A Pulmonary Hypertension Association program jointly provided by Washington University School of Medicine in St. Louis, Continuing Medical Education and PHA

FOCUS ON Pulmonary Arterial Hypertension (PAH)

Continuing medical education delivered in your community, at your request, by nationally recognized PAH experts.

This activity is supported by educational grants from:

- **Diamond Supporter**: Actelion Pharmaceuticals US, Inc.
- **Platinum Supporter**: United Therapeutics Corporation
- **Silver Supporter**: Gilead Sciences, Inc.

With additional funding provided by Bayer HealthCare
The Pulmonary Hypertension Association (PHA) and Washington University School of Medicine in St. Louis, Continuing Medical Education are pleased to present this continuing medical education (CME) initiative, bringing state-of-the-art educational programming to healthcare professionals on demand. This program allows you to design a CME meeting that meets your medical community’s educational needs concerning pulmonary arterial hypertension (PAH).

- Choose your speaker
- Choose your PAH topic
- Choose your time
- Choose your location

**Target Audience**

This activity has been designed for pulmonologists, cardiologists, rheumatologists, internists, and primary care physicians, as well as nurses, physician assistants, and other allied health professionals who help care for patients with PAH.

**Educational Objectives**

This CME program is designed to improve competence, performance, and patient care practices by instructing clinicians in the highest quality of care for patients with PAH. At the conclusion of the program, participants should be able to:

- Accurately diagnose patients through comprehensive screening and early recognition of symptoms
- Evaluate the patient’s condition and prescribe long-term optimal management, including knowing when and how to treat and when to consult with colleagues at an established PAH center

**Accreditation**

In support of improving patient care, this activity has been planned and implemented by Washington University School of Medicine in St. Louis, Continuing Medical Education and the Pulmonary Hypertension Association. Washington University School of Medicine in St. Louis is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

**Credit Awarded for This Activity**

Washington University School of Medicine in St. Louis designates this live activity for a maximum of 1.5 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

**Disclosure Statement**

It is the policy of Washington University School of Medicine in St. Louis, Continuing Medical Education, that planners, faculty and other persons who may influence content of this CME activity disclose all relevant financial relationships with commercial interests in order for CME staff to identify and resolve any potential conflicts of interest prior to the educational activity. Faculty must also disclose any planned discussion of unlabeled/unapproved uses of drugs or devices during their presentation. Detailed disclosures will be made in activity handout materials.
FOCUS ON
Pulmonary Arterial Hypertension (PAH)

On-Demand Medical Education Program Committee

Roberto F. Machado, MD (Committee Chair)
Dr. Calvin H. English Professor of Medicine
Chief, Division of Pulmonary, Critical Care, Sleep & Occupational Medicine
Indiana University School of Medicine
IU Health University Hospital
Indianapolis, Indiana

Deborah J. Levine, MD, FCCP
Professor of Pulmonary Diseases and Critical Care Medicine
Director, Pulmonary Hypertension Clinic
University of Texas Health Science Center, San Antonio
San Antonio, Texas

Jonathan D. Rich, MD, FACC
Associate Professor of Medicine
Northwestern University Feinberg School of Medicine
Medical Director, Mechanical Circulatory Support Program
Bluhm Cardiovascular Institute
Northwestern Memorial Hospital
Chicago, Illinois

John J. Ryan, MD, FACC, FAHA
Associate Professor (Clinical)
Department of Internal Medicine
Director, Dyspnea & Pulmonary Hypertension Centers
Director, Cardiovascular Medicine Unit
Division of Cardiovascular Medicine
University of Utah School of Medicine
Salt Lake City, Utah

Sean M. Studer, MD, MSc, FCCP
Clinical Associate Professor of Medicine
New York University School of Medicine
Chief of Medicine
NYU-Woodhull Medical Center
Brooklyn, New York

Fernando Torres, MD
Professor of Medicine
Head of the Lung Transplant and Pulmonary Hypertension Programs
Division of Pulmonary and Critical Care Medicine
University of Texas Southwestern Medical Center
Dallas, Texas

Vallerie V. McLaughlin, MD, FACC, FAHA, FCCP (Advisor)
Kim A. Eagle, MD Endowed Professor and Associate Chief of Cardiovascular Medicine
Director, Pulmonary Hypertension Program
Department of Internal Medicine
University of Michigan Health System
Ann Arbor, Michigan
Formats Available for a CME Program

**Dinner Meeting** – Held at a hotel or restaurant, this format will include a lecture, case-based discussion, and question-and-answer session. The hotel/restaurant requested and the meal selection should be consistent with ACCME and PhRMA Guidelines.

**Group Practice Breakfast or Lunch-and-Learn** – This format features a lecture and question-and-answer session held in your office. Case-based discussions can be included, time permitting. Other local group practices may be invited to attend the program.

**Grand Rounds** – This format facilitates a guest speaker from the On-Demand faculty, delivering the selected lecture as an in-hospital program. A hospital contact who has agreed to work with us on logistics must be identified on the application.

**Webinar (Online Program)** – Organized as part of the PHA Online University Program, this Web-based format will include a lecture and question-and-answer session. Internet access must be available in order to select this option.

All live programs have been developed as 1- to 1.5-hour lectures, including case-based discussion and questions and answers. Online programs will be 1 hour long.

All programs, with the exception of the Webinar option, can include an appropriate and modest meal function.

To comply with the Sunshine Act, when a meal is provided, physicians will be asked for their National Provider Identification (NPI) and state license number at registration.

Program Costs

These programs, administered within ACCME guidelines and according to the specifications outlined, are offered at no cost to pulmonologists, cardiologists, rheumatologists, internists, and primary care physicians, as well as nurses, physician assistants, and other allied health professionals who help care for patients with PAH.
To Request a Program

There are several ways to request a meeting. **The easiest method to view updated information and request a program is to visit us online at [www.PHAssociation.org/OnDemand](http://www.PHAssociation.org/OnDemand), where you’ll find additional information and a menu for the selection of the program.** At this site, you will be asked to select options for:

- Program format
- Program topic
- Date and time of program (indicating a first and second choice)
- Requested program faculty member (indicating three choices)

You will also be asked to:

- Identify the intended audience (by specialty) and estimate the number attending
- Provide contact information

*Please note that programs must have a minimum attendance level of 10 or more in order to move forward.*

**Alternatively, you may apply by fax/mail/email,** using the form at the end of this instruction guide. Please fill it out and fax, mail, or email it as a pdf to:

PHA Medical Education On-Demand  
c/o Cornerstone Medical Communications, LLC  
560 Sherwood Parkway  
Westfield, NJ 07090  
Telephone: 908-301-0801  
Fax: 908-301-0808  
Email: ondemand@cornerstonemedllc.com

*In order to ensure a successful program, we would appreciate a minimum of 8 weeks lead-time following receipt of your application before a program can be held.*

PHA and Cornerstone Medical Communications (CMC) will work with you on all editorial and logistical details of the program. These include confirmation of and liaison with the selected speaker, contracting and liaison with staff at the meeting venue, disseminating invitations and generating local awareness, planning all on-site arrangements for catering and audio-visual equipment, and developing and shipping all program materials to the meeting venue. Depending on the format, a CMC staff member may be assigned to manage the program on-site.
Program Topic Choices

**Suspecting Pulmonary Hypertension (PH) in the Dyspneic Patient: Who, When, and How**
Pulmonary hypertension (elevated right ventricular systolic pressure) is common, often caused by left heart disease but also associated with various lung diseases or idiopathic in origin. A less common but deadly form, PAH is usually undiagnosed or misdiagnosed until it has progressed to an advanced stage. This case-based lecture, designed for primary care clinicians, identifies clinical clues for the presence of PH in dyspneic patients; presents keys to differentiating PAH from other more common forms of PH; and offers a practical paradigm for collaborative diagnosis and optimal long-term management of PAH.

**Screening, Diagnosis, and Treatment of PAH: An Overview**
Appropriate for front-line cardiovascular, pulmonary, rheumatology, and primary care clinicians, this comprehensive overview identifies key epidemiologic and pathophysiologic features of PAH; presents the current diagnostic algorithm, highlighting important tests and techniques; summarizes the clinical trial evidence base for approved therapies targeting 3 critical disease pathways; and offers state-of-the-art risk assessment and disease management strategies.

**Integrating Guidelines and Clinical Trial Evidence Into Optimal Collaborative Care for Patients With PAH**
Designed for clinicians who screen for or help manage the long-term care of patients with PAH, this presentation highlights key features of the diagnostic and therapeutic decision trees in the initial and long-term evaluation and management of PAH, identifying pivotal tests and assessing the clinical trial evidence base, as well as best practices for optimal collaborative care involving healthcare professionals on the front line and those at PAH referral centers.

**Current Approaches to PH: Clinical Cases Across Categories**
Pulmonary hypertension is broadly classified into 5 groups that share similar pathological and hemodynamic characteristics and therapeutic approaches: PAH, PH due to left heart disease, PH due to lung diseases and/or hypoxia, chronic thromboembolic PH (CTEPH), and PH with unclear multifactorial mechanisms. This lecture uses a case-based approach to explore current paradigms and clinical pearls in the diagnosis and management of PH across categories.

**PH in Patients With Connective Tissue Disease**
Of particular value for clinicians who screen or care for patients with or at risk for connective tissue diseases (CTDs), this presentation outlines the epidemiology and prognostic significance of PH in common CTDs, with a focus on systemic sclerosis; presents evidence supporting the urgent need for effective screening and early diagnosis of pulmonary complications in these patients; and offers practical strategies for comprehensive diagnosis and treatment of PAH in patients with CTDs.
FOCUS ON
Pulmonary Arterial Hypertension (PAH)

Program Topic Choices (continued)

Chronic Thromboembolic PH (CTEPH): An Overview
Occurring as a result of non-resolved acute pulmonary embolism, the diagnosis of CTEPH is often missed or delayed. This lecture reviews the pathophysiology of CTEPH, describes appropriate workup and screening, instructs on optimal preoperative evaluation and postoperative care associated with thromboendarterectomy, and identifies specific measures that can be taken to optimize outcomes over the long term.

Cases in Cardiac Imaging: Focus on PH
Designed for cardiovascular and pulmonary specialists, this case-based presentation reviews the current diagnostic workup for PAH; assesses the benefits and limitations of standard imaging tools such as echocardiography, as well as newer modalities such as magnetic resonance imaging; demonstrates the core value of right heart catheterization (including vasodilator testing) as the diagnostic gold standard; and summarizes the benefits and limitations of cardiac imaging tools in assessing the effects of PAH treatments acutely and over the long term.

Under Pressure: The Right Ventricle in PAH
Right ventricular (RV) function is closely associated with symptoms and survival in PAH. This lecture, most appropriate for clinicians with some working knowledge of PAH, is designed to enhance understanding of the role of the right ventricle in disease progression, determine appropriate methods for its imaging and functional assessment, assess prognostic implications of declining RV function and impact of PAH therapies, and implement appropriate management of RV failure in patients with PAH.

New Concepts and Clinical Controversies in PAH
Designed for cardiovascular and pulmonary specialists with extensive PAH experience, this presentation explores newer concepts and clinical controversies in the diagnosis and management of PAH, such as the role of various biomarkers and imaging techniques, the benefits and limitations of combination versus sequential therapy, the relative merits of early diagnosis and more aggressive management versus a more gradual approach, and the strengths and limitations of specific end points in clinical trials and practice.

Special Cases in PH: Challenges and Opportunities for Optimal Care
Clinicians confident in their general background knowledge of PH will benefit from this case-based consideration of evidence-based approaches to clinical challenges in diagnosing and managing PH in special patient populations. Participants will ascertain opportunities for optimal care of patients with PH in the setting of pulmonary veno-occlusive disease and/or pulmonary capillary hemangiomatosis, hypoxic lung disease including mixed restrictive/obstructive pattern, combined pre- and post-capillary PH, and portopulmonary hypertension, among others, and in settings where multifactorial mechanisms like metabolic disorders are in play.
FOCUS ON
Pulmonary Arterial Hypertension (PAH)

PHA Medical Education On-Demand Faculty

David B. Badesch, MD, FACP, FCCP
University of Colorado School of Medicine
Aurora, Colo.

Vijay P. Balasubramanian, MD, FCCP, MRCP
UCSF School of Medicine
Fresno, Calif.

Christopher F. Barnett, MD, MPH
MedStar Washington Hospital Center
Washington, D.C.

Raymond L. Benza, MD, FACC, FCCP
Temple University Lewis Katz School of Medicine
Pittsburgh, Pa.

Erika Berman Rosenzweig, MD
NewYork-Presbyterian/Columbia University Medical Center
New York, N.Y.

Charles D. Burger, MD, FCCP
Mayo Clinic School of Medicine
Jacksonville, Fla.

Linda M. Cadaret, MD, FACC
University of Iowa Carver College of Medicine
Iowa City, Iowa

Richard N. Channick, MD, FCCP
Harvard Medical School
Boston, Mass.

Kelly Chin, MD, MSCS
University of Texas Southwestern Medical School
Dallas, Texas

Michael J. Cuttica, MD, MS
Northwestern University Feinberg School of Medicine
Chicago, Ill.

Curt J. Daniels, MD, FACC
The Ohio State University Wexner Medical Center
Columbus, Ohio

Teresa De Marco, MD, FACC
UCSF School of Medicine
San Francisco, Calif.

Jean M. Elwing, MD
University of Cincinnati College of Medicine
Cincinnati, Ohio

Jeremy P. Feldman, MD, FCCP
Arizona Pulmonary Specialists
Phoenix, Ariz.

Aryeh Fischer, MD, FACR
University of Colorado School of Medicine
Aurora, Colo.

Micah R. Fisher, MD
Emory University School of Medicine
Atlanta, Ga.

Raymond J. Foley, DO, FCCP
University of Connecticut School of Medicine
Farmington, Conn.

H. James Ford, MD
University of North Carolina School of Medicine
Chapel Hill, N.C.

Paul R. Forfia, MD
Temple University Lewis Katz School of Medicine

Terry A. Fortin, MD, MS
Duke University School of Medicine
Durham, N.C.

Robert P. Frantz, MD, FACC
Mayo Clinic School of Medicine
Rochester, Minn.

Nicholas S. Hill, MD
Tufts University School of Medicine
Boston, Mass.

William E. Hopkins, MD, FACP, FACC
University of Vermont Larner College of Medicine
Burlington, Vt.

Evelyn M. Horn, MD
Weill Cornell Medical College
New York, N.Y.

Nick H. Kim, MD
UC San Diego School of Medicine
San Diego, Calif.

James R. Klinger, MD, FCCP
Alpert Medical School of Brown University
Providence, R.I.

Tim Lahm, MD
Indiana University School of Medicine
Indianapolis, Ind.

Peter J. Leary, MD, MS
University of Washington School of Medicine
Seattle, Wash.

Deborah J. Levine, MD, FCCP
University of Texas Health San Antonio Long School of Medicine
San Antonio, Texas

Roberto F. Machado, MD
Indiana University School of Medicine
Indianapolis, Ind.

Catherine J. Markin, MD
Oregon Health & Science University
Portland, Ore.
FOCUS ON
Pulmonary Arterial Hypertension (PAH)

Stephen C. Mathai, MD, MHS  
Johns Hopkins University School of Medicine  
Baltimore, Md.

Michael A. Mathier, MD, FACC  
University of Pittsburgh School of Medicine  
Pittsburgh, Pa.

J. Wesley McConnell, MD  
University of Kentucky  
Louisville, Ky.

Dana P. McGlothlin, MD  
The Permanente Medical Group  
San Francisco, Calif.

Valerie V. McLaughlin, MD, FACC, FAHA, FCCP  
University of Michigan Health System  
Ann Arbor, Mich.

Omar A. Minai, MD, FCCP  
Pulmonary & Critical Care Associates of the Tri-Cities  
Petersburg, Va.

Ronald J. Oudiz, MD, FACP, FACC, FCCP  
David Geffen School of Medicine at UCLA  
Los Angeles, Calif.

Harold I. Palevsky, MD, FCCP  
Perelman School of Medicine at the University of Pennsylvania  

Myung H. Park, MD, FACC  
Houston Methodist DeBakey Heart & Vascular Center  
Houston, Texas

Kenneth W. Presberg, MD  
Froedtert & Medical College of Wisconsin  
Milwaukee, Wis.

Franck Rahaghi, MD, MHS, FCCP  
Cleveland Clinic Florida  
Weston, Fla.

Jonathan D. Rich, MD, FACC  
Northwestern University Feinberg School of Medicine  
Chicago, Ill.

James R. Runo, MD  
University of Wisconsin School of Medicine and Public Health  
Madison, Wis.

John J. Ryan, MD, FACC, FAHA  
University of Utah School of Medicine  
Salt Lake City, Utah

Rajan Saggar, MD  
David Geffen School of Medicine at UCLA  
Los Angeles, Calif.

Robert J. Schilz, DO, PhD, FCCP  
Case Western Reserve University School of Medicine  
Cleveland, Ohio

Sanjiv J. Shah, MD, FACC, FAHA  
Northwestern University Feinberg School of Medicine  
Chicago, Ill.

Oksana A. Shlobin, MD, FCCP  
Inova Fairfax Hospital  
Falls Church, Va.

K. Akaya Smith, MD  
Perelman School of Medicine at the University of Pennsylvania  

Virginia D. Steen, MD  
Georgetown University School of Medicine  
Washington, D.C.

Sean M. Studer, MD, MSc, FCCP  
New York University School of Medicine  
New York, N.Y.

Roxana Sulica, MD  
New York University School of Medicine  
New York, N.Y.

Arunabh Talwar, MD, FCCP  
Hofstra North Shore-LIJ School of Medicine  
New York, N.Y.

Victor F. Tapson, MD, FCCP, FRCP  
Cedars-Sinai Medical Center  
Los Angeles, Calif.

James H. Tarver III, MD  
Orlando Health Heart Institute  
Orlando, Fla.

Ryan J. Tedford, MD, FACC, FAHA  
Medical University of South Carolina  
Charleston, S.C.

Thenappan Thenappan, MD  
University of Minnesota Medical Center  
Minneapolis, Minn.

Fernando Torres, MD  
University of Texas Southwestern Medical School  
Dallas, Texas

Anjali Vaidya, MD, FACC, FASE  
Temple University Lewis Katz School of Medicine  

R. James White, MD, PhD  
University of Rochester Medical Center  
Rochester, N.Y.

Timothy L. Williamson, MD, FCCP  
University of Kansas Medical Center  
Kansas City, Kan.

Joel A. Wirth, MD, FCCP  
Tufts University School of Medicine  
Portland, Maine

Joel A. Wirth, MD, FCCP  
Tufts University School of Medicine  
Portland, Maine
Form for Requesting an Event
Fax completed form to: 1-908-301-0808

1. Topic (choose one):

- Suspecting PH in the Dyspneic Patient: Who, When, and How
- Screening, Diagnosis, and Treatment of PAH: An Overview
- Integrating Guidelines and Clinical Trial Evidence Into Optimal Collaborative Care for Patients With PAH
- Current Approaches to PH: Clinical Cases Across Categories
- PH in Patients With Connective Tissue Disease
- Chronic Thromboembolic PH (CTEPH): An Overview
- Cases in Cardiac Imaging: Focus on PH
- Under Pressure: The Right Ventricle in PAH
- New Concepts and Clinical Controversies in PAH
- Special Cases in PH: Challenges and Opportunities for Optimal Care

2. Preferred Faculty Member:

1st choice: ______________________________________
2nd choice: _____________________________________
3rd choice: _____________________________________

3. Program Format (choose one):

- Dinner Meeting*
- Grand Rounds
- Group Practice
- Webinar

*If dinner, please indicate preferred venue:

1st choice: ______________________________________

4. Preferred Date and Time:

1st choice: ______________________________________
2nd choice: _____________________________________

5. TOTAL number of participants expected: _____________
(minimum required: 10 healthcare professionals)

Please break down total by specialty:

- Pulmonologists
- Physician Assistants
- Cardiologists
- Nurse Practitioners
- Rheumatologists
- Registered Nurses
- Primary Care Physicians
- RPhs/PharmDs
- Family Practice Physicians
- RRTs
- Other physicians (specify ______________________)

6. Additional requirements:

   _________________________________________________
   _________________________________________________

7. Following the submission of your request,
a representative of Cornerstone Medical Communications (CMC) will contact you to assist in planning your event. If you have questions, please feel free to contact CMC directly:

PHONE: 908-301-0801   EMAIL: ondemand@cornerstonemedllc.com
Please visit

www.PHAssociation.org/OnDemand

for updates and to request a PAH continuing medical education program for your community.

For more information about other PHA medical education programs—live or online—please visit

www.PHAssociation.org/EducationPrograms/MedicalProfessionals