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Injuries in Blind 5-a-Side Football Players: A Scoping Review

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ADMINISTRATIVE INFORMATION**Support** - No support.**Review Stage at time of this submission** - The review has not yet started.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202690034**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 8 September 2026 and was last updated on 8 September 2026.**INTRODUCTION**

Review question / Objective What is the incidence, type, mechanism, risk factors, prevention strategies, and rehabilitation protocols of sports-related injuries among blind football (5-a-side football) athletes?

Population: Blind football athletes (5-a-side football), including field players with B1 classification (totally blind or light perception only), as defined by the International Blind Sports Federation (IBSA).

Concept: All types of sports-related injuries, including acute traumatic injuries (e.g., contusions, abrasions, muscle strains, ligament sprains, fractures, concussions), chronic overuse injuries (e.g., tendinopathy, stress-related conditions), and secondary injuries associated with visual impairment.

Context: Injury events occurring during training sessions, competitive matches, and rehabilitation processes, with particular emphasis on injury characteristics under high-intensity physical contact and sport-specific rules (e.g., use of a ball

with an internal sound device, perimeter boards, and guided command systems).

Background Blind football (5-a-side football) has been a Paralympic sport since the 2004 Athens Games, with its competitive intensity and physical contact levels increasing significantly over the past two decades. Epidemiological evidence indicates that blind football carries one of the highest injury burdens among Paralympic sports, with injury incidence densities reaching 6.3–8.7 per 1,000 athlete-hours during major Games. A recent survey of the Chinese men's blind football team further reported a 78.6% injury rate during the Paris Paralympic preparation cycle, with 83.3% being traumatic injuries predominantly affecting the lower extremities.

Unlike conventional football, blind football athletes perform high-intensity sprinting, directional changes, tackling, and physical confrontation under complete visual deprivation, resulting in unique biomechanical and neurosensory injury patterns. Compensatory motor strategies—such as increased arm swing velocity, greater trunk

flexion, and altered gait parameters—have been documented, yet their implications for musculoskeletal loading and injury risk remain poorly understood. Furthermore, sport-specific environmental factors, including perimeter boards, eye-shades, and acoustically localized balls, introduce additional hazards that distinguish blind football injury etiology from sighted football.

Despite these distinctive risks, sports medicine research in blind football has remained marginalized, with existing studies scattered across rehabilitation medicine, Paralympic sports science, and ophthalmology. To date, no scoping review has systematically mapped the evidence landscape for injuries in this population. Existing studies are predominantly small-sample, single-center, descriptive surveys with heterogeneous methodologies, inconsistent injury definitions, and limited comparability. High-quality prospective cohort studies and randomized prevention trials are critically lacking.

A scoping review guided by the PRISMA-ScR framework is therefore warranted to delineate the scope, characteristics, and gaps in the current evidence base. This review aims to systematically describe injury incidence, types, anatomical distributions, severity, risk factors, prevention strategies, and rehabilitation protocols specific to blind football athletes. By identifying methodological limitations and knowledge gaps, this review will provide a foundational evidence map to inform future research priorities, standardized surveillance systems, and evidence-based clinical guidelines for athlete health protection in this unique Paralympic sport.

Rationale A scoping review methodology was selected over a systematic review or meta-analysis for three primary reasons. First, the blind football injury literature is an emerging, heterogeneous body of evidence spanning descriptive surveys, retrospective case analyses, prospective cohort studies, and small-scale intervention trials. The substantial methodological diversity, inconsistent injury definitions, and lack of standardized reporting frameworks render the evidence unsuitable for effect-size pooling or causal inference via meta-analysis. Second, the primary aim of this review is to map the breadth, depth, and nature of existing research—encompassing injury epidemiology, mechanisms, risk factors, prevention, and rehabilitation—rather than to answer a narrowly defined clinical question. Scoping reviews are explicitly designed for this purpose, as they prioritize evidence mapping and gap identification over critical appraisal of intervention effectiveness. Third, to the best of our knowledge, no prior scoping review has been

conducted in this domain; therefore, a systematic delineation of the evidence landscape is a necessary precursor to any future focused systematic review or primary research. Adherence to the PRISMA-ScR reporting guideline ensures methodological transparency and reproducibility throughout this mapping process.

METHODS

Strategy of data synthesis Given the anticipated heterogeneity in study designs, sample sizes, injury definitions, and outcome measures across the blind football injury literature, a narrative synthesis approach combined with tabular and visual evidence mapping will be employed. Quantitative data—including injury incidence rates, anatomical distributions, injury type frequencies, and severity classifications—will be extracted and summarized using descriptive statistics (frequencies, percentages, ranges) and presented in structured evidence tables. Qualitative data, such as athletes' perceptions of injury risk and concussion experiences, will be thematically categorized and narratively integrated.

Data synthesis will follow a two-stage process. First, a narrative synthesis will categorize studies by thematic domains: (i) injury epidemiology (incidence, prevalence, severity), (ii) injury mechanisms and biomechanics, (iii) risk factors (visual, environmental, training-related, psychosocial), (iv) prevention and intervention strategies, and (v) rehabilitation protocols. Within each domain, findings will be summarized narratively, with attention to consistency, contradictions, and explanatory factors.

Second, tabular and visual integration will be used to enhance comparability. A core evidence matrix will be constructed to encode study characteristics (design, sample size, visual classification, country, follow-up duration, main findings). Summary tables will present injury type and anatomical distributions, while comparative bar charts and trend figures will visualize temporal patterns, methodological quality distributions, and geographic research coverage.

Owing to the expected diversity in outcome metrics and the absence of randomized controlled trials suitable for meta-analysis, statistical pooling will not be performed. Instead, the synthesis aims to produce an evidence map that identifies well-researched areas, emerging themes, and critical knowledge gaps. The MMAT (Mixed Methods Appraisal Tool) will be used for preliminary methodological quality categorization, with results descriptively integrated into the evidence map rather than serving as exclusion criteria.

Eligibility criteria The study must include blind football (5-a-side football) athletes as the primary research population. Athletes' visual status should meet the B1 classification (totally blind or light perception only) according to the International Blind Sports Federation (IBSA) standards.

Concept: The study must report at least one dimension of sports-related injuries, including but not limited to: injury incidence or prevalence, injury type or anatomical distribution, injury mechanism, risk factors, prevention strategies, or rehabilitation protocols.

Study type: Original empirical research published in peer-reviewed journals, dissertations/theses, or conference abstracts with sufficient methodological detail.

Source of evidence screening and selection

Literature screening and data extraction will be conducted independently by two reviewers to minimize subjective bias and ensure reproducibility. The screening process will consist of two stages:

Stage 1 – Title and abstract screening: Both reviewers will independently screen all retrieved records against the predefined inclusion and exclusion criteria based on titles and abstracts. Records clearly irrelevant to blind football injury research will be excluded at this stage.

Stage 2 – Full-text assessment: Potentially eligible records will be retrieved in full text and independently assessed by both reviewers for final inclusion. The reasons for exclusion of full-text articles will be documented and reported.

Conflict resolution: Any disagreements between the two reviewers at either stage will be resolved through discussion. If consensus cannot be reached, a third senior researcher with expertise in Paralympic sports medicine will be consulted to make the final arbitration decision.

Data extraction: Data extraction will also be performed independently by the two reviewers using a standardized, pre-piloted extraction form. Extracted items will include: study design, sample size, athlete visual classification, injury definition and classification criteria, follow-up duration, setting (training/competition), and key findings. The two reviewers will cross-check their extracted data; any inconsistencies will be resolved through discussion. Extracted data will be entered into a pre-designed standardized table for subsequent narrative synthesis and evidence mapping.

Data management All retrieved records will be imported into EndNote X9 (Clarivate Analytics) for duplicate removal and initial organization. After deduplication, records will be exported to Microsoft Excel 2019 for systematic screening,

with separate worksheets maintained for: (i) title/abstract screening decisions, (ii) full-text assessment outcomes, and (iii) final included studies with extracted data.

A standardized data extraction form will be developed and pilot-tested on a random sample of 5 included studies before formal extraction. Extracted data will be stored in a password-protected Excel file on an encrypted institutional cloud drive, with weekly backups to prevent data loss. All screening decisions and exclusion reasons will be documented in real time to ensure transparency and auditability.

The extracted dataset, de-identified study-level characteristics, and the PRISMA-ScR flow diagram will be made available upon reasonable request to the corresponding author for verification and replication purposes. Raw data underlying the evidence synthesis will be retained for a minimum of 5 years following publication.

Language restriction The search will be restricted to English and Chinese publications.

Country(ies) involved China.

Keywords blind football; visually impaired athletes; sports injury; scoping review;.

Contributions of each author

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