*Comparative Research One Health News Bits*

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[**Jellyfish movement could propel human cardiac research**](http://online.wsj.com/article/SB10000872396390444097904577539081426736516.html?mod=dist_smartbrief)

The movement of jellyfish at Boston's New England Aquarium inspired Harvard bioengineer Kevin Kit Parker to create a robotic version of the fish using synthetic material overlaid with heart cells from rats. The robot moves through fluid in response to an electrical current. The scientists aim to harness the techniques to produce systems needed for humans, such as pacemakers that don't run on batteries.

[**Scientists manipulate monkey behavior with light impulses**](http://www.sciencedaily.com/releases/2012/07/120726122110.htm)

Scientists altered monkey behavior by using blue-light impulses, which selectively stimulated certain brain neurons while leaving others untouched, causing specific eye movements in the monkeys. It is a landmark study in the field of optogenetics, the study of the casual connection between behavior and brain activity. The findings could lead to new therapies for human neuronal disorders including Parkinson's disease, depression, addiction and others. (7/26)

[**Silver-coated artificial skin holds promise for extensive wounds**](http://www.news.wisc.edu/20925)

Applied onto the business end of artificial skin, nanofilms that release antibacterial silver over time can eradicate bacteria in full-thickness skin wounds in mice. Pioneered by a multidisciplinary team of researchers from the University of Wisconsin-Madison, University of Colorado-Denver, and University of California, Davis, such antibacterial wound dressings someday could benefit millions of people worldwide who suffer from serious burns or chronic wounds. (7/31)

[**Gecko research may lead to adhesive that stays sticky when wet**](http://www.sciencedaily.com/releases/2012/08/120809162706.htm)

In an effort to produce an adhesive that works even when wet, University of Akron researchers are studying the sticking properties of geckos, who have an uncanny ability to adhere to slippery vertical surfaces. "Nature gives us a certain set of rules that point us in the right direction," said researcher Ali Dhinojwala. The findings may lead to an adhesive that can be used inside the human body, applied during surgery. (8/9)

[**Study: Iron in concert with faulty gene may lead to colon cancer**](http://www.upi.com/Health_News/2012/08/10/Iron-faulty-gene-cause-bowel-cancer/UPI-13721344657514/?spt=hs&or=hn)

Mice with a faulty APC gene that were fed high amounts of iron were up to three times more likely to develop colon cancer, and those given a low-iron diet did not develop the disease, according to researchers at Cancer Research UK and at the Beatson Institute for Cancer Research in Glasgow, Scotland. "It's clear that iron is playing a critical role in controlling the development of bowel cancer in people with a faulty APC gene," said researcher Owen Sansom. (8/10)

[**Sharks get suntans without cancer worries**](http://news.discovery.com/animals/sharks-tan-skin-cancer-120815.html)

Sharks' skin turns black from exposure to the sun, but the tan doesn't come with the same cancer concerns that plague other species after exposure to ultraviolet rays, scientists say. Researchers hope to discover the secrets of sharks' resilient skin and replicate the beneficial properties for humans. (8/15)

[**Can purebred dogs hold the key to human genetic discoveries?**](http://www.latimes.com/news/science/sciencenow/la-sci-sn-dog-genes-diseases-20120815,0,4585188.story)

Unlike people and mutts, purebred dogs have been bred from a small number of ancestors, making them the perfect subjects to teach us about the genetic links that lead to many diseases in humans, according to researcher Elaine Ostrander of the National Human Genome Research Institute. Canine genes may hold the answers to questions about a slew of diseases from epilepsy to conditions that cause blindness and kidney cancer, she wrote in The New England Journal of Medicine. (8/15)

[**Mouse study shows how brains flush out waste**](http://www.wired.com/wiredscience/2012/08/brain-waste-cleaning/)

Every system in the body needs a way to get rid of the waste it produces, and the brain is no different, says neuroscientist Jeffrey Iliff of the University of Rochester Medical Center. Iliff and his research team's studies of mice suggest that brains likely rid themselves of waste through cerebrospinal fluid that flows outside blood vessels in protein structures similar to pipes. When the structures break down, waste such as the amyloid proteins linked to Alzheimer's disease can build up, researchers say. (8/15)

[**Prosthetic retina helps to restore sight in mice**](http://www.nature.com/news/prosthetic-retina-helps-to-restore-sight-in-mice-1.11164)

Two neuroscientists have created a prosthesis that can partially restore the sight to blind mice. The device could eventually be developed for use in humans. More than 20 million people worldwide become blind owing to the degeneration of their retina, the thin tissue at the back of the eye that turns light into a neural signal. (8/13)

[**Swine parasite tested for treatment of human immune disorders**](http://articles.chicagotribune.com/2012-08-24/lifestyle/sns-rt-us-usa-health-parasitesbre87n0uw-20120824_1_rheumatoid-arthritis-pig-whipworm-autoimmune-disease-drugs)

A new drug composed of pig whipworm eggs may help people fight autoimmune diseases because the eggs somehow manipulate the human immune system, instructing it to stop attacking itself. The drug, called trichuris suis ova and developed by Coronado Biosciences, is entering human trials for patients with Crohn's disease, and the company hopes the drug will one day be useful for other disorders such as rheumatoid arthritis and psoriasis. (8/24)

[**Canine genetics research sheds light on human diseases**](http://www.norwichbulletin.com/columnist/x1606939121/Dr-Murray-Feingold-Animal-genetics-help-scientists-understand-diseases)

Scientists are learning about conditions that afflict both dogs and people by studying canine genetics, writes physician Murray Feingold. Canine studies of chondrodysplasia, a genetic condition that causes abnormally short limbs in dogs and humans, have identified the gene and the chromosome responsible for the condition. Other disorders dogs and humans both suffer from include some cancers, epilepsy and lupus erythematosus, and Dr. Feingold says canine genetics research will help dogs and people. (9/5)

[**Oncolytic viral therapy shows promise in treating canine cancer**](http://www.redorbit.com/news/science/1112691649/cancer-in-dogs-new-treatment-091112/)

Myxoma, a pox virus that infects rabbits but not dogs or humans, successfully infected and killed canine cancer cells in culture, according to a recently published study by researchers at the University of Illinois at Urbana-Champaign. Oncolytic therapy, as the process is called, has been successful in cats with cancer when combined with traditional treatment. "Ideally, what would happen is the virus would get into a few cancer cells, cause cell death and then spread to the other tumor cells nearby," said veterinarian and pathobiology professor Amy MacNeill. Trials in dogs are a few years away, but it's possible the treatment will one day also benefit humans with cancer. (9/11)