ASSOCIATION OF SPINOPELVIC ALIGNMENT, LOWER EXTREMITY ALIGNMENT, HAMSTRING TIGHTNESS, LOWER EXTREMITY RANGE OF MOTION WITH LANDING PATTERNS IN BALLET DANCERS, FOLK DANCERS AND FOOTBALL PLAYERS

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Background Dancers are exposed to ACL injuries less than other athletes despite jumping more than other athletes.

Objective To reveal the differences between professional dancers and athletes by posture analysis (coronal and sagittal balances) using EOS X-ray-imaging system and landing patterns after jumps using Kinovea video analysis.

Design Comparative study.

Setting Professional folk and ballet dance groups and Premier League football players.

Patients (or Participants) Volunteered 8 professional folk dancers, 8 professional ballet dancers and 8 premiere league football players.

Interventions (or Assessment of Risk Factors) Hamstring tightness, increased pelvic incidence and thoracal kyphosis angles and decreased ROM are the risk factors for ACL injury during landing.

Main Outcome Measurements Hip, knee and ankle mean ROMs, SLR (straight leg raise) and frontal mechanical axis angle were significantly different between dancers group and athletes group (p<0.05). The mean P incidence angle and mean thoracal kyphosis angle in football players were significantly higher than dancers group (p<0.05).

Results Folk dancers use heel, ballet dancers use forefoot and football players use midfoot landings at initial ground contact. Compared to dancers, football players have less trunk, hip, knee flexion degrees at initial ground contact on landing.

Conclusions Hamstring tightness, decreased lower extremity ROMs, trunk flexion, hip flexion, knee flexion during landing may increase ACL injury risk in football players. Optimal hamstring flexibility is very important for preventing injuries in football player, and it also helps athletes improve football-specific skills, such as sprinting, jumping, agility and kicking. These results support the rationale that muscle flexibility ought to be part of the specific training of football players.

RETURN TO DANCE FOLLOWING ARTHROSCOPIC KNEE SURGERIES: WHAT ARE THE DIFFERENCES BETWEEN RETURN TO SPORT AND RETURN TO DANCE

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Background Due to risk of reinjury and osteoarthritis, timing of return back to level 1 (jumping, pivoting and hard cutting) sports after surgeries is important. Dance injuries are much like sports injuries and literature is not available on the time to return to dance, rate of reinjury and osteoarthritis following arthroscopic surgery.

Objective In this study, we investigated rates of osteoarthritis and reinjury following arthroscopic knee surgery in folk dancers.

Design Retrospective clinical study.

Setting Professional folk dance group.
Interventions (or Assessment of Risk Factors) Risk of reinjury and osteoarthritis following knee surgery in professional folk dancers.

Results The dancers suffered 14 knee injuries requiring arthroscopic surgery (3 meniscus tears, 4 anterior cruciate ligament tears one of which is with posterolateral corner tear, 1 posterior cruciate ligament tear, 1 patellar dislocation, 1 infrapatellar bursitis, 2 Hoffa’s fat pad syndromes, 2 symptomatic medial plicae) during a ten-year period. Following surgeries, the dancers could restart to perform live on the stage in 19.5±12 (range:5 to 52) weeks on average. Injuries and postoperative times to return to dance was 56.7±23 (26–108) months to follow-up with the same clinic and same surgeon for the patients. One dancer had reoperation due to meniscus retear after 4 years. The rate of reinjury is 7.14% after knee surgery. All of the dancers who underwent arthroscopic knee surgery were evaluated for osteoarthritis according to the Kellgren Lawrence classification. The osteoarthritis were classified as G:0 in 7 patients, G:1 in 3 patients, and G:2 in 4 patients on final knee radiographs. All of the operated patients continued with their careers in dancing.

Conclusions Knee surgeries for the cases mentioned above do not necessarily put an end to their dancing career. This may follow surgeries, the dancers could restart to perform live on the stage in 19.5±12 (range:5 to 52) weeks on average. Injuries and postoperative times to return to dance was 56.7±23 (26–108) months to follow-up with the same clinic and same surgeon for the patients. One dancer had reoperation due to meniscus retear after 4 years. The rate of reinjury is 7.14% after knee surgery. All of the dancers who underwent arthroscopic knee surgery were evaluated for osteoarthritis according to the Kellgren Lawrence classification. The osteoarthritis were classified as G:0 in 7 patients, G:1 in 3 patients, and G:2 in 4 patients on final knee radiographs. All of the operated patients continued with their careers in dancing.

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