HUMAN TERATOGENS
Environmental Factors Which Cause Birth Defects

Sunday, April 27 - Tuesday, April 29, 2014

offered by the
MASSACHUSETTS GENERAL HOSPITAL, DEPARTMENT OF PEDIATRICS
at the
RICHARD B. SIMCHES RESEARCH CENTER
MASSACHUSETTS GENERAL HOSPITAL

under the direction of
Lewis B. Holmes, MD and Associates

Guest Speakers
Robert L. Brent, MD, PhD
Alfred I. du Pont Hospital for Children

Asher Ornony, MD
Institute for Medical Research Israel-Canada

Anthony R. Scialli, MD
Reproductive Toxicology Center

LEARNING OBJECTIVE
At the end of this course, participants will be able to:
• Analyze the scientific data available to determine whether an exposure in utero poses a potential risk for damage to the fetus.
• Use online databases and published articles as a resource to gain information on the effect of various teratogens on the unborn fetus.
• Counsel your patients who have experienced an environmental exposure so they understand the possible risks to the fetus in utero.

WHO SHOULD ATTEND
Obstetricians, Geneticists, Genetic Counselors, Nurse Midwives, Nurses in Obstetrics, Nurse Practitioners, Pediatricians, Family Practitioners, and Internists.

ACGME COMPETENCIES
This course is designed to enhance the following ACGME competencies:
• medical knowledge • patient care • practice-based learning and improvement

ACCREDITATION
The Harvard Medical School is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Harvard Medical School designates this live activity for a maximum of 22 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Massachusetts Association for Registered Nurses, Inc. (MARN) approved for 21.66 contact hours.

REGISTRATION INFORMATION
Tuition Fee — $650 (USD). Reduced Fee for Genetics and Maternal Fetal Medicine Residents/Fellows — $200 (USD) and Allied Health Professionals — $350 (USD). Registration by credit card (VISA or MasterCard) can be made at: www.cme.hms.harvard.edu/courses/humanteratogens. Registration by check (draft on a United States bank), please make payable to Harvard Medical School and mail with registration form to Harvard Medical School-Department of Continuing Education, PO Box 417476, Boston, MA 02241-7476. Telephone and fax registration is not accepted. On-site registration with cash payment is not accepted. Upon receipt of your paid registration an email confirmation from the HMS-OCE office will be sent to you. Be sure to include an email address that you check frequently. Your email address is used for critical information including: registration confirmation, evaluation and certificate.

ONLINE INFORMATION
To register or view activity information online, visit www.cme.hms.harvard.edu/courses/humanteratogens

To ensure proper registration, please add the first three characters of the source code found here

HUMAN TERATGENS
CLASS #43486

Tuition Fee — $650 (USD)
Allied Health Professionals: $350 (USD)
Genetics/Maternal Fetal Medicine Residents/Fellows: $200 (USD)

April 27-29, 2014
Print Name Clearly
All Fields Required

Full Name
First Middle Initial Last
Mailing Address
Street City State Zip Code
Daytime Phone Fax Number ( )

Please note: Your email address is used for critical information about the course including; registration confirmation, evaluation and certificate. Be sure to include an email address that you check daily or frequently.

E-mail Address

Please check if you wish to be excluded from receiving e-mail notices of future Harvard Medical School — Department of Continuing Education programs

Primary Specialty ( Physicians only)
Board Certified: Yes No
Professional School Attended ( Physicians only)
Harvard Medical School U.S. Medical School International
Year of Graduation

Online Registrants — add the first three characters of the source code found here

Source Code: X Z Z Z
HUMAN TERATOGENS
RICHARD B. SIMCHES RESEARCH CENTER
MASSACHUSETTS GENERAL HOSPITAL

SUNDAY, APRIL 27, 2014
GENERAL PRINCIPLES
Moderator: Lewis B. Holmes, MD

Morning
7:00-8:00 Registration — Simches Research Center — 3rd Floor
8:00-9:00 Principles of Teratology...............Lewis B. Holmes, MD
9:00-10:00 Principles of Embryology.............Thomas W. Sadler, PhD
10:00-10:20 Break
10:20-11:20 Principles of Epidemiology.............Jennita Reehuis, PhD
11:20-12:20 Epigenetic Effects......................John M. Greally, MBBCH, PhD
12:20-1:30 Lunch

Afternoon
1:00-2:00 Fetal Effects of Radiation.............Robert L. Brent, MD, PhD
2:00-3:00 Fetal Effects of Cocaine..............Linda C. Hayes, MD
3:00-3:30 Fetal Effects of Heroin..................Asher Ornoy, MD
4:30-5:30 Fetal Effects of Cigarette Smoking.....Lara Stroud, PhD

MONDAY, APRIL 28, 2014 (continued)
MATERIAL ADDICTIONS
Moderator: Robert L. Brent, MD

Morning
8:00-8:50 Diethylstilbestrol........................Robert L. Bent, MD, PhD
8:50-9:40 Update for FDA on Drug Labeling.........Leyla Sahin, MD
9:40-10:00 Break
10:00-10:50 Antidepressant Drugs....................Katherine L. Wisner, MD
10:50-11:40 Cancer Treatment during Pregnancy............Erica L. Mayer, MD, MPH
11:40-1:00 Lunch

Afternoon
1:00-1:50 Anticonvulsant Drugs..................Asher Ornoy, MD
1:50-2:40 Evaluating Conflicting Findings.............Jennita Reehuis, PhD
2:40-3:30 Breastfeeding While on Medications............Sharon Voyer Lavigne, MS

MOBILARY EXPOSURES
Moderator: Anthony R. Scialli, MD

Morning
8:00-8:50 Lead.................................David C. Bellinger, PhD, MSc
8:50-9:40 Arsenic..............................Richard H. Finnell, PhD
9:40-10:00 Break
10:00-10:50 Insecticides..........................Anthony R. Scialli, MD
10:50-11:40 Air Pollution........................Jeanette A. Stingone, PhD, MPH
11:40-1:00 Lunch

Afternoon
3:30-4:20 Pregnancy Registries.................Lewis B. Holmes, MD

FACULTY

David C. Bellinger, Ph.D., M.Sc., Professor of Environmental Health, Harvard School of Public Health Professor of Neurology, Harvard Medical School, Boston

Robert L. Brent, M.D., Ph.D., D.Sc., Distinguished Professor of Pediatrics, Radiology, Pathology, Anatomy and Cell Biology, Louis and Bev Steen Professor of Pediatrics; Emeritus Chairman of the Department of Pediatrics, Jefferson Medical College; Head, Clinical and Environmental Teratology Laboratory, Alfred I. du Pont Hospital for Children, DE

Suzan L. Carmichael, Ph.D., Associate Professor, Department of Pediatrics, Stanford University School of Medicine, Stanford, CA

Megan E. B. Cloose, M.D., MPH, Assistant Professor of Medicine, Duke University Medical Center, Durham, NC

Richard H. Finnell, Ph.D., Director, Genomic Research-Dell Children’s Medical Center; Professor, Department of Nutritional Sciences, Division of Chemistry and Biochemistry, The University of Texas at Austin

John M. Greally, M.B., B.CH., Ph.D., Director, Center for Epigenomics and Chief, Division of Computational Genetics, Department of Genetics, Albert Einstein College of Medicine, Bronx, NY

Lewis B. Holmes, M.D., Chief Emeritus, Genetics Unit, Massachusetts General Hospital for Children, Boston; Professor of Pediatrics, Harvard Medical School

Sharon Voyer Lavigne, M.S., Division of Human Genetics, University of Connecticut Medical Center; Genetic Counselor/Coordinator Mother To Baby, CT

Erica L. Mayer, M.D., MPH, Director of Clinical Research, Dana-Farber at Faulkner Hospital; Breast Medical Oncologist; Dana-Farber Cancer Institute, Boston; Assistant Professor in Medicine, Harvard Medical School

Linda C. Mayes, M.D., Arnold Gesell Professor, Yale Child Study Center; Professor of Child Psychiatry, Pediatrics and Psychology; Special Advisor to the Dean, Yale School of Medicine

Asher Ornoy, M.D., Professor of Anatomy, Embryology and Teratology, Department of Medical Neurobiology, Institute for Medical Research Israel-Canada; Director, Laboratory of Teratology; Head of the Dept. of Child Development and Rehabilitation, Ministry of Health (Israel)

Elizabeth N. Pearce, M.D., M.Sc., Associate Professor of Medicine, Boston University School of Medicine

Jennita Reehuis, Ph.D., Epidemiologist, Epidemiology Team, Birth Defects Branch, National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention, Atlanta, GA

Thomas W. Sadler, Ph.D. Adjunct Professor of Pediatrics, University of Utah; Senior Scholar, Greenwood Genetics Center, Greenwood, SC

Leyla Sahin, M.D., Medical Officer, Pediatric and Maternal Health Staff, Maternal Health Team, Office of New Drugs, CDER/FDA, Silver Spring, MD

Anthony R. Scialli, M.D., Director, Reproductive Toxicology Center, Washington, DC; Clinical Professor of Obstetrics and Gynecology, George Washington University School of Medicine, Washington, DC; Adjunct Professor of Obstetrics and Gynecology and of Pharmacology and Physiology, Georgetown University School of Medicine, Washington, DC

Jeanette A. Stingone, Ph.D., MPH, Elizabeth Masica Scholar in Children’s Environmental Health, Department of Preventive Medicine, Ichan School of Medicine at Mount Sinai, New York, NY

Laura Stroud, Ph.D., Associate Professor of Psychiatry and Human Behavior, Warren Alpert Medical School, Brown University, RI

Katherine L. Wisner, M.D., Director, Asher Center for the Study and Treatment of Depressive Orders; Professor in Psychiatry and Behavioral Sciences and Obstetrics and Gynecology, Northwestern University Feinberg School of Medicine, Chicago, IL

Chloe A. Zera, M.D., MPH, Department of Obstetrics and Gynecology/Maternal-Fetal Medicine, Brigham and Women’s Hospital, Boston; Instructor in Obstetrics, Gynecology and Reproductive Biology, Harvard Medical School

Break
1:30-2:30 Maternal Obesity........................Chloe E. Zera, MD
2:30-3:20 Connective Tissue..................Megan E. B. Cloose, MD, MPH
3:20-3:40 Break
4:30-5:30 Stress..................................Suzan L. Carmichael, PhD

Lunch

MONDAY, APRIL 29, 2014
MATERIAL CONDITIONS
Moderator: Lewis B. Holmes, MD

Morning
8:00-8:50 Lead.................................David C. Bellinger, PhD, MSc
8:50-9:40 Arsenic..............................Richard H. Finnell, PhD
9:40-10:00 Break
10:00-10:50 Insecticides..........................Anthony R. Scialli, MD
10:50-11:40 Air Pollution........................Jeanette A. Stingone, PhD, MPH
11:40-1:00 Lunch

Afternoon
1:00-1:50 Anticonvulsant Drugs..................Asher Ornoy, MD
1:50-2:40 Evaluating Conflicting Findings.............Jennita Reehuis, PhD
2:40-3:30 Breastfeeding While on Medications............Sharon Voyer Lavigne, MS

PREGNA NCY RE GISTRIE S

Lunch

TUESDAY, APRIL 29, 2014
DRUGS
Moderator: Lewis B. Holmes, MD

Morning
8:00-8:50 D iethylstilbestrol.......................Robert L. Brent, MD, PhD
8:50-9:40 Update for FDA on Drug Labeling.........Leyla Sahin, MD
9:40-10:00 Break
10:00-10:50 Antidepressant Drugs....................Katherine L. Wisner, MD
10:50-11:40 Cancer Treatment during Pregnancy............Erica L. Mayer, MD, MPH
11:40-1:00 Lunch

Afternoon
1:00-1:50 Anticonvulsant Drugs..................Asher Ornoy, MD
1:50-2:40 Evaluating Conflicting Findings.............Jennita Reehuis, PhD
2:40-3:30 Breastfeeding While on Medications............Sharon Voyer Lavigne, MS

PREGNANCY REGISTRIES

Lunch

MATERIAL ADDICTIONS
Moderator: Robert L. Brent, MD

Morning
8:00-8:50 Diethylstilbestrol.......................Robert L. Brent, MD, PhD
8:50-9:40 Update for FDA on Drug Labeling.........Leyla Sahin, MD
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11:40-1:00 Lunch

Afternoon
1:00-1:50 Anticonvulsant Drugs..................Asher Ornoy, MD
1:50-2:40 Evaluating Conflicting Findings.............Jennita Reehuis, PhD
2:40-3:30 Breastfeeding While on Medications............Sharon Voyer Lavigne, MS

PREGNANCY REGISTRIES

Lunch