

Asthma in a chiropractic clinic: a pilot study

Jamison K. et al *J Aust Chiropractors' Assoc* 1986; 16:137-43

A pilot study was performed on 15 asthmatics to determine whether chiropractic care influenced respiratory function. Both subjective and objective data were collected. Results suggest that patient satisfaction with chiropractic care should not be assumed to reflect an improvement in asthma control. Subjective assessment by patients of their current status was furthermore found to correlate poorly with the extent of their bronchospasm as reflected by objective measurement of respiratory indices. Defects in subject selection make definitive statements about chiropractic control of asthma difficult. Investigation of a larger study group with more stringent protocol is recommended.

KEY WORDS: Chiropractor, asthma, respiratory function assessment, pilot study.

The use of laser on acupuncture points for smoking cessation

Tan CH, Sin YM, Huang XG. *Am J Acupuncture* 1987; 15: 137-141

Four hundred and eighteen male smokers were subjected to laser treatment at various acupuncture points for the cessation of cigarette smoking. The results showed that laser treatment at various acupuncture points produced different therapeutic effectiveness. It was found that auricular acupuncture points were relatively more effective for the cessation of cigarette smoking as compared to the acupuncture points of the nose (gall bladder) and wrist (Tim Mee). The data also indicated that one minute exposure of laser treatment with an intensity of 3 mW provided the best therapeutic result. Based on these findings, it is concluded that laser treatment on acupuncture points for cessation of cigarette smoking is clinically effective.

Acupuncture therapy in acute low back pain

Batra YK. *Am J Acupuncture* 1987; 15: 153-4

Twenty-two cases of acute lumbago were treated by acupuncture with a total effective rate of 82 percent. A considerable reduction in the amount of drugs used was noted following this therapy. It is found that acupuncture is a relevant therapy for acute low back pain with defined symptomatic effects.

Breastroker's knee: an analysis of epidemiological and biomechanical factors

Vizsolyi P, Taunton J, Robertson G, et al.
Am J Sports Med 1987; 15: 63-71

Competitive swimmers have a high incidence of breaststroke-related knee injuries. Although previous investigators have implicated the terminal phase of the kick in the injury mechanism, athletes often complain of pain during the initial phase of rearward thrust. Disagreement in the current literature surrounds the precise anatomical derange-

ment(s) constituting "breastroker's knee." The purpose of this investigation was to delineate the epidemiology, anatomy, and patho-biomechanics of breaststroke knee injuries.

Descriptive data were obtained by surveying 391 athletes. An extremely high incidence of knee pain was documented both among breaststroke specialists (73%) and nonbreaststrokers (48%). Age years of competitive swimming, and specific training characteristics were positively correlated with knee pain. Both the medial collateral ligament and the inferomedial patellar border were involved.

A further 21 swimmers were assessed in detail using four methods: interview, physical examination, Cybex II isokinetic quadriceps and hamstring testing, and cinematographic analyses. The interview and physical examination data supported the conclusions derived from the descriptive data, while Cybex testing and kinematic film analyses failed to demonstrate statistical differences between the injured and noninjured groups.

Although kinematic film analyses did not demonstrate statistical differences between cases and controls, dramatic differences in the injury rate were noted when hip abduction angles at kick initiation were less than 37° or greater than 42°. This biomodal increase in injury rates suggests that modification of hip abduction at kick initiation, in conjunction with altered training regimens, will lead to a reduction in medial knee joint stress and hence fewer breaststroke injuries.

Acupuncture and the AIDS epidemic: reflections on the treatment of 200 Patients in four years

Rabinowitz N. *Am J Acupuncture* 1987; 15: 35-42

Two hundred people with Acquired Immune Deficiency Syndrome (AIDS) and AIDS-Related Complex (ARC) were treated with traditional acupuncture. While not a cure, the treatment appears to be beneficial on a physical, emotional and spiritual level and has significance as prophylaxis. This paper examines the theory of AIDS from a Western medical and traditional Chinese medical perspective and explores various treatment issues.

Non surgical management of overuse knee injuries in runners

Taunton JE, Clement DB, Smart GW, et al.
Can J Sport Sci 1987; 12:1 11-18

Seventy-three injured runners (45 men, 28 women) who presented with 83 running-induced overuse knee injuries were managed conservatively. The regimens utilized focused on quadriceps and hamstring muscle retraining and the control of functional overpronation. Patello-femoral pain syndrome (42 cases) was by far the most common problem. The next most common problems were iliotibial band friction syndrome (10), patellar tendonitis (9) and popliteal tendonitis (5). The most frequent etiological factor was a sudden increase in training mileage. Following the initial visit and at regular intervals throughout the recovery phase, quadriceps and hamstring capacities were determined on a

Cybox II isokinetic unit at 60 degrees/second and 180 degrees/second. Significant differences ($p < 0.01$) in Cybox scores were observed between strong and weak extremities in males and females for both muscle groups at both velocities. The mean Cybox scores and the differences with muscle groups between strong and weak legs for the subjects were similar to those reported for healthy non-athletes. The treatment protocol followed four basic principles: control of pain; rebuilding of muscle strength and endurance; improvement of biomechanical efficiency and gradual reintroduction of training. No significant changes in the differences between strong and weak leg Cybox scores occurred between the initial and final evaluations, except in the male group when the hamstrings were evaluated at 60 degrees/second ($p < 0.01$). In the 82 cases managed non-surgically, 1 poor, 8 fair, 36 good and 37 excellent results were obtained. The authors believe that the significance of disturbance in quadriceps and hamstring function to the etiology of overuse knee injuries may be increased in runners who over-pronate.

KEY WORDS : overuse injuries, running knee injuries, patello femoral pain syndrome.

Exercise physiology and its role in disease prevention and in rehabilitation

Astrand PO. Arch Phys Med Rehabil 1987; 68: 305-309

It is an impressive fact that many musicians can perform perfectly at an advanced age. Arthur Rubenstein played very demanding compositions of Chopin at the age of 88 and Andre Segovia at the age of 91 was still giving concerts on the classical guitar. Apparently, through practice very demanding neuromuscular activities can be maintained at advanced ages. Yet hours of daily "training" are behind these achievements. This review discusses some of the general aspects of training and their effects on function and health. As an overall goal it is more important to add life to years rather than add years to life.

KEY WORDS : energy, exercise, exercise therapy, fatigue, isometric, metabolism, muscle contraction.

Thermographic correlates of chronic pain: analysis of 125 patients incorporating evaluations by a blind panel

Sherman RA, Barja RH, Bruno GM. Arch Phys Med Rehabil 1987; 68: 273-279

Series of thermograms from 125 sequential participants were analyzed to determine the usefulness of thermography as a tool for evaluating chronic pain. The stability and symmetry of thermographic patterns over time among both healthy subjects and subjects whose pain remained at the same intensity across several recordings were found to be both high and consistent. This was true only if sensitivity was limited to no greater than 0.5C per color band. Greater sensitivity resulted in the creation of inconsistent asymmetrical patterns among healthy and pained subjects. Thermograms were evaluated by the authors' statisti-

cal analysis of the heat patterns and by a ten-member panel of scientists. They found thermography an excellent tool for monitoring changes in pain related to variations in near surface blood flow, such as those occurring during a sympathetic block. It was excellent for relating changes in near surface blood flow to changes in phantom limb pain intensity. There was a good relationship between changes in pain intensity and changes in symmetry of heat patterns for most of the disorders examined. Thermography had mixed usefulness in differentiating pain-free from pained subjects reporting knee pain (test efficiency, 98%), leg pain, and back pain (efficiency, 56%). It consistently indicated painful areas among patients with spinal cord injury.

KEY WORDS : autonomic nerve block, blood circulation, peripheral pain, thermography.

Electromyographic changes of leg muscles with heel lift: therapeutic implications

Lee KH, Matteliano A, Medige J, et al. Arch Phys Med Rehabil 1987; 68: 298-301

The effects of heel lifts on activity in gastrocnemius and tibialis anterior muscles were analyzed by signal averaged EMG. The goal was to formulate a more rational approach to prescribing heel lifts for conditions such as tendoachilles bursitis and postoperative management of heel cord rupture. Thirteen men walked on a level floor and a treadmill with heel heights of zero, 1.9, 3.8, and 5.7 cm. Results showed that as heel height increased there was a significant decrease ($p = 0.03$) in gastrocnemius EMG activity and an increase ($p = 0.04$) in tibialis anterior EMG activity during level floor walking. Treadmill walking produced less remarkable decreases in gastrocnemius activity and increases in tibialis anterior activity, indicating differences between treadmill and level walking. We conclude that heel lifts of 1.9 to 5.7 cm for men decrease gastrocnemius muscle activity, thereby reducing tension in the Achilles tendon during normal level walking. Therefore, therapeutic use of heel lift is justified for men with tendoachilles bursitis, tenosynovitis of Achilles tendons, and postoperative management of ruptured Achilles tendons.

KEY WORDS : Achilles, electromyography, heel, muscles.

Tissue compliance meter for objective, quantitative documentation of soft tissue consistency and pathology

Fischer AA. Arch Phys Med Rehabil 1987; 68: 122-125

A new instrument is described, the tissue compliance meter (TCM), for quantitative and objective recording of soft tissue consistency. This quality is appreciated at present only by the subjective method of palpation. Use of the TCM therefore offers a method to quantify palpation of tissue consistency and to document findings objectively. The handheld instrument allows immediate and simple reading of the depth of penetration of a rubber disc at a known pressure. The relation between the achieved penetration and employed pressure expresses the

compliance. The TCM consists of a rubber disc with the surface of 1 cm² attached to a force gauge. The depth of penetration of the rubber tip is indicated by a disc which slides on the shaft of the force gauge. Normal values were established for men and women over muscles which are frequently affected by spasm. Tissue compliance measurement can document changes in soft tissue consistency which occur in muscle spasm, spasticity, swelling, tumors, lumps, hematomas, etc. Use of the TCM provides the most sensitive and earliest objective indication of either healing and resolution in soft tissue pathology or occurrence of complications. Changes in muscle tone such as reduction of spasm, tension, or spasticity can be recorded. The effects of different types of physical therapy can thus be documented objectively.

KEY WORDS : diagnosis, measuring devices, soft tissue.

Osteoporosis: does exercise influence bone mineral content?

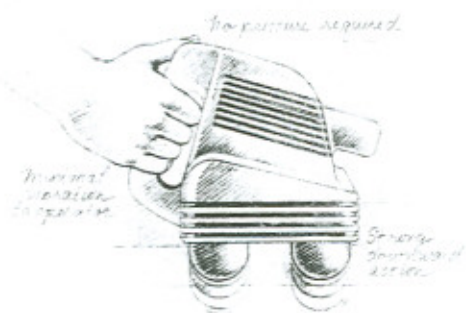
Sawyer CE, Elkington WC, Przeskawski MJ.
Chiro Sports Med 1987; 1: 53-9

Osteoporosis is a major public health problem in the United States affecting over 15 million persons. Women are most commonly at risk for developing the disorder because of a variety of factors, including lower peak bone mass, reductions in estrogen production following menopause, and low calcium intake. Although estrogen replacement therapy reduces bone mineral loss, postmenopausal women with osteoporosis have been shown to have levels of endogenous estrogen similar to those of women with normal bone composition. Low calcium intake is a more clearly understood problem and current evidence suggests that postmenopausal women require approximately 1500 mg of calcium per day to maintain positive calcium balance. It appears that inactivity leads to loss of bone mineral content because bone mass is generally higher in athletes. These observations have led investigators to study the effects of physical activity on bone mass in older women. Several recent clinical trials have demonstrated improvements in bone mineral content in women who have engaged in exercise programs. This evidence provides support for the clinical use of exercise as an approach toward the prevention and management of postmenopausal osteoporosis.

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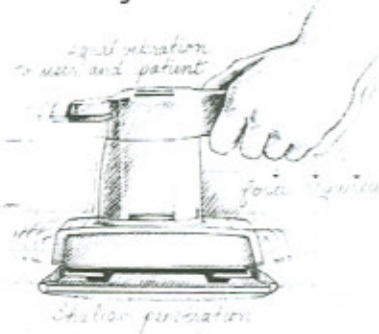
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