

ABSTRACT COMMUNICATON 599

# DO EARLY MANUAL THERAPY AND EXERCISE ACCELERATE RECOVERY AFTER ROTATOR CUFF INJURY REPAIR? A SYSTEMATIC REVIEW

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# INTRODUCTION

- **Surgical repair** of tendons is the **standard treatment of the most severe cases of rotator cuff injuries (RCI)**. In some patients, recovery may be delayed mainly due to onset of pain or function impairment leading to a loss of quality of life.
- The **early addition of a combination of manual therapy (MT) with exercise (Ex)** in those who undergone surgery could be a good strategy **to speed up rehabilitation process**.
- The aim of this study was to **evaluate the effectiveness of an early combination of MT with Ex to accelerate recovery of patients undergoing surgical repair of RCI**.



# METHODOLOGY

## Search and Analysis strategy

**DESIGN**  
 Systematic Review  
 (PRISMA Statement)

**Researchers**

**PICO question developing**

DO EARLY MANUAL THERAPY AND EXERCISE ACCELERATE RECOVERY AFTER ROTATOR CUFF INJURY REPAIR? A SYSTEMATIC REVIEW

**Schedule programming**

FEBRUARY 7TH 2020 TO MARCH 16TH 2020

**STUDY DESIGN**

**Databases**

Meta-search engines *Cochrane Central Register of Controlled Trials (CENTRAL)* and in electronic databases *MEDLINE*

**MESH Terms**

"arthroscopy" AND "rehabilitation" AND "rotator cuff" AND "physical therapy" AND "exercise"

**Elegibility Criteria**

- A. Randomized controlled trials (RCTs) or non-randomized controlled trials (NRCTs)
- B. Published between January 1st 2009 and December 31st 2019
- C. Experimental group received a combination of MT with Ex
- D. Control group consisted of usual care, sham or electrophysical agents
- E. Reported at least one outcome of pain, range of motion (ROM), function or quality of life.

**SEARCHING**

**Methodological Quality Assessment**

*PEDRO Scale*

**Risk of bias Assessment**

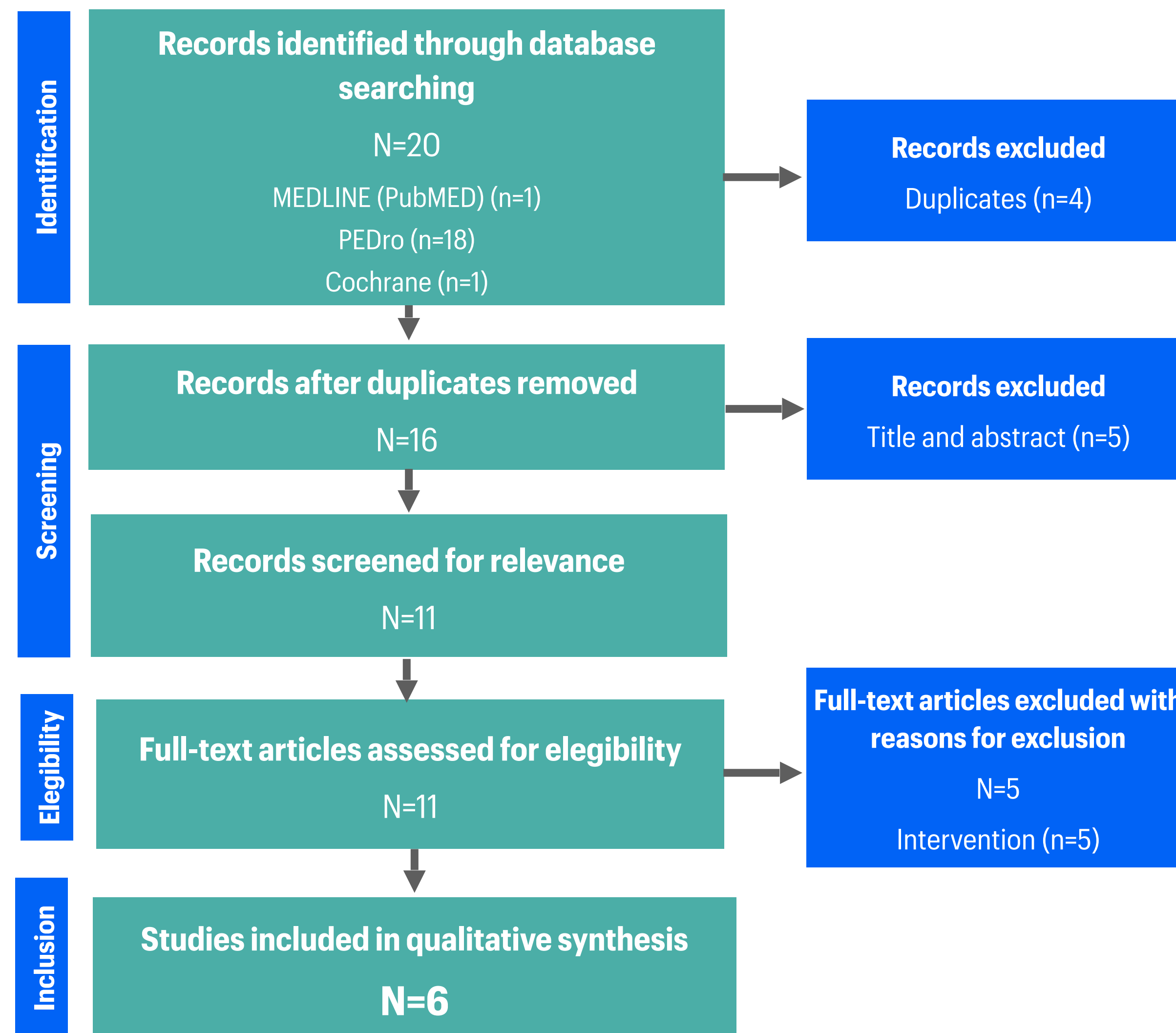
*ROB 2.0 tool*

**ANALYSIS**

# RESULTS

Selection process (*PRISMA* Statement)

- A total of **20 full-text articles** were identified in MEDLINE, PEDro and *Cochrane*.
- **11 full-text** articles **were assessed for eligibility**
- **Finally**, a total of **6 RCTs (5 RCTs and 1 NRCT, n=249 subjects)** were finally included and rated as good quality and moderate risk of bias.



**Graphic 1.** Selection of publication process (*PRISMA* Statement)

# RESULTS

## Methodological quality assessment of RCTs (**PEDro Scale**)

- A mean of **moderate** quality was **5,6 ±1,21 out of 10.**
- **Blinded allocation** was carry out in 83.3% of selected publication
- In contrast, **Therapist blinding** was **followed in (16,6%)**
- **Subjects blinding** were not followed in neither studies included

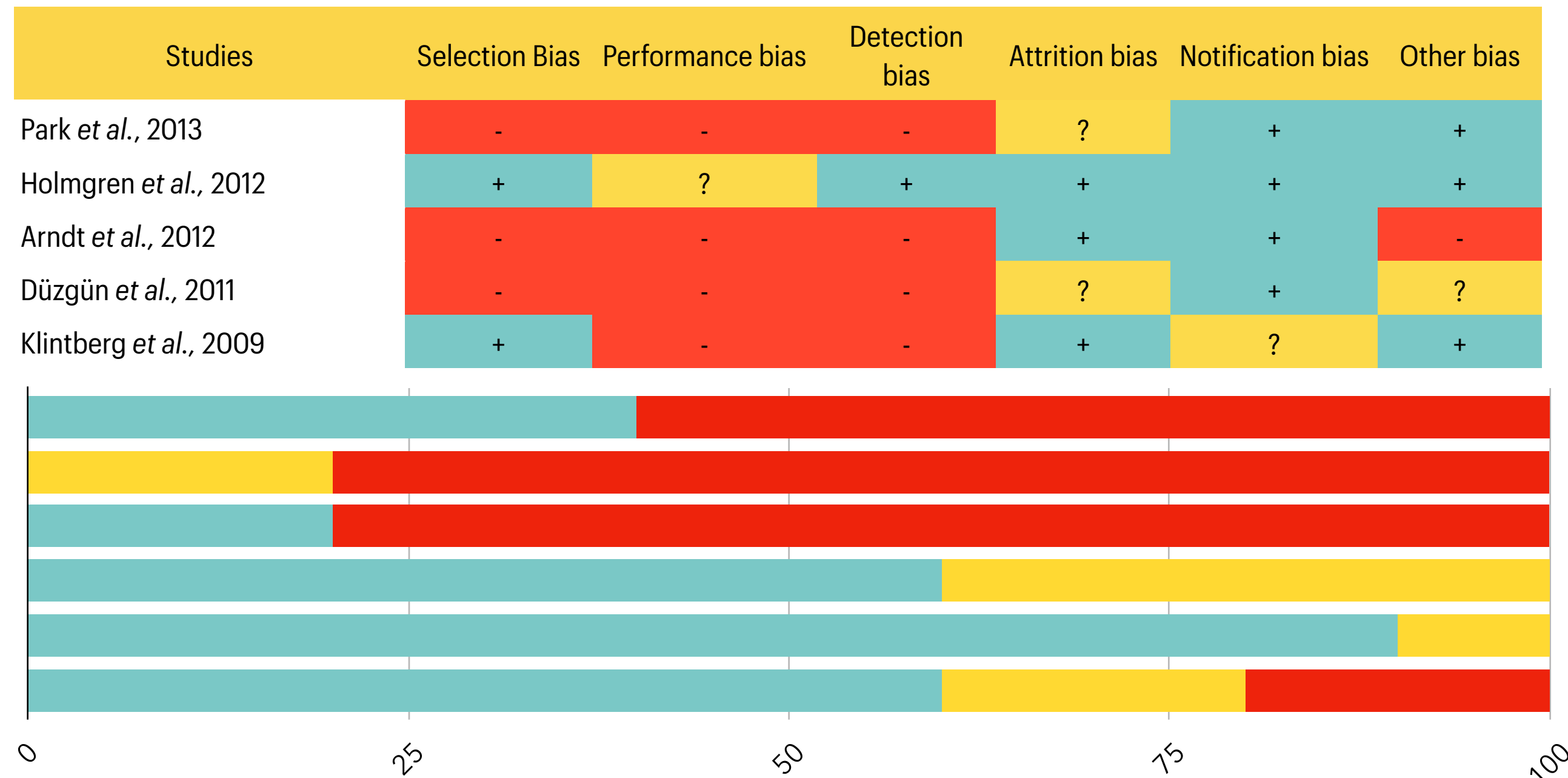
AUTHOR, YEAR	1	2	3	4	5	6	7	8	9	10	11	Methodological Quality	TOTAL
Düzgün <i>et al.</i> , 2014	Y	N	N	N	N	Y	Y	Y	Y	Y	N	Low	5
Park <i>et al.</i> , 2013	Y	Y	N	Y	N	N	N	Y	N	Y	Y	Low	5
Holmgren <i>et al.</i> , 2012	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Moderate	8
Arndt <i>et al.</i> , 2012	Y	Y	N	Y	N	N	N	Y	N	Y	Y	Low	5
Düzgün <i>et al.</i> , 2011	Y	Y	N	Y	N	N	N	Y	N	Y	Y	Good	5
Klintberg <i>et al.</i> , 2009	Y	Y	Y	Y	N	N	N	Y	Y	N	Y	Good	6

**Table 1.** Methodological quality assessment of RCTs (**PEDro Scale**)

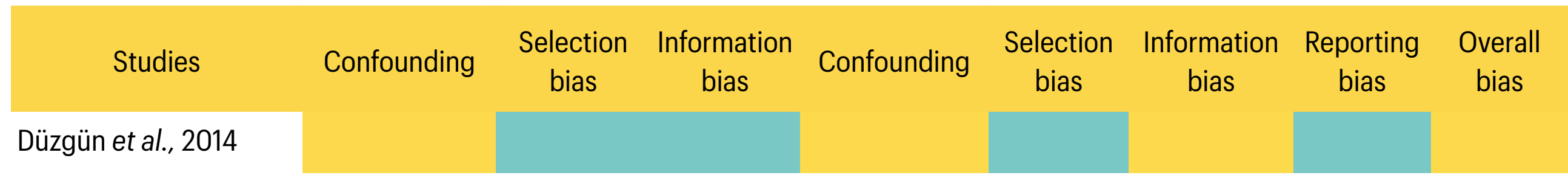
# RESULTS

Risk of bias assessment of RCTs and NRCTs

- Overall risk of bias in RCTs was **moderate**
- **High** risk of bias was detected in **selection bias (60%)** and **performance risk of bias (80%)** of the studies included



**Table 2.** Risk of bias assessment of RCTs (**ROB 2.0**)



**Table 3.** Risk of bias assessment of NRCTs (**ROBINS-I**)

# RESULTS

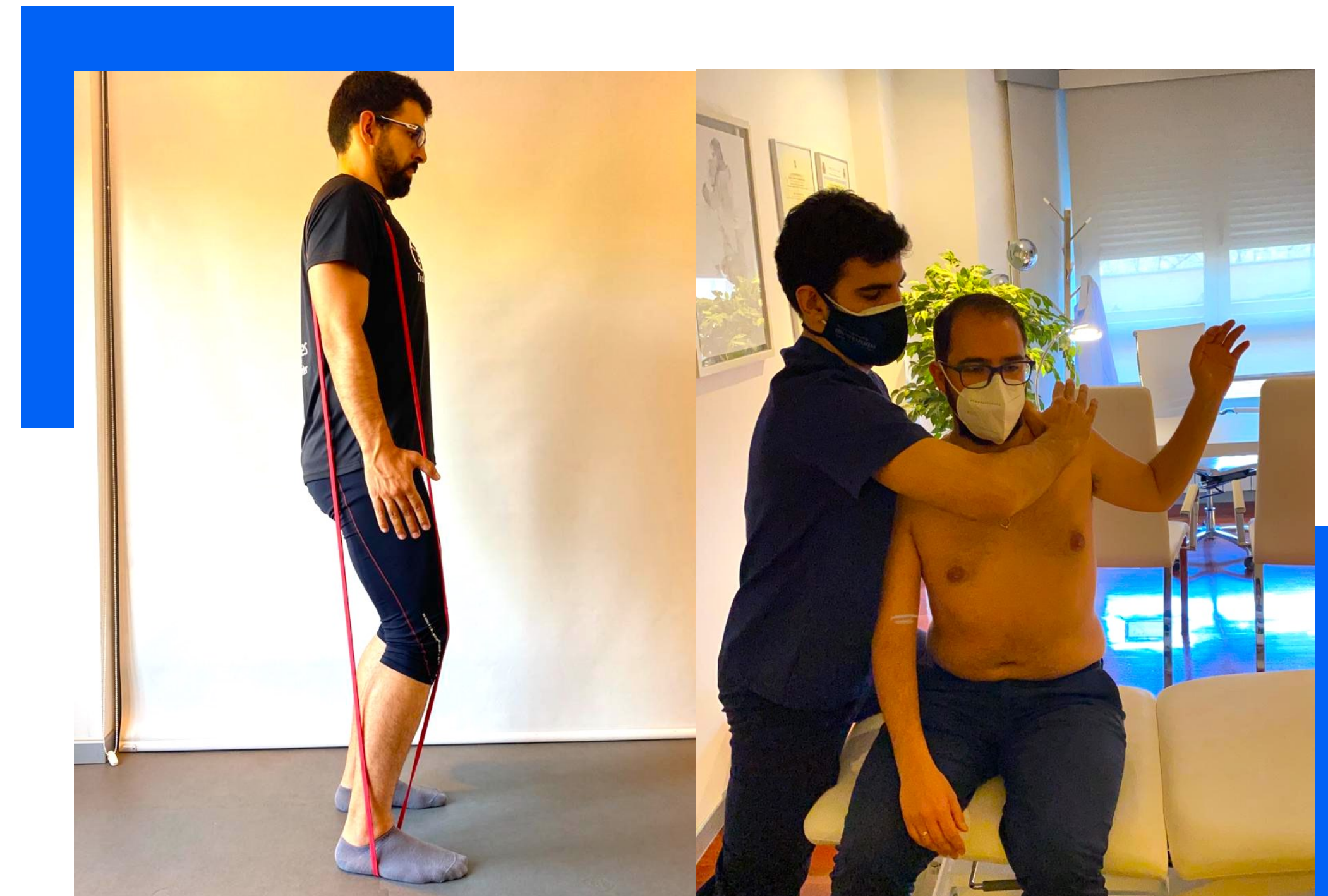
## Study qualitative synthesis

- **Early MT** (soft tissue mobilization) **and Ex** (scapulothoracic and glenohumeral joint) **reduce night pain at rest and during movement** (3 studies, n=79 subjects) and **increase active ROM in internal rotation and abduction** (5 studies, n=220 subjects).
- In contrast, a **worse functionality** (3 studies, n=90 subjects) and quality of life (1 study, n=36 subjects) **are seen with the same intervention**



# CONCLUSION

- An **early intervention** after **RCI surgical repair** based on **MT with Ex** shows **faster recovery** in **pain and active ROM** but **not in terms of functionality and quality of life**.
- Despite the consistency of these results, because of the **low number of rigorous studies** and the **moderate risk of bias found**, it is required more quality trials to set clinical recommendations
- **Implications:** The addition of **early MT with Ex after RCI repair** seems **to be effective to reduce pain and restore joint motion** but **does not seem as effective to improve functionality and quality of life**.





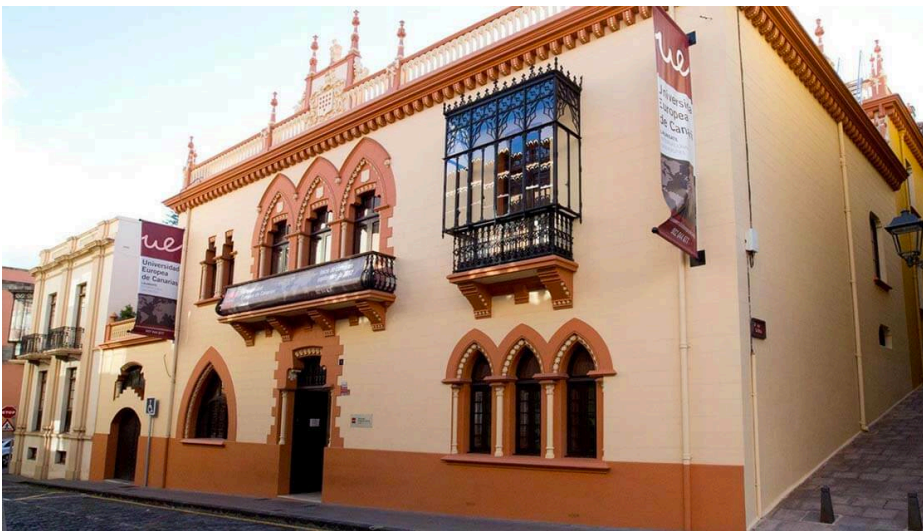
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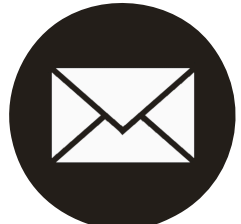
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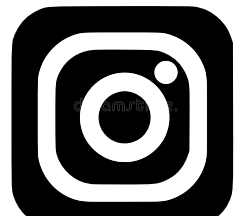
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