

Feline Report 2017

ADVANCING
HEALTH,
SAVING
LIVES

Treatments for Upper Respiratory Disease

Feline upper respiratory tract disease is expensive to treat and a leading cause of euthanasia in shelters. Two new, cost-effective treatments alleviate signs of URTD in shelter cats that failed to respond to conventional therapies, providing a viable new therapeutic strategy for rescue organizations.

(Journal of Feline Medicine and Surgery, August 2016)

Improved Cancer Surgery Imaging

A new imaging technology, used in human breast cancer surgery, shows promise in cats undergoing surgery for soft tissue sarcomas. Ensuring no cancer cells remain in the tissue surrounding the tumor removal site greatly improves cancer treatment success.

(Cancer Imaging and Therapy Conference, 2016)

Potential New Treatment for Incurable Disease

Feline infectious peritonitis is a fatal viral disease of young cats, particularly in high density situations like shelters. A newly developed antiviral drug targeting the FIP virus is the first to show encouraging preliminary drug results. Researchers currently are conducting a clinical trial investigating this novel therapy in client-owned cats with FIP.

(PLOS Pathogens, May 2016)



OUR INVESTMENT

Morris Animal Foundation supports feline health experts around the world. In 2017, our funding is helping researchers study:

ORAL CANCER

Promising new treatment

FELINE INFECTIOUS PERITONITIS

Cure or prevention strategy

DIABETES

Novel drug to extend diabetic remission

FELINE ENTERIC CORONAVIRUS

Targets for vaccine development

OSTEOARTHRITIS

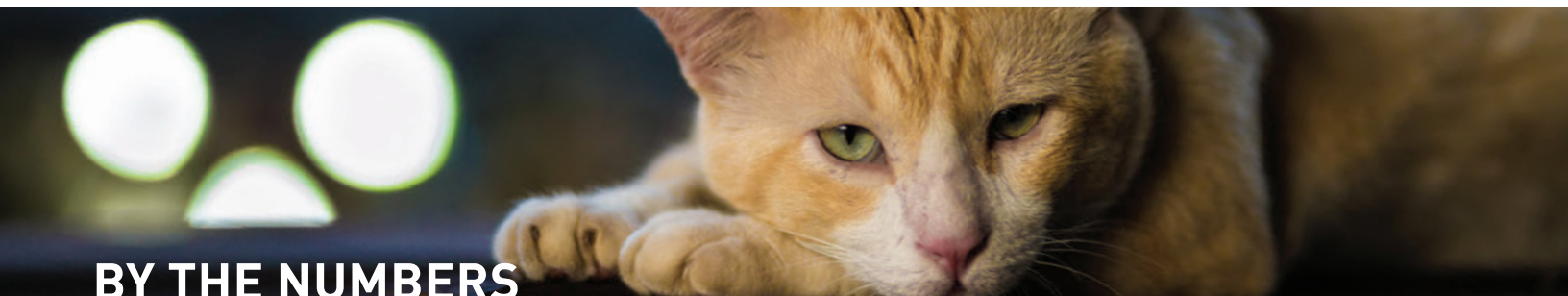
Methods to measure chronic pain

ANTIBIOTIC-RESISTANT STAPH INFECTIONS

Control outbreaks

COMPLEX FELINE VIRUSES

Immune response to feline leukemia and feline immunodeficiency viruses



BY THE NUMBERS

FUNDING

SINCE 1950:

\$15.4 Million Invested

360 Feline Studies Funded

57 Institutions Supported

IMPACT

SHARING CAT HEALTH FINDINGS

139 Scientific Publications

1,448 Citations by Other Investigators

HEALTH **37** CURRENTLY FUNDED STUDIES IN:

2 Behavior

4 Cancer

5 Cardiovascular

3 Endocrine/Metabolic

4 Genetics

1 Hematology

1 Immunology

13 Infectious Disease

1 Musculoskeletal

1 Nutrition

1 Pharmacology

1 Reproduction

ABOUT MORRIS ANIMAL FOUNDATION

Morris Animal Foundation is a global leader in funding scientific studies that advance the health of companion animals, horses and wildlife. Since its founding in 1948, the Foundation has invested more than \$113 million toward 2,500 studies that have led to scientific breakthroughs in the diagnosis, treatment and prevention of diseases to benefit animals worldwide.

Learn more at morrisanimalfoundation.org.

Contact us at mailbox@morrisanimalfoundation.org, 800.243.2345 or 720 S. Colorado Blvd., Suite 174A, Denver, CO 80246.

Canine Report 2017

ADVANCING
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New Cancer Drug Delivery System

A novel chemotherapy delivery system for osteosarcoma encapsulates the drug doxorubicin into nanoparticles designed to specifically target bone. These bone-seeking nanoparticles accumulated within bone tumor in every treated dog and exerted tumor-killing abilities relative to the doxorubicin dose and the overall tumor size.

(Proceedings of the National Academy of Sciences, August 2015)

Best Surgical Practices

Cranial cruciate ligament rupture is a common cause of orthopedic injury and lameness in dogs. A comparison of two recommended types of surgical procedures for CCL show both surgeries produce overall improvement. However, one surgical method, tibial plateau leveling osteotomy, results in better functional outcomes for large and giant breed dogs.

(Veterinary Evidence, September 2016)

Reduced Chemotherapy Complications

Supplementing dogs with probiotics prior to and during chemotherapy treatments reduces fecal markers of gastrointestinal inflammation and lowers the severity and frequency of chemotherapy-associated side effects. This adjunct treatment to traditional chemotherapy shows promise in improving quality of life for dogs with cancer.

(Consortium for Canine Comparative Oncology, January 2016)



OUR INVESTMENT

Morris Animal Foundation supports canine health experts around the world. In 2017, our funding is helping researchers study:

OSTEOSARCOMA

New ways to stop/slow cancer spread

GLAUCOMA

Mutations causing ocular melanosis

STAPH INFECTIONS

Control antibiotic-resistant outbreaks

CANINE INFLUENZA

Vaccine development

URINARY STONES

Risk factors in dogs

HEMANGIOSARCOMA

Reduction of tumor growth and chemotherapy resistance

MAST CELL TUMORS

New therapy targets

SCREENING TEST

Bladder stones in miniature schnauzers

GALLBLADDER DISEASE

The cause of gallbladder mucoceles

DEADLY BLOOD DISORDER

A new treatment for immune-mediated hemolytic anemia

GOLDEN RETRIEVER LIFETIME STUDY

Risk factors for cancer and other major health problems



BY THE NUMBERS

FUNDING

SINCE 1950:

\$43.6 Million Invested

951 Canine Studies Funded

85 Institutions Supported

IMPACT

SHARING DOG HEALTH FINDINGS

357 Scientific Publications

4,391 Citations by Other Investigators

HEALTH **84** CURRENTLY FUNDED STUDIES IN:

1 Behavior

36 Cancer

3 Cardiovascular

2 Dermatology

2 Endocrine/Metabolic

1 Gastroenterology

7 General Health

3 Genetics

2 Hematology

3 Immunology

5 Infectious Disease

5 Musculoskeletal

2 Neurology

1 Nutrition

1 Ophthalmology

2 Pathology

2 Pharmacology

6 Urinary

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Equine Report 2017

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Recovery and Prognosis for Colic Surgery

Colic is a common, serious gastrointestinal condition associated with severe pain and discomfort. In some cases, surgery is required. For horses that survive to discharge, prognosis for long-term survival and return to previous level of sporting activity and performance is good.

(Acta Veterinaria Scandinavica, January 2017)

Genetics of Sarcoid Tumors

Breed predisposition suggests a genetic basis for sarcoid susceptibility, the most common skin tumor in horses. Researchers have narrowed the search for genetic factors influencing sarcoid tumor growth and behavior, important information for developing new diagnostics, preventives and treatments.

(International Journal of Cancer, March 2016 and Immunogenetics, March 2017)

Muscle Disease Diagnostic Guidelines

Arabian horses suffer from a novel form of exertional rhabdomyolysis (ER), a painful exercise-induced muscle disorder. Exercise testing to diagnose ER, useful in some horses, is a poor diagnostic test for this breed. Researchers recommend muscle biopsy for this form of ER in Arabian horses.

(The Veterinary Journal, October 2016)



OUR INVESTMENT

Morris Animal Foundation supports equine health experts around the world. In 2017, our funding is helping researchers study:

SALMONELLA

Identify susceptible breeds and effective antibiotics

EQUINE METABOLIC SYNDROME

Search for genetic risk factors

EQUINE ASTHMA

Investigate a promising new treatment target

CANCER

Identify cancer-causing genes for squamous cell carcinomas

INFECTION CONTROL

Improve prevention and control of common disease outbreaks

HORSE GENOME

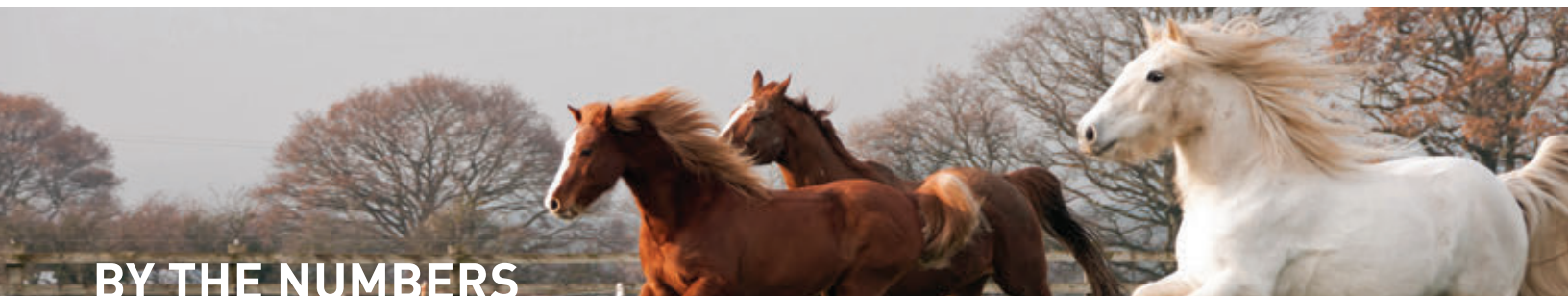
Fill in genome gaps related to tendon health

REGENERATIVE THERAPIES

Evaluate a new culture technique to grow patient-compatible stem cells

WOUND HEALING

Understand limb wound healing and skin healing complications



BY THE NUMBERS

FUNDING

SINCE 1950:

\$18.3 Million Invested

450 Equine Studies Funded

57 Institutions Supported

IMPACT

SHARING HORSE HEALTH FINDINGS

242 Scientific Publications

3,343 Citations by Other Investigators

HEALTH **38** CURRENTLY FUNDED STUDIES IN:

2 Cancer

4 Endocrine/Metabolic

4 Genetics

1 Hematology

6 Immunology

7 Infectious Disease

8 Musculoskeletal

1 Neurology

1 Nutrition

1 Physiology

3 Respiratory

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Wildlife Report 2017

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Vaccination Strategy for Bats

Vaccinating bats could help combat rabies, but presents numerous challenges, including vaccine delivery. Researchers studied different ways to apply topical oral vaccine to bat fur. The team found that glycerin jelly was a safe and effective agent for vaccine delivery in big brown bats, opening the door for innovative rabies vaccine control programs and a method of protecting bats from introduced diseases. (*Vaccine*, September 2016)

Pneumonia Breakthrough for Bighorn Sheep

Infectious pneumonia is responsible for the dramatic decline of bighorn sheep in western North America. Researchers discovered that older herd members remained persistently infected, leading to infection and death in lambs. The team also developed disease models to test new prevention strategies; one strategy is showing improvements in lamb survival and may lead to a management solution that helps infected herds. (*Ecology*, September 2016)

Ultrasound for Dolphins

Bottlenose dolphins are susceptible to metabolic syndrome and associated complications that affect the liver, including fatty liver disease and iron overload. Researchers established an in-water ultrasound technique for diagnosis and noninvasive evaluation of the dolphin liver, as well as identified ultrasound changes associated with these diseases. (*Journal of Zoo and Wildlife Medicine*, December 2016)

OUR INVESTMENT

Morris Animal Foundation supports wildlife health experts around the world. In 2017, our funding is helping researchers study:

SARCOPTIC MANGE

Epidemic in endangered San Joaquin kit foxes

PARASITISM

Botfly infestations killing Ridgway's hawk chicks

OBESITY

Reproductive problems linked to obesity in southern stingrays

CHRONIC STRESS

Health and welfare of porpoises, dolphins and whales linked to stress

SPECIES CONSERVATION

Early pregnancy testing for African lion, dama gazelle and maned wolf

ENDOTHELIO TROPIC HERPESVIRUS

Critical first steps toward vaccine development for elephants

ENVIRONMENTAL TOXINS

Lead exposure impacting the health of urban birds

TUBERCULOSIS

Disease control and prevention strategies in wildlife

EMERGING DISEASE

Goat plague decimating endangered Mongolian saiga antelope

CARDIOMYOPATHY

Heart disease risk in southern sea otters

REPRODUCTIVE HEALTH

Fertility issues in endangered cranes



BY THE NUMBERS

FUNDING

SINCE 1965:

\$24 Million Invested

629 Wildlife Studies Funded

152 Institutions Supported

IMPACT

SHARING WILDLIFE HEALTH FINDINGS

393 Scientific Publications

5,757 Citations by Other Investigators

HEALTH 50 CURRENTLY FUNDED STUDIES IN:

1 Behavior

2 Cancer

1 Cardiovascular

2 General Health

3 Genetics

1 Hematology

1 Immunology

24 Infectious Disease

1 Musculoskeletal

3 Pathology

1 Pharmacology

2 Physiology

7 Reproduction

1 Toxicology

ABOUT MORRIS ANIMAL FOUNDATION

Morris Animal Foundation improves and protects the health of animals through scientific innovation, education and inspiration. Founded by a veterinarian 70 years ago, we continue to be a science-driven organization, funding critical health studies for the benefit of all animals. **Learn more at morrisanimalfoundation.org.**

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