Non-steroidal anti-inflammatory drugs and opioids are the gold standard for pain management in veterinary patients. Unfortunately, some animals have sensitivities to these classes of drugs that preclude their use. Opioids are useful for perioperative pain and chronic pain conditions although the concern over depression, decreased gastrointestinal motility and appetite is warranted with use of some of the more potent formulations. Alternative therapies like acupuncture and physiotherapy are becoming popular adjuncts for treatment of pain. In addition, there are drug alternatives or adjuncts like gabapentin, alpha-2 adrenergic agonists, steroids, oral or transcutaneous opioids and herbal formulations. Massage, laser therapy, electrical stimulation, ultrasound and other manipulative modalities are becoming part of a complete care program for post-operative and chronic pain cases. A survey in New Zealand among the show jumping, dressage and Thoroughbred racing community found that 37% of those questioned utilize chiropractic techniques and 24% utilized physiotherapy. These techniques were used primarily for back pain (32%) and lameness (25%). The majority of respondents (72%) recognized that the allied health workers (paraprofessionals) did not work in concert with their veterinarians. Only 7% chose alternative therapies due to veterinary advice (Meredith et al. 2011).

**Acupuncture**

Acupuncture originated in China about 5,000 years ago with the fundamental principles dating 3,000 years before that. Needles were originally made of stone and eventually replaced with metal around 110 B.C. The theory involved in acupuncture is that we have meridians or lines of qi (pronounced “chee”) or energy flowing through these meridians. Disease processes or inflammation alter or stop the flow of qi. Therefore, introduction of a needle in points along these meridians opens the energy flow as well as the release of endorphins, serotonin, norepinephrine or gamma-aminobutyric acid. Acupuncture is not limited to needle placement. There are many techniques used to stimulate points and meridians: massage or acupressure along the meridians, the burning of moxa (an herb that burns very warm) over points or the application of the burning herb on the ends of needles to warm the needles, hemoacupuncture or simply pricking acupuncture points and allowing bleeding, the injection of blood, saline or B-12 at acupuncture points for longer stimulation and the placement of implants at points (gold beads or surgical staples). There are many uses for acupuncture but, like any treatment modality, it does
not work for every patient. In most states, a licensed veterinarian must perform acupuncture diagnosis. A veterinary assistant or licensed technician may place needles based on the suggestion of the veterinarian.

**Chiropractic**
Veterinary chiropractic manipulation started in the early 1900’s and was semi-formalized in the late 1980’s through accepted training programs. The American Veterinary Chiropractic Association is the primary organization in the United States that oversees training in veterinary chiropractic principles and techniques. This treatment modality must be performed by a licensed veterinarian. The concept behind chiropractic is the manipulation of joints and soft tissues through mobilization, manipulation and adjustment.

**Massage and Physiotherapy**
Massage is the rubbing or kneading of muscles and soft tissues to aid in circulation and relaxation. There are several veterinary massage courses including the Chinese version called Tui-na. Massage and physiotherapy are modalities that can be performed by veterinarians and paraprofessionals (technicians, assistants and therapists) and are not limited to licensed veterinarians. Physiotherapy is performed in collaboration with veterinarians to treat injuries or movement dysfunction and combines techniques like mobilization, stretching, massage and electrotherapy. Often, a treatment plan is developed specific to each patient that will include exercises to be performed at the farm between treatments.

**Laser Therapy and Electrical Stimulation**
Low Energy Photon Therapy, Cold Laser, Low Level Laser Therapy and Soft Laser are all names used to describe a therapeutic method that utilizes red or infrared light to increase healing. The method was initially developed in 1960 for superficial wounds and is believed to promote cellular regeneration, production of collagen for tissue repair, vascular dilation and production of endorphins. Red light is used for superficial wounds or injuries and infrared light is used for deeper treatments. This therapy is not limited to veterinary professionals and can be utilized by owners at home. Electrical stimulation involves the application of electrodes to the skin to provide electrical pulsed stimulation to muscle fibers. This modality is believed to promote muscle strength and reduce pain. Both laser therapy and electrical stimulation have limited research in veterinary medicine and should be considered as an adjunct, not the primary form of treatment for an injury.

**Ultrasound Therapy**
Cornell University developed a compact ultrasound unit called the UltrOz Therapy System that is available for the veterinary community, animal owners and caretakers. The unit can be attached to the leg (or other locations on the body) for 6 hours of treatment. The treatment method is believed to accelerate and shorten the inflammatory phase of healing, increase local
circulation, boost cellular permeability, improve collagen synthesis, decrease edema and increase the release of natural analgesics. A study published in 2006 involved cutting and repairing the superficial digital flexor tendon in goats and then using ultrasound therapy for half of the patients to assess healing. The sonication was performed at 1 MHz with an intensity of 1 W/cm² for 10 minutes per day for 10 days. After 30 days, treated tendons had a regression of adhesions between the skin and tendons, the tendons were more normal in thickness and density and had better organized granulation tissue than the non-treated group (Maiti et al. 2006).

Summary
Opioids, alpha-2 adrenergic agonists, gabapentin, steroids (intra-articular, epidural, intra-thecal or systemic), herbal, homeopathic and food therapies are additional alternative options available for treating pain. Often, owner preference will direct the veterinarian when creating a treatment plan for each patient. For the performance animals, alternative physical therapies avoid the complications associated with drug testing. Caution should be used with herbal formulations and homeopathic medications that are not under the jurisdiction of the Food and Drug Administration as ingredients are not always listed on packaging. Aspirin or other drugs might be combined in “herbal” formulations without appropriate labeling. There is not one single treatment modality that is perfect and that will work for every patient. Therefore, combining physical therapies with appropriately dosed medications, supplements or diet change produces the best outcome. The technician can play an integral role in performing alternative therapies for veterinary patients.

References

Meredith K, Bolwell CF, Rogers CW, Gee EK. The use of allied health therapies on competition horses in the North Island of New Zealand NZ Vet J 2011;59(3):123–7