

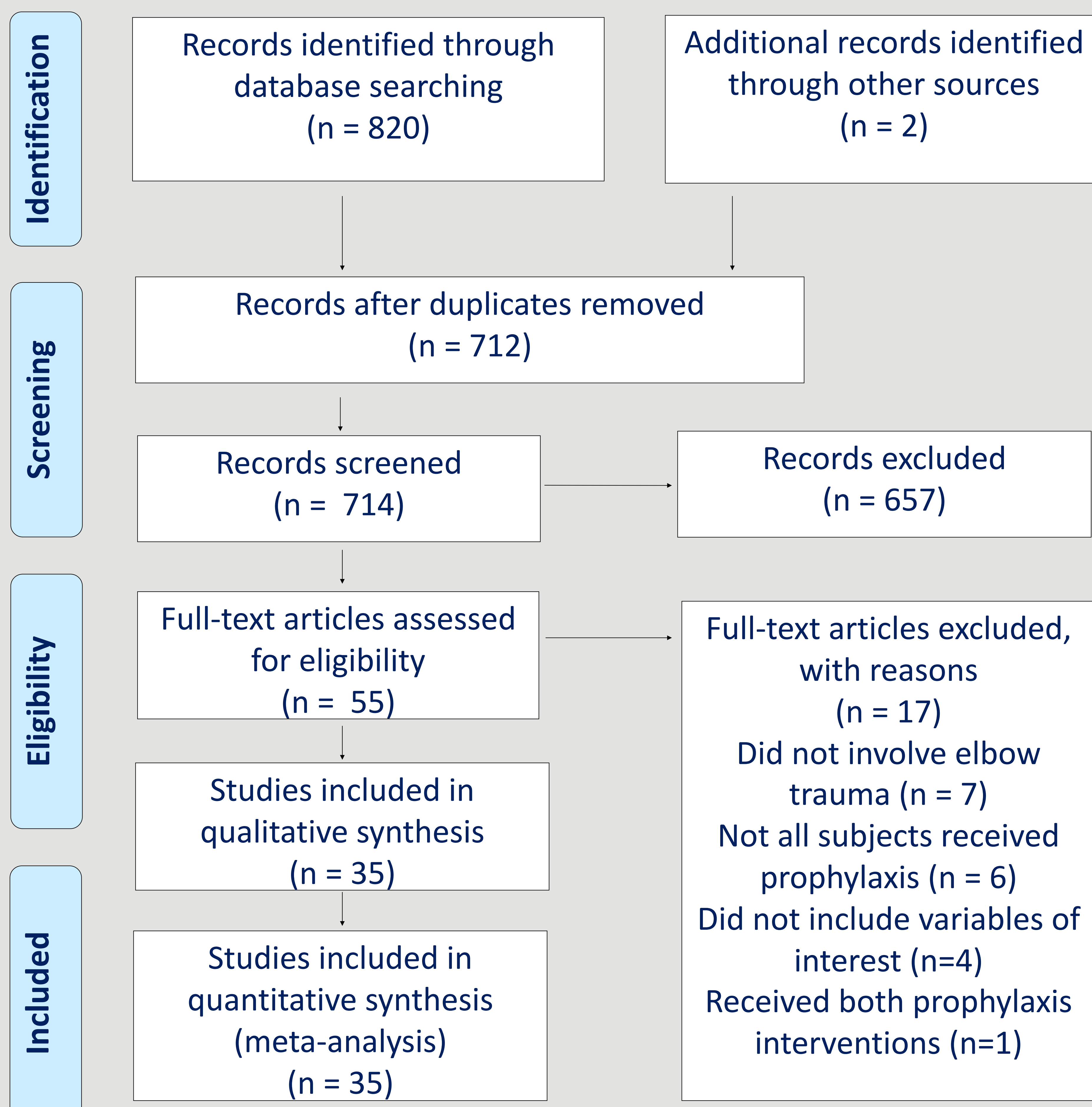
INTRODUCTION

- Rates of **heterotopic ossification (HO)** at the elbow are as high as **10-30%** following traumatic injury
- HO prophylaxis options:
 - Non-steroidal anti-inflammatory (NSAID) medications
 - Radiation treatment.
- Neither has proven superior

The purpose of this review is to compare effectiveness and outcomes between NSAID and radiation prophylaxis for HO about the elbow following a traumatic injury.

MATERIALS & METHODS

- Systematic review of PubMed and Cochrane Library
- HO prophylaxis was **primary** (prior to development of HO) or **secondary** (after excision of previously developed HO)
- Articles were excluded for HO etiology other than fracture about the elbow or subjects that received both prophylactic interventions



RESULTS

- **36 articles** included
- Separate analyses were performed for range of motion (ROM) in
 - **Flexion and extension arcs (n = 20)**
 - **Pronation and supination arcs (n = 10)**
 - Not enough studies included MEPI scores for comparison

A total of **826 elbows** were included in the final analysis

Table 1

Heterotopic Ossification and Range of Motion in Radiation vs NSAID Prophylaxis

Variable	Radiation	NSAIDS	P Value
Number of Subjects	203	623	*
Age	41.67 (34.47 – 48.86)	36.92 (34.50 – 39.33)	0.220
Male	68.50% (49.81% - 82.65%)	64.74% (57.55% - 71.31%)	0.693
Follow Up Time	20.72 (12.89 – 28.54)	29.44 (22.18 – 36.70)	0.109
HO Development/Recurrence	15.68 % (10.79% - 22.22%)	11.77% (5.87% - 22.22%)	0.457
Flexion/Extension Arc	109.02 (100.87 – 117.18)	112.87 (106.81 – 118.93)	0.459
Pronation/Supination Arc	118.92 (89.21 – 148.63)	134.75 (124.84 – 144.65)	0.322
MEPI	88.82 (n = 16)	79.19 (n = 4)	*

DISCUSSION

Limitations:

- No limited to RCTs
- No quality control
- Heterogeneous patient population
- HO prophylaxis was either primary (before formation of HO) or secondary (after HO formation, or after attempted excision of HO)
- Few studies included patient reported outcome measures
Recurrence of HO and ROM may not be the best indicators of clinical success

No differences were found in demographic risk factors, HO recurrence, ROM and MEPI scores between NSAID and RT prophylaxis for HO of the elbow caused by trauma.

- Resources need to be considered when picking an option
- Randomized controlled trails are needed

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