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Return-to-play in sports: A decision-making model

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Return-to-play (RTP) decisions are fundamental to the practice of sports medicine but vary greatly for the same medical condition and circumstance. Although there are published articles that identify individual components that go into these decisions, there exists neither a quantitative criterion nor a model for the sequence of these components within the medical decision-making process. Creighton et al. 2010 developed and published a 3-step decision-based RTP model that is specific to the individual practitioner making the RTP decision: Health status, participation risk, and decision modification. In Step 1, the Health Status of the athlete is assessed through the evaluation of Medical Factors related to how much healing has occurred. In step 2, the clinician evaluates the Participation Risk associated with participation, which is informed by not only the current health status but also by the Sport Risk Modifiers (e.g. ability to protect the injury with padding, athlete position). In step 3, Decision Modifiers are considered and the decision to RTP or not is made. We undertook a literature review to determine the level of evidence in support of this model.

Data Sources: PubMed, Web of Science, and CINAHL electronic databases. Any article specifically related to concussion, head injuries, neck injuries, illness, medical conditions (including cardiovascular and renal), and pre-participation in sport was excluded. Any article that contained a discussion on one of the components of the 3-step decision-based RTP model was included.

Results: We reviewed 148 articles that met the criteria for inclusion and found 98 review articles, 39 original articles, 6 case reports, and 5 editorials. Of these, 141 articles mentioned step 1 of the medical decision-making process for RTP (Medical Factors), 26 mentioned step 2 (Sport Risk Modifiers), and 20 mentioned step 3 (Decision Modifiers). Of the 148 articles in total, only 13 focused on RTP as the main subject and the remaining 135 mentioned RTP anecdotally. Of these 13 articles, 5 were reviews, 4 were editorials, and 4 were original research.

Conclusion: Although 148 articles we retrieved mention RTP in relation to a specific injury, medical condition, or specific topic, only 13 articles focused specifically on the RTP decision-making process, and 6 of 13 were restricted to step 1 of the 3-step model (Medical Factors). Return-to-play is a fertile field for research and thought leadership beginning with a focus on the Physiotherapist's appropriate role in RTP decision making.

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