Letters to the Editor

Effects of MRI on microchip function

I read with interest the paper by Drs. Haifley and Hecht on the functionality of microchips following MRI in the March 1, 2012, issue of *JAVMA*.[1] In their study, the authors tested the effects of MRI on microchips implanted in 53 dogs and cats by reading the microchips before and after MRI with a 1.0-T unit. All microchips were found to be functional following scanning.

In their introduction, the authors stated that, to their knowledge, no clinical studies of whether MRI interferes with the functionality of microchips had been published. However, in early 2011, my coauthor and I published a report[2] (posted online in November 2010) that describes the functionality of veterinary microchips before and after MRI in 41 patients, similarly finding that functionality was unaffected. In our study, we used an MRI unit that was the same as the unit used in the study by Drs. Haifley and Hecht.

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1. Haifley KA, Hecht S. Functionality of implanted microchips following magnetic resonance imaging. *J Am Vet Med Assoc* 2012;240:577–579.
2. Baker MA, MacDonald I. Evaluation of magnetic resonance safety of veterinary radiofrequency identification devices at 1 T. *Vet Radiol Ultrasound* 2011;52:161–167.

The authors respond:

We thank Dr. Baker for his letter and the additional reference. The reason that Dr. Baker's article was not cited in our paper[1] is timing. Our original manuscript was first submitted in October 2010; a revised version was submitted in November 2010, and the manuscript was accepted for publication in December 2010. The submission and review process, therefore, took place prior to publication of the report by Baker and MacDonald.[2] As you are undoubtedly aware, for accepted manuscripts, changes at the time of editing are typically limited to minor editorial corrections, and extensive revisions—including the addition of newly published information—are typically not possible. We hope this addresses your concerns.

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1. Haifley KA, Hecht S. Functionality of implanted microchips following magnetic resonance imaging. *J Am Vet Med Assoc* 2012;240:577–579.
2. Baker MA, MacDonald I. Evaluation of magnetic resonance safety of veterinary radiofrequency identification devices at 1 T. *Vet Radiol Ultrasound* 2011;52:161–167.

Conservative treatment of spinal cord injuries

In their recent report,[1] De Decker et al concluded that conservative medical treatment of dogs with disk-associated cervical spondylomyelopathy was associated with a guarded prognosis. In their study, conservative medical treatment consisted of restricted exercise and a 3-week course of oral administration of prednisolone. However, I would suggest that exercise restriction and glucocorticoid administration should no longer be considered standard conservative treatment for animals with spinal cord injuries.

In 2000, my coauthors and I[2] reported functional recovery of tetraplegic dogs following treatment with a patient-specific regimen of frequent (at least twice-daily), intense exercise in combination with meticulous attention to hydration and nutrition. Glucocorticoid treatment was avoided because of the possibility of adverse effects.

The choice to treat tetraplegic dogs solely with nursing care and therapeutic exercise, and without glucocorticoids, was made on the basis of reports[3,4] of recovery of function in animals with experimental spinal cord transection. This raised the possibility that in tetraplegic animals that recover function following surgery, the months of postoperative rehabilitation may have been more important to recovery than the surgery itself.

Importantly, cats that were strictly confined following experimental spinal cord transection failed to recover.[3] Also, cats compromised by any systemic disease, particularly those predisposed by glucocorticoid treatment (eg, diarrhea or urinary tract infection), were much less likely to recover function.[3] The importance of preventing even subclinical urinary tract infection cannot be overstated and has recently been documented in the human medical literature.[5]

Instructions for Writing a Letter to the Editor

Readers are invited to submit letters to the editor. Letters may not exceed 500 words and 6 references. Letters to the Editor must be original and cannot have been published or submitted for publication elsewhere. Not all letters are published; all letters accepted for publication are subject to editing. Those pertaining to anything published in the *JAVMA* should be received within one month of the date of publication. Submission via e-mail (*JournalLetters@avma.org*) or fax (847-925-9329) is encouraged; authors should give their full contact information, including address, daytime telephone number, fax number, and e-mail address.

Letters containing defamatory, libelous, or malicious statements will not be published, nor will letters representing attacks on or attempts to demean veterinary societies or their committees or agencies. Viewpoints expressed in published letters are those of the letter writers and do not necessarily represent the opinions or policies of the AVMA.

I am unaware of any report that substantiates a role for glucocorticoid treatment in meaningful functional recovery from spinal cord injury in animals. On the other hand, the risks of treatment are widely recognized. Some pets temporarily improve following glucocorticoid treatment, and for this reason, a brief trial may encourage pet owners. Nevertheless, I question whether the benefits of daily treatment for > two to three days can possibly outweigh the risks. Even in instances when practitioners may feel compelled to treat animals with spinal cord injuries with glucocorticoids, it appears that the best evidence for efficacy and safety favors intermittent, individualized treatment, not daily treatment or use of a standardized regimen.[6]

For future studies involving treatment of spinal cord injuries, I suggest that the use of animals treated with glucocorticoids and subjected to exercise restriction is an inappropriate control for the evaluation of surgical treatments, especially now that postsurgical physical rehabilitation is so common. Conservative treatment would more appropriately include application of physical therapy, similar to that provided after surgery, and the avoidance of treatment with glucocorticoids.

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1. De Decker S, Gielen IMVL, Duchateau L, et al. Evolution of clinical signs and predictors of outcome after conservative medical treatment for disk-associated cervical spondylomyelopathy in dogs. *J Am Vet Med Assoc* 2012;240:848–857.
2. Speciale J, Fingeroth JM. Use of physiatry as the sole treatment for three paretic or paralyzed dogs with chronic compressive conditions of the caudal portion of the cervical spinal cord. *J Am Vet Med Assoc* 2000;217:43–47.
3. Roy RR, Hodgson JA, Lauretz SD, et al. Chronic spinal cord-injured cats: surgical procedures and management. *Lab Anim Sci* 1992;42:335–343.
4. Rossignol S, Chau C, Brustein E, et al. Locomotor capacities after complete and partial lesions of the spinal cord. *Acta Neurobiol Exp (Wars)* 1996;56:449–463.
5. Hufschmidt A, Shabarin V, Rauer S, et al. Neurological symptoms accompanying urinary tract infections. *Eur Neurol* 2010;63:180–183.
6. Wilcke JR. Clinical pharmacology lecture notes. Available at: cpharm.vetmed.vt.edu/vm8784/default.htm. Accessed Apr 20, 2012.

The authors respond:

We thank Dr. Speciale for his comments on our study.[1] In response, we would point out that prednisolone has traditionally been given to dogs with chronic spinal cord injuries to decrease vasogenic edema, thereby alleviating some clinical signs of spinal cord compression.[2] On the other hand, adverse effects associated with corticosteroid administration are well recognized, and long-term prednisolone administration has been questioned.[2] To contribute to this discussion, we assessed outcome, owner experience, and adverse effects after prednisolone treatment in dogs with disk-associated cervical spondylomyelopathy (DA-CSM) and found that prednisolone treatment in dogs with DA-CSM was associated with a guarded outcome. The dosage of prednisolone could not be tapered in a subset of affected dogs, and treatment was associated with adverse effects in most dogs. In light of these results, we concluded that oral administration of prednisolone was not ideal for dogs with DA-CSM and that alternative medical treatments should be investigated.[1] It should be clarified that absolute cage rest was not advised for dogs in the study. Instead, restricted activity was recommended. Because of the variation in clinical signs in the dogs of our study, no strict definition of restricted activity was given. However, this typically involved avoiding long walks, off-lead walks, and vigorous play. In sum, we do not recommend the combination of oral administration of prednisolone and cage rest as a medical treatment for dogs with DA-CSM.

Dr. Speciale makes a strong argument to include intense physiotherapy in the medical management of animals with spinal cord injuries. Although no one denies the importance of physiotherapy in the treatment and rehabilitation of such patients, only a few well-designed studies have investigated its use in veterinary medicine,[3] and no single study has yet compared postoperative recovery between dogs undergoing thoracolumbar decompressive spinal surgery followed by intense physiotherapy and dogs undergoing decompressive spinal surgery followed by cage rest. Unfortunately, the initial report of Speciale and Fingeroth[4] evaluating the use of intense physiotherapy for caudal cervical compressive lesions in three dogs has not yet led to further evaluation of this treatment modality for dogs with compressive spinal disorders. Hopefully, the comments provided here will provoke further discussion and promote further objective investigation of medical and surgical treatments for dogs and cats with spinal cord injuries.

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1. De Decker S, Gielen IMVL, Duchateau L, et al. Evolution of clinical signs and predictors of outcome after conservative medical treatment for disk-associated cervical spondylomyelopathy in dogs. *J Am Vet Med Assoc* 2012;240:848–857.
2. Platt SR, Abramson CJ, Garosi LS. Administering corticosteroids in neurologic diseases. *Compend Contin Educ Pract Vet* 2005;210–220
3. Kathmann I, Cizinauskas S, Doherr MG, et al. Daily controlled physiotherapy increases survival time in dogs with suspected degenerative myelopathy. *J Vet Intern Med* 2006;4:927–932.

4. Speciale J, Fingeroth JM. Use of physiatry as the sole treatment for three paretic or paralyzed dogs with chronic compressive conditions of the caudal portion of the cervical spinal cord. *J Am Vet Med Assoc* 2000;217:43–47.

Use of distributed teaching models

I read Dr. Phillip Nelson's commentary[1] on the curricular model used at the Western University of Health Sciences College of Veterinary Medicine (CVM) with interest. I appreciate his willingness to address my concerns[2] and look forward to learning how his college's program satisfies not only standard 1, stating that veterinary schools "must be part of an institution of higher learning," but all of the AVMA Council of Education's 11 standards.[3]

Although I doubt that the Western University CVM satisfies Abraham Flexner's definition of a "larger university,"[4] as Dr. Nelson believes, I agree that Flexner's overall message favors flexibility in the evolution of medical education[5] and therefore that schools with distributed clinical models deserve dispassionate assessment. In fact, having visited the recently established CVM at the University of Calgary, I am persuaded that given the necessary resources, academic environment, and leadership, a distributed model can work extremely well.

Established in 2005 and funded mainly by the province of Alberta, the University of Calgary CVM appears to me to satisfy all of the AVMA Council on Education standards for accreditation.[3] At the University of Calgary CVM, a research-oriented basic science faculty integrated academically with medical school peers in a shared state-of-the-art office-laboratory complex offers a class of approximately 32 students a combination of discipline-based, case-based, and practical instruction in an orderly and concise manner. Research, ecosystem health, and public health are integral parts of the curriculum. A nearby satellite campus contains a well-equipped clinical skills building with housing for all relevant species as well as diagnostic laboratories, necropsy facilities, and research stations for wildlife and veterinary sciences. A staff of clinical educators, some with strong research backgrounds, ensures that each student receives training in clinical and professional skills. The fourth-year curriculum combines on-campus and off-campus (60% to 70% of each student's time) clinical rotations that are primarily consigned to 28 carefully chosen practices in the area, including several specialty group practices. An internship program already exists; a residency program will begin in the near future. At the graduate level, there are approximately 40 master's degree students and 50 doctoral degree candidates. To ensure quality, the University of Calgary CVM invests heavily in meticulous oversight, communication, monitoring, and support systems that include on-campus visits and teaching assignments for practitioner participants. Annual tuition is approximately $10,500.

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1. Nelson PD. Veterinary college accreditation: setting the record straight. *J Am Vet Med Assoc* 2012;240:810–814.
2. Marshak RR. Veterinary school accreditation: on a slippery slope? *J Am Vet Med Assoc* 2011;239:1183–1187.
3. AVMA. Requirements of an accredited college of veterinary medicine. Available at: www.avma.org/education/cvea/coe_pp_07_standards_of_accreditation.asp. Accessed Aug 31, 2011.
4. Flexner A. *Medical education in the United States and Canada: a report to the Carnegie Foundation for the advancement of teaching*. New York: Carnegie Foundation for the Advancement of Teaching, 1910.
5. Cooke M, Irby DM, Sullivan W, et al. American medical education 100 years after the Flexner report. *N Engl J Med* 2006;355:1339–1344.

Change in cultural climate at US veterinary colleges since the 1960s

I enjoyed the recent *JAVMA* News article[1] reporting results of the Association of American Veterinary Medical College's survey on student diversity at the US colleges of veterinary medicine. There was an impressive 48.1% response rate to the 50-item questionnaire, which focused on acceptance and support of racial and ethnic minorities and gay and lesbian students. Obviously, the scorecard was not perfect (it could never be in any society); however, the results represent a vast improvement from the conditions I experienced when I was a student at the University of Illinois College of Veterinary Medicine from 1968 through 1972. During this period, our nation was undergoing dramatic changes. The Vietnam War was being fought, profound changes in sexual attitudes and practices were occurring, and the civil rights movement had many citizens questioning racism in our nation. The country was certainly divided. I remember there being only one African American student in the veterinary college (of > 300 students). The only six women in my class were constantly subjected to sexist remarks by both fellow students and professors. I remember being subjected to harassment for being from Chicago, having long hair, opposing US involvement in the Vietnam War, and, above all, being Jewish. Most of the comments went on behind my back, except in one incident when I was surrounded by a group of upperclassmen who did not approve of my politics or appearance. The incident ended quickly (I was > six feet tall and weighed 225 lb). I also recollect receiving a high B in five classes when I clearly deserved an A. Despite all of this, as a senior, I was awarded a plaque for proficiency in small animal medicine. In retrospect, those four years were the most miserable of my life.

The results of the culture survey provide me a great deal of hope for the profession I so dearly love and in which I have worked so hard for the past 40 years. Young graduate veterinarians are well trained, are very dedicated, and make up a much broader segment of our society. It makes me proud to be a veterinarian whenever I meet one of them.

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1. Nolen RS. Climate change. *J Am Vet Med Assoc* 2012;240:1043–1044.