Weight gain may be influenced by fructose consumption

_Feeling hungry after drinking something sweet? It could have something to do with the type of sugar you consumed, according to research at Yale University led by a Keck School of Medicine of USC scientist. The research, conducted by principal investigator Kathleen Page, assistant professor of medicine at the Keck School, determined that fructose and glucose, the two forms of simple sugars, are processed differently in the brain. The difference was apparent after study participants consumed drinks containing fructose or glucose, and is a potential explanation for why we gain weight.

“We saw that fructose did not cause feelings of fullness, whereas the participants reported an increase in feelings of fullness after the glucose drink,” said Page, who is also chair of the Maternal-Child Health section of the USC Diabetes and Obesity Research Institute. The research was published in the Journal of the American Medical Association, and was conducted while Page was on the faculty at Yale. Research for this work was provided by the Doris Duke Charitable Foundation.

The study used functional magnetic resonance imaging to map changes in the brains of 20 test subjects who consumed sugary drinks. The researchers found that the glucose drink suppressed activity in the hypothalamus and other brain regions that regulate appetite, motivation and reward processing, while the fructose drink did not.

The different responses to fructose were associated with reduced levels of the hormone insulin, which sends signals to the brain that a person has had enough to eat.

Fructose, found in many fruits and vegetables, as well as table sugar, is an ingredient in high-fructose corn syrup, a popular sweetener. High-fructose corn syrup is found in certain soft drinks and processed foods, and consumption of the sweetener has increased in the past few decades. Rates of obesity have increased in parallel, the researchers noted.

In continuing research, Page’s team is studying whether obese people have exaggerated brain reward and hunger responses to fructose and whether different types of fructose respond differently to fructose and glucose.

USC-designed mouse mimics human immune response, speeding new disease treatments

By Alison Trinidad

Medical scientists at USC have bred a first-of-its-kind mouse model that possesses an immune response system more like a human’s. The discovery makes way for quicker and more cost-effective development of next-generation drugs to treat human diseases like cancer, diabetes and tuberculosis.

Medical researchers have long used mice and rats to help formulate new drugs and vaccines, in part because their genetic and biological characteristics closely parallel human physiology. But mice are not humans, and many experimental drugs that work extraordinarily well in rodents fail miserably when tested in people. One such problem is due to subtle differences between the CD1d molecules in mice and humans and how they respond to tumors and infection. CD1d molecules are found on certain cells that trigger the body’s innate immune system. In a study published by the Proceedings of the National Academy of Sciences this week, USC researchers describe how they genetically engineered mice to express CD1d molecules that look more like those in humans and in more similar proportions.

More importantly, the humanized CD1d molecules effectively trigger natural killer T (NKT) cells—a recently discovered type of white blood cell that attacks tumors and infection—in live animals when exposed to α-GalCer.

“It’s the best model we have in the field,” said Weiming Yuan, assistant professor of molecular microbiology and immunology at the Keck School of Medicine of USC and principal investigator of the study. “We’ve basically set a platform to fast-track discovery of the most potent immunotherapeutics for cancer, diabetes and tuberculosis.”

Weiming Yuan, drug, α-galactosylceramide (α-GalCer), essentially wipes out cancerous tumors in mice by activating the body’s innate system for reasons not entirely clear, the drug does not trigger the same response in people with the same genetic makeup.

Scientists hypothesize that the failure to translate the results from live animals to human patients is due to subtle differences between the CD1d molecules in mice and humans and how they respond to tumors and infection. CD1d molecules are found on certain cells that trigger the body’s innate immune system. In a study published by the Proceedings of the National Academy of Sciences this week, USC researchers describe how they genetically engineered mice to express CD1d molecules that look more like those in humans and in more similar proportions.

More importantly, the humanized CD1d molecules effectively trigger natural killer T (NKT) cells—a recently discovered type of white blood cell that attacks tumors and infection—in live animals when exposed to α-GalCer.

“It’s the best model we have in the field,” said Weiming Yuan, assistant professor of molecular microbiology and immunology at the Keck School of Medicine of USC and principal investigator of the study. “We’ve basically set a platform to fast-track discovery of the most potent immunotherapeutics for cancer, diabetes and tuberculosis.”

The research, conducted by principal investigator Kathleen Page, assistant professor of medicine at the Keck School, determined that fructose and glucose, the two forms of simple sugars, are processed differently in the brain. The difference was apparent after study participants consumed drinks containing fructose or glucose, and is a potential explanation for why we gain weight.

“We saw that fructose did not cause feelings of fullness, whereas the participants reported an increase in feelings of fullness after the glucose drink,” said Page, who is also chair of the Maternal-Child Health section of the USC Diabetes and Obesity Research Institute. The research was published in the Journal of the American Medical Association, and was conducted while Page was on the faculty at Yale. Research for this work was provided by the Doris Duke Charitable Foundation.

The study used functional magnetic resonance imaging to map changes in the brains of 20 test subjects who consumed sugary drinks. The researchers found that the glucose drink suppressed activity in the hypothalamus and other brain regions that regulate appetite, motivation and reward processing, while the fructose drink did not. The different responses to fructose were associated with reduced levels of the hormone insulin, which sends signals to the brain that a person has had enough to eat.

Fructose, found in many fruits and vegetables, as well as table sugar, is an ingredient in high-fructose corn syrup, a popular sweetener. High-fructose corn syrup is found in certain soft drinks and processed foods, and consumption of the sweetener has increased in the past few decades. Rates of obesity have increased in parallel, the researchers noted.

In continuing research, Page’s team is studying whether obese people have exaggerated brain reward and hunger responses to fructose and whether different types of fructose respond differently to fructose and glucose.

USC celebrates grand opening of new Engemann Student Health Center

By Cristy Lytal

University officials unveiled the USC Engemann Student Health Center at the University Park campus on Jan. 29, showing off the new five-story, 103,000-square-foot health center now open to students, faculty, staff and community members.

Located on the University Park Campus at 1031 W. 34th St., the state-of-the-art health center houses multiple services, including Counseling Services, the Office for Wellness and Health Promotion, the faculty staff practice, the oral health clinic, physical therapy, occupational therapy, immunizations and the health insurance office.

It is also home to the newest Keck Medical Center of USC ambulatory practice—a 3,224-square-foot, five-day-a-week operation offering primary and specialty care services.

“The focus of this site is to offer a convenient location for our University Park campus faculty and staff,” said Dana Habers, chief operating officer for USC Care Medical Groups, Inc., who led efforts with a team of dedicated staff to open the facility. “We’re excited to extend the Health Sciences Campus downtown and be able to offer world-class services right in their own backyard.”

The office, which will be operated by USC Care, has six well-appointed exam rooms and one procedure room, offering same-day access to appointments. Internal medicine and rheumatology are among the specialties available now. There are already plans to expand those clinical offerings in the future to include an orthopedics presence, in response to a recently administered survey.

“We’ve designed this site to expand those clinical offerings in the future to include an orthopedics presence, in response to a recently administered survey. We’ve designed this site to expand those clinical offerings in the future to include an orthopedics presence, in response to a recently administered survey.
For the second time in four years, the American Nurses Credentialing Center (ANCC) bestowed Magnet recognition for nursing excellence on Children's Hospital Los Angeles, announced Richard D. Cordova, president and CEO of Children's Hospital Los Angeles. “Earning Magnet recognition the first time in 2009 was a milestone in the history of Children's Hospital Los Angeles,” Cordova said. “To have achieved Magnet status a second time confirms the unwavering dedication of our nurses and our nursing leadership and their commitment to providing the best in patient care. It demonstrates why we are ranked among the top children’s hospitals in the United States, if not the world.”

The Magnet Recognition Program was developed by the ANCC, the world's largest nurse credentialing organization, to recognize health care organizations that demonstrate quality patient care, nursing excellence and innovations in professional nursing practice. According to the ANCC, Magnet designation benefits consumers by identifying hospitals with superior nursing care and quality patient outcomes. It is the highest honor a health care organization can receive for professional nursing practice. Only a select group of 395 hospitals out of almost 6,000 U.S. health care organizations have achieved Magnet status, recognizing only the very best hospitals across the country. In California, Children's Hospital, which is affiliated with the Keck School of Medicine of USC, is one of only 28 recognized Magnet organizations.

Hospitals must reapply for Magnet recognition every four years. Children's Hospital received word Jan. 16 from the Commission on Magnet leadership that it had achieved Magnet recredentialation for another four years. The Magnet commission reported that Children's Hospital exceeded many of the high Magnet standards and stood out as an example to hospitals across the U.S. in several areas, including the hospital's transformational nursing leadership practices, its current and long-term strategic priorities in a changing medical market and the organization-wide adaptation to a new hospital building, the Marion and John E. Anderson Pavilion.

In addition, the commission cited many practices and programs that exceeded its stringent standards, including, daily interdisciplinary rounds with patients and families, efficient medicare reimbursement, preoperative education programs for homeless youth, children's reading and library programs, spinal education for and patients, teleconferencing interpreter services, and bedside technology to enhance patient care and parent-nurse communication.

CHLA receives Magnet recognition for nursing excellence

Magnet recognition ‘confirms the unwavering dedication of our nurses and our nursing leadership and their commitment to providing the best in patient care.’

—Richard D. Cordova, CHLA president and CEO

By Gabrielle Oliva

The Obama administration, along with the U.S. Department of Energy, has announced $10 million worth of grants to aid in the development of alternative energy sources, namely biofuels.

Among the recipients of the grants is School of Pharmacy Associate Professor Clay Wang, who will be collaborating with The Pacific Northwest National Laboratory, other universities and industry representatives on a new project that aims to increase the production of fuel molecules in fungi growing on lignocellulosic hydrolysate. The grant is a two-year, $2.4 million grant based out of Richland, Wash. “These projects use innovative synthetic biological and chemical techniques to convert biomass into processable sugars that can be transformed into biofuels and drop-in biofuels for cars, trucks and planes,” the Department of Energy explained in a release.

Wang's previous work has focused on exploring possible uses of naturally occurring microorganisms as drugs, with a particular emphasis on natural product biosynthetic pathways—using genomics for natural drug development. His lab has discovered that the fungi Aspergillus nidulans and the bacteria Streptomyces both have the ability to produce many more drugs than was previously believed. Wang has also developed a biosynthetic method to upregulate or downregulate these genes to change what is produced and to create new drugs.

His grant is one of five receiving funding from the Energy Department’s Office of Energy Efficiency and Renewable Energy, which was established to accelerate development and facilitate deployment of energy efficiency and renewable energy technologies and market-based solutions that strengthen U.S. energy security, environmental quality and economic vitality.

MOUSE: More accurate simulation of human immune response bolsters chance for success

Continued from Page 1

track the identification of immunotherapies that can kill cancer and also make vaccines stronger.”

Once activated, NKT cells react in a matter of hours, whereas other T cells take days. This rapid response makes them difficult to study, but also an ideal target for drug-makers.

Yuan’s humanized mouse allows scientists to more accurately test the viability of those NKT cell-targeting drugs before going to human clinical trials.

"Before, it would have been a guess as to whether the drug would work in people. Now, the chance of success goes from 1 out of 100 to 1 out of 5," Yuan said.

Yuan and colleagues have yet to demonstrate the effects of inserting a more human-like version of the final component of the CD1d/NKT system, the T cell receptor. More experiments are necessary to determine why ex-GaCer is ineffective in treating people with cancer and to develop novel ex-GaCer derivatives that work with the human immune system.

Co-authors include Xiaoshu Wen, Seil Kim and Agnieszka Lawrenzycz of the Keck School of Medicine; Richard Cresswell of the UCLA Immunogenetics Center and Department of Pathology; Leandro A. Porcelli of the Albert Einstein College of Medicine at Yeshiva University, and Richard J. Capparelli, A Porcelli of the Albert Einstein College of Medicine at Yeshiva University, Cresswell of the Yale University School of Medicine. The research was supported by the National Institutes of Health (R01 AI091987, R01 AI059167, R01 AI043889), the Larry Lloyd Charitable Trust, the Margaret Early Medical Research Trust, and the Howard Hughes Medical Institute.

CTSI offers grants of up to $50,000

Southern California Clinical and Translational Science Institute offers grants of up to $50,000 for translational research. Pilot awards of up to $50,000 are available to fund all aspects of translational research, including career development and multidisciplinary team building. Applications are being accepted now.

To learn more and apply, visit sc-ctsi.org/funding.
Can you really learn to be more understanding by watching ‘The Bachelor’?

By Robert Perkins

A new USC study finds evidence suggesting that the brain works hard to understand those who have different bodies when watching them in action.

According to the study’s lead author, the finding supports initiatives to include more individuals with physical differences in mainstream media—such as Sarah Hyland, a contestant on ABC’s “The Bachelor” this season, who was born with a foreshortened left arm.

“Generally, it’s considered impolite to stare. But what if we’re able to make sense of those different from ourselves,” said Soo-Lei Liew, who is the lead author of a paper on the research that appeared online this month in *Neuroimage.* Liew, now a postdoctoral researcher at the National Institutes of Health, completed the research while she was a doctoral student at USC, working with Tong Sheng, a fellow graduate student, and Lisa Aziz-Zadeh, an assistant professor at the USC Dornsife Brain and Creativity Institute and the Division of Occupational Science and Occupational Therapy.

Liew, Sheng and Aziz-Zadeh monitored the brains of 19 typically developed individuals using functional magnetic resonance imaging (fMRI) while showing them a series of video clips. First they showed a typically developed person picking up objects and then a woman born without complete arms using her residual limbs to perform the same tasks.

The fMRI scans showed that parts of the motor network responsible for picking up objects by hand are activated when simply watching another person performing the task—physiological evidence of participants attempting to use their own body representations to represent the people they are watching on screen.

The thing that surprised the researchers was that since the same part of the motor network was activated to a greater degree when watching residual limbs doing the same activity, Participants’ brains worked overtime to process the use of a type of limb that they did not have.

“Interestingly, we found that individual differences in trait empathy affected the result,” Aziz-Zadeh said. “That is, individuals who scored higher in their ability to empathize with other people showed more activity in motor regions when observing actions made by residual limbs.”

Further, when shown more clips of the woman with a residual limb—clips that lasted minutes instead of seconds—the fMRI scans showed similar motor network activity, which returned to a level comparable to when they were watching typically developed individuals, suggesting that increased visual exposure improved understanding.

“Stigma is one of the main challenges for people with physical differences,” Liew said. “We need to examine why stigmas exist and what we can do to alleviate them. Learning about disabilities visually is one way that we can begin to map their experiences onto our own brains.”

This research was supported by the National Science Foundation Graduate Research Fellowship. The USC Provost’s Ph.D. Fellowship, the Division of Occupational Science and Occupational Therapy, the Dana and David Dornsife Neuroimaging Institute and the Brain and Creativity Institute.

The Weekly NEWSMAKERS

A Feb. 4 broadcast on KPFK-FM featured an interview with Daniel Arkfeld, assistant professor of medicine at the Keck School of Medicine, about rheumatoid arthritis. “I think it’s important to understand that rheumatoid arthritis comes from the blood,” Arkfeld said. “The disease doesn’t start in the joints; it’s really in the blood.”

A Feb. 4 report in Science Codex featured research led by Weiming Yuan, assistant professor of molecular microbiology and immunology at the Keck School of Medicine, that describes a new breed of mouse that possesses an immune response more like a human’s.

A Feb. 4 article in VOXXI cited a 2006 study led by Michael Goran, who holds the Dr. Robert C. and Veronica Atkins Endowed Chair in childhood obesity and diabetes and is professor of preventive medicine, physiology & biophysics and pediatrics at the Keck School of Medicine, finding that overweight Hispanic children are at significant risk for pre-diabetes.

A Feb. 5 article by HealthDay News quoted Sean Nordt, assistant professor of clinical emergency medicine at the Keck School of Medicine, about cancer screening. “Countries that screen [for prostate cancer] have half the death rate of countries that don’t,” Agus said. “In the United States, since we started screening, the death rate is down over 45 percent.”

The Jan. 31 section of *The Desert Sun* featured an article by Kevan Craig, assistant professor of clinical pediatrics at the Keck School of Medicine, about a Children’s Hospital Los Angeles patient’s recovery after a near-fatal hit-and-run accident.


A Jan. 30 broadcast on KCET-TV’s “SoCal Connected” interviewed Sean Nordt, assistant professor of clinical emergency medicine of the Keck School of Medicine, about the dangers of designer drugs called “bath salts.”

A Jan. 28 article in *The Plain Dealer* featured research by Wei-An “Andy” Lee, assistant professor of clinical medicine at the Keck School of Medicine, about arthritis comes from the blood. “Arthritis is a disease of the joints, but it’s also a disease of the blood,” Lee said. “One of the most common forms of arthritis is osteoarthritis, which is a degenerative disease that occurs in the joints.”

A Feb. 3 article by HealthDay News quoted Andrew Curtis, now at Kent State University, also conducted research in this area while he was a USC faculty member.

A Jan. 30 broadcast on KFMB featured research led by David Agus, professor of medicine at the Keck School of Medicine, about cancer screening. “Countries that screen [for prostate cancer] have half the death rate of countries that don’t,” Agus said. “In the United States, since we started screening, the death rate is down over 45 percent.”

The Jan. 31 section of *The Desert Sun* featured an article by Kevan Craig, assistant professor of clinical pediatrics at the Keck School of Medicine, about a Children’s Hospital Los Angeles patient’s recovery after a near-fatal hit-and-run accident.


A Jan. 30 broadcast on KCET-TV’s “SoCal Connected” interviewed Sean Nordt, assistant professor of clinical emergency medicine of the Keck School of Medicine, about the dangers of designer drugs called “bath salts.”

A Jan. 28 article in *The Plain Dealer* featured research by Wei-An “Andy” Lee, assistant professor of clinical medicine at the Keck School of Medicine, about arthritis comes from the blood. “Arthritis is a disease of the joints, but it’s also a disease of the blood,” Lee said. “One of the most common forms of arthritis is osteoarthritis, which is a degenerative disease that occurs in the joints.”

A Feb. 3 article by HealthDay News quoted Andrew Curtis, now at Kent State University, also conducted research in this area while he was a USC faculty member.

A Jan. 30 broadcast on KFMB featured research led by David Agus, professor of medicine at the Keck School of Medicine, about cancer screening. “Countries that screen [for prostate cancer] have half the death rate of countries that don’t,” Agus said. “In the United States, since we started screening, the death rate is down over 45 percent.”

The Jan. 31 section of *The Desert Sun* featured an article by Kevan Craig, assistant professor of clinical pediatrics at the Keck School of Medicine, about a Children’s Hospital Los Angeles patient’s recovery after a near-fatal hit-and-run accident.


A Jan. 30 broadcast on KCET-TV’s “SoCal Connected” interviewed Sean Nordt, assistant professor of clinical emergency medicine of the Keck School of Medicine, about the dangers of designer drugs called “bath salts.”

A Jan. 28 article in *The Plain Dealer* featured research by Wei-An “Andy” Lee, assistant professor of clinical medicine at the Keck School of Medicine, about arthritis comes from the blood. “Arthritis is a disease of the joints, but it’s also a disease of the blood,” Lee said. “One of the most common forms of arthritis is osteoarthritis, which is a degenerative disease that occurs in the joints.”

A Feb. 3 article by HealthDay News quoted Andrew Curtis, now at Kent State University, also conducted research in this area while he was a USC faculty member.

CENTER: USC celebrates grand opening

Continued from page 1 around our university patients,” Habers said. “We are just starting out, but this practice will continue to evolve as specialists join—including cardiology, dermatology and others—and as we adapt our operations to most effectively meet the needs of USC faculty and staff.”

To express the university’s gratitude, USC President C. L. Max Nikias invoked the words of the ancient Greek physician Hippocrates on Jan. 29. “Wherever the art of medicine is loved, there is also a love of humanity.”

Nikias called the Engemann “two familiar philanthropists who have demonstrated their love of humanity and of this university through their extraordinary legacy of generosity and support.”

Vice President for Student Affairs Michael L. Jackson, who served as the grand opening master of ceremonies, praised the leading-edge center as a great achievement.

“I am really proud to again celebrate another great accomplishment by the university, the Division of Student Affairs and our campus partners who played instrumental roles in the development of the Engemann Student Health Center,” he said.

The festivities concluded with a symbolic ribbon-cutting ceremony, a bright burst of cardinal and gold confetti, and a brassy performance by the USC Trojan Marching Band.

Volunteers sought for LA Marathon—For the second year, the Keck Medical Center of USC is the official medical sponsor of the 2013 LA Marathon, which will be held Sunday, March 17. The Keck Medical Center is seeking 150 medical and non-medical staff, faculty and student volunteers to staff the medical stations along the race course and to care for the runners from start to finish. Physicians and nurses from the Keck Medical Center are encouraged to participate, as well as students and faculty from the Keck School of Medicine of USC. Volunteers will provide on-the-spot care at mobile medical tents along the 26.2-mile course, which starts at Dodger Stadium and ends at the Santa Monica Pier. With 25,000 expected runners, thousands of volunteers and hundreds of thousands of spectators, the LA Marathon is one of the largest organized road races in the country. Above, at the 2012 LA Marathon, USC medical-resident Alyana Elston and other volunteers assist a runner out of the medical tent. To volunteer and be a part of this event this year, email AssociateCaucuscpcusc.edu.
Calendar of Events

Monday, Feb. 11
4 p.m. NPG Distinguished Speaker Seminar Series “The Circuit of Valu and Incentive-Based Learning: Linking Connectivity to Function and Disease,” Suzanne Haber, University of Rochester Medical Center. BCG Seminar Room. Info: (323) 442-7674

Tuesday, Feb. 12

Noon, Broad Center for Regenerative Medicine and Stem Cell Research at USC. “Epigenetic Mechanisms of Tumor Maintenance.” Pooja Acalfadi, SBI BCG Seminar Room. Info: (323) 442-8080

Thursday, Feb. 14
Noon, Cellular Homeostasis Lecture. “The Immune Response and Biliary Arteriosclerosis: Guilt and Redemption,” Jorge Bezerra, Cincinnati Children’s Hospital Medical Center. ME3 156. Info: (323) 442-3121

Friday, Feb. 15
8:30 a.m. Surgical Grand Rounds. “Transplant Education Network—Liver Graft Survival and Beyond: Renal Function, HCV and BCG,” James Troster, Baylor University. DOH 1st Floor Auditorium. Info: (323) 442-9864

Monday, Feb. 18

Tuesday, Feb. 19
10:30 a.m. Keck Hospital of USC Guild Speaker Series “Brain Wellness—Saving Our Brains from Artiosclerosis,” Helena Chiu, USC. DEI 3rd Floor Auditorium. Lunch immediately following. $25. Info: (323) 254-0690


Thursday, Feb. 21
Noon, Cellular Homeostasis Lecture. “Role of Nuclear Receptor HNF4 in Cancer,” Frances Slack, USC. Riverside. ME3 156. Info: (323) 442-3121


5:30 p.m. – 7 p.m. Orthopaedic Surgery Grand Rounds. “Influence: What Does It Take to Change Our Minds?” James Kellam, Carolina Medical Center SRT Axery Auditorium. Reception: 5:30 p.m. – 6 p.m. Lecture begins promptly at 6 p.m. Info: (323) 226-7204

Friday, Feb. 22
Noon, Center for Applied Molecular Medicine: “Can Cancer Be Reversed by Engineering the Tumor Microenvironment?” Donald Ingber, Harvard. USC. 250. Info: (323) 442-4149

1:30 p.m. KSOM Research Seminar “The mTOR Pathways in Nutrient Sensing, Autophagy, Cell Growth, and Cancer.” Ran- Liang Guan, UC San Diego. SRT Axery Auditorium. Info: (323) 442-7732

Monday, Feb. 25
11:30 a.m. KSOM Research Seminar “Using Genomics to Search for New Viral Cancers and Treatments for Cancers,” Patrick Moore, University of Pittsburgh. SRT Axery Auditorium. Info: (323) 442-7732

Tuesday, Feb. 26

Dying young: Americans now less likely to make it to 50

By Suzanne Wu

A report released in January by the National Academies paints a dire picture of American health. Not only do people in the United States die sooner than people in other high-income countries, but American health is poorer than in peer countries at every stage of life—from birth to childhood to adolescence, in youth and middle age, and for older adults. “The problem is not limited to people who are poor or uninsured,” said Eileen Cunniff, holder of the AARP Chair in Gerontology at the USC Davis School of Gerontology and a member of the National Research Council panel that compiled the report. “Even Americans with health insurance, higher incomes, college education and healthy behaviors, such as not smoking, seem to be sicker than their counterparts in other countries.” In contrast to prior research on life expectancy that focused on people over 50, the 10-person panel, chaired by Dr. William McFarland of Virginia Commonwealth University, examined potential health disadvantages among younger Americans and found that Americans are less likely to make it to age 50 at all. Deaths before age 50 account for about two-thirds of the difference in male life expectancy between the United States and other developed countries and about one-third of the difference in female life expectancy, the report found.

Among the 17 peer countries examined by the panel—all high-income democracies with relatively large populations—people in the United States are much more likely to die of almost everything, including injury, noncommunicable diseases, such as diabetes, and communicable diseases, such as HIV. In particular, among the countries studied: Americans are the most likely to die in transportation accidents. The rate of violent death is also significantly higher in the U.S., especially death from firearms. Americans are much more likely than people in peer countries to die from maternal conditions related to pregnancy. Since the 1990s, among high-income countries, teenagers in the United States have much higher rates of pregnancy and are more likely to acquire sexually transmitted diseases. Though the incidence of AIDS has fallen in the last two decades, the United States still has the highest incidence of AIDS among peer countries. Overall, the United States has the fourth highest mortality from communicable diseases, behind Portugal, Japan and the U.K. The United States has the highest prevalence of diabetes and high rates of obesity, starting in childhood. For an interactive chart of how the U.S. stacks up against peer countries in causes of death, visit bit.ly/com/deathfromacalcauses.

In case of an emergency...

Call the Emergency Information Phone: (413) 740-3323 The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

Visit the USC Web: http://emergency.usc.edu This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.