INPLASY PROTOCOL

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Support: None.

Review Stage at time of this submission: Preliminary searches.

Conflicts of interest:
None declared.

Shoulder Pathology in Asymptomatic Athletes: A Systematic Review

Hsu, C[1]; Schowalter, S[2]; Rhim, HC[3]; Vu, K[4]; Le, B[5]; Borg-Stein, J[6].

Review question / Objective: What is the prevalence of shoulder pathology seen on MRI in asymptomatic athletes?
Rationale: Athletes, especially overhead athletes, experience significant wear and tear on their shoulder from playing sports. Many times, athletes will demonstrate abnormal pathology on imaging, but it is not necessarily asymptomatic. In this study, our goal is to determine the prevalence of shoulder pathology in asymptomatic athletes through different sports.

INTRODUCTION

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Condition being studied:
1) rotator cuff tendinopathy or tear
2) biceps tendon pathology
3) subacromial/subdeltoid pathology (including impingement)
4) labral pathology
5) AC joint pathology
6) Changes to the humeral head (greater tuberosity cysts)

METHODS

Search strategy: Shoulder, asymptomatic, imaging, athletes will be seared in MEDLINE, web of science, Embase.

Participant or population: Studies that investigated athletes associated with sport(s), all ages will be included.

Intervention: If they are an athlete and participate in sport.

Comparator: Non athletes.

Study designs to be included: Cross sectional study, prospective observational/ cohort, case-control studies, systematic reviews.

Eligibility criteria: Inclusion criteria: original data, English, the shoulder must be evaluated, MRI as a means of evaluation, asymptomatic subjects.

Information sources: PUBMED; Embase; Web of Science.

Main outcome(s): Outcome measure is prevalence of the above conditions (shoulder pathology).

Quality assessment / Risk of bias analysis: JBI prevalence tool, risk of bias.

Strategy of data synthesis: Data will be collected and imported into SPSS. We will analyze a weighted mean and a confidence interval.

Subgroup analysis: Depending on the data that is gathered, subgroup analysis includes breakdown by sport, as well as breakdown comparison between throwing and nonthrowing shoulders for sports with a dominant throwing shoulder.

Sensitivity analysis:
1. Is the primary hypothesis/aim of the study to evaluate knee MRI pathology prevalence in asymptomatic people?
2. Are the main outcomes to be measured clearly described in the introduction or methods section?
3. Are the characteristics of the patients included in the study clearly described?
4. Is the population of interest clearly described?
5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?
6. Are the main findings of the study clearly described?
7. Was the sample size included in the analysis adequate (i.e., ≥50)?
8. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?
9. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?
10. Were the main outcome measures used accurate (valid and reliable)?
11. Was an acceptable case definition used in the study?
12. Was the same mode of data collection used for all subjects?
13. Was the person(s) scoring the MRI scans described and suitably qualified (i.e., radiologist, or reliable trained observer)?

Country(ies) involved: United States.

Keywords: shoulder; asymptomatic; imaging; athletes.

Contributions of each author:
Author 1 - Connie Hsu - Author 1 drafted the manuscript, organized the review and search strategy, and will be involved in data analysis.
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