

# MEDICINA DELLO SPORT

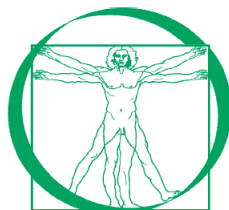
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and an Antigen rapid test. Upon departure a negative PCR test or a certificate issued after the end of the quarantine period was required. Competitors with a PCR positive but negative history and producing a negative rapid test were re-sampled.

**RESULTS:** In total, 1,500 PCR tests and 1,250 rapid tests were performed. One of the Antigen rapid tests performed at the accreditation proved to be positive. The PCR tests taken on arrival, 21 were positive and they were immediately detected and isolated in an external hotel. Meanwhile, on departure 7 PCR tests were positive.

**CONCLUSIONS:** The current study shows that the mentioned protocol was successful. Furthermore, the bubble was successful, 1.8% of the PCR tests performed were positive, and more than half of these had either undergone or been vaccinated.

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### Exercise promotes endothelial progenitor cell mobilization in patients with cardiovascular disease. A systematic review and meta-analysis

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**BACKGROUND:** Exercise stimulates endothelial progenitor cell (EPC) mobilization, promotes the normal endothelial function and reduces the risk of cardiovascular disease. The type of exercise to mobilize EPCs into the circulation, however, needs to be clarified. The aim of this meta-analysis is to define the type of exercise required to mobilize EPCs in patients with cardiovascular disease.

**METHODS:** Search was conducted on Medline, Embase and Cochrane Library of Controlled Trials databases. Studies were included with at least one of the following eligibility criteria: a) measurements of EPC mobilization and b) measurements of exercise interventions in cardiovascular disease patients. Furthermore, studies were also included that defined EPCs by different combination markers (CD34+/CD133+/CD45-/VEGFR<sub>2</sub>+). The quantitative analysis was presented with forest and funnel plots and a random effect inverse variance used with the effect measures of the standard mean difference (StdMD) standard deviation. The primary outcome measure was EPCs (EPCs% or EPCs, cells/ml) before and after exercise training.

**RESULTS:** Sixteen studies with 479 patients and 216 control participants were included. EPCs were increased following continuous exercise training StdMD: 1.28 (95% Confidence Interval: 0.66-1.9, P<0.001).

Interval training with limited and contradictory reports on EPC mobilization failed to show statistical differences, (P>0.05).

**CONCLUSIONS:** Continuous exercise training triggers EPC mobilization. More studies are needed, however, to define the effectiveness of interval training and the balance between intensity and duration that is required to stimulate EPC mobilization in patients with cardiovascular disease.

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### All-inside anterior cruciate ligament reconstruction versus reconstruction with fixed femoral loop and tibial screw fixation: a prospective study

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**BACKGROUND:** All-inside technique needs less graft length and its dual-suspensory mechanism has been reported to have better biomechanical outcomes. The purpose of the present study was to compare all-inside anterior cruciate ligament (ACL) reconstruction technique with standard technique.

**METHODS:** Between January 2012 and July 2018 we enrolled 100 patients (16-45 years old) with complete ACL tear without meniscal tear and randomly allocated them into 2 groups: Group A (50 patients) were treated with all-inside ACL reconstruction technique (femoral socket through the anteromedial portal, tibial socket with retrograde drilling) and group B (50) with standard technique (anteromedial portal fixed femoral loop and full tibial tunnel with bioabsorbable interference screw fixation). All surgical procedures were performed by the same surgeon. For both groups autograft hamstrings were used (group A: semitendinosus triple N.=23 or quadruple N.=27, group B: semitendinosus and gracilis).

**RESULTS:** In group A, 4 cases were converted to full-tibial tunnel and 2 early graft failures 1-month post-operatively were recorded. In group B, 1 case of infection immediate post-operatively and one case of bone resorption at the cortex of the tibial screw fixation presented 19 months post-operatively were recorded. Post-operative pain was less in all-inside group (P=0.039). No differences were observed in Lysholm (P=0.645) and IKDC (P=0.723) scores, clinical examination (Lachman, pivot shift test) or KT-1000 measurements (P=0.635). All-inside technique had increased operative time by 20 minutes.

**CONCLUSIONS:** Our results indicate that all-inside is comparable to the standard ACL reconstruction technique regarding complications, clinical and patient reported outcomes after two years and also presents less post-operative pain.