June 24, 2012

Previous examples of the Zoobiquity book's foundation and principles have been posted on the One Health Initiative website since 2009 and are included in the PDF link below:

PRIMATOLOGY CAN PROVIDE CRITICAL LINKS FOR THE "ONE HEALTH INITIATIVE" - Monday, February 27, 2012

Important One Health Endorsement Statement provided to One Health Initiative team / website February 24, 2012

PRIMATOLOGY CAN PROVIDE CRITICAL LINKS FOR THE "ONE HEALTH INITIATIVE"

***Joseph M. Erwin, PhD, and **Patrick R. Hof, MD**

Humans are primates, and detailed studies of the health and behavior of human and nonhuman primates across the life span, in natural and disturbed settings, as well as in research facilities, breeding colonies, and zoological gardens, can yield much information of mutual benefit to human and nonhuman primates. Collaborative participation by physicians, veterinarians, and primatologists in the "One Health Initiative" promotes increased understanding of fundamental biological systems, while enhancing prospects of detecting emerging pathogens, along with genomic vulnerabilities and protections, and environmental hazards.

Evidence-based approaches to advancing human health also have the potential of promoting the health, well-being, and conservation of the nonhuman primates. We envision increased cooperation among scientists in fields ranging from wildlife medicine and virology to behavioral ecology and comparative primate biology. Field stations initially set up for conservation biology could be productively equipped to serve as sentinels for detecting and monitoring emerging pathogens. Initiatives for global virus hunting could be interwoven with ecological monitoring projects.

We wish to add our voices to the call for increased collaboration and cooperation and interdisciplinary commitments to data and tissue resource sharing, and we urge colleagues to join in the "One Health Initiative."

***Dr. Erwin**, George Washington University, Washington, DC (USA), is currently an independent consultant (Needmore, PA). Clients include National Institutes of Health contractors, architectural firms, research suppliers, pharmaceutical companies, medical schools and universities and conservation organizations.

****Dr. Hof** is Regenstreif Professor of Neuroscience and Vice-Chair, Department of Neuroscience, Mount Sinai School of Medicine, New York, NY (USA).

Among many other prominent publications and accomplishments, **Drs. Erwin and Hof** are noted for co-editing the book "***Aging in Nonhuman Primates.*** Basel: Karger, 2002. Vol. 31, ***Interdisciplinary Topics in Gerontology*** (Hof, P., and Mobbs, C., Series Editors).

A One Health model...Canine Models of Human Diseases - Thursday, February 09, 2012

A One Health model...prepared for the One Health Initiative website Feb 7, 2012

Canine Models of Human Diseases

By *Thomas P. Monath, MD, FACP, FASTMH

A recent paper by Grall *et al.* published in *Nature Genetics* (2012;44:140-9) and highlighted in *Science* (2012;335:271), reminds us of the value of spontaneous diseases of animals, particularly dogs, to our understanding of human disease genetics and pathophysiology and to the development of therapeutic interventions. Physicians concerned principally with clinical medicine, who may have more difficulty grasping One Health principles calling for closer ties with the veterinary medical community, may be especially interested in the illustration provided by this publication.

Grall *et al.* describe a spontaneous disease in golden retriever dogs that clinically resembles a form of congenital ichthyoses in humans. Ichthyoses include both nonsyndromic ichthyosis vulgaris and various syndromic forms associated with a noncutaneous abnormalities (e.g., Netherton syndrome, Chanarin-Dorfman syndrome, Sjogren-Larsson syndrome, and Refsum's disease). The genetic basis of ichthyoses and other rare diseases in humans is difficult to study because of the inability to collect enough families affected by a single clinical entity. In contrast, dogs are subject to intensive in-breeding used to select for desirable traits, and in consequence have developed a number of breed-specific congenital disorders. Dog breeds thus represent a unique model for identifying genetic linkages responsible for

disease expression. Multiple breed-specific forms of ichthyoses have been described, and the genetic basis of a few of these have been identified: e.g. Norfolk terriers [mutation in the KRT10 (Keratin 10) gene], and Jack Russell terriers [insertion in the TGM1 gene, a gene associated with human ichthyosis also].

In the recent paper by Grall *et al*. a homozygous mutation in PNPLA1 was identified in golden retrievers with hereditary nonepidermolytics retention ichthyosis, a disease that has recently spread throughout the breed due to repeated in-breeding of champion dogs. The authors then studied 46 consanguineous human families with congenital ichthyoses in which previous genetic studies had failed to find a causative mutation. In two families with multiple affected siblings, homozygous mutations in PNPLA1 were found. The study showed that mutations in PNPLA1, the result of autosomal recessive segregation during in-breeding, were responsible for a similar clinical disorder in dogs and humans.

This is not a unique example, and indeed there are numerous reports of spontaneous hereditary diseases of dogs serving as important models for human hereditary diseases, often with homologous single-gene defects. A few examples may be cited, including: Progressive retinal atrophy (PMA) in dogs is the canine equivalent of retinitis pigmentosa in humans; other retinopathies, such as Leber congenital amaurosis; X-linked myotubular myopathy in Labrador retrievers; inherited glycogen storage disease in Maltese terriers analogous to human von Gierke disease (mutation in glucose-6-phosphatase-ƒÑƒw; and trapped neutrophil syndrome in border collies, a model for Cohen's syndrome in humans.

The practical value of these genetic homologies and canine models for human medicine is immense, because the gene defects, once identified and understood, can be used for diagnosis and genetic counseling, and for the design of specific interventions, including gene therapy. The genetic bottlenecks introduced in the practice of selective breeding of dogs has revealed much about the genetic basis of human disease, and represents a field of study of invaluable consequence to human medicine. The relevance to One Health is clear.

*Dr. Monath is an Adjunct Professor at Harvard School of Public Health and a co-founding member of the One Health Initiative team/website.

A relevant One Health Issue...The National Link Coalition: Multi-disciplinary Human-Animal Partnerships to Prevent Family and Community Violence - Wednesday, January 18, 2012

A relevant One Health Issue...

A relevant One Health Issue...

The National Link Coalition:

Multi-disciplinary Human-Animal Partnerships to Prevent Family and Community Violence

Provided to One Health Initiative website/team January 12, 2012:

By PHIL ARKOW

Coordinator, National Link Coalition

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Please view original submission at http://www.onehealthinitiative.com/publications/One%20Health%20-%20description%20of%20NLC2.pdf

Much as the One Health movement emerged from veterinary medicine and envisioned partnerships with human healthcare to effect more comprehensive solutions to health issues affecting humans and other species, the National Link Coalition was born in 2008 as a way to improve well-being through unique human-animal collaborations. The Coalition came about through impetus from the animal welfare community, in response to growing scientific evidence from the social sciences, criminology and behavioral health fields, about the impact of animal cruelty on interpersonal aggression and other criminal behaviors. Like One Health proponents, we believe that human and animal interests are inextricably intertwined, and that animal welfare is also a human well-being issue. We promote a collaborative approach between humane and human services that transcends institutional and disciplinary boundaries to ensure a more effective approach to breaking the cycles of violence and protecting all vulnerable members of society.

The National Link Coalition is an informal, multidisciplinary, collaborative network of individuals and organizations in human services and animal welfare who address what we call “The Link”: the intersections between animal abuse, domestic violence, child maltreatment and elder abuse *(see diagram below)*. We explore these linkages through research, public policy, programming, and community awareness. We believe that human and animal well-being are inextricably intertwined and that the prevention of family and community violence can best be achieved through partnerships representing multi-species perspectives. The National Link Coalition’s vision is:

The Link between violence against humans and violence against animals is widely known and understood. We believe that through the recognition and integration of this understanding

into policies and practices nationwide, humans and animals will be measurably safer.

With 98% of Americans considering pets to be significant companions and members of the family, it is apparent that a “siloed” approach in which veterinary medicine, animal welfare, animal control, and animal cruelty prevention are segregated from their human health, social services and law enforcement counterparts is no longer appropriate.

Research continually demonstrates that acts of animal abuse serve as indicators, and frequently as predictors, of family dysfunction, behavioral health problems, and interpersonal violence. We believe that a synergistic approach, on the local, national and global levels, can be more effective in bridging gaps and treating violence prevention holistically. Our trainings to veterinarians cite the One Health concept as a rationale for practitioners to recognize not only animal cruelty but child abuse, domestic violence and elder abuse as well. Our trainings to physicians and human healthcare personnel encourage them to be sensitive to the emotional attachments their patients may have towards pets, and to see animal abuse and neglect as sentinel problems indicating potential human wellness issues.

We believe that the prevention of family and community violence is amenable to public health solutions and therapeutic interventions. We focus on what we call “the dark side” of the human-animal bond: the broken bonds that emerge from negative interactions between the species and how these events frequently manifest in interpersonal violence. We also work with the good side of the human-animal bond, using animal-assisted therapy and unique behavioral health approaches to treat the perpetrators and victims of animal abuse.

Our programs include an extensive speakers’ bureau with trainings targeted to human and veterinary medicine, law enforcement, social work, the criminal justice system, child welfare, domestic violence, adult protective services, and many other disciplines; a monthly electronic bulletin, *The LINK-Letter,* now being distributed to 970 readers in 25 countries; partnerships with sister organizations in the U.K., the Netherlands, and Spain; monthly webinars for prosecutors handling animal cruelty cases in collaboration with the National District Attorneys Association, the ASPCA and the Animal Legal Defense Fund; practice management guidelines to help veterinarians recognize and respond to family violence; and campaigns to establish community coalitions against violence, cross-reporting and cross-training programs that integrate humane and human services agencies.

For additional information please visit www.nationallinkcoalition.org or contact coordinator Phil Arkow at arkowpets@snip.net.

One Health Initiative: Fat Cat? - U. S. Department of Health and Human Services – Food and Drug Administration (FDA) - November 2, 2011 - Thursday, November 03, 2011

U. S. Department of Health and Human Services – Food and Drug Administration (FDA)

One Health Initiative: Fat Cat?

By Ashley Steel, Center for Veterinary Medicine, FDA - **November 2, 2011**

“We drive through 7 am gridlock to survive the monotony of our 9-to-5 jobs all to find a way to pay for life’s expenses. Sitting through crowded rush hours to meet the bottom line of modern life has become the dominant activity for some people’s bottoms, and they aren’t getting any smaller from all the use. Many of us, victims of hurry up and wait, just sit in our office cubicles day after very long day. And through it all, our furry little friends sit at home waiting lethargically for our return.

Today’s fast-paced, sedentary lifestyle makes it harder for people and their pets to lead healthy lives. So, with healthful

living for all in mind, a group of physicians, veterinarians, and other health professionals are working to "…promote, improve and defend the health and well-being of all species…." This effort, known as the One Health Initiative1, 2 is endorsed by major medical associations such as the American Veterinary Medical Association (AVMA), the American Society for Microbiology (ASM), and the Centers for Disease Control and Prevention (CDC), and is leading the way toward a healthier world.

People and animals are vulnerable to many diseases, some related to genetics and some to their own behavior. Certain diseases even impact multiple species. Obesity is a prime example of a medical condition that affects a variety of species, especially when the species share similar habits and environments. …"

Please read complete article:
http://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm278139.htm

One Health in ACTION! Massachusetts Institute of Technology (USA) study explains why men are at higher risk for stomach cancer than women - July 16, 2011 - Saturday, July 16, 2011

One Health in ACTION!

Massachusetts Institute of Technology (USA) study explains why men are at higher risk for stomach cancer than women

Cancer research studies by MIT researchers demonstrated how the hormone estrogen protects women from gastric (stomach) inflammation that can lead to cancer. See MIT News item of July 13, 2011 http://web.mit.edu/newsoffice/2011/gastric-cancer-0713.html.

This "One Health in ACTION" example highlights how utilizing co-equal multidisciplinary One Health principles can more expeditiously lead to potential life protecting and life saving acquisition of knowledge that is more likely to be efficacious.

Health scientists from three research institutions of higher learning in the U.S., including MIT, the University of North Carolina, Chapel Hill, North Carolina, and Columbia University, New York, NY participated. Moreover, a wide variety of health scientists holding degrees and having diverse expertise included outstanding researchers from disciplines including veterinary medicine and medicine. See list below including health scientists, veterinarians and a physician:

Authors and Affiliations of original June 16, 2011 scientific publication:

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The original scientific study referred to above is entitled "17 (lowercase beta)-estradiol and Tamoxifen prevent gastric cancer by modulating leukocyte recruitment and oncogenic cancer by modulating leukocyte recruitment and oncogenic pathways in Helicobacter pylori-infected INS-GAS male mice." This was a product of *Cancer Prevention Research-American Association of Cancer Research* **published OnlineFirst June 16, 2011.**

The Director of (and professor in) the Division of Comparative Medicine at MIT in Cambridge, MA (USA), veterinarian James G. Fox, DVM, MS said, "The mouse models of Helicobacter pylori induced gastritis and gastric cancer, developed in our laboratory, are used by investigators worldwide and have proven invaluable in dissecting the pathogenesis of Helicobacter pylori induced gastric cancer in humans". Dr. Fox is also a professor in MIT's Department of Biological Engineering. He currently serves on the One Health Initiative website's Honorary Advisory Board.

One Health in ACTION ... Unheralded Veterinary Medical Research Doctor Contributes to Clinical Human and Animal Medical Health - Wednesday, May 11, 2011

One Health in ACTION ...

Unheralded Veterinary Medical Research Doctor Contributes to Clinical Human and Animal Medical Health

Another prime example of interdisciplinary professionals collaborating and influencing the course of medical (health) research discoveries has been the important work by veterinarian **George E. Lees, DVM, MS**, currently with the Small Animal Clinical Sciences department of Texas A & M's college of veterinary medicine in College Station, Texas (USA).

Dr. Lees has collaborated with a large number of individuals (at several centers) who are not veterinarians - most are physicians and some are PhD scientists (mostly geneticists). These include doctors affiliated with the University of Minnesota School of Medicine (in Minneapolis) such as **Clifford E. Kashtan, MD**. Others, whose names appear as co-authors on various scientific publications are **Alfred F. Michael, MD, Young Ae Kim, PhD, Michelle Rheault, MD and Yoav Segal, MD, PhD**. Among other scientists affiliated with Boys Town National Research Hospital in Omaha, **Dr. Lees** has worked with **Dominic Cosgrove, PhD and Velidi H. Rao, PhD.** In addition, other collaborators have been a canine geneticist **Dr. Keith E. Murphy**, now Professor and Chair of Genetics and Biochemistry at Clemson University of South Carolina (USA), and physicians affiliated with Arhus University in Denmark, such as **Dr. Eric Christensen.**

A diplomate in the prestigious American College of Veterinary Internal Medicine (ACVIM), Dr. Lees' outstanding contributions to "One Medicine" (now commonly referred to as One Health) were discussed in an excellent feature called a "Hero in Medicine" **Our Hero in Medicine: George Lees, DVM, MS, DACVIM (Small Animal Internal Medicine)**.

"... On the outside, humans and canines may seem like complete opposites, but science is proving the two are more alike than different. Certain genetic disorders, such as Alport syndrome in people and hereditary nephropathy in dogs, are caused by similar genetic mutations.

Because of these similarities, studies into treatments for the disorders--including work conducted by George Lees, DVM, MS, DACVIM (Small Animal Internal Medicine)--benefit both species. ..."

"Hereditary nephropathy and Alport syndrome are due to defects in the genes that guide the synthesis of type IV collagen," Dr. Lees said. "In dogs, this in turn leads to progressive deterioration of kidney function and the development of chronic renal failure during adolescence." People with Alport syndrome often suffer from kidney damage, hearing loss, and sight deterioration. ...

Please read the entire article on the specific link http://www.acvim.org/websites/acvim/index.php?p=560. Permission to reprint this article on the One Health Initiative website was graciously granted on April 19, 2011 by:

Jenn Armbruster

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Canine Genetics May Hold "One Health" Answers for Humans - Monday, April 11, 2011
Canine Genetics May Hold "One Health" Answers for Humans

A study by U.S. and Swedish researchers discovered that a genetic variation causing Shar-Pei dogs to have wrinkled skin also is responsible for a periodic fever disorder is similar to periodic inherited autoinflammatory fever syndromes in humans http://www.niams.nih.gov/Health_Info/Autoinflammatory/default.asp. This research could help elucidate basic science understanding of both human and canine inflammatory diseases.

Detailed scientific information is contained in PLoS journal under the title:

"A Novel Unstable Duplication Upstream of *HAS2* Predisposes to a Breed-Defining Skin Phenotype and a Periodic Fever Syndrome in Chinese Shar-Pei Dogs"

http://www.plosgenetics.org/article/info%3Adoi%2F10.1371%2Fjournal.pgen.1001332

Discoverer of Cancer Causing Hepatitis B Virus and Nobel Prize Winner Dies: an apparent unrecognized "One Health" example - Thursday, April 07, 2011
Discoverer of Cancer Causing Hepatitis B Virus and Nobel Prize Winner Dies: an apparent unrecognized "One Health" example

Baruch S. Blumberg, MD, PhD, physician Nobel Prize winning biochemist and medical researcher who discovered the hepatitis B virus and subsequently showed that it could cause liver cancer (i.e., hepatocellular carcinoma) and helped develop a vaccine against it, died Tuesday. Among many other achievements, **Dr. Blumberg** was also associated with a National Aeronautics and Space Administration (NASA) project to find microorganisms in space.

According to an April 6, 2011 New York Times obituary, "… As in his disease studies, **Dr. Blumberg** sought collaborations with specialists in a variety of fields, including physics, chemistry, geology, paleontology and oceanography as well as biology and medicine that would "help us to recognize biospheres that might be different from our own" … " This represents the essence of **One Health**!

Noted U. S. "One Health" Veterinarian-Pathologist Wins 2011 'Michele Raible Distinguished Teaching Awards in Undergraduate Medical Education' - Sunday, March 27, 2011
Noted U. S. "One Health" Veterinarian-Pathologist Wins 2011 'Michele Raible Distinguished Teaching Awards in Undergraduate Medical Education'

One Health supporter/advocate and exemplar, **Peter Anderson, DVM, PhD** of the University of Alabama, Birmingham and **Byron Crawford, MD** of Tulane University were announced as winners of the 2011 Michel Raible Distinguished Teaching Awards in Under graduate Medical Education. **Drs. Anderson and Crawford** will be honored at the opening dinner of The Association of Pathology Chairs (APC) July 13-15 in Monterey, California (USA).

The APC is a non-profit society, which serves as the voice of academic departments of Pathology in the U.S., Canada and Puerto Rico. APC exists to provide leadership and advocacy for the dynamic discipline of Pathology and to enable academic departments to meet the demands of their three missions - medical education, research and practice. The APC provides education, training, information resources and networking opportunities for chairs, residency program directors through Program Directors Section or PRODS, medical student educators through Undergraduate Medical Educators Section or UMEDS, and department administrators through Pathology Department Administrators Section or PDAS in its 180 member institutions.

In a March 18, 2011 letter notifying **Dr. Anderson** of his award, **Peter E. Jensen, MD**, President, Association of Pathology Chairs ARUP Professor and Chair Department of Pathology University of Utah Emma Eccles Jones Medical Research Building said, "Your contributions will have a lasting impact on medical education, and a great and continuing legacy through your efforts in training individual physicians."

In addition to this honor, Dr. Anderson has many other extraordinary achievements. A "One Health in ACTION" **example**: **The coronary artery stent commonly used in people having heart attacks was invented in the 1990s by an Australian trained veterinarian/physician,** Dr. Gary Roubin**, now a prominent practicing physician**

interventional cardiologist in New York (USA) and **the late physician-radiologist Cesare Gianturco, MD (1905-1995). As a veterinarian pathologist at the University of Alabama Birmingham School of Medicine and a collaborator with Dr. Roubin, Dr. Peter Anderson performed the pathology examinations on intracoronary stents in pigs and these studies were sent to the FDA in order to get the stent approved for human use. Dr. Anderson also holds the patent for the idea of using a Taxol (paclitaxel) drug coating on the stents to help prevent restenosis.**

One Health Research for Animals and Humans – University of Missouri-Columbia's Comparative Orthopedic Laboratory (USA) - Wednesday, March 09, 2011

One Health Research for Animals and Humans – University of Missouri-Columbia's Comparative Orthopedic Laboratory (USA) [Over 8 year research collaborations between veterinarian/physician orthopedic surgeons, Drs. James L. Cook and Sony Bal at MU since early 21st century!!]

Foundation for Biomedical Research
818 Connecticut Avenue, NW
Suite 900
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info@fbresearch.org
www.fbresearch.org
www.researchsaves.org

Foundation for Biomedical Research's (FBR) newest TV spot, "Emma's Story," is now airing on national networks including Discovery Channel and Animal Planet. The 60-second spot features a young Labrador Retriever named Emma that received groundbreaking surgery to cure her of lameness by veterinarian, Dr. James L. Cook, the director of University of Missouri-Columbia's Comparative Orthopedic Laboratory who performed Emma's surgery and says today she is as good as new. "Emma's Story" shows viewers how animal research helps animals and humans too. Watch "Emma's Story" now on:

YouTube

Breast Cancer Awareness Month This October - One Health in ACTION: Human Breast Cancer Comparative Medicine Research Advances at MD Anderson Cancer Center - Wednesday, October 06, 2010

Breast Cancer Awareness Month This October

http://www.thepinkagenda.org/

This previous News item is how "One Health" comparative medicine has advanced critical scientific knowledge about Breast Cancer: think of what full One Health implementation and institutionalization could achieve!

One Health in ACTION: Human Breast Cancer Comparative Medicine Research Advances at MD Anderson Cancer Center - Friday, September 17, 2010

One Health in ACTION: Human Breast Cancer Comparative Medicine Research Advances at MD Anderson Cancer Center
Physicians, PhDs, and Veterinarians working collaboratively and synergistically
Department of Veterinary Sciences, Michale E. Keeling Center for Comparative Medicine and Research, The University of Texas
Provided September 13, 2010 by:

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Research at the Keeling Center has led to discovery of new breast cancer therapeutic monoclonal antibodies, and the development of early breast cancer tests based on the antibodies. These antibodies were discovered in the laboratory of Keeling Center investigator **Dr. Feng Wang-Johanning [MD, PhD]** and her Keeling Center collaborator, **Dr. Gary Johanning [PhD]**. The monoclonal antibodies are directed against an ancient retrovirus that originated outside the human body as a remnant of an exogenous retrovirus, and subsequently became

incorporated into the genome of primates millions of years ago. This retrovirus, termed human endogenous retrovirus (HERV), currently resides in the genome of all humans.

Dr. Wang-Johanning and **Dr. Johanning** are focusing their studies on one highly active subgroup of HERV, HERV type K. HERV-K is not usually expressed in normal, non-cancer cells, but they found that its expression re-emerges in human breast cancer, making it a good target for antibody therapy. **Dr. Wang-Johanning's** major research discovery to date is that monoclonal and single chain antibodies against HERV-K are effective in inhibiting breast cancer cell proliferation and inducing cell cycle arrest and apoptosis, both *in vitro* and *in vivo*. Pivotal studies in immunodeficient mice demonstrated that tumor sizes were significantly reduced, and onset of tumorigenesis was significantly delayed, in antibody-treated mice bearing breast tumors.

HERV-K is thus a novel antigen target for breast cancer, and **Dr. Wang-Johanning's** pre-clinical studies provide compelling evidence that antibodies to HERV-K have the potential to be effective therapeutic agents for treating breast cancer. She is currently developing humanized and human antibodies for clinical trials, aimed at translating her laboratory results to breast cancer patients. **Drs. Wang-Johanning and Johanning** are hopeful that this antibody will rival the effectiveness of the well-known breast cancer therapeutic antibody Herceptin. There is reason for their optimism, because while Herceptin is effective against only 25-30 percent of breast cancers, anti-HERV-K antibodies have the potential to be effective against almost all human breast cancers.

The research of **Dr. Wang-Johanning** and collaborators has just taken an exciting turn. They are taking advantage of the presence of HERV-K in breast cancer to develop early breast cancer tests. These tests are based on detection of anti-HERV-K serum antibodies and viral RNA, and will be analogous to the PSA test that is widely used for prostate cancer screening. There is a need for these tests, because currently there are no sensitive specific serum tests for breast cancer.

These discoveries would not have been possible without **"One Health"** collaboration between **Dr. Wang-Johanning's** group and investigators at the main **M. D. Anderson Cancer Center** campus in Houston. **Kelly Hunt, MD**, breast cancer surgeon, provided breast cancer serum and tumor tissues for **Dr. Wang-Johanning's** projects. In addition, **Stephan Ambs, PhD**, **National Cancer Institute**, is collaborating with **Dr. Wang-Johanning's** laboratory to assess the clinical significance of elevated HERV-K in breast cancer. **Bruce Bernacky, DVM** at the Keeling Center, will also play a prominent role in upcoming studies with **Dr. Wang-Johanning** because he will provide access to primates for testing her antibodies prior to human clinical trials.

———————————————————————————

Note: Please see the current issue of the Institute of Laboratory Animal Research (ILAR) Journal which contains **"One Health: The Intersection of Humans, Animals and the Environment – Scientific Editor: James G. Fox, DVM, MS** [2010 Volume 51, Number 3]
http://dels-old.nas.edu/ilar_n/ilarjournal/51_3/html/

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CAPRINE ARTHRITIS/ENCEPHALITIS - PHILIPPINES: COMPARATIVE MEDICINE ASPECTS - ProMED Post - Tuesday, September 21, 2010
CAPRINE ARTHRITIS/ENCEPHALITIS - PHILIPPINES: COMPARATIVE MEDICINE ASPECTS

Please see a notable One Health ProMED-mail posting on **One Health Initiative Website ProMED Page** - **Tuesday, September 21, 2010.**
http://www.onehealthinitiative.com/promed.php
http://www.promedmail.org/pls/apex/f?p=2400:1001:4788988141084359::NO::F2400_P1001_BACK_PAGE,F2400_P1001_PUB_MAIL_ID:1000,84924

One Health Advocate/Supporter Website Promotes Global Cancer Awareness - Monday, September 20, 2010
One Health Advocate/Supporter Website Promotes Global Cancer Awareness

A recent global call to action is now promoted on the "Millennium Medicine Project Global Cancer Initiative" of the Humanitarian Resource Institute. This website's One Health advocacy http://www.humanitarian.net/biodefense/fazdc/zdc1/ was previously reported on a One Health Initiative website News item April 24, 2010 (scroll down).

While scrolling down, please note the **specific One Health Cancer News items** highlighted, e.g. the first item under this announcement: **"One Health in ACTION: Human Breast Cancer Comparative Medicine Research Advances at MD Anderson Cancer Center".**

Two of many cancer references of interest:

1. Head and Neck Program at Smilow Cancer Hospital and the Yale School of Medicine. http://www.yaleheadandneck.org/
2. Cancer - Key Facts: World Health Organization. http://www.who.int/mediacentre/factsheets/fs297/en/index.html

"ONE HEALTH in Action" - First Flexible Coil Balloon Expandable Intracoronary Stent Development for Humans - Tuesday, February 09, 2010

"ONE HEALTH in Action" - First Flexible Coil Balloon Expandable Intracoronary Stent Development for Humans

The One Health initiative website has been advised by Peter G. Anderson, DVM, PhD, Professor & Director of Pathology Undergraduate Education and Pre-Clerkship Curriculum Coordinator at the Department of Pathology, University of Alabama at Birmingham (UAB) School of Medicine, that the "One Health Initiative" web link has been added to the front page of PEIR (http://peir.net).

Moreover, it should be noted that Dr. Peter G. Anderson, a veterinarian, represents a prime and significant historic example of "ONE HEALTH in Action". Dr. Anderson was part of the team that developed the first flexible coil balloon expandable intracoronary stent approved by the FDA for human use. This monumental development occurred in the early 1990's and now – almost 100% of patients who undergo the balloon angioplasty procedure also get a stent. These stents can be coated with drugs to help the blood vessel heal after the balloon procedure to prevent scar tissue from forming leading to restenosis. Today the drug coated stents that Dr. Anderson helped develop and holds a patent for are being used extensively to decrease morbidity and mortality in patients worldwide.

Gary Roubin, BVSc (equiv. DVM), MB (equiv. MD), PhD, an internationally renowned interventional cardiologist (currently at Lenox Hill Hospital in New York City, where he has been the Chairman of the Department of Interventional Cardiology and Director of the Cardiovascular Interventional Suites since 2004), worked to develop the first "balloon expandable intracoronary stent" used in the USA. Dr. Roubin came to the University of Alabama in 1989 where Dr. Anderson was the pathologist who participated in the animal studies using pigs. This animal data was sent to the FDA and eventually the stent was approved for human use. Dr. Anderson says, "While we [i.e., Drs. Roubin and Anderson] were waiting for approval for the FDA – we did get a "provisional" approval to use the stents in people if it was a life threatening situation. So, here at UAB we deployed many of the stents before they were formally approved by the FDA." "And, I did the autopsies on the people who died after stent implantation", said Dr. Anderson. "So, with Gary Roubin as corresponding author, we published the first paper describing the pathology of these balloon expandable flexible coil in people."

Dr. Anderson went on to say, "Gary is the cardiologist who was the innovator in developing the stents and has continued to be an internationally recognized leader in interventional cardiology. An interesting side note – Gary Roubin was originally from Australia. He started out as a veterinarian – then he went back to school to be a physician, received a PhD degree in physiology, trained in cardiology and then he came to the U.S. So, Gary Roubin started out as a veterinarian and then went on to be an internationally renowned interventional cardiologist."

Orthopedic Surgeons (a veterinarian and physician) Research Creative Hip and Knee Replacements for Dogs and Humans Together - Wednesday, June 03, 2009

One Health in ACTION!

Orthopedic Surgeons (a veterinarian and physician) Research Creative Hip and Knee Replacements for Dogs and Humans Together

Veterinarian James "Jimi" Cook, DVM, PhD, a University of Missouri- Columbia college of veterinary medicine professor of orthopedic surgery and physician B. Sonny Bal, MD, JD, MBA, Associate Professor of Orthopedic Surgery college of medicine have collaborated for over seven years on efforts to create hip and knee replacements without using commonplace biomechanical metal and plastic materials. The technique being developed by Dr. Cook for dogs initially, involves use of laboratory grown tissue (cartilage) that can be molded into replicas of joints that require replacement. Drs. Bal and Cook are concomitantly developing a process whereby a similar process can be adapted for humans.

The two One Health supporters were recognized for their important biomedical research in the MISSOURIAN Newspaper, Tuesday, June 2, 2009. This is another significant example of why "One Health" needs to be implemented into the scheme of health and health care as a paradigm shift. Humans and animals will obviously benefit immensely in fields of biomedical research and public health.

* **http://www.columbiamissourian.com/stories/2009/06/02/mu-research-may-lead-treatment-lou-gehrigs-disease/**
"Jimi Cook [DVM, PhD] and I have worked alongside a team of specialists from medicine, veterinary medicine, and

engineering for seven years now. Our current focus is to develop replacement joints that mimic the natural process of cartilage and bone formation as they grow and develop. This kind of collaboration is essential to the creation of better options for the replacement of failing hips and other joints. By working with specialists in the veterinary field, we are able to evaluate our technology more rapidly, and that means that we will be able to develop these alternatives for humans sooner than if we worked alone."

Sonny Bal [MD, JD, MBA]

MU builds ties between veterinary and human researchers
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***Please visit website link above to see accompanying Photo of Drs. Cook and Bal along with descriptive caption. You may also view the complete article with photo and caption on this website's Publication page.**

BY Tim Lloyd
COLUMBIA — Jimi Cook's grandfather was one of the first patients in the U.S. to have artificial knee replacement surgery.
"From the time I was 8 years old, I have always wanted to find a better way to treat arthritis after watching him go through six knee replacements," Cook said. He is an associate professor of small animal surgery and director of the Comparative Orthopaedic Laboratory at the MU School of Veterinary Medicine.
Nearly three decades after his grandfather's surgeries, Cook is developing new technology that might make repeat surgeries things of the past. But his discovery didn't only come from studying the human skeletal system.
"Dogs are the closest replicas of humans for us when it comes to studying clinical problems in knees and hips," he said.
Cook's new technique involves growing cartilage in a lab that can be molded into permanent joint replacements. It's just one in a growing number of human medical advancements made by researchers studying their canine companions.

Growing knees, hips and shoulders

In the sterile petri dishes of a walk-in-closet sized lab, cells divide and multiply into living cartilage that Cook plans to mold into new knees and hips for dogs.
"The goal is to make replacement parts," said Sonny Bal, an associate professor of orthopedic surgery at the MU School of Medicine. Bal is working with Cook on the human application of his technique.
The collaboration between Cook and Bal is welcome news to Bob Reeves, a retired Columbia resident who in the last four years has had both of his knees replaced with metal transplants. The surgeries are the most recent in a series of medical procedures that are likely the result of injuries he suffered in a construction accident almost 50 years ago, Reeves said.
"I was working to pay my way through college when a scaffold broke and I fell 35 feet," Reeves said. "I'm sort of like 'The Six Million Dollar Man,' but my wife says I'm more like $49.95."
Reeves said that even though he has worked hard to regain strength and motion in his body, the metal replacement parts have limited the improvements.
"My body has healed around the metal parts, but metal won't improve with the rest of my body," Reeves said.
Cook's technique replaces damaged joints with living tissue, meaning patients like Reeves could get a new set of knees that would heal with the rest of their bodies.
"That would be extremely helpful for people who need transplants," said Robert Kimble, a 78-year-old who has had three knee transplants in the last eight years. "That would be a heck of an improvement."
The technique being developed by Cook mimics the natural process of cartilage and bone formation during growth and development of the joints. Molds of joints are then made and filled with lab-grown cartilage, forming exact replicas of joints in need of replacement.
Because conditions like arthritis progress month to years faster in dogs, Cook is able to more rapidly test the effectiveness of his technique.
"In dogs with arthritis, everything happens much faster," Cook said. "This allows us to see the results of our research sooner than if we were working on humans."
The Food and Drug Administration recognizes physical similarities between dogs and humans, and if a new treatment is proved effective for dogs, it can more quickly be tested in humans.
"We've been working on this for seven years," Cook said. "It would have taken 15 to 20 years if we were working on humans."
This summer, Cook will begin testing his technology on dogs in need of new hip joints. If effective, the tests will continue into long-term studies. Human testing is the final phase.

New horizons

Cook and Bal are widening the scope of previous collaborations to include engineers from the Missouri University of Science and Technology and researchers at Columbia University in New York City.
The multidisciplinary approach puts MU in line with a worldwide effort to strengthen ties between veterinary medical and human medical research, said Bruce Kaplan, a Florida veterinarian and co-founder of the Web site Onehealthinitiative.com.
The site promotes the One Health movement, which advocates collaboration between veterinary and human research. The concept has received endorsements from the American Medical Association and the American Veterinary Medical Association.
"The campuses that have veterinarians and physicians working together are where a good deal of biomedical research is done," Kaplan said. "Dr. Cook has become a giant in the field."
Recently discovered neurological similarities between dogs and humans could lead to treatments for degenerative brain diseases.
Veterinary neurologist Joan Coates is part of a research team that found a genetic link between hereditary degenerative myelopathy (DM) in dogs and amyotrophic lateral sclerosis (ALS), commonly referred to as Lou Gehrig's Disease.
"There is a potential that this discovery may assist with finding new treatments that will slow the progress of some forms of hereditary

ALS," Coates said.

She is quick to point out that years of study are needed before a treatment for humans can be developed.

"We still have a lot of work to develop markers of disease in dogs in order to evaluate disease progression and response to potential treatments," Coates said.

Working with dogs could shorten the time frame.

"ALS takes two to five years to progress in humans; it takes six months to a year in dogs," Coates said. "We may be able to test and see more results more quickly when evaluating potential therapies in dogs."

Kaplan said Cook and Coates' advances could just be the beginning of new advances in the field of veterinary and human medicine.

"If you combine the brains and minds of different medicines, you will come up with things that would have not come about otherwise," Kaplan said. "It could be miraculous."