463 CAN WE PREVENT INJURIES IN RECREATIONAL RUNNERS? A RANDOMIZED CONTROLLED TRIAL

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Background The INSPIRE trial examined in 2017 the effect of an online injury prevention program on the number of running-related injuries (RRI). Although this program showed no effect on the number of injuries, new insights from this study were used to design an enhanced prevention program.
Objective To examine the effectiveness of an online injury prevention program on the number of RRIs in recreational runners.
Design Randomized controlled trial.
Setting This study includes analyses of a randomized controlled trial on RRI prevention in recreational runners registered for a Dutch running event (distances 10–42.195 km).
Participants 4105 adult, recreational runners who registered at least two months before the running event and did not participate in the INSPIRE trial.
Interventions Participants that were randomized into the intervention group were given access to the online '10 steps 2 outrun injuries' prevention program, which included 10 steps with advice to prevent RRIs. Participants received three follow-up questionnaires: one month and one week before the registered running event and one month after the running event.
Main Outcome Measurements The number of new RRIs in the intervention and control group during follow-up. Secondary outcome measures included the injury proportions in participants per injury location and in participants with an RRI in the 12 months before baseline.
Results During follow-up, 35.5% (95% CI 33.5;37.6) of the participants in the intervention group sustained a new RRI compared to 35.4% (95% CI 33.3;37.5) of the participants in the control group, with no differences between groups (OR 1.03; 95% CI 0.90;1.17). No significant differences in injury proportions were found in participants per injury location and in participants with an RRI in the 12 months before baseline.
Conclusions An enhanced online injury prevention program including 10 steps to outrun injuries had no effect on the number of RRIs in recreational runners.

464 IMPACT ASYMMETRY AMONG RECREATIONAL RUNNERS: EFFECTS OF SEX, SPEED, AND FOOTWEAR

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Background Comparison of between-limb loading asymmetry during running is often used to assess injury risk or return to run criteria. With the increased use of inertial measurement units (IMUs) in clinical and consumer contexts, it is important to determine normative values for impact asymmetry. For some metrics, such as strength, asymmetries of less than 10% are considered normal, but normal values of impact asymmetries and whether they vary depending on the runner's sex, running speed, or footwear is unknown.
Objective The purpose of this investigation was to describe the magnitude of asymmetries of peak positive vertical accelerations (PPA) during running among healthy runners and to determine the influence of sex, speed, and footwear.
Design Cross-sectional.
Setting Lab-based.
Patients (or Participants) Healthy recreational runners.
Interventions (or Assessment of Risk Factors) Healthy runners between the ages of 18 and 60 ran in standardized footwear (minimalist, maximalist, and neutral) at three speeds (self-selected, +10%, -10%) while an insole-embedded IMU collected acceleration data at 500 Hz.
Main Outcome Measurements Asymmetries were calculated for PPA. A univariate ANOVA with mixed effects assessed the influence of sex, speed, and footwear.
Results Seventeen runners (8 female) were included. The mean asymmetry across all trials was 16.0 ± 23.5%, with an SEM of 2.6%. No significant interactions occurred with footwear or speed, but there was a significant difference between sexes (13.1%; $p = .013$). However, the effect sizes were very small based on Z-score comparison ($-0.325 \leq z \leq 0.232$) and unlikely to be meaningful.
Conclusions The magnitude of asymmetry varies considerably across individuals, but does not seem to be substantially affected by sex, speed, or footwear. Future studies should include a larger sample size and detailed running history variables in an effort to determine population norms and effect of training- and injury-related variables on impact asymmetry.

465 LONG-TERM MEDICAL CONDITIONS (LTMCS) IN MARATHON PARTICIPANTS

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Background The average age of participants in mass-participation community-based endurance running events is slowly increasing. The prevalence of long-term medical conditions in marathon participants can inform medical planning for such events.
Objective To describe the prevalence of long-term medical conditions (LTMC), including cardiovascular disease (CVD) risk factors, in participants of mass-participation community-based marathon events.
Design Observational questionnaire-based study.
Setting Two large UK city mass-participation marathon events.
Patients (or Participants) Entry to both events was open to novice runners, with no qualifying time for general entry. All registered participants were invited to complete an online questionnaire in the week preceding the event. 11809 runners completed the survey.