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How does Achilles tendon rupture affect sports performance after return to play? A media-based, matched-pairs analysis in male elite basketball athletes.

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INTRODUCTION:
Achilles tendon rupture (ATR) represents one of the most devastating musculoskeletal injuries in sports. Most affected athletes require surgery and return to competition only after downtimes of about six to twelve months [1, 2]. It may hence be assumed that pre-injury performance levels cannot be fully restored during the complex rehabilitation process. This study aimed to compare both, simple and complex performance indicators in male NBA basketball players with and without a history of ATR.
METHODS:
A total of n=42 NBA athletes with an ATR sustained between 1970 and 2022 were identified using official databases (e.g. NBA.com) and media-based registers. Both simple (e.g., points scored/rebounds/assists/blocks/steals/turnovers, all normalised per 36 minutes of playing time) and complex (e.g., player efficieny rating, points per possession, offensive/defensive rating) indicators of performance were extracted for the injured athletes as well as for a sample of n=42 controls, matched based on age, career duration, height, weight, pre-injury performance, and position. For both groups, differences were calculated between the reference season (pre-injury in ATR group) and the (consecutive) post-injury season. Mann-Whitney-U tests and related effect sizes were computed for group comparisons.
RESULTS:
While both groups were not different with regard to 12 out of 17 performance indicators (p>.05), systematic differences with moderate effect sizes were observed for the remaining variables. Individuals with a history of ATR had a lower field goal (-1.5 %, p=.03, r=.27) and true shooting percentage (-2,9%, p=.006, r=.34), additionally achieving fewer blocks (-0.2, p=.005, r=.36), fewer points per possession (-0.09, p=.002, r=.40), and a lower game rating (-1 point, p=.02, r=.30).
CONCLUSION:
Following ATR, performance can be restored with regard to most indicators of performance in elite basketball athletes. However, coaches and therapists need to be aware that some deficits continue to exist, requiring focused attention.

Topic: Sports Medicine and Orthopedics

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