hospital Cardiac Arrest Patient; Results From the JCS-ReSS Study
Chisato Okamoto, Yoshio Tatara, Atsushi Hirayama, Satoshi Yasuda, Teruo Noguchi, Kunihiro Nishimura, Nati Cerebral and Cardiovascular Ctr, Osaka, Japan; Nachiro Yonemoto, Kyoto Univ, Kyoto, Japan; Hiroaki Shimokawa, Tohoku Univ, Miyagi, Japan; Hiroshi Nonogi, Shizukuoka General Hosp, Shizukuoka, Japan; Ken Nagao, Nihon Univ Hosp, Tokyo, Japan
285 Higher Walk Score Associated With Higher Rates of Bystander AED Use in Street-Level Cardiac Arrest
John Chen, Emory Clinical Cardiovascular Res Inst, Emory Univ Sch of Med, Atlanta, GA; Valery Effoe, Morehouse Sch of Med, Atlanta, GA; John Lisko, Nabil Sabbak, Emory Clinical Cardiovascular Res Inst, Emory Univ Sch of Med, Atlanta, GA; Shawn Reginauld, Georgia Inst of Technology, Atlanta, GA; Yi-An Kuo, Emory Clinical Cardiovascular Res Inst, Emory Rollins Sch of Public Health, Atlanta, GA; Frank Corrigan III, Starniios Larakis, Emory Clinical Cardiovascular Res Inst, Emory Univ Sch of Med, Atlanta, GA

286 Chance of Bystander Defibrillation According to Number of Nearby Automated External Defibrillators in Out-Of-Hospital Cardiac Arrests
Lena Karlsson, Emergency Medical Services Copenhagen, Univ of Copenhagen, Copenhagen, Denmark; Christopher Sun, Dept of Mechanical and Industrial Engineering, Univ of Toronto, Toronto, ON, Canada; Carolin Malta Hansen, Mads Wissenberg, Freddy Lippert, Emergency Medical Services Copenhagen, Univ of Copenhagen, Copenhagen, Denmark; Christian Torp-Pedersen, The Dept of Health Science and Technology, Aalborg Univ, Aalborg, Denmark; Timothy Chan, Dept of Mechanical and Industrial Engineering, Univ of Toronto, Toronto, ON, Canada; Fredrik Folke, Emergency Medical Services Copenhagen, Univ of Copenhagen, Copenhagen, Denmark

287 Simulating the Effects of Sudden Cardiac Arrest Responders Embedded in a Marathon Cohort
Jessica E. Salerno, Conor J. Willson, Leonard S. Weiss, David D. Salcido, Univ of Pittsburgh, Pittsburgh, PA

288 High Mobility Group Box 1 (HMGB1) is Involved in the Physiopathology of Post-Cardiac Arrest Syndrome
Emilie Boissady, Cynthia El Hedjaj, Matthias Kohlhauer, Bijan Ghaleh, Renaud Tissier, INSERM U955; EmA, Maisons-alfort, France

289 Relationship Between Myocardial Glycogen Concentrations and Amplitude Spectrum Area During Ventricular Fibrillation in a Rat Model of Cardiac Arrest and Resuscitation
Qiaohua Hu, Xiangshao Fang, Zhengfei Yang, Wanchun Tang, Sun Yat-sen Memorial Hosp, Sun Yat-sen Univ, Guangzhou, China

290 Fibroblast Growth Factor 21 After Out-of-Hospital Cardiac Arrest

291 Galectin-3 as a Risk Predictor of Short-Term Mortality in the Resuscitated Cohorts of Out-of-Hospital Cardiac Arrest
Zaid Al Jebaje, Umesh C. Sharma, Wassim Mosleh, Milind Chaudhari, Université at Buffalo, Buffalo, NY

292 TRPA1 Promoting Myofibroblast Differentiation Mediate Pressure Overload-Induced Cardiac Fibrosis
Shuang Li, Dept of Cardiology, Chengdu Military General Hosp, Chengdu, China; Dong Han, Dept of Cardiology, Xijing Hosp Fourth Military Medical Univ, Xi’an, China; Dachun Yang, Dept of Cardiology, Chengdu Military General Hosp, Chengdu, China

293 Cardiac Arrest and Resuscitation Causes Immunodeficiency That Involves the Hypothalamic-Pituitary-Adrenal Axis
Yuntian Shen, Qiang Zhao, Jianguo Wu, Zhuanran Wang, Wei Yang, Duke Univ Medical Ctr, Durham, NC

294 Alterations in Cerebral Mitochondrial Dynamics and Mitochondrial Mass After Successful Cardiopulmonary Resuscitation in a Porcine Model of Pediatric Cardiac Arrest

295 Endovascular Hypothermia Increases Mitochondrial Biogenesis After Resuscitation in a Cardiac Arrest Porcine Model
Yuanshan Liu, Sun Yat-sen Memorial Hosp, Guangzhou, China

296 Early Mitochondrial Gene Regulation in Pediatric Cardiac Arrest
Marco M. Hefti, Univ of Iowa, Iowa City, IA; Kumaran Senthil, Michael Karlsson, Johannes Ehinger, Constantine D. Mavroudis, Vina M. Nadkarni, Robert A. Berg, Robert M. Sutton, Ryan W Morgan, Todd J. Kilbaugh, Children’s Hosp of Philadelphia, Philadelphia, PA

297 Mitochondrial Cyclophilin D as a Target for Cardiac Arrest Resuscitation: Insight From Knockout Mice
Martin Cour, Vincent Jahandiez, Bruno Pilot, Michel Ovize, Laurent Argaud, Hospices Civils de Lyon, Lyon, France

298 Identification of LncRNA-miRNA-mRNA Network in Myocardium After Successful Resuscitation in a Rat Model of Prolonged Cardiac Arrest
Jingying Hou, Zhengfei Yang, The Sun Yat-sen Memorial Hosp of Sun Yat-sen Univ, Guangzhou, China; Wanchun Tang, Weil Inst of Critical Care Med, Rancho Mirage, CA
299 Out-of-Hospital Cardiac Arrest: A 25 Years Registry Margot Cassuto, Amelie Severin, Cecile Ursat, Anna Ozguler, Michel Baer, Thomas Loeb, SAMU 92, Garches, France

300 Long-Term Survival, Quality of Life and Health Care Costs in the Survivors of Pre-Hospital Cardiac Arrest Hao Yang Lin, Natl Taiwan Univ Hosp, Yun-Lin Branch, Douliou City of Yunlin County, Taiwan; Zui Shen Yen, Natl Taiwan Univ Hosp, Taipei City, Taiwan; Chih Hao Lin, Natl Cheng Kung Univ Hosp, Tainan City, Taiwan; Chih Wei Yang, Ming Ju Hsieh, Chia Ming Fu, Natl Taiwan Univ Hosp, Taipei City, Taiwan; Matthew Huei-Ming Ma, Natl Taiwan Univ Hosp, Yun-Lin Branch, Douliou City of Yunlin County, Taiwan

301 Reasons for Death Following In- and Out-of-Hospital Cardiac Arrest Lise Witten, Ryan Gardner, Mathias J. Holmberg, Sebastian Wiberg, Ari Moskowitz, Michael W. Donnino, Katherine M. Berg, Beth Israel Deaconess Medical Ctr, Boston, MA

302 NeuroCardiac Comprehensive Care Clinic Seeks to Define and Detect Neurological, Psychiatric, and Functional Sequelae in Cardiac Arrest Survivors Sachin Agarwal, Alex Presciutti, Deepo Anbarasan, Linda Golding, Marykay Pavol, Columbia Univ Medical Ctr, New York, NY

303 A Continuous Quality Assurance Process improving Patient Outcome Following Out-of-Hospital Cardiac Arrest: A 10-Year Experience in Taipei Wen-Chu Chiang, Natl Taiwan Univ Hosp, Yun-Lin Branch, Yun-Lin County, Taiwan; Yu-Chun Chien, Emergency Medical Services (Ambulance) Div, Taipei City Fire Dept, Taipei, Taiwan; Ming-Ju Hsieh, Natl Taiwan Univ Hosp, Taipei, Taiwan; Jen-Tang Sun, Far Eastern Memorial Hosp, New Taipei City, Taiwan; Edward Pei-Chuan Huang, Natl Taiwan Univ Hosp, Taipei, Taiwan; Hao-Yang Lin, Matthew Huei-Ming Ma, Natl Taiwan Univ Hosp, Yun-Lin Branch, Yun-Lin County, Taiwan

304 The Impact of the National Heart Foundation’s Warning Signs Campaign on Health-Seeking Behaviour in Acute Coronary Syndrome Patients Janet Bray, Ziad Nehme, Monash Univ, Melbourne, Australia; Judith Finn, Curtin Univ, Melbourne, Australia; Karen Smith, Ambulance Victoria, Melbourne, Australia; Michael Lim, Alfred Hosp, Melbourne, Australia; Christopher Bladon, Dion Stub, Peter Cameron, Monash Univ, Melbourne, Australia

305 German Resuscitation Registry Influence of Age on Short and Long-Term Outcome After Out-of-Hospital Cardiac Arrest or Should We Resuscitate the Elderly? Stephan Seewald, Jan Wnent, Barbara Jakisch, Univ Hosp Schleswig-Holst, Kiell, Germany; Andreas Bohn, City of Münster Fire Dept, Münster, Germany; Münter, Germany; Matthias Fischer, Klinik für Anästhesiologie, Intensivmedizin, Notfallmedizin, Göttingen, Germany; Jan-Thorsten Graesner, Univ Hosp Schleswig-Holst, Kiell, Germany

306 Combining Clinical Utstein-Variables With Ventricular Fibrillation (VF) Waveform Characteristics to Discriminate Between Survivors and Non-Survivors of VF Cardiac Arrest Joris Nas, Jos Thanhauser, Radboudumc, Nijmegen, Netherlands; Pierre M. van Grunsven, Regional Ambulance Service Geïnderland-Zuid, Nijmegen, Netherlands; Gjerrit Meinsma, Univ of Twente, Enschede, Netherlands; Niels van Röyen, Menko Jan de Boer, Judith L. Bonnes, Marc A. Brouwer, Radboudumc, Nijmegen, Netherlands

307 The Value of Intracranial Pressure Measurement via Lumbar Puncture as an Early Prognostic Predictor in Cardiac Arrest Patients Treated With Targeted Temperature Management Yeonho You, Jung Soo Park, Jin Hong Min, Chungnam University Hospital, Daejeon, Korea, Republic of

308 Pupil Diameter Predicts the Outcome in Patients With Cardiopulmonary Arrest Shunichi Imamura, Masaaki Miyata, Risa Kamata, Yutaro Nomoto, Issei Yoshimoto, Kenta Ohmure, Hideto Chaeenn, Naoya Oketani, Masakazu Ogawa, Shuichi Hamasaki, Kagoshima City Hosp, Kagoshima, Japan; Mitsuru Ohishi, Dept of Cardiovascular Med and Hypertension, Kagoshima Univ Hosp, Kagoshima, Japan

309 A Novel Method to Predict Survival From Ventricular Fibrillation Arrest During Chest Compressions Jason Coult, Lawrence D. Sherman, Univ of Washington, Seattle, WA; Jennifer Blackwood, King County Emergency Medical Services, Seattle, WA; Heemun Kwok, Peter J. Kudenchuk, Thomas D. Rea, Univ of Washington, Seattle, WA

310 A Prospective Study; Correlation Of Optic Nerve Sheath Diameter With Intracranial Pressure As An Early Prognostic Predictor In Post-cardiac Arrest Patients Treated With Targeted Temperature Management Yeonho You, Jung Soo Park, Jin Hong Min, chungnam university hospital, daejeon, Korea, Republic of


312 Abnormal Computerized Tomography of the Brain Immediately After Return of Spontaneous Circulation is Not Associated With Death Following Out of Hospital Cardiac Arrest Paige Farley, Univ of Alabama at Birmingham, Hoover, AL; Francis X. Guyette, Univ of Pittsburgh, Pittsburgh, PA; Adam Kessler, Adam Robinett, William Rushton,
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320 End-Tidal Carbon Dioxide Can Guide Fluid Resuscitation in a Cecal Ligation and Puncture Induced Rat Model of Sepsis
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321 XPro1595 Reduces the Severity of Post Resuscitation Myocardial Dysfunction in a Rat Model of Cardiac Arrest
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331  Argon Promotes Vasorelaxation in Rat Pulmonary and Mesenteric Arteries
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335  Distinguishing Cardiac From Non-Cardiac Causes of Sudden Death: The Value of Novel Factors to Identify Risk of SCD
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337  Prognostic Impact of Cardiac Arrest Among Patients With ST-Elevation Myocardial Infarction
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338  Impact of No-Flow Time on the Coagulopathy of Prolonged Cardiac Arrest
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340  Early Invasive Hemodynamics and Outcomes in Cardiac Arrest Survivors Undergoing Targeted Temperature Management
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341  Urine Output and Blood Urea Nitrogen Predict Mortality After Out-of-Hospital Cardiac Arrest
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342  The Relationship Between Time Interval From Collapse to Return of Spontaneous Circulation After Out-of-Hospital Cardiac Arrest and Neurologically Intact Survival
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344 The Association Between ALS Response Interval and Out-of-Hospital Cardiac Arrest Outcomes
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345 The Effects of Epinephrine on the Outcomes of Patients With Out-of-Hospital Cardiac Arrest Based on a Propensity Analysis: A Nationwide Observational Study
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347 End-Stage Renal Disease (ESRD) Patients Undergoing Hemodialysis Have Higher Possibility of Return of Spontaneous Circulation (ROSC) During Out-Hospital Cardiac Arrest (OHCA) and Non-Inferior Short-Term Survival: A Nationwide Population Cohort Study in Taiwan
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348 Developing a Novel Risk Score (SHOCK-ABLE) for Predicting Shockable VT/VF Rhythm in Witnessed Out-of-Hospital Cardiac Arrest Patients: The THREATEN Study
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349 Prognostication for Out-of-Hospital Cardiogenic Cardiac Arrest Patients Using Advanced Machine Learning Technique
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351 Predictors of Neurological Outcome After Out-of-Hospital Cardiac Arrest With Ventricular Fibrillation Witnessed by Emergency Medical Service Personnel., JCS-ReSS Study
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353 Performance of SOFA Score to Predict Mortality at Hospital Discharge After Cardiac Arrest

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354 A Prediction Model for Patients With Emergency Medical Technicians Witnessed Out-of-Hospital Cardiac Arrest

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356 Resuscitative Balloon Occlusion of the Aorta in Non-Traumatic out of Hospital Cardiac Arrest - Evaluation of an Educational Program

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357 Aortic Balloon Occlusion Augments the Efficacy of External Cardiopulmonary Resuscitation After Traumatic Cardiac Arrest in Swine

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364 Left Ventricular Wall Findings in Non- Electrocardiography-Gated Contrast-Enhanced Computed Tomography After Extracorporeal Cardiopulmonary Resuscitation

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367 Extracorporeal Life Support in Children: Outcome of Pediatric Drowning Victims after Cardiopulmonary Resuscitation

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