***Comparative Research One Health News Bits***

July 7, 2012

[**Pufferfish beak model may lead to dental advancements for people**](http://www.sciencedaily.com/releases/2012/05/120514112826.htm)

Prickly pufferfish could hold the key to why humans do not continually replace their teeth and may lead to advances in dental therapies.  New research focusing on tooth development in the deadly fish -unchanged through evolution -- shows that after the first generation of teeth the program for continued tooth replacement modifies to form a distinctive and unusual `parrot like´ beak. (5/14)

[**Substance from Gila monster saliva cuts cravings**](http://www.sciencedaily.com/releases/2012/05/120515165405.htm)

A substance derived from the saliva of the Gila monster lizard has been shown to curb cravings in rats for chocolate and other foods, according to researchers at Sahlgrenska Academy at the University of Gothenburg in Sweden. A synthetic version of the substance, exendin-4, is used to help patients with type 2 diabetes control their blood sugar. "As exendin-4 suppresses the cravings for food, it can help obese people to take control of their weight," says physiology professor Suzanne Dickson. (5/15)

[**Social status connected to immune function, baboon study finds**](http://phys.org/news/2012-05-social-status-faster-wound-wild.html)

Male baboons with high social status get sick less and recover from injuries more quickly than lower-ranking males, according to a recent study incorporating 27 years of data. "This research begins to tease apart the trade-offs in both high and low status in primates, including ourselves, which may lead to understanding the effects of social status on death and disease -- not inconsequential for society as a whole," said Carolyn Ehardt, program director for biological anthropology at the National Science Foundation. (5/21)

[**Physicians perform revolutionary minimally invasive gastric bypass on swine**](http://consumer.healthday.com/Article.asp?AID=664976)

In a scenario reminiscent of the film *Fantastic Voyage*, researchers have found a way to perform nearly surgery-free gastric bypass procedures in pigs using only a local anesthetic. The procedure, done with moveable magnets, is completed in less than a half-hour, the researchers said, and reroutes the digestive tract without leaving behind any foreign material. (5/21)

[**Smell of fear spreads among groups**](http://www.nytimes.com/2012/05/29/health/fish-smell-danger-and-perhaps-we-do-too.html)

Researchers have discovered that chondroitins, substances in the outer mucus of zebra fish, fragment into particles and disperse into the water when a fish is injured, sparking alarm and anxious behavior in nearby fish. Scientists hope to use this information to advance knowledge of similar types of fear and anxiety in people. (5/28)

[**Canine cancer genetics sheds light on cancer in humans**](http://blogs.webmd.com/pet-tales/2012/06/of-man-and-dog-the-fight-against-cancer.html)

Because genetic abnormalities in human cancers are difficult to pinpoint, studies such as this one help to identify genetic abnormalities to target in future human studies of lymphoma. A[newer study](http://www.webmd.com/click?url=http%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpubmed%2F21375435) employed a virtual rearrangement of chromosomes from Golden Retrievers and other breeds to match the distribution of genes on human chromosomes and identified human chromosomes 8 and 21 as areas for further study to advance knowledge and treatment of human lymphoma.

[**Blood test for canine lymphoma may also help people**](http://www.telegraph.co.uk/finance/businessclub/9339813/Petscreens-cancer-test-for-animals-could-benefit-humans.html)

U.K.-based Petscreen has developed a blood test that detects early stage lymphosarcoma in dogs using biomarkers. The company found the test may also benefit human patients and is developing a similar screening process for people. The test won't be available for humans for at least three to five years. (6/19)

[**Gene mutation explains ataxia in dogs, may aid in human disorders**](http://www.livescience.com/21015-finnish-hound-brain-disease-gene.html)

Scientists recently discovered the gene mutation that leads to cerebellar ataxia in some Finnish hounds. Symptoms typically develop at about two months of age, and since no treatment exists, affected dogs are euthanized. The discovery is the first gene mutation associated with ataxic conditions in dogs, and the information may help find causes of human degenerative brain diseases. (6/18)

[**Tufts research team develops new treatment for botulism**](http://www.telegram.com/article/20120619/NEWS/120619482/1116)

Researchers at Tufts University's Cummings School of Veterinary Medicine have developed a new treatment for botulism. Working with alpacas and mice, the team developed a way to mount a strong antibody reaction to botulism to clear the toxin. The method may also apply to other agents of disease, such as inflammatory cytokines and viruses. (6/19)

[**Frog researchers stumble upon key to rare human disease**](http://www.mlive.com/news/kalamazoo/index.ssf/2012/06/frog_research_leads_to_western.html)

During a study of how environmental factors affect frogs in the Kalamazoo River, Western Michigan University researchers noticed the frogs developed Parkinson's-like symptoms after exposure to PCBs, stumbling upon a way to study multiple system atrophy (MSA). A rare and devastating disease, MSA affects roughly 100,000 people, slowly robbing them of bodily functions. The Western Michigan team's research has now expanded to study MSA with physicians and scientists from around the country. (6/18)

[**Brain tumor vaccine trial helps dog enjoy life**](http://www.nwitimes.com/niche/yourfamily/pets/local-dog-gets-experimental-treatment-for-brain-tumor/article_93492e91-1265-5758-93e1-5cc8153e66bb.html)

A new procedure to treat gliomas and other brain tumors in people and dogs is being tested in dogs, thanks to a collaborative effort between the University of Minnesota's Veterinary Medical Center and the Masonic Cancer Center. After tumor removal, dogs with gliomas are given a vaccine produced from their own tumor cells, along with chemotherapy. One family, introduced to the study by Purdue University veterinary neurosurgeon Timothy Bentley, reports that their dog, Peyton, is still experiencing a good quality of life after participating in the trial. (6/24)

[**Genetically altered bacteria may help cure myriad of human ailments**](http://www.gainesville.com/article/20120622/ARTICLES/120629837?p=1&tc=pg)

Modified bacteria reduced the number of colon polyps when injected into mice with pre-cancer, according to research from the University of Florida College of Veterinary Medicine. The bacteria work by preventing rampant infighting among inflammatory cells that often initiates serious human ailments, such as colon cancer, inflammatory bowel disease and diabetes. "This has far-reaching implications for the development of therapies derived from microbes that can treat many types of complex immune and digestive disorders," said University of Chicago medicine professor Dr. Eugene Chang, who was not involved in the research. (6/22)

[**Hibernating mammals help scientists study Alzheimer’s disease**](http://www.scientificamerican.com/article.cfm?id=arctic-ground-squirrel-brain)

The brains of hibernating mammals such as ground squirrels and bears actually lose a significant amount of neuronal connections during hibernation and are almost overrun with tau, a protein that gets distorted and accumulates in the brains of people with Alzheimer's disease. Studies have shown that ground squirrels' brains have somehow gotten rid of the tau proteins and re-established a vibrant neuronal network in as little as a couple of hours after emerging from months of hibernation. (6/26)

[**Sequencing of parrot genes may help study of human speech**](http://www.sciencedaily.com/releases/2012/07/120702210229.htm)

Scientists say they have assembled more completely the string of genetic letters that could control how well parrots learn to imitate their owners and other sounds. The research team unraveled the specific regions of the parrots' genome using a new technology, single molecule sequencing, and fixing its flaws with data from older DNA-decoding devices. (7/2)

[**New canine lymphoma treatment may help children**](http://decodedscience.com/dog-cancer-canine-lymphoma-treatment/15529)

Veterinarians at Texas A&M University, in conjunction with the University of Texas MD Anderson Cancer Center, found that removing the t-cells of dogs with lymphoma, culturing them and then re-introducing those cells after chemotherapy helped fight the cancer and had few side effects. The findings may be helpful for children with lymphoma who don't easily tolerate the side effects of chemotherapy. (7/4)