

SportsMedUpdate

RELATION OF HEIGHT, BODY MASS, ENERGY INTAKE, AND PHYSICAL ACTIVITY TO RISK OF RENAL CELL CARCINOMA: RESULTS FROM THE NETHERLANDS COHORT STUDY

van Dijk BAC, Schouten LJ, Kiemeneij LALM, et al. *Am J Epidemiol* 2004;160:1159-67

Background:

The risk of developing renal cell carcinoma has been associated with increased body weight, increased height, and reduced physical activity, but these parameters have not been well studied together.

Research question/s:

What is the association between anthropometry, energy intake, and physical activity and the risk of developing renal cell carcinoma (RCC)?

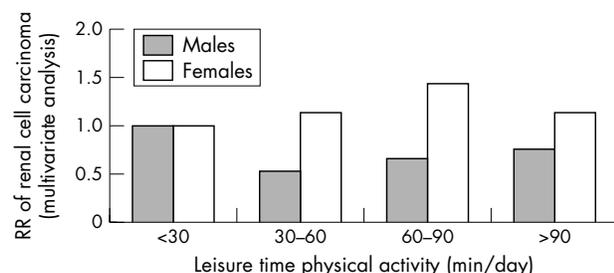
Methodology:

Subjects: 58 279 men and 62 573 women (55-69 years) completed a self-administered questionnaire at baseline.

Experimental procedure: Subjects completed a baseline questionnaire including current and past weight, height, energy intake, and physical activity (leisure and occupational). After 9.3 years of follow up, 275 microscopically confirmed incident cases of RCC were available for analysis.

Measures of outcome: Incidence rate ratios for RCC were estimated using Cox proportional hazards models.

Main finding/s:



- Height was associated with RCC risk only in women (per 5 cm increment, rate ratio (RR) = 1.23, 95% confidence interval (CI): 1.03 to 1.46)
- Body mass index (weight (kg)/height (m)²) was associated with increased risk of RCC (per 1-kg/m² increment, RR = 1.07, 95% CI: 1.02 to 1.12) for men and women, as was gain in body mass index from age 20 years to baseline (per 1-kg/m² increment, RR = 1.06, 95% CI: 1.01 to 1.10)

Conclusion/s:

- An increased body mass index and a gain in body mass index since the age of 20 years are associated with an increased risk of developing renal cell carcinoma - physical activity (>30 minutes per day) may be protective in males

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Evidence based rating: 8/10 **Clinical interest rating:** 8/10

Type of study: Prospective cohort study

Methodological considerations: Well conducted study, crude measure of physical activity used

Keywords: anthropometry, body height, body mass index, carcinoma, renal cell, energy intake, exercise, kidney neoplasms, leisure activities

A CLINICAL PREDICTION RULE TO IDENTIFY PATIENTS WITH LOW BACK PAIN MOST LIKELY TO BENEFIT FROM SPINAL MANIPULATION: A VALIDATION STUDY

Childs JD, Fritz JM, Flynn TW, et al. *Ann Intern Med* 2004;141:920-8

Background:

The effectiveness of spinal manipulation in the treatment of low back pain has not been well studied.

Research question/s:

What is the validity of recently developed rules to predict a favourable outcome after spinal manipulation in patients with low back pain?

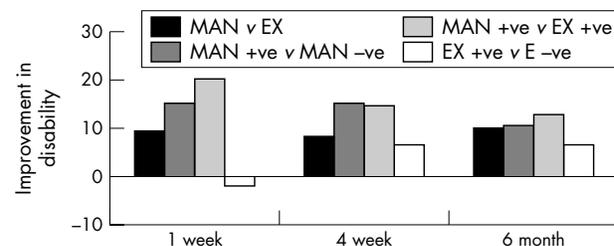
Methodology:

Subjects: 131 patients with low back pain (18-60 years).

Experimental procedure: All of the subjects were examined according to previously developed clinical prediction rule criteria (symptom duration > 16 days, no symptoms distal to the knee, fear-avoidance belief score < 9, > 1 hypo-mobile segment, and one hip > 35 degrees internal rotation range of motion). Subjects were classified as positive on the rule if at least four of five criteria were met. All of the subjects were then randomly assigned to either a group receiving manipulation plus exercise (MAN+EX) or exercise alone (EX) for 4 weeks. Assessments were conducted at 1 week, 4 weeks, and 6 months.

Measures of outcome: Disability, pain in patients who were positive (+ve) for the rule or not (-ve).

Main finding/s:



A patient who was positive on the rule and received manipulation has a 92% chance of a successful outcome, with an associated number needed to treat for benefit at 4 weeks of 1.9 (confidence interval (CI): 1.4 to 3.5). The response rate for the 6 month follow up resulted in inadequate power to detect statistically significant differences for some comparison.

Conclusion/s:

A prediction rule that incorporates five elements (symptom duration > 16 days, no symptoms distal to the knee, fear-avoidance belief score < 19, > 1 hypo-mobile segment, and one hip > 35 degrees internal rotation range of motion), can accurately predict which patients with low back pain will benefit from spinal manipulation.

Evidence based rating: 7.5/10 **Clinical interest rating:** 8/10

Type of study: Randomised, controlled clinical trial

Methodological considerations: Drop out rate at 6 months 30%, well conducted study

Keywords: low back pain, spinal manipulation, prediction

NO EFFECT OF A VIDEO-BASED AWARENESS PROGRAMME ON THE RATE OF SOCCER INJURIES

Arnason A, Engebretsen L, Bahr R. *Am J Sports Med* 2005;**33**:77–84

Background:

The injury rate in soccer is high—an effective injury prevention method using video analysis and then education of the soccer players may reduce the risk of injury.

Research question/s:

Is a preseason video-based awareness programme effective in reducing the incidence of acute injuries in soccer?

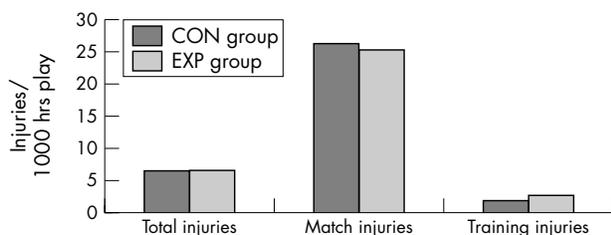
Methodology:

Subjects: 271 elite male soccer players from 15 teams.

Experimental procedure: Teams and players were randomly allocated to an experimental (EXP) group (seven intervention teams of 127 players) and a control (CON) group (eight control teams of 144 players). Before the start of the season, the intervention teams were visited with an intervention programme (15 minute presentation with information on the injury risk of playing elite soccer, typical injuries, and their mechanisms, followed by players working together in pairs and analysing video sequences to develop preventive strategies). Team physical therapists prospectively recorded all acute injuries, and coaches recorded training exposure during the season.

Measures of outcome: Injury incidence (between groups).

Main finding/s:



- There was no significant difference in injury incidence between the groups
- There was no significant difference in the incidence of injury location and type between groups

Conclusion/s:

A preseason video-based injury awareness programme does not reduce the overall risk, type, and location of soccer injuries in elite soccer players.

Evidence based rating: 8/10 **Clinical interest rating:** 7.5

Type of study: Randomised control clinical trial

Methodological considerations: Well conducted study

Keywords: injury mechanisms, injury types, intervention, prevention, soccer, video-based awareness programme

SUBACROMIAL IMPINGEMENT SYNDROME: THE EFFECT OF CHANGING POSTURE ON SHOULDER RANGE OF MOVEMENT

Lewis JS, Wright C, Green A. *Orthop Sport Phys Ther* 2005;**35**:72–87

Background:

Abnormal body posture and muscle imbalances have been proposed as mechanisms leading to subacromial impingement syndrome, and are therefore often components of rehabilitation programmes.

Research question/s:

Does a change in thoracic and scapular posture improve shoulder flexion and scapular plane abduction range of motion in asymptomatic subjects, and in subjects with subacromial impingement syndrome?

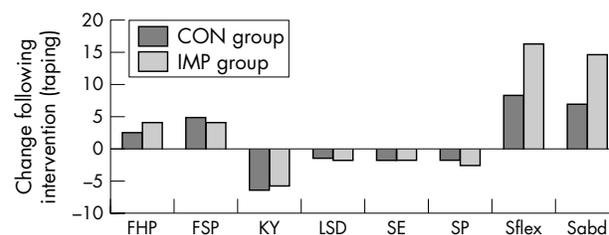
Methodology:

Subjects: 60 asymptomatic subjects (CON) and 60 subjects with subacromial impingement syndrome (IMP).

Experimental procedure: All of the subjects underwent assessments of selected postural (forward head posture (FHP), forward shoulder posture (FSP), kyphosis (KY), lateral scapular displacement (LSD), scapular elevation (SE), sagittal position (SP)), range of movement (shoulder flexion (SFlex), scapular plane abduction (SAbd)), and pain measurement during ROM on a VAS. Measurements were conducted before and after thoracic and scapular taping intended to change their posture.

Measures of outcome: Changes in posture, ROM, and pain during ROM following taping.

Main finding/s:



- Posture: taping resulted in a positive effect on all components of posture measured ($p < 0.001$) and these changes were associated with a significant increase ($p < 0.001$) in the range of motion
- Pain: taping did not alter the intensity of pain experienced by the IMP group, although the point in the range of shoulder elevation at which they experienced their pain was significantly higher ($p < 0.001$)

Conclusion/s:

Taping of the shoulder to improve posture, increases shoulder range of movement, and the point at which pain is experienced in patients with subacromial impingement syndrome.

Methodological considerations:

Evidence based rating: 7.5/10 **Clinical interest rating:** 8/10

Type of study: Randomised, placebo controlled, crossover study

Methodological considerations: Well conducted study

Keywords: pain, scapula, taping, thorax, range of motion, pain, subacromial impingement, shoulder