March 20, 2007

This is an abbreviated version of Genomics and Health Weekly Update, published by the National Office of Public Health Genomics at CDC. View using the HTML option in Groupwise. The full the unabridged version, is available online at:

Spotlight: Colorectal cancer is the second leading cause of death from cancer in the United States. Family history can help identify individuals at increased risk of colorectal cancer, which could prompt earlier and more frequent screening and monitoring. Read more

Autism

“Grant to Yale from Simons Foundation to explore genetic causes of autism” 
(Mar 12) Medical News Today reports, “Researchers at the Yale School of Medicine Child Study Center and 10 other institutions will share a $10 million gift from James and Marilyn Simons of The Simons Foundation to create a databank of DNA samples from autism patients around the country.”

“Gene and a region of a chromosome identified that may lead to autism in children” 
(Mar 13) News-Medical.Net reports, “Yale School of Medicine autism experts Fred Volkmar, M.D. and Ami Klin are part of a global research consortium from 19 countries to identify a gene and a region of a chromosome that may lead to autism in children.”

Behavior

“Gene variations contribute to aggression and anger in women” 
(Mar 9) EurekAlert! reports, “Ever wonder why some women seem to be more ill-tempered than others?”

“Individual differences in a clock gene predict decline of performance during sleep deprivation” 
(Mar 9) EurekAlert! reports, “People are known to differ markedly in their response to sleep deprivation, but the biological underpinnings of these differences have remained difficult to identify.”

Cancer

“Ovarian cancer may mimic fallopian tube formation” 
(Mar 13) Science Daily reports, “A new study suggests that ovarian cancer cells form by hijacking a developmental genetic process normally used to form fallopian tubes.”

“EXT1 gene influences formation of nonhereditary benign bone tumors” 
(Mar 12) Medical News Today reports, “Mutations in a gene known as EXT1 cause
Multiple Osteochondromas, a rare hereditary disorder that results in the formation of benign cartilage-covered bone tumors.

“Gene discovery sheds light on pancreatic cancer” (Mar 12) Medline Plus reports, “U.S. researchers have identified the gene sequence that causes a rare form of deadly pancreatic cancer.”

“More gene mutations drive cancer than previously thought” (Mar 8) Medical News Today reports, “Scientists surveying the human genome have found that many more gene mutations drive the development of cancer than previously thought.”

Prophylactic salpingo-oophorectomy in a series of 89 women carrying a BRCA1 or a BRCA2 mutation
Laki F, et al.
Cancer 2007 Mar

Time to decide about risk-reducing mastectomy: A case series of BRCA1/2 gene mutation carriers
McCullum M, et al.

Diagnostic accuracy of methods for the detection of BRCA1 and BRCA2 mutations: a systematic review
Gerhardus A, et al.
Eur J Hum Genet 2007 Mar

Cancer genetics clinics and the surgeon: a valuable role for family history screening
Williams GL, et al.

Early Initiation of Colorectal Cancer Screening in Individuals with Affected First-degree Relatives
Murff HJ, et al.
J Gen Intern Med 2007 Jan;22(1):121-6

Cardiovascular, Diabetes, Hypertension, Stroke, and Related Conditions

“Genetics may play role in heart health” (Mar 10) deseretnews.com reports, “More people in the Western world die of heart disease than of any other cause, led by heart attacks and strokes that, in America, together kill roughly 900,000 people a year.”

“Framingham study shows parents who live long pass on lower risk of cardiovascular disease”
(Mar 13) NIH News reports, “New evidence suggests that if you could choose your parents, you could reduce your risk of cardiovascular disease.”

“Genetics may play role in heart health”  
(Mar 10) deseretnews.com reports, “More people in the Western world die of heart disease than of any other cause, led by heart attacks and strokes that, in America, together kill roughly 900,000 people a year.”

Prevalence and Characteristics of a Family History of End-Stage Renal Disease among Adults in the United States Population: Reasons for Geographic and Racial Differences in Stroke (REGARDS) Renal Cohort Study  
McClellan W, et al.  
J Am Soc Nephrol 2007 Mar

Relation of family history of myocardial infarction and the presence of coronary arterial calcium in various age and risk factor groups  
Philips B, et al.  
Am J Cardiol 2007 Mar;99(6):825-9

Diagnosis of families with familial hypercholesterolaemia and/or Apo B-100 defect by means of DNA analysis of LDL-receptor gene mutations  
Widhalm K, et al.  
J Inherit Metab Dis 2007 Mar

Ethical, Legal, and Social Issues

“Coping with son's genetic disorder”  
(Mar 9) Daily Herald reports, “Some parents dream of their child one day going to college or getting a high paying job -- Tabitha Brown is only looking forward to a time when her 2-year-old will be able to walk or talk.”

“Gene shopping: Parents won't pass on deadly diseases with new procedure”  
(Mar 8) abc News reports, “There's no doubt that blue-eyed Chloe Kingsbury is a special kid, but how she came into this world can only be described as exceptional.”

Race and ethnicity in genetic research  
Sankar P, et al.  
Am J Med Genet A 2007 Mar

“House subcommittee considers bill that would prohibit genetic discrimination”  
(Mar 12) Medical News Today reports, “The House Energy and Commerce Subcommittee on Health on Thursday held a hearing on legislation (HR 493) to ban discrimination against U.S. residents based on the results of genetic tests, CQ HealthBeat reports.”

Gastrointestinal System
Attitudes toward genetic testing in patients with inflammatory bowel disease
Lal S, et al.

Genomic Tools

“Stability of mRNA/DNA and DNA/DNA duplexes modulates mRNA transcription”
(Mar 13) EurekAlert! reports, “The distribution of the four nucleotides along the DNA sequence encodes the genetic information in living systems.”

“Gene research: Indian doctor claims major breakthrough”
(Mar 10) The Tribune reports, “A US-based Indian doctor, Dr Rajvir Dahiya, and his team of researchers, have discovered a new function of ribonucleic acid (RNA) for gene activation which may open new vistas in the treatment and prevention of various diseases, including cancer.”

“Computer key unlocks cancer, multiple sclerosis, and Alzheimer's disease”
(Mar 8) News-Medical.Net reports, “Danish and Belgian researchers have found a computer key that maps genes underlying heritable disorders, such as breast cancer, multiple sclerosis, and Alzheimer's disease.”

“Gene shopping: Parents won't pass on deadly diseases with new procedure”
(Mar 8) abc News reports, “There's no doubt that blue-eyed Chloe Kingsbury is a special kid, but how she came into this world can only be described as exceptional.”

Spurious Genetic Associations
Sullivan PF
Biol Psychiatry 2007 Mar

Selective screening for inborn errors of metabolism on clinical patients using tandem mass spectrometry in China: A four-year report
Han LS, et al.
J Inherit Metab Dis 2007 Mar

Immune System and Autoimmunity

“Genes may determine success of hip replacement surgery”

“Old vaccines may be better than new”
(Mar 12) Nature.com reports, “Genetic changes in a commonly used vaccine for tuberculosis could be contributing to its spotty performance, new research suggests.”
Searching for Alleles Associated With Complicated Outcomes After Burn Injury
Barber RC, et al.

Mental Health (including Addiction)

“Toward a test for detecting in childhood the risk of developing bipolar disorder and schizophrenia”
(Mar 14) EurekAlert! reports, “A team from Centre de recherche Université Laval Robert-Giffard (CRULRG) has made significant progress toward finding a way to determine whether a child is likely to one day suffer from bipolar disorder or schizophrenia.”

Schizophrenia susceptibility genes: in search of a molecular logic and novel drug targets for a devastating disorder
Gogos JA
Int Rev Neurobiol 2007;78:397-422

Neonatal and Perinatal Health

Sudden Infant Death Syndrome: Review of implicated genetic factors
Weese-Mayer DE, et al.
Am J Med Genet A 2007 Mar

Nervous System and Movement Disorders

“Gene may hold key to treating brain diseases”
(Mar 13) Khaleej Times reports, “Scientists in Singapore have identified a brain gene, which may hold the key to treating many disorders and diseases, a published report said on Tuesday.”

“Generalist' genes linked to a variety of learning disorders”
(Mar 13) Blackwell Publishing reports, “According to a review in the premier issue of Mind, Brain, and Education, the latest research into learning disabilities suggests that ‘generalist’ genes are responsible for a wide range of learning disorders.”

“Gene essential to cerebellum formation discovered by researchers”
(Mar 10) Medical News Today reports, “Scientists have identified a molecular switch that causes the differentiation of neurons in the cerebellum, a part of the brain that helps to regulate motor functions.”

“Migraine sufferers may have different genetic makeup”
(Mar 8) Iowa City Press-Citizen reports, “A new University of Iowa study may provide insight into why some people get migraine headaches.”
MECP2 mutations in males
Villard L
J Med Genet 2007 Mar

Predictive testing for Huntington's disease
Tibben A
Brain Res Bull 2007 Apr;72(2-3):165-71

Pharmacogenomics

“Genetics is often key to treatment”
(Mar 8) deseretnews.com reports, “Just as some people may be genetically programmed to heart disease, the answer to why people respond differently to the same treatment may be genetic. Understanding a body's genetic secrets may be key to both prevention and selecting treatments.”

Planning for a National Effort to Enable and Accelerate Discoveries in Pharmacogenetics: The NIH Pharmacogenetics Research Network
Long RM

Should Pharmacogenomic Studies be Required for New Drug Approval?
Relling MV & Hoffman JM

Respiratory System

The genetics of bronchial asthma in children
Bierbaum S & Heinzmann A
Respir Med 2007 Mar

Skeletal System

iCartiGD: the Integrated Cartilage Gene Database
Yeung MY, et al.
BMC Genet 2007;8:4

“Genes may determine success of hip replacement surgery”

Let’s Go Surfing

The Minnesota Gene Pool Weblog: New Post on Lung Cancer Biomarkers!