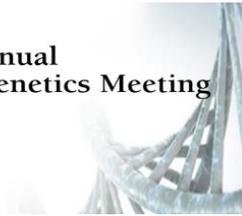




2017 | ACMG Annual
Clinical Genetics Meeting



Dysmorphology in the Era of Next-Gen Sequencing

Held in Phoenix, Arizona, March 21-25, 2017

Date of Release: April 3, 2017

Expiration Date: April 3, 2020 (CME, NSGC, P.A.C.E.®)

Estimate Time of Completion: 1.5 hours

Course must be completed by the expiration dates

COURSE DESCRIPTION

The role of a clinical dysmorphologist is evolving alongside rapid advancements in molecular technology. We aim to discuss the manner in which the role of the dysmorphologist is changing, how a dysmorphologic assessment adds value to molecular reports, new technological tools that can aid the dysmorphologic exam, and explore how to train the new generation of dysmorphologists.

Dr. Deborah Krakow (Skeletal Dysplasias: Conditions Where Phenotype Guides a Diagnosis) declined to release her slides but you will be able to listen to her presentation.

LEARNING OBJECTIVES

At the conclusion of this course, participants should be able to:

- Illustrate the ways in which dysmorphology remains important in the interpretation of molecular sequencing results.
- Provide examples of conditions where dysmorphic findings guide a diagnosis, focusing on skeletal dysplasias.
- Compare the advancing technological resources for the dysmorphologist.
- Assemble novel methods for teaching dysmorphology to clinical trainees.

TARGET AUDIENCE

All healthcare professionals interested in the diagnosis, management, treatment and prevention of genetic conditions and increasing their understanding of the genetic basis of common, chronic health problems affecting both children and adults will find the programming applicable to their practice. These select sessions from the ACMG Annual Meeting are targeted for the following professionals:

- Medical and clinical geneticists

- Physicians of all specialties with an interest in genetics, genomics and the genetic basis of disease
- Genetic counselors
- Laboratory geneticists, directors, technicians and technologists
- Researchers
- Pathologists
- Educators
- Nurses
- Dietitians
- Physician assistants
- Biotechnology and pharmaceutical development professionals
- Fellows, Trainees and Students
- Public health professionals
- Genetic/consumer advocates
- Others with an interest in the science and art of medical genetics and genomics

SESSIONS

- Why Dysmorphology Remains Important in the Era of Genomic Sequencing- Rocio Moran, MD, FACMG
- Skeletal Dysplasias: Conditions Where Phenotype Guides a Diagnosis- Deborah Krakow, MD, FACMG
- Advancing Technological Resources in the Field of Dysmorphology- Chad Haldeman-Englert, MD, FACMG
- Novel Methods for Teaching Dysmorphology to Clinical Trainees- Anna Hurst, MD

Accreditation:

The American College of Medical Genetics and Genomics is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation:

The American College of Medical Genetics and Genomics designates this 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.

Genetic Counselor Credit

The National Society of Genetic Counselors (NSGC) has authorized American College of Medical Genetics and Genomics to offer up to 1.5 Category 1 contact hours for this OnDemand course. The American Board of Genetic Counseling (ABGC) will accept CEUs earned for this course for the purposes of genetic counselor certification and recertification. Reporting of credits is sent to NSGC quarterly. Additional fee (~\$25) applies for NSGC credit that is billed by NSGC.

P.A.C.E. CEUs – Laboratory Directors and Laboratory Personnel

ACMG is approved as a provider of continuing education programs in the clinical laboratory sciences by the American Society for Clinical Laboratory Science (ASCLS) Professional Acknowledgment for Continuing Education (P.A.C.E.®) Program. The American College of Medical Genetics and Genomics designates this course for a maximum of 1.5 contact hours. ACMG is approved by the Florida Board of Clinical Laboratory Personnel as CE Provider. ACMG is approved by the California Department of Health Services through the ASCLS P.A.C.E.® Program as CE Provider #275.

HIPAA Compliance

The ACMG supports medical information privacy. While the ACMG is not a “covered entity” under HIPAA 1996 and therefore is not required to meet these standards, ACMG wishes to take reasonable steps to ensure that the

presentation of individually identifiable health information at ACMG-sponsored events has been properly authorized. All presenters have completed a form indicating whether they intend to present any form of individually identifiable healthcare information. If so, they were asked either to attest that a HIPAA-compliant consent form is on file at their institution, or to send ACMG a copy of the ACMG HIPAA compliance form. This information is on record at the ACMG Administrative Office and will be made available on request.

Content Validation

ACMG follows the ACCME policy on Content Validation for CME activities, which requires:

Content Validation and Fair Balance

1. ACMG follows the ACCME policy on Content Validation for CME activities, which requires:
 - a) All recommendations involving clinical medicine must be based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the care of patients.
 - b) All scientific research referred to, reported or used in CME in support or justification of patient care recommendations must conform to the generally accepted standards of experimental design, data collection and analysis.
2. Activities that fall outside the definition of CME/CE; “Educational activities that serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession” (source: ACCME and AMA) will not be certified for credit. CME activities that promote recommendations, treatment, or manners of practicing medicine or pharmacy that are not within the definition of CME/CE or, are known to have risks or dangers that outweigh the benefits or, are known to be ineffective in the treatment of patients.
3. Presentations and CME/CE activity materials must give a balanced view of therapeutic options; use of generic names will contribute to this impartiality. If the CME/CE educational materials or content includes trade names, where available, trade names from several companies must be used.

Off-label Uses of Products

When an off-label use of a product, or an investigational use not yet approved for any purpose, is discussed during an educational activity, the accredited sponsor shall require the speaker to disclose that the product is not labeled for the use under discussion, or that the product is still investigational. Discussions of such uses shall focus on those uses that have been subject of objective investigation.

Disclaimer: *ACMG educational programs are designed primarily as an educational tool for health care providers who wish to increase their understanding of the application of genomic technologies to patient care. The ACMG does not endorse, or recommend the use of this educational program to make patient diagnoses, particular by individuals not trained in medical genetics. Adherence to the information provided in these programs does not necessarily ensure a successful diagnostic outcome. The program should not be considered inclusive of all proper procedures and tests or exclusive of other procedures and tests that are reasonably directed at obtaining the same results. In determining the propriety of any specific procedure or test, a healthcare provider should apply his or her own professional judgment to the specific clinical circumstances presented by the individual patient or specimen.*

2017 ACMG Program and Education Committee Members Disclosures

Members of the ACMG Staff, Education and Program Committees involved in planning the 2017 ACMG Annual Clinical Genetics Meeting are required to disclose relevant relationships which could be perceived by some as a real or apparent conflict of interest in planning. All disclosures have been reviewed and conflicts of interest resolved by the Education Committee COI sub-committee or the Executive Director and CME Associate Director and conflicts of interest are disclosed. In the cases where a conflict existed then the committee member refrained from the discussion.

Following is a list of program and education committee members who have disclosed one or more such relationships and names of companies with which those relationships exist:

EC = Education Committee; PC = Program Committee; S = ACMG Staff

| | |
|---|---|
| <ol style="list-style-type: none"> 1. Major stockholder/ownership interest 2. Grant/Research Support (External) 3. Salary/Employment/Royalty(ies)/Honoraria 4. Consultant/consulting fees/other remuneration 5. Speakers' bureau | <ol style="list-style-type: none"> 6. Non-remunerative positions of influence such as officer, board member, trustee, or public spokesperson (All Committee Members Below are on ACMG Committees –Members with other affiliations are listed) 7. Receipt of intellectual property 8. Other |
|---|---|

Georgianne L. Arnold, MD, FACMG - Horizon, 2; Recordati, 2; Biomarin, 2; Actelion, 2; SIMD, 6; ACGME, 6; AAP, 6; ASHG, 6 (PC)

Karen W. Gripp, MD, FACMG – Wiley Publishing Inc., 3; FDNA, 4; Novartis, 4 (PC)

Fuki M. Hisama, MD, FACMG – Horizon Pharmaceuticals, 4; ABMGG, 6 (PC)

Christine A. Curtis, PhD, FACMG - CSI Laboratories, 3 (EC)

Thomas E. Mullen, PhD, MS, FACMG - Good Start Genetics Inc., 3 (EC)

Christian P. Schaaf, MD, PhD, FACMG - Springer Publishing Company, 3 (PC), (EC)

Katrina M. Dipple, MD, PhD, FACMG – ACGME, 6; AAP, 6; ASHG, 6; LA BioMed DSMB, 4; SIMD 6 (PC)

Following is a list of committee, education members and staff who have no relationships to disclose:

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Abbas Padeganeh, PhD, MS (EC)

Amy E. Roberts, MD, FACMG (EC)

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Michael S. Watson, PhD, FACMG (PC), (EC), (S)

Penelope Freire, CMP (PC), (S)

SPEAKERS AND MODERATORS

Faculty Disclosures:

As a sponsor accredited by the ACCME, the American College of Medical Genetics and Genomics must ensure balance, independence, objectivity and scientific rigor in all its sponsored educational activities. All faculty participating in a CME-certified activity are expected to disclose to the audience any relevant financial interest(s) or other relationship(s) with the manufacturer(s) of any commercial product(s), provider(s) of commercial services or any commercial supporters, including diagnostic laboratories, of the activity discussed in an educational

presentation. Relevant financial interest(s) or other relationship(s) can include such things as grants or research support, consultancy, major stock holder, etc. The intent of this disclosure is not to prevent a planner or speaker with a relevant financial or other relationship from course planning or making a presentation, but rather to provide learners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion. All conflicts of interests have been reviewed and resolved by the education and CME subcommittee.

Speaker: Rocio Moran, MD, FACMG
MetroHealth Medical Center
No financial relationships to disclose.



Rocio Moran, MD received her Bachelors of Science in Molecular Genetics from The Ohio State University and graduated from Case Western Reserve Medical School in Cleveland Ohio. She completed her primary and specialty training in Pediatrics and Medical Genetics at the University Hospitals of Cleveland, Rainbow Babies and Children's Hospital. Dr. Moran is the Division Director of Genetics and Genomics at MetroHealth Medical Center in Cleveland Ohio and has a special interest in cardiovascular genetics and the etiology of developmental delays and birth defects as well as bringing genetics and genomics to the bedside of the underserved patient population. Dr. Moran is a Fellow of the American College of Medical Genetics and board certified in Medical Genetics.

Speaker: Deborah Krakow, MD, FACMG
University of California, Los Angeles
Financial relationships to disclose: (Self) Educational Speaker for Alexion Pharmaceutical Co.



Dr. Krakow received her bachelor's degree from Arizona State University in Tempe and her medical degree from Chicago Medical School. After an internship and residency in obstetrics and gynecology at Cedars-Sinai Medical Center, she completed fellowships in maternal-fetal medicine at Harbor-UCLA Medical Center and in research and clinical genetics at the UCLA Intercampus Medical Genetics Training Program. Dr. Deborah Krakow is Co-Director of the International Skeletal Dysplasia Registry.

Speaker: Chad Haldeman-Englert, MD, FACMG

Fullerton Genetics Center Mission Health

Financial relationships to disclose: (Self) Scientific Advisory Board for Face2Gene and does not disclose monetary incentives



Dr. Haldeman-Englert earned his medical degree from Pennsylvania State University College of Medicine in Hershey, Pennsylvania. He completed his residency in combined internal medicine and pediatrics at Maricopa Integrated Health System and Phoenix Children's Hospital in Phoenix, Arizona. Dr. Haldeman-Englert is board certified in internal medicine, pediatrics and medical (clinical) genetics.

Moderator/ Speaker: Anna Hurst, MD

University of Alabama at Birmingham

Financial relationships to disclose: (Self) Scientific Advisory Board for Face2Gene and does not disclose monetary incentives



Anna C.E. Hurst, MD, MS, is an assistant professor of medical genetics in the department of genetics at the University of Alabama at Birmingham and adjunct faculty at HudsonAlpha Institute for Biotechnology. She trained as a genetic counselor at the University of South Carolina, and she completed her medical degree at the Medical University of South Carolina, pediatrics residency at Wake Forest Baptist Health and a medical genetics residency at UAB. Dr. Hurst is a clinician for the UAB Undiagnosed Disease Program, skeletal dysplasia clinic, and general genetics. Her clinical interests include dysmorphology and congenital anomaly syndrome delineation, and she serves on the Scientific Advisory Board for Facial Dysmorphology Novel Analysis (FDNA). Her research focuses on expanding the availability of genomic sequencing for children with complex healthcare needs and incorporating phenotypic information into the interpretation of genomic data.

Participation Instructions

1. Participant logs into ondemand.acmg.net
2. Once logged in the participant will access the session they would like to view. They will be asked if they would like to claim credit for the meeting, or if they will not claim credit for the meeting. Then, this information (Course description) will appear, and participant will have to attest that they have read the information. They will then click Continue.
3. After that, the participant will be able to select the credit types to claim.
4. For each session with a post-test, the participant will need to mark and complete the matching pre-test.
5. Then the participant will watch the session presentations.
6. Participant will complete viewing all session content. "Check marks" indicate which presentations have been viewed.
7. After viewing all presentations within a session, participant will click the "Claim Credit for Session" button under the CME dropdown at the top of the page.
8. Participant should take and then successfully pass the post-test. If they do not pass with a score of 80% or higher, they will have unlimited tries to pass the post-test.
9. Participant will continue the steps above to earn credits for additional sessions.
10. If a session does not have a test attached, the participant will not need to take a pre- or posttest, but will have to complete a Concurrent or Plenary session-specific evaluation to claim credit.
11. To print their certificate, the participant will click the "Print Certificate" button under the CME dropdown at the top of the page. Participant must complete the meeting evaluation (one time only) before they can access their certificate. Participant will then choose their certificate(s). The certificate(s) will be automatically updated as they earn new credits.

Stream Requirements

Network

For best results, use a hardwired network connection instead of wireless

Full Screen Viewing

If you would like to view the webcast full screen, display the tool bar at the bottom and click the double arrow in the far right corner. The screen will enlarge to the full screen of your system. To restore the size, press the "ESC" key

Refresh Browser Window

If the webcast freezes and does not recover in 3-4 seconds, refresh browser window

Freezing or Stuttering Issues

Adjust the amount of bandwidth needed by putting your mouse anywhere over the video window. A tool bar will appear at the bottom. On the right side you will see a "HD" button, click on that button and you will see a list of options. The top is "auto", with decreasing numbers below. Select a lower bandwidth (such as 360p) to see if your webcast improves

For Technical
Support call

1-800-504-5379

Mobile Viewing Requirements

Android Devices

Android 2.3+ with Adobe Flash Player 10.2 or better installed
[Install Flash Player](#)

Apple Devices

iOS 4+

Online Viewing Requirements

Bandwidth

512kbps

Required Hardware and Software

Screen resolution of 1024X768 or larger
Sound card and speakers/headphones

Browser

Microsoft Internet Explorer 7.0 or better
Mozilla Firefox 4 or better
Safari 5 or better

Windows

Operating System: Windows 8 desktop mode, Windows 7; Windows Vista; Windows XP
Service Pack 2 or 3
x86 or x64 (Browsers must be in 32-bit mode) 1.6-gigahertz (GHz) or higher processor
512MB of RAM

Mac OS

Operating System: Apple Mac OS X 10.4.8 or above
Intel Core™ Duo 1.83GHz or faster processor
512MB of RAM

Registration and Fees

ondemand.acmg.net

ACMG Members and ACMG Trainees: (\$50)

Non-members (\$60)

Additional fee (~\$25) applies for NSGC credit that is billed by NSGC.

Questions regarding CE credit should be directed to education@acmg.net.

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