2nd Annual Symposium

PULMONARY EMBOLISM
What Is Known, and What We Need to Know

State-of-the-Art and Scientific Update

June 28–29, 2016  Royal Sonesta Boston
40 Edwin H. Land Boulevard Cambridge, MA

To register visit www.phscpd.org/MGH Pulmonary Embolism 2016
Pulmonary embolism (PE) is a life-threatening condition that affects people of all ages and health statuses, from the most fit athletes to the most infirm patients. Detection of PE, “the great masquerader,” is challenging because its signs and symptoms are often subtle and mimic those of other disease states. Once PE is diagnosed, clinicians have little guidance in choosing from the wide array of therapies available because:

- No accepted and standardized algorithm to guide decision-making exists
- Outcomes data and evaluation for available therapies are lacking
- Care rendered to PE patients is fragmented among different clinical services
- Assessment of bleeding and other risks remains daunting
- Long-term effects of PE are poorly understood, though they can be severely debilitating

In the face of these challenges, multidisciplinary rapid-response programs promoting coordination among specialists for care of PE patients, such as the Pulmonary Embolism Response Team (PERT) initiative at Massachusetts General Hospital, have begun to gain traction. These initiatives hold the promise of:

- Improving interdisciplinary communication and collaboration
- Facilitating timely decision-making to enhance care
- Enabling systematic collection and evaluation of data related to PE treatment and outcomes

The purposes of this symposium are to improve detection, care coordination, and decision-making in managing patients with PE while expanding our knowledge of the underlying mechanisms, optimal initial treatment, and long-term follow-up strategies for PE.

Learning Objectives

- Develop a diagnostic and treatment algorithm for PE that incorporates risk stratification and meets the specific needs of patients presenting with symptoms/signs suggestive of PE
- Identify low-, moderate- and high-risk PE
- Select among various treatment options for moderate- and high-risk PE patients including anticoagulation (type of agent and delivery mode), IVC filter implementation, thrombolysis (intravenous and catheter-directed), extracorporeal membrane oxygenation (ECMO), suction thrombectomy and open surgical thrombectomy
- Apply standards of care for post-PE long-term management and surveillance
- Describe the unique patient populations with PE and their specific treatment challenges

Target Audience

Clinicians who diagnose or treat patients with pulmonary embolism (PE); academics and scientists who study pulmonary embolism

To register visit www.phscpd.org/MGHPulmonaryEmbolism2016
### MASS GENERAL HOSPITAL FACULTY

- David D’Alessandro, MD
- Douglas Drachman, MD
- David Dudzinski, MD
- Michael Fitzsimons, MD
- Joseph Garasic, MD
- Brian Ghoshhajra, MD, MBA
- Thomas Lynch, MD
- Josanna Rodriguez-Lopez, MD
- Robert Schainfeld, DO
- Thoralf Sundt, MD
- Sunu Thomas, MD
- George Velmahos, MD, PhD
- Mauricio Villavicencio, MD, MBA
- Gregory Walker, MD
- Ido Weinberg, MD
- Alison Witkin, MD
- Cameron Wright, MD

### INVITED FACULTY

- **Geoffrey Barnes, MD**  
  University of Michigan Health System  
  Ann Arbor, MI

- **John Bartholomew, MD**  
  Cleveland Clinic  
  Cleveland, OH

- **James Benenati, MD**  
  Miami Baptist Hospital  
  Miami, FL

- **George Davis, PharmD**  
  University of Kentucky Medical Center  
  Lexington, KY

- **Jay Giri, MD, MPH**  
  Hospital of the University of Pennsylvania  
  Philadelphia, PA

- **Gustavo Heresi, MD**  
  Cleveland Clinic  
  Cleveland, OH

- **Wissam Jaber, MD**  
  Emory University Hospital  
  Atlanta, GA

- **John Kaufman, MD**  
  Oregon Health Science University Hospital  
  Portland, OR

- **Clive Kearon, MB, MRCPI, FRCPC, PhD**  
  McMaster University  
  Hamilton, Ontario

- **Craig Kessler, MD**  
  Georgetown University Medical Center  
  Washington, DC

- **Jeffrey Kline, MD**  
  Indiana University Medical Center  
  Indianapolis, IN

- **Nils Kucher, MD**  
  Swiss Cardiovascular Center  
  University Hospital Bern  
  Bern, Switzerland

- **Matthew Langston, MD**  
  Jacobi Medical Center  
  New York, NY

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Robert Lookstein, MD
Mount Sinai Medical Center
New Orleans, LA

Ehtisham Mahmud, MD
University of California San Diego
San Diego, CA

Robert Maholic, DO
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Pittsburgh, PA

Geno Merli, MD
Jefferson University Hospitals/
Sidney Kimmel Medical College
Philadelphia, PA

Sanjay Misra, MD
Mayo Clinic Hospitals
Rochester, MN

Jana Montgomery, MD
Lahey Hospital & Medical Center
Burlington, MA

John Moriarty, MD
University of California
Los Angeles Medical Center
Los Angeles, CA

Jeffrey Olin, DO
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New York, NY

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Hospital of the University of Pennsylvania
Pittsburgh, PA

Gregory Piazza, MD
Brigham and Women’s Hospital
Boston, MA

Belinda Rivera, MD
University of Pittsburgh Medical Center
Pittsburgh, PA

Kelly Sawyer, MD
William Beaumont Hospital
Royal Oak, MI

Daniel Schimmel, MD, MSc
Northwestern University Hospital
Chicago, IL

Akhilesh Sista, MD
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Roy Smith, MD
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Pittsburgh, PA

Seth Sokol, MD
Montefiore Hospital,
Albert Einstein College of Medicine
New York, NY

Victor Tapson, MD
Cedars-Sinai Medical Center
Los Angeles, CA

Thomas Todoran, MD, MSc
Medical University of South Carolina
Charleston, SC

Philip Wells, MD
The Ottawa Hospital, University of Ottawa
Ottawa, Ontario
AGENDA — Day One

7:00–8:00  Breakfast
8:00–8:10  Welcome and Opening Remarks
          —Kenneth Rosenfield and Rachel Rosovsky

Pulmonary Embolism: The Global Crisis
Moderator: Kenneth Rosenfield & Harold Palevsky
8:10–8:25  Epidemiology of PE: Global and Local
           —Samuel Goldhaber
8:25–8:40  Back of the Napkin Calculations...
The Global Cost of PE: Implications for
           Patients, Families, Health Care Delivery
           Systems, and Society
           —Harold Palevsky

Predisposing Factors and Diagnostic Challenges of PE
Moderator: Christopher Kabrhel & Victor Tapson
8:40–8:55  Risk Factors Predisposing to PE:
           Comprehensive Review
           —Gregory Piazza
8:55–9:10  When to look for PE and in which patients?
           (What are the signs, symptoms, background factors that alert one to look for
           PE?)
           —Christopher Kabrhel
9:10–9:25  How to look for PE:
           Personalizing the work up for PE
           —Jeffrey Kline
9:25–9:35  PE...The Great Masquerader... A disease of
           many faces: Cases where I was fooled!
           —Victor Tapson

Imaging in PE - Key to Diagnosis and Risk Stratification
Moderator: Brian Ghoshhajra & Jeffrey Olin
9:35–9:50  CT Imaging PE: Is this the go-to test for
           urgent diagnosis and risk-stratification?
           Should every CT PE study include
           imaging of IVC and pelvic veins?
           —Brian Ghoshhajra
9:50–10:00 Echocardiography in PE:
           Patient Selection and Timing...
           Impact On Treatment Decisions
           —David Dudzinski
10:00–10:25 Break
10:25–10:40 Case Challenges
           (Cases of Echos, CTAs, with
           Unusual/Interesting/Unexpected
           Findings) - Audience Polling
           —Presenter(s): Josanna Rodriguez-Lopez,
           Seth Sokol & Matthew Langston

SPECIAL SESSION
Assessing Algorithms and Guidelines for Management of PE
Moderator: Michael Jaff & Philip Wells
10:40–10:55  What do the latest guidelines tell us about
            classification and risk stratification...comparing and contrasting US & European
            guidelines?
            —Nils Kucher
10:55–11:10  Troponin, BNP, D-dimer, lactate, PESI,
            Geneva: Are biomarkers and clinical risk scores useful for risk stratification or not?
            —Philip Wells
11:10–11:25  Current guidelines, classification schema,
            and risk stratification algorithms: Do we have them right? What is needed to make
            them better?
            —Clive Kearon
11:25–11:40 PANEL DISCUSSION
            —Panelists: Nils Kucher, Philip Wells,
            Clive Kearon, Richard Channick, Victor
            Tapson, Samuel Goldhaber, Jeffrey Olin

Defining PE Severity During Initial Triage—
The Bipolar Spectrum of PE
Moderator: Ido Weinberg & Jana Montgomery
11:40–11:50  Which truly low risk PE patient can I
            discharge home and what must be in
            place to manage as an outpatient?
            —Geno Merli
11:50–12:00  What is a PERT and how can it work to
            help triage the PE patient? Demonstration
            case and description...
            —Kenneth Rosenfield
12:00–12:15  PANEL DISCUSSION:
            Team based approach to PE...Does it
            aid decision-making and enhance
            outcomes, or just increase complexity,
            waste resources and delay therapy?
            —Panelist: Ido Weinberg, Geno Merli,
            Jana Montgomery, Kenneth Rosenfield,
            Gregory Piazza
12:15–12:20 National PERT Consortium—what is it
            about and how do I join and participate?
            Q&A*
            —Jana Montgomery
12:20–1:35  Lunch

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Anticoagulation Therapy: The Backbone of Treatment
Moderator: Richard Channick & Geoffrey Barnes

1:35–1:50 When is anticoagulation primary therapy for PE; how does one initiate and transition; and what are the options?
—Craig Kessler

1:50–2:05 Novel Anticoagulants (NOACs): The data in standard and high-risk patients…which ones when? Are these now first-line therapy?
—Rachel Rosovsky

2:05–2:20 Prime time for reversal agents: Latest data, how and when to use them…and will they tilt the balance in favor of NOACs over traditional agents?
—George Davis

Overview of advanced therapy in the Current Era: What’s out there when to use it?
Moderator: Robert Lookstein & Thoralf Sundt

2:20–2:35 Intravenous Thrombolytic Therapy For PE: When (if ever) is it clearly indicated in the current era? Do Novel Interventions Make This Treatment Passe? Which patients truly cannot receive lytic therapy for PE?
—Jeffrey Olin

2:35–2:50 Catheter-directed thrombolysis (CDT) and Pharmacomechanical lysis (PMT): What do recent studies show about early and intermediate-term outcomes? Who should be considered for this approach? Who has absolute contraindication?
—Richard Channick

2:50–3:05 Thrombo-aspiraton—Latest options, case selection, outcomes?
—Robert Lookstein

3:05–3:20 Surgical Thromboembolectomy For Massive and Submassive PE: When, How And Why (with historical perspective)
—Thoralf Sundt

3:20–3:40 Break

Where did this thrombus come from… and how does it influence therapy?
Moderator: Christopher Kabrhel & Roy Smith

3:40–3:50 Cherchez le clot…How Important is it to Do an Exhaustive Search for the “Smoking Gun”? And what is reasonable to do to find it? Does thrombus location and size affect selection of therapy.
—Ido Weinberg

3:50–4:00 That IVC filter—do we really need it and when? And for how long?
—Michael Jaff

Unique Patient Substrates - Special Considerations?
Moderator: Rachel Rosovsky & Jerry Bartholomew

4:00–4:10 Thrombocytopenic Patients and Coagulopathic Patients
—TBD

4:10–4:15 Clot-in-transit? How to assess, manage, and prevent the Sword of Damocles from dropping
—Jonathan Moriarty

4:15–4:20 Patients at risk for intracranial (or other) bleeding
—Robert Schainfeld

4:20–4:25 The trauma patient and the post-surgical patient
—George Velmahos

4:25–4:30 The Pregnant patient
—Jerry Bartholomew

4:30–4:40 Terminal Cancer:
Consideration of prognosis and ethical issues in decision-making
—TBD

4:45–5:30 Breakout Sessions - Select one

Breakout Session I - Inpatient PE Management
—Moderators: Richard Channick, Ido Weinberg & Alison Witkin

• Evaluation for hypercoagulable state: should it be done and, if so, what to measure and when? How does it alter management?
—Roy Smith

• Inpatient Management of PE: Can PE Patients be managed on a monitored floor? Special management considerations for the intensivist caring for patients with acute PE.
—Daniel Schimmel

• Appropriate selection and dosing of meds and management of ventilators and support devices
—Richard Channick

• Supporting the Rt heart - Role of pharmacologic agents, NO, RV mechanical support (e.g. Impella/RVAD), ECMO
—Seth Sokol
AGENDA — Day Two

7:00–8:00  Breakfast

8:00–8:15  Welcome and opening remarks: A case challenge from a PERT Consortium member  
—Kenneth Rosenfield and Rachel Rosovsky

Evolving Algorithms For Management Of Massive And Submassive PE  
Moderator: Michael Jaff & Richard Channick

8:15–8:45  Presentation of algorithms from representative (3-4) PERT sites  
—Algorithm Presenters: Gustavo A. Heresi (Cleveland Clinic), David Slosky (Vanderbilt), Sanjay Misra (Mayo)

8:45–9:15  CASE-BASED DISCUSSION: My most challenging case and “PERT” decision in the past year  
—Presenter(s): Jerry Bartholomeu, Jim Benenati, Jana Montgomery & Daniel Schimmel

PE: The Research Mandate  
Moderator: Christopher Kabrhel & Samuel Goldhaber

9:15–9:25  What we still need to learn about PE... What are the major gaps in our knowledge base? Non-invasive perspective  
—Philip Wells

9:25–9:35  What we still need to learn about PE... What are the major gaps in our knowledge base? Invasive perspective  
—Jay Giri

9:35–9:45  Filling the knowledge gap: Can the PERT Consortium be the vehicle for definitive multi-center trials for PE therapy? How to participate and snapshot of what the data have shown us so far?  
—Akhi Sista

Poster Presentations and Patient perspectives

9:45–10:00  Scientific Presentations  
—Poster competition winners

10:00–10:20  Patient perspectives: a) Living with PE b) Living with CTEPH  
—Alison Witkin

10:20–10:45  Break

10:45–12:15  Morning Workshops- select one  
Workshop I - Nuts an Bolts of Interventional Therapies - Results; Technical tips and tricks; Hands on experience  
—Workshop Leaders: Douglas Drachman, Jonathan Moriarty & James Benenati

ABSTRACTS — Poster Presentations

10:45–12:15  Morning Workshops- select one  
Workshop I - Nuts an Bolts of Interventional Therapies - Results; Technical tips and tricks; Hands on experience  
—Workshop Leaders: Douglas Drachman, Jonathan Moriarty & James Benenati

Breakout Session II -  
After the PE: The Outpatient Experience  
—Moderators: Rachel Rosovsky, Josanna Rodriguez-Lopez & Samuel Goldhaber

• Optimal followup regimen and testing (imaging, hematologic, genetic)  
—Samuel Goldhaber

• Post-PE anticoagulation - important considerations that influence selection of agents  
—Geoffrey Barnes

• Setting up and conducting a multidisciplinary PE followup clinic  
—Rachel Rosovsky

• How and when to search for CTEPH in survivors of serious PE  
—Josanna Rodriguez-Lopez

• Caring for the patient after PE - PTSD and the importance of support networks  
—Kelly Sawyer

Breakout Session III -  
Creating a PERT...What you need to know  
—Moderators: Kenneth Rosenfield, Christopher Kabrhel & Belinda Rivera

• Nuts and bolts of how to set up a PERT... bringing together subspecialists, creating virtual meetings, developing protocols, collecting data

• PERT challenges and conundrums - case after case  
—Belinda Rivera & Faculty

3:00–5:30  Poster Session*

5:30–5:40  Poster competition*  
Award presentation to winning posters at the start of reception.

5:30–6:30  Reception in Exhibit Hall with Sponsors
• CDT - Infusion catheters and Ultrasound-enhanced infusion —Joseph Garasic
• Thromboaspiration - Devices and Technique —James Benenati
• *En Bloc* Thromboaspiration with Veno-veno Bypass —Jonathan Moriarty
• Open Pulmonary Thrombectomy Technical Considerations —Mauricio Villavicencio
• Rv Mechanical Support Devices - Will They Be Effective and How To Use Them —Douglas Drachman & Sunu Thomas
• Large Vein Access and Closure —How I Do It —Robert Maholic
• Hands on Experience; Questions and Answers; Program Wrap-up —All Faculty

**Workshop II - CTEPH**
—Workshop Leaders: Richard Channick, Victor Tapson & Ehtisham Mahmud
• Defining the Incidence and Impact of Cteph: Can we predict which PE patients get it and which don’t? How should we detect/screen for it and then monitor over time? —Richard Channick
• How do I follow these patients and what is my threshold for Intervention? —Josanna Rodriguez-Lopez
• Open thromboendearterectomy…How it is done and what are the outcomes? MGH experience! —Cameron Wright
• Pulmonary Artery Balloon Dilation: Technique, patient selection, outcomes….is this the future?? —Ehtisham Mahmud
• Discussion; Questions and Answers; Wrap up —All Faculty

**Workshop III - DVT Symposium**
—Workshop Leader: Rachel Rosovsky
• Prevalence, Causes, and Prevention —TBD
• Triage in the office or ED…which cases should I worry about?—Gregory Piazza
• The Spectrum of Treatment Modalities - What is Available and When to Apply —TBD

• Anticoagulation - Selection of Agents to Fit the Patient —Rachel Rosovsky
• Does aggressive treatment with clot lysis and rapid restoration of flow have any impact on subsequent events or quality of life? —Sanjay Misra
• Clot removal or lysis —TBD
• Discussion; Questions and Answers; Wrap up —All Faculty

Pick Up Box Lunch for Lunch Symposia

12:15–12:30
12:30–2:00

**Afternoon Didactic/Hands-on Workshops - select one**

**Workshop IV - IVC Symposium**
—Workshop Leaders: Michael Jaff, Robert Lookstein, Nils Kucher
• Appropriate use of Vena Cava Filters in PE: In Which Patients and When —Michael Jaff
• Spectrum of Available Devices and How Each Works…What are the Data —Thomas Todoran
• Bedside IVC Filter Placement Made Easy - Technical How-to —Robert Lookstein
• Tracking and removal of IVC filters…overstated importance or failed mandate? Ideal tracking models…show us how you do it? —Ido Weinberg
• Removal of the “difficult” IVC filter: imbedded, tilted, penetrating —Gregory Walker
• The Occluded IVC: How common a problem is this? What are the causes and manifestations? —John Kaufman
• The Occluded IVC…Therapeutic options and outcomes —Nils Kucher
• Hands on experience with IVC Filters, snares, biopsy forceps, and other devices —All Faculty

**Workshop V - Hemodynamic support: ECMO, IMPELLA-RP, other - How and when to use, and can they change the game?**
—Workshop Leaders: David D’alessandro, Michael Fitzsimons, Sunu Thomas
Faculty: Mauricio Villavicencio, Wissam Jaber & Jay Giri
• History of mechanical support; how-to-do; when-to-do; where-to-do; who should do
• How to set up at team & algorithms: who should do it and where; Impella versus V-A versus V-V.
• Complications and management of device failure
• Vascular access and closure issues

2:00
Program Concludes

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General Admission: Physicians $495, residents & fellows $195
To register, visit: www.phscpd.org/MGHPulmonaryEmbolism2016
For questions regarding the registration process, please contact the Partners Office of Continuing Professional Development at PartnersCPD@partners.org or (617) 535-6453.
Continental breakfast, lunch and coffee breaks provided.

Accommodations
A limited number of rooms have been made available for attendees at a special group rate at Royal Sonesta Boston, 40 Edwin Land Boulevard Cambridge, MA.
To reserve your room online, go to: http://bit.do/MGHPE2016
If you prefer, call 617.806.4200 and specify that you are enrolled in the MGH PE Meeting and use group code 0626MGHCAR to receive the reduced room rate.

Provided by the Massachusetts General Hospital Pulmonary Embolism Response Team, Fireman Vascular Center and Partners HealthCare System

* This is not part of the CME activity, there is no CME credit for these session.

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