

The amazing power of pets to heal

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Science is finally painting in the numbers of what we've intuitively known for years; that pets help people physically, emotionally and socially. From second graders to seniors, here are 17 ways pets help people be happier, healthier and live longer:

1. **Therapeutic touch** – The skin is the body's largest organ, and is the most complex source of sensory input to the brain. Rebecca Johnson, Ph.D., RN, of the University of Missouri-Columbia Center for the Study of Animal Wellness, replicating the work of her colleague Prof. Johannes Odendaal of South Africa, says that scientists can now recognize the whole physiological chain of events from sensory input to neurohormone release. Tests showed that when a human pets a dog, within minutes they get a massive release of beneficial hormones--- known to be associated with health and feelings of wellbeing---such as beta endorphin, prolactin, dopamine, oxytocin, and beta phenylethylamine. The release of these hormones not only make people happy---i.e. wagging tail smiling person---but they also decrease the stress hormone, cortisol. Kind of a biochemical spa treatment, this biochemical profile is also true for the dog and nearly mirrors what happens when a mother nurses a baby. We've always known petting a dog made us feel good, but we didn't know it was good for us. To many researchers, the most exciting facet of these studies is that positive human-animal interaction may delay production of bad body chemicals associated with diseases such as cancer. "Additionally, the study indicates an improvement in body chemicals associated with a healthy immune system. We may soon see a time when people at risk for certain types of cancers may be prescribed a pet to help delay onset of the disease," Dr. Odendaal says.

2. **Pets lower blood pressure** - A study of New York City stockbrokers who were taking medication for hypertension conducted by Dr. Karen Allen of the State University of New York at Buffalo, found that once stockbrokers brought a

pet into their homes, their stress levels dropped dramatically. Nearly half of them were able to go off of their medication entirely.

3. **Pets relieve stress better than spouses do** – According to another study by Dr. Karen Allen, having a pet present reduces a pet owner's stress more than the company of a close friend or a spouse. Researchers asked 240 married couples, half of them pet owners, to perform two stress-inducing tasks---mental arithmetic problems and submerging a hand in ice water for two minutes. Participants completed the tasks several times in different combinations; alone, in the presence of their pet or friend, in the presence of their spouse, and with both the spouse and pet or friend. People with a pet present enjoyed much lower baseline heart rate and blood pressure levels than people without pets. "While the idea of a pet as social support may appear to some as a peculiar notion, our participants' responses to stress, combined with their descriptions of the meaning of pets in their lives, suggest to us that social support can indeed cross species," says lead study author Karen Allen, Ph.D, of the State University of New York at Buffalo, writing in the September/October issue of *The Journal of Psychosomatic Medicine*. They also made fewer errors during the math test. Two interesting notes: Participants made the most math errors when their spouses were present, and cats and dogs provided equal stress relief.

4. **Pets help people survive heart attacks** – A study by Lynch, Katcher and Friedmann showed that heart attack sufferers who owned pets had a four times better chance of surviving one year. In 1995, Dr. Erika Friedmann, now a professor at the Department of Health and Nutrition Sciences at Brooklyn College conducted the test again with a larger sample of people and more refined measurement techniques and found that those who owned a dog eight times more likely to survive one year after suffering a heart attack. In her latest study reported in *The American Journal of Cardiology* in 2003, Dr. Friedmann and colleagues found pet owners have healthier hearts than heart attack patients who don't have a dog, cat or other pets. The measured heart rate variability (HRV) which is a measure of the heart's ability of handle stress; a reduction in HRV is linked to higher risk of heart disease and death. Friedmann and her group found

that that certain heart rate variability measures were higher in pet owners – particularly dog owners – than non-owners. More research is needed to see if the improved heart rate variability in pet owners is due to some psychological factor or exercise that patients might get from walking their pet, according to Dr. Richard Stein, a spokesperson for the American Heart Association. Other studies showed that pet owners have shorter hospital stays, few doctor visits, and take less medication for high blood pressure and cholesterol and don't have as much trouble falling asleep at night. An Australian study of cardiovascular disease sufferers found out that patients with dogs were significantly more active generally, scoring higher on their amount of exercise and lower in serum cholesterol.

5. Pets improve children's reading scores, empathy and perhaps even IQ – In Salt Lake City, Utah, Intermountain Therapy Animals has a program where pets stimulate specific intellectual development in public schools. Trained teams of dogs and humans help kids who have trouble reading to jump whole grade levels in just a few months in a simple program where children read to dogs. The program is in every branch library in Salt Lake and is being duplicated in California, Louisiana and Missouri. Robert Poresky, associate professor of family studies and human services at Kansas State University, is one of dozens of researchers examining the impact of having a pet in the home. His findings include evidence that children who have pets — and spend time with them — develop higher levels of empathy, learn responsibility earlier and may even have higher IQs than children who don't have companion animals.

6. Dog visits found to have positive effect on hospitalized children – A study done at the University of Wisconsin-Madison Children's Hospital using Pet Pals, a volunteer program sponsored by the UW-Madison School of Veterinary Medicine shows that while potential calming effects are inconclusive, the dogs definitely make children happier. This is the first study to look at the effects of animals on hospitalized children. Results of the study, published in the winter 2002-2003 issue of Children's Health Care Journal, confirm that hospitalized children are happier when they get a chance to interact with dogs than when they

are given organized play time. The researchers attribute this to the touching that's inherent in visiting dogs. Unlike studies done in adults, the researchers found the heart rates of children in their study were not reduced by contact with the animals. Researchers – Mary Kaminski, director of the hospital's Child Life program; Teresa Pellino, clinical nurse research specialist; and Joel Wish, psychologist and director of Health Psychology -- suspect the explanation may be anticipation. The children were quite eager to see the dogs

7. **Pets help blunt pain** - Part of chronic pain is structural, says Dr. Jeff Burgess an attending physician at the University of Washington Pain Center, with bones, muscles, joints and nerves serving as sources of raw pain. As chronic pain builds, normal activity often grinds to a halt. Lethargy is often followed by anxiety and depression. "Pets can make people more relaxed, elevate their mood, and keep them moving," Dr. Burgess said. "Pets may help people in two major ways says Dr. Burgess, "By initiating and maintaining the relaxation response pets can take people's focus off of their pain and elevate their moods. Secondly, through touch or physical contact they can block transmission of their pain from the periphery to the central nervous system shutting the pain processing centers down." He mentioned a recent article in the research journal PAIN that featured a PET (Positron Emission Tomography) scan of a person using a counter-irritant to block pain. It showed reduced blood flow and activities in these areas; a high-tech confirmation of sorts for what many patients have been feeling and saying for years. Hypnosis and other nontraditional therapies such as pets work. "Pets have a powerful anxiolytic affect as well," according to Virginia Byers-Kraus, MD, PhD, a rheumatologist and associate professor of medicine at Duke University School of Medicine. "With my patients who have chronic pain, we develop scenarios for *what* they can do *if*. Many doctors, physical therapists and patients believe the *what* has to do with pets."

8. **Pets help keep people moving** – Only 22 percent of people get the government-recommended amount of exercise: just thirty minutes a day. The Center for Disease Control and Prevention calls our physical inactivity the major underlying cause of dying before your time. A long-term study of people who

adopted dogs found that acquiring an animal sharply increased the amount of time they spent outdoors and a year-long study of elderly people living outside institutions found that pet owners scored higher on all activities of daily living. A great side benefit of taking your dog for a walk is increased social interaction. A recent British study showed that people with a dog had three times the number of social interactions than walking without a dog. Researcher June McNicholas, a professor of psychology at the University of Warwick, pointed to the interactions stimulated by the dog as the key to a better sense of psychological well-being.

9. **Pets help battle human obesity** – Obesity has reached epidemic proportions among Americans and we are finding it's not just people who are piling on the pounds, our pets are weighing in as heavy hounds and fat cats too. Over 60 percent of Americans are now overweight or obese as well as an estimated 50% of the 60 million pet population. To combat this weighty trend, the Wellness Institute at Northwestern Memorial Hospital in Chicago, Illinois, and Hill's Pet Nutrition, Inc. launched a new and unique weight management program for both people and their pets --- People and Pets Exercising Together (PPET). As part of this new program, people and their dogs dine together, exercise together, and hit the scales in a weigh-in together. Dr. Robert Kusher, Medical Director, Wellness Institute, Northwestern Memorial Hospital and Professor of Medicine, Northwestern University Medical School explains, "Obesity is a health epidemic affecting not just people but also millions of pets nationwide. The causes and health risks associated with being overweight or obese are similar in people and pets. The fact is the accumulation of fat is caused by the same factors – increased calorie consumption and reduced physical activity. This in turn translates to a much greater risk of heart disease, diabetes, osteoarthritis, and unfortunately a shortened life span." "There's a lot of clinical evidence to suggest that people are more effective at losing weight and maintaining the weight loss when they do it with a friend or companion. And what better, more reliable friend is there than a faithful canine," explains Dr. Kushner.

10. **Hippotherapy** – There are hippotherapy programs in 24 countries and the horse's functions have expanded to therapeutic riding for people with physical,

psychological, cognitive, social, and behavioral problems, such as cerebral palsy, spina bifida, mental retardation, and depression. More recent uses of hippotherapy include for chronic abuse and eating disorders.

11. **Animal assisted therapy (AAT)** – At the National Institutes of Health Clinical Center in Bethesda, Maryland, more than fifty pet/people teams come to the nation's premier publicly funded medical research center to soothe and rehabilitate patients undergoing clinical trials for very severe medical conditions. All certified pet therapy teams arrive an hour before therapy visits are scheduled to begin for an obligatory veterinary exam. Once the veterinarian has finished, a representative from NIH's Recreational Therapy Department give the teams their specific assignments. After the visits are completed, the teams describe how their patients interacted with the animal, and a member of the NIH staff takes extensive notes, which are added to the medical record. The seriousness with which AAT is conducted at NIH is a sign of increasing acceptance as a therapy tool. The Delta Society, which established skill and behavioral standards for AAT teams in 1990, and began certifying those who passed as Pet Partner teams, in 2001 had more than forty-five hundred Delta Pet Partner teams working in forty-five states and five countries with a goal of increasing that number to six-thousand teams by 2003. Delta has a waiting list of one hundred facilities who want to open their dog to Pet Partners.

12. **Seniors** – seniors who have pets have far fewer doctor visits than those who don't, according to a study of nearly a thousand Medicare patients by University of California at Los Angeles Public Health Prof. Judith Siegel. The *Journal of the Royal Society of Medicine* reinforced these findings independently in the United Kingdom. Their study found that only one month after acquiring a dog or a cat, seniors had 50 percent fewer minor medical problems, such as painful joints, hay fever, insomnia, constipation, anxiety, indigestion, colds and flu, general tiredness, palpitations or breathlessness, back pain, and headaches. Equally important for the health of seniors is having something to keep them active and out in the world. In a Canadian study of more than a thousand seniors, University of Guelph Community Health Care Prof. Parminder Raina

used the Activities of Daily Living scale to contrast the self-sufficiency of pet-owning seniors to that of those who did not. The ADL scale asks if the respondents can perform simple tasks, such as getting in and out of bed, eating, dressing, bathing, and toileting without assistance. Pet owners were more active on the ADL scale and it was true for both dog and cat owners. "It's somehow related to the sense of responsibility, the sense of caring," Dr. Raina said. In 1996, Colorado researchers tied pet ownership directly to increased activity in seniors.

13. **Pets and The Aging** – Americans are living longer than ever. A woman in good health at age 50 today can expect to live another 45 years. A man who reaches the age of 65 can anticipate another 20 years of life. Most women will spend the last 12-18 years of their lives alone. A pet can not only alleviate the loneliness that many seniors experience, but pets can also provide demonstrable health benefits to the elderly. PAWSitive InterAction of Atlanta, GA held a 2003 summit at Emory University in collaboration with the Emory Center for Health in Aging, by bringing together experts in geriatric medicine, oncology, psychiatry, veterinary medicine and senior living to discuss scientific research, case studies, anecdotal evidence and trends that validate the therapeutic benefits of the bond between humans and animals. Dr. Rebecca Johnson, a professor of Gerontological Nursing and Public Policy at the U of MO-Columbia and director of the Center on Aging at the university's Sinclair School of Nursing referred to Dr. Johannes Odendaal's research into the neuro-endocrine response of human-animal interactions. Johnson says, "What he found overall was that all of the hormones connected with happiness and well-being (such as phenethylamine, endorphin) increased in dramatic amounts, and all of the stress hormones (such as cortisol) decreased in similarly dramatic amounts. Johnson's research, based on Odendaal's findings, is exploring the neurological effects of the human-animal interaction to establish animals as complementary therapy in human health care, using both dogs and robotic pets. Preliminary findings are promising. The show beneficial reactions in three hormones: increases in endorphins, known as runner's high, and serotonin, which alters and controls depression; and

decreases in the stress hormone cortisol. Serotonin, in particular, is important with respect to the use of antidepressants. “What do we know about antidepressants? Johnson asked. “They are one of the more prescribed drugs in society. Would it be possible to decrease their use by improving the patients’ serotonin levels with pets?” “Instinctively, we know pets make us feel good,” Johnson said. “Scientifically, we can trace those ‘feel good’ emotions to chemical reactions in people that are triggered by pets. Such chemical ‘triggers’ can enhance human-health and well-being in numerous ways and provide insights into delaying the aging process.” A panelist at the conference, Dr. Joseph Ouslander, director, Emory Center for Health in Aging, noted that, “The MacArthur Studies for Successful Aging have shown one thing to successful aging, and that is engagement in something. And I think this is where pets can play a big role. Isolation is common in older people, and pets can be a very important factor in dealing with isolation. In conclusion, for thousands of years, humans have intuitively understood the benefits of the human animal bond. Today, scientists are producing increasing amounts of solid scientific data that prove the beneficial effects of animals on the elderly. In the United States, the number of people 50 and older will double in the next 35 years.

14. **Allergies** – Flying in the face of conventional wisdom, a new study published in the August 2002 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION shows that children who grow up with pets in the home have a reduced risk of developing common allergies. The lead researcher Dr. Dennis R. Ownby who is chief of allergy and immunology at the Medical College of Georgia in Augusta tracked a group of 474 babies from birth to about age 7. The researchers found that the 184 children in the group exposed to two or more dogs or cats in infancy were half as likely to develop common allergies than the 220 children who had no pets in the home. As an added bonus, the researchers found the group exposed to animals had fewer positive skin tests to indoor allergens---such as pet and dust mite allergens---and also outdoor allergens like ragweed and grass. Moreover, the kids exposed to cats and dogs were almost half as likely to have hyper-responsive and easily irritated airways---a risk factor

for asthma. Incredibly, the research also suggests that more is better with the households with multiple pets showing lower allergic responses. In fact, a recent study sponsored by the National Institute of Allergy and Infectious Disease found that low-to-moderate amounts of cat allergen triggered allergies in children while high amounts had a preventive effect against allergies---and asthma as well. So what is it about cats and dogs? Researchers think the secret may lie in endotoxins, the breakdown products of bacteria found in the animals' mouths. They're thought to force the body's immune system into developing a response pattern that's less likely to lead to allergic reactions. "Kids exposed to animals seemed to be better off," said Christine C. Johnson, Ph.D, a senior epidemiologist with the Henry Ford Health System in Detroit. Dr. Johnson's study which was presented at an American Thoracic Society Conference in 2001, tracked 833 children over 7 years and found that exposure to two or more cats and dogs at one year of age made children less susceptible to other allergy-inducing substances by the time they turned seven, and that the exposure even improved some boy's lung functions. Dr. Thomas Platts-Mills, an asthma and allergic disease specialist at the University of Virginia, runs a "cat" house there. His recent research published in *The Lancet* suggests that animals in the house (cats, in this case) can decrease the risk of asthma by causing humans to produce certain specialized helper cells that he says work as a form of tolerance. A team of Swedish researchers reached the same conclusion. Researchers say the new findings could be in line with what doctors call the "hygiene hypothesis." The theory holds that asthma and allergies have become increasingly common during the past three decades as family sizes have gotten smaller, standards of personal hygiene have risen, that a lack of environmental contaminants means that immune systems overreact when they encounter allergy or asthma producing substances. Other studies have shown that a rural lifestyle, residence on a farm or facility where animals are near the house, or the presence of dogs in the house protects against asthma.

15. **Depression** – Dr. Odendaal's latest scientific study involved six clinically depressed people who were each given a dog visit for 30 minutes daily. The

group's blood makeup was measured before to be low in the amino acid precursors of chemicals that create pleasure and joy, serotonin, phenylethylamine and dopamine. After the dogs were introduced, the amino acid precursors of these chemicals increased in their blood serum. Importantly, the people also reported that they felt less depressed. This was the first time a therapeutic relationship between animals and humans had been scientifically measured. Dr. Odendaal may be uniquely qualified to study this effect. Not only is he a professor and research development director of the Life Sciences Institute, Technikon Pretoria, South Africa, he is a DVM, the equivalent of a PhD in Veterinary Science, a DPhil in Psychology, and a PhD in Physiology. This pilot study could provide a safe, natural, and effective alternative to treating the clinically depressed with pharmaceuticals, without the attendant costs and side effects.

16. **Loneliness** – The beneficial effect of Animal Assisted Therapy (AAT) is not just anecdotal anymore. Spending as little as 30 minutes with a dog each week reduces feelings of loneliness in long-term care residents reports a study featured in the Journal of Gerontology: Medical Sciences (July 2002). Marian and William Banks, a husband and wife research team (Marian of VA Medical Center in St. Louis and William of St. Louis University School of Medicine), used an assessment test that measures loneliness to target 45 residents at three long-term care facilities in Mississippi. Over six weeks in 1998, residents in one group met individually with a therapy dog for 30 minutes once each week, residents in another group met with a therapy dog for 30 minutes three times a week, and residents in a control group did not meet with a therapy dog. At the end of the study period, researchers retested all 45 residents. They found that those who had met with a dog---either once or twice a week---registered lower loneliness values than those in the control group. All residents in the study had previously owned a pet. Based on the findings, Marian suggested animal assisted therapy lasting longer than six weeks may have an even greater effect at reducing loneliness in long-term residents.

17. **Researchers to study whether dogs can spot prostate cancer** – Dogs trained to sniff out subliminal odors given off by cancer cells could give new meaning to their reputation as man's best friend. Researchers at Cambridge University are using three dogs – Chip an alsation, and Tarn a black Labrador, both age 2, and Bliss, a 7-year-old yellow Labrador --- and \$220,000 in funding to see whether dogs can be trained to identify men with prostate cancer by sniffing out suspect urine samples. The idea could revolutionize screening for prostate cancer. While the current test – the prostate specific antigen – can be used to identify sufferers, it is not entirely accurate. Nor can it distinguish between the 20 percent of those with a fast-growing tumor requiring urgent treatment and those whose cancer is slow-growing and unlikely to jeopardize their health. David Broom, a professor of animal welfare at Cambridge Veterinary School, said dogs have a remarkable ability of distinguish smells. "Cancer cells produce different chemicals and therefore are likely to have different odors," Broom said. The research team, will include specialists from the University of Nottingham and Addenbrooke's hospital in Cambridge. Contact is Dr. Barbara Sommerville bas13@hermes.cam.ac.uk or phone 01223 740444.

18. **Dogs beneficial in speech-language therapy** - The word is out: dogs are more than our best friends. Helen Kahn, professor of communication disorders at Northern Michigan University, set out to document why animal-assisted therapy works, specifically in speech-language pathology. Her initial findings are something to bark about. "This research could apply to any type of therapy in general," Kahn said. "People are really interested in how animals impact us. Using animals in therapy is not a new concept, but it is only now beginning to be scientifically documented and supported. My goal, then, is not to prove it works, but to see how it works through the study of communication between a therapist and a patient in both regular and animal-assisted therapy (AAT) sessions." One of the most prominent figures to tout the benefits of animal use in the health profession was Florence Nightingale. She observed that pets were beneficial companions for her chronically ill patients. Even today, stories of animals helping the injured recover and the disabled overcome make national

news. Kahn received a faculty grant from Northern in early 2002 to study the effects of animals in sessions of speech-pathology therapy. "We use dogs in our research, though there are individuals who work with cats," Kahn said, "Dogs are just instantly loyal and eager to please -- they make the perfect companion during the sometimes-difficult therapy sessions. Regardless of what animal is used, however, we're finding that AAT works on numerous levels and that therapeutic progress occurs more rapidly with AAT than when animals are not used." In Kahn's research, a specific patient is paired with a specific dog during his/her AAT sessions and the patient, therapist, and dog handler each give feedback. During another therapy session, the dog and the dog handler are removed, but feedback from patient and therapist is still recorded. Each session is filmed. Kahn and her research assistants transcribe each film, noting the conversational utterances and non-verbal cues. These are coded according to a list of communication acts and further analyzed, producing data that can be analyzed, graphed and studied. The use of the dog varies according to patients' needs and desires, Kahn said. Sometimes patients hold small dogs on their laps for comfort. In other sessions, a dog may fetch a ball at a patient's command, or only come to the patient when he or she says the dog's name. "We're still in the process of analyzing all the data," Kahn said. "We compare the AAT sessions to sessions where there is no AAT. Those sessions without AAT are the "control" sessions, which allow us to make a comparison. I don't know of any other controlled research concerning this hypothesis, and so our preliminary results are pleasing." Still, Kahn is well aware of the critics of AAT. "Traditional circles still think the concept of AAT is a novelty," Kahn said. "But they miss the point that this is directed intervention with certified and experienced therapists and dog handlers. While every patient responds to animals for numerous, individual reasons, it is hard to deny that humans form a bond with animals and that animals even seem to reciprocate this bond back to their human counterparts." Kahn also notes that during AAT, a patient's physical anxiety goes down, measured by lower blood pressure and heart rate. And less patient stress almost always equals a more productive session. "AAT doesn't replace rehabilitative

therapy; it augments it," Kahn said. "Similar arguments have been made concerning other complementary and alternative medicines. But in AAT, I think we can take the concept of complementary medicine a step further, allowing a patient to benefit from working with a warm-bodied friend. "In our age of managed health care, this should be important to get the patients out of therapy faster while producing good treatment outcome. That is what everyone involved in the therapy process wants -- the patient most of all." Prepared by Ryan Sjöholm. For more information, contact Kristi Evans or Cindy Paavola at (906) 227-2720.

19. **Dogs good for your mental health** – It's official, man's best friend is good for your mental health. That's just one finding of Project Chimo – the most extensive study of the use of dogs in therapy in North America. The study concluded in July, 2003, with 10 recommendations to the Alberta government aimed at formally incorporating animal assisted therapy into the health-care system. "I believe they aim us in a direction that could eventually save dollars and time in our health-care delivery system by reducing the amount of time that people need to be in therapy, or even potentially the drug use that is there," said Project Chimo founder Dennis Anderson. Anderson started Project Chimo in 1999, naming it after a blue-heeler Labrador cross he and his wife Barbara once had. The 27-month, \$331,600 study funded by Alberta Health's innovation fund, compared animal assisted therapy with traditional therapy. The subjects were 10 youths in residential treatment for depression and anxiety and 26 adults receiving private therapy for the same disorders. The seven youths who met with therapists who used dogs in their sessions looked forward to therapy more, felt more comfortable talking to the therapist and felt they performed better at home and school than the three youths who received traditional therapy. The same pattern held true for adults, said Bonnie Dobbs, a University of Alberta researcher who evaluated the project. An anticipated result, said Dobbs, was that pet ownership itself seemed to moderate the effects of mental illness. Clients who had pets were less depressed or anxious at the outset and showed lower scores on the depression severity scale after therapy than those who did

not own pets. Both Dobbs and Anderson said the use of dogs, or other animals, in therapy sessions is more than just pet visitation; it incorporates the animals directly into the process. For example, the therapist may have the client talk through the animal. “The therapist might talk about a personal experience the animal had, such as being taken from its mother and put in a new home,” said Linda Urichuk, the program’s co-coordinator. “That could be very powerful for kids who are in adopted homes or foster homes and they realize right away they have something in common with the animal.” The project produced a book-length manual. <http://www.canada.com/health/story>