tenderness at the corresponding Association or Alarm Point.

**Methods and Materials**

**Animals:** 142 client owned horses.

**Procedure:** Back discomfort was assessed before and after biofrequency modulation patch placement, using the novel technique outlined in this paper.

One hundred forty-two client-owned horses were tested using the technique described below. All horses were systemically healthy and in use in either specific disciplines (racing, jumping, reining, dressage, barrel racing, other show events or breeding) or pleasure (occasional showing, trail riding, roping, or general pleasure use). Horses were between the ages of 2 and 24 years old, and of 22 different breeds. Most of the horses had some degree of back pain, as this is a common chief complaint for an acupuncture visit.

Placebo patches were identical to test patches in adhesive, adhesive backing, and plastic sleeve, but contained no orthomolecular organic matrix. Placebo patches were applied to 7 horses, and testers were blinded to which patches were placebo. A second control group was made up of 7 horses upon which only duct tape was placed, to eliminate confounding results by any affect the duct tape might have had on the horses by potentially causing minor irritation at the acupuncture point.

**Acupuncture Point Palpation.** In the horse, Association Points are located along the inner branch of the left and right Bladder Meridians, which run longitudinally, about a hand's width lateral to the midline and one "cun" (the width of the sixteenth rib, or approximately 3 cm) apart (Figure 1). Due to anatomical variation in body size and breeds, there is some discrepancy in the precise location of certain points. Testing begins at the most cranial point Bladder 21 just caudal to the last rib, continues caudally at intervals of one cun, until the most caudal point Bladder 35 is reached, at the level of the base of the tail (Figure 2).

Approximately 3 pounds of pressure is used at each point. A measure of 3 pounds of pressure can easily be determined using any flat scale, such as a grocery scale. Acupuncture diagnosis by deep palpation can be accomplished with pressure from the fingers or an object such as a needle cap. Whatever tool is used, pressure must be consistent at each point to achieve accurate results. When pain is elicited at the point, the response is a quivering of the muscles, movement away from the pressure, retraction of the back or, if the point is very painful, a horse will even attempt to kick or bite.

The horses were measured against a 1 to 10 scale for back discomfort and tightness (Figure 3). Values 1 through 3 are considered normal. For these values, on palpation there is life and elasticity in the tissues, and there could be very minor sensitivity, but the horse does not appear to be distressed in any way. Values 4 and 5 represent mild to moderate discomfort, 6 through 8 frank distress and pain, and 9 and 10 severe pain.

**Patch Placement.** If horses were assigned a Sensitivity Score of 1, 2 or 3 after acupuncture palpation, no further testing was done for these individuals. For horses assigned a sensitivity score of 4 or higher, patches were placed with the adhesive side away from the horse, with the adhesive left covered by the manufacturer's backing, in order to eliminate confounding results by any effect contact of adhesive with the horse's skin might have. They were covered with duct tape to secure, and left in place for 5 minutes. A white patch was placed on the right side of the horse on the Bladder 23 point and a tan patch was placed on the left side of the horse on the corresponding Bladder 23 point. Urinary Bladder 23, is the Back-Shu, or Association Point of the Kidney, and is located 3 cun (approximately 9 cm) lateral to the lower border of the spinous process of the 2nd and 3rd lumbar vertebrae (Figure 4). This acupuncture point, in addition to many other functions, tonifies the kidneys, and strengthens the lower back and knees.

**Reassessment.** Repeat Acupuncture Point Palpation, as described above. If reassessment resulted in failure of sensitivity score to fall by at least two units, then patches were reversed (the white patch placed on Bladder 32 on the left, and the tan patch placed on Bladder 32 on the right). It has been noted anecdotally by those who use LifeWave Patches that a small group
of individuals seem to have “Reversed Polarity,” and while they fail to respond appreciably to placement of white patches on the right and tan on the left, they do respond well to placement of tan on the left and white on the right. Reverse placement of biofrequency modulation patches usually fails to bring about improvement in individuals who do not suffer from reversed polarity.

Results

Four of the horses showed no significant sensitivity on initial assessment (i.e., scored 1-3) and were not evaluated further. Because scores 1-3 are all considered within normal range, and differences between those three scores are likely clinically insignificant, all horses who scored within normal range (1-3) were designated a score of 3. Eight horses showed mild to moderate discomfort (scored 4-5), 79 horses showed frank distress and pain (scored 6-8), and 51 horses showed severe pain (scored 9-10).

None of the 7 horses who received placebo patches showed any change in sensitivity score when reassessed after patch placement. On initial assessment, 3 of these horses showed moderate discomfort (scored 4-5), 3 showed frank distress and pain (scored 6-8), and one showed severe pain (scored 9). When biofrequency patches were applied to these horses, all sensitivity scores returned to normal range (1-3).

Three horses in the study showed no response to biofrequency modulation patch placement. One of these horses showed an initial sensitivity score of 7, indicating frank distress and pain, and 2 of these horses showed an initial sensitivity score of 9, indicating severe pain. After patches were reversed, two of these horses showed return of sensitivity score to normal (1-3). One horse with initial sensitivity score of 9 who did not respond to initial patch placement also failed to respond to reverse patch placement.

Conclusions

The horses tested responded dramatically to the biofrequency modulation patches. Out of 138 horses with mild to severe back discomfort, all horses except one with severe pain responded favorably to the LifeWave patches. One hundred thirty-five horses responded to traditional patch placement (white on the right and tan on the left), and 2 responded to reversed patch placement (tan on the right and white on the left). The more severe the back discomfort and tightness, the more dramatic were the effects. The lack of perceived improvement after placement of placebo patches to which investigators were blinded likely confirms legitimacy of the perceived therapeutic response to biofrequency patches.

This study evaluates patch use limited to 5-minute periods. In my practice, therapeutic patching of horses with back pain for as long as 12 hours at a time, and for subsequent treatments, has produced further beneficial effects. Some horses have manifested more energy and power than their owners have actually desired on the trail, while wearing biofrequency modulation patches. These clients have