

SEAL trainees diagnosed with ITBS were randomly assigned to one of two treatment groups. Group P (n = 16) received rest and phonophoresis with 10% hydrocortisone; group I (n = 14) received rest in a knee immobilizer. Both groups were treated with ice, stretching exercises, and ibuprofen (800 mg three times daily). Mean age of subjects (22.45 vs 21.65 years), severity of injury, and duration of symptoms (15 vs 12.5 days) were similar between groups. Subjects were examined daily until pain free, then they ran 1 mile on a treadmill to determine functional status during exercise. Endpoint criterion was defined as the ability to run 1 mile free of pain or stiffness. Group P was pain free on examination sooner (5 vs 7 days;  $p = 0.054$ ) and able to run 1 mile symptom-free significantly sooner (6 vs 9 days;  $p = 0.029$ ) than group I. Phonophoresis with hydrocortisone appears to be a more effective treatment than knee immobilization for ITBS.

**MEASURING ANAEROBIC POWER OF AGED MEN AND WOMEN** P. Bowers, A. Coleman, T. Oshiro *Department of Physical Education, California State University, Long Beach, CA 90840*

The peak anaerobic power output of the lower extremity was determined for 20 physically active men (age [mean  $\pm$  SD] =  $71 \pm 3.5$ ) and 20 physically active women (age [mean  $\pm$  SD] =  $68 \pm 4.5$ ) using both a 20-second Wingate test (Win) on a bicycle ergometer and the Sargent vertical jump test (VJ). The fractional resistance for Win was based on lean body weight (LBW) ( $0.83 \times \text{LBW}$  [kg] for men and  $0.075 \times \text{LBW}$  [kg] for women). Vertical jump scores were different ( $p < 0.05$ ) between men ( $7.4 \pm 2.4$  in.) and women ( $5.4 \pm 1.8$  in.). Anaerobic power (Win) was different ( $p < 0.05$ ) between men ( $470.0 \pm 123.0$  W/kg) and women ( $255.4 \pm 64.4$  W/kg). The correlation between Win and VJ was  $r = 0.49$  ( $p < 0.05$ ) across all subjects. The correlation between Win and LBW was  $r = 0.80$  ( $p < 0.05$ ) for all subjects,  $r = 0.41$  ( $p < 0.05$ ) for men and  $r = 0.54$  ( $p < 0.05$ ) for women. The difference between men and women was nonsignificant ( $p > 0.05$ ). VJ does not appear to be a valid predictor of anaerobic power in older men and women (as measured using Win). It also appears that normal values for anaerobic power need to be established independently for men and women.

\* **RESPONSE OF SERUM GLUCOSE AND INSULIN TO MEALS OF VARIOUS COMPOSITIONS FED AFTER EXERCISE** G. Butterfield and J. Borchers *Palo Alto Veterans Affairs Medical Center, Palo Alto, CA 94304*

The response of insulin and glucose to meals after exercise in elite athletes suggests significant stimulus for glycogen storage. However, the effect of such a regimen has not been evaluated in recreational athletes. We studied the effect of postexercise meal composition on serum glucose and insulin in 11 male recreational athletes ( $28.5 \pm 8.6$  years;  $57 \pm 5$  ml  $\cdot$  kg<sup>-1</sup>  $\cdot$  hr<sup>-1</sup>). On test days, the men ran for 45 minutes on a treadmill at 75-80% of maximal oxygen consumption ( $\text{VO}_{2\text{max}}$ ) and then ingested one of four test drinks. The drinks were given in two doses, one after exercise and the other 1 hour later. The drinks, given in random order, consisted of carbohydrate (CHO: 32 gm/dose), protein (PRO; 12 gm/dose), carbohydrate and protein (PRO + CHO: 32 gm CHO, 12 gm PRO/dose), and placebo containing no CHO or PRO. Blood was drawn from an antecubital vein following exercise and 15, 30, 60, 90, 120, and 180 minutes after the ingestion of the first dose of the test drink. Serum was analyzed for glucose (glucose oxidase) and insulin (radioimmunoassay). Two-way ANOVA with post hoc testing ( $p < 0.05$ ) revealed insulin response to CHO and PRO + CHO drinks to be significantly greater ( $p < 0.05$ ) at 15, 30, 60, 90, and 120 minutes than the response to PRO or placebo. Serum glucose showed a significantly higher response to CHO and PRO + CHO drinks than to PRO or placebo at 15, 30, 60, and 90 min. In this study insulin and glucose response of recreational athletes to CHO or PRO + CHO drinks given after exercise was similar to that reported previously in elite athletes. (Supported in part by a gift from Shaklee Corporation.)

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