

Supplementary file 1. Risk of bias judgement.

Almasri et al. 2021

- A) We use a centralized 24 hour computerized randomization system that allows for automated internet based randomization to allocate patients to the control or intervention group in random block sizes of 4 and 8 prior to surgery.
- B) Using this randomization system ensures concealment of treatment allocation.
- C) Patients, outcomes assessors and data analysts are blinded to patient allocation by limiting their access to surgical records and postoperative x-rays. Blinding of patients is feasible because their postoperative care (physiotherapy etc.) does not differ between treatment groups.
- D) An independent, blinded Adjudication Committee will review patient eligibility (e.g. preoperative radiographic alpha angle [15,58,59]), intraoperative arthroscopic findings, and all reported complications.
- E) We had to search in different FIRST investigators articles. They use statistical strategies for controlling loss of follow up but We can not find the reasons for these follow-up.
- F) All kind of outcomes with complete data.

Griffin et al. 2018

- A) Participants were randomly assigned (1:1) with a computer-generated minimisation (adaptive stratified sampling) algorithm for centre and type of impingement, to receive either hip arthroscopy or best conservative care.
- B) Allocation concealment was ensured by use of a secure telephone randomisation service hosted by Warwick Clinical Trials Unit. It was not possible to mask patients or the treating clinicians to their allocation. Researchers who collected outcome assessments and analysed the results were masked to allocation by concealment of treatment.
- C) We did this pragmatic, multicentre, assessor-blind randomised controlled trial.
- D) Not reported.
- E) Not reported the reason of loss follow-up
- F) All kind of outcomes with complete data.

Hunter et al. 2021

- A) Randomisation to either arthroscopic hip surgery or physiotherapist-led conservative care occurred in a 1:1 ratio using a computer-generated minimisation sequence (adaptive stratified sampling) with study hospital site and type of FAI (cam, pincer or mixed FAI) as factors.
- B) Allocation concealment was preserved by having randomisation codes held by an external biostatistician. At randomisation, participants were given a study.
- C) Neither participants, nor treating surgeons/physiotherapists, could be blinded to treatment allocation.
- D) The patient-reported outcome data were collected via online surveys and postal questionnaires and entered onto the central trial database by a research assistant blinded to treatment allocation.
- E) Not reported.
- F) All kind of outcomes with complete data.

Mansell et al. 2018

- A) Randomization was carried out electronically by an independent person not on the research team, in permuted blocks of 2 or 4, and then transferred onto a folded cardstock note and placed in a sequentially numbered opaque envelope.
- B) Patients randomized to the rehabilitation group began treatment within 3 weeks. Patients randomized to surgery were scheduled for the next available appointment, usually within 4 months.
- C) Full blinding was not possible.

- D) All follow-up outcome assessments were conducted by another person not involved with either treatment or aware of the initial treatment allocation.
- E) The reasons of lost of follow-up are in figure 1.
- F) All kind of outcomes with complete data.

Martin et al. 2021

- A) Using an electronic randomization program (Microsoft Excel), the research coordinator randomized participants to surgery plus physical therapy (SPT) or physical therapy alone (PTA) in a 1:1 ratio.
- B) Figure 1.
- C) Due to infeasibility, patients and health care providers were both unblinded.
- D) Not reported.
- E) Not reported.
- F) Compared with the other articles we miss different outcomes, and they give the results by mean differences.

Palmer et al. 2019

- A) A research nurse at each site performed randomisation using an automated computer generated telephone randomisation system provided by the Oxford Clinical Trials Research Unit.
- B) Randomisation for the first 12 participants (10% of original sample size) was based on a simple random list, and a minimisation algorithm was used to randomise subsequent participants. This algorithm included a random element (80%) and aimed to generate balanced treatment allocations by age (<40 or ≥ 40 years), sex, baseline activities of daily living subscale of the hip outcome score (HOS ADL) ($<65\%$ or $\geq 65\%$), and study site.
- C) It was not possible to mask participants, or clinicians delivering the intervention.
- D) However, clinicians performing follow-up clinical assessments (hip range of movement and impingement tests) were blinded to the treatment group.
- E) Figure 3.
- F) All kind of outcomes with complete data.