

A systematic review of non-surgical treatments for early Dupuytren’s disease

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Introduction

There is no approved treatment for early Dupuytren’s disease to prevent progression of flexion deformities requiring subsequent treatment with invasive procedures. We systematically reviewed the literature to determine the role and efficacy of non-surgical treatments for early Dupuytren’s disease and to provide an evidence base for the management of patients with early disease.

Figure 1: Early Dupuytren’s disease



Figure 2: PICOS analysis

	Definition
Participants	Persons with early Dupuytren's Disease
Intervention	Non-surgical treatment including pharmacological therapy, physical therapy and radiotherapy for early DD of the hand.
Comparisons	Not applicable
Outcomes	Patient reported outcome measures (PROMs), physical measures, clinical assessment and clinical observation
Study design	Screen search results manually to include RCT's and non-randomised controlled clinical trials, prospective and retrospective case series, case studies, conference papers abstracts and letters.

Figure 3: PRISMA flow diagram

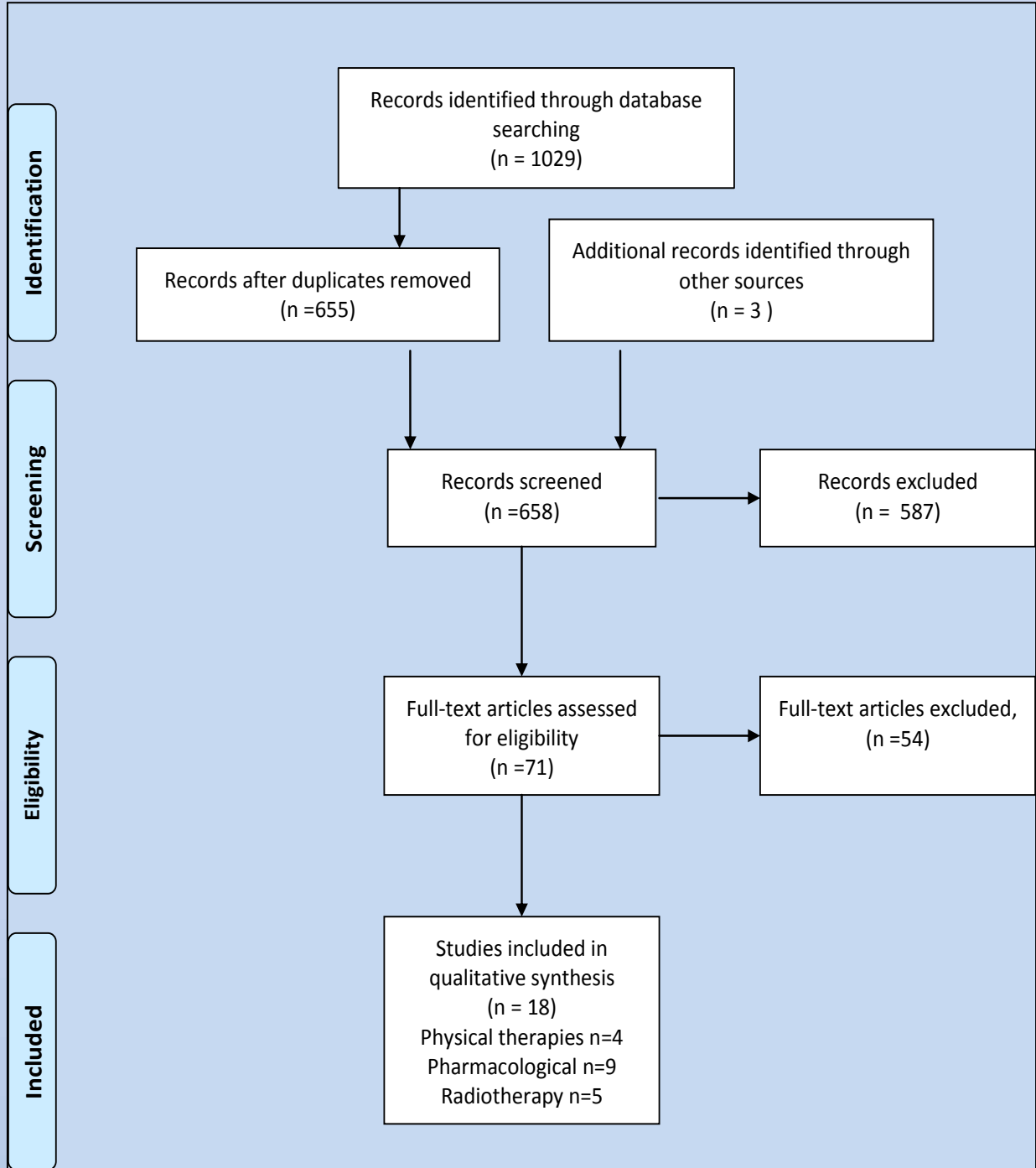


Table 1: Physical therapy results

Author and Year	Outcome measure	Results			Recurrence	Adverse events
		Improved	No change	Deteriorated		
Ball (2002) Splinting n=5 pts, 6 hands	Active digital joint extension in degrees	4 patients (5 digits)	1 patient (1 digit)		No recurrence at 2 years	
Larocerie-Salgado (2012) splinting n=2	Digital joint extension in degrees	2 patients				
Christie (2012) Frictional massage (Treatment hand) n=1	Active digital joint extension in degrees	1 hand (2 digits)				
Markham (1980) ultrasound + stretches n=3 pts, 4 hands	Digital joint extension in degrees (n=2)	2 (2 had no extension deficit at baseline)				
	Hand span (n=4)	2	2			
	Grip strength (n=4)	4				

Table 2: Radiotherapy results

Author and Year	Outcome measure	Results			Recurrence	Adverse events
		Improved	No change	Deteriorated		
Finney (1953) n=7	Clinical observation of functional improvement	6	1	0	None at 2 – 10 years	1 st degree reaction: skin dryness, slight erythema for total cohort
Finney (1955) n=3	Clinical observation of functional improvement	3	0	0		2 nd degree reaction: skin dryness, persistent paraesthesia for up to 12 months for total cohort.
Grenfell (2014) n=3 pts, 4 hands	Nodules flatter and less hard, observed decrease in size	4	0	0	None at 34-42 months	Acute side effects : minimal fatigue, mild local oedema and erythema
Keilholz (1996) n=129 hands	Clinical observation: consistency of palpable nodule, size of nodule	102	25	2	N/A (3 month follow-up)	Grade 1 and 2 toxicity for total cohort.
Lukacs (1978) n=32	Clinical observation of softening of nodules, contracture improvement	26	6	0	Not reported	Not reported

Table 3: Pharmacological results

Author and Year	Outcome measure	Results			Recurrence	Adverse events
		Improved	No change	Deteriorated		
Baxter (1952): Intramuscular steroid n=1	Clinical observation of nodules, extension deficit	0	1	0	Not reported	Not stated
Baxter (1952): Oral steroid n=1	Clinical observation of palmar fascia	0	1	0	Not reported	Not stated
Shelley (1993) Topical steroid n=1	Contracture shrinking	1	0	0	None at 2 years	Not stated
Ketchum (2000) Steroid injection n=63 pts, 75 hands	Nodule easier to inject and flatter	62 patients (73 hands)	0	1 patient (2 hands)	50% patients at 1 to 3 years	50% patients reported transient depigmentation or temporary subcutaneous atrophy at injection site. "Nearly all" resolved at 6 months
	Clinically observed digital contracture	0	62 patients (73 hands)	1 patient (2 hands)		
Zachariae(1955) Steroid injection n=5	Fibrosis diminished or softer	9	0	0	1 at 14 months	Not stated
Reilly (1974) Vitamin E (oral) n=3 pts, 2 hands	Clinical observation	0	0	1 patient (2 hands)	Eventually required surgery in both hands	Not stated
Richards (1952) Vitamin E (oral) n=63 hands	Observation, deformity monitored using plaster cast moulds	0	60	3	Not reported	Reported no toxic effects
Steinberg (1951) Vitamin E (oral) n=6	Clinical observation	6	0	0	Not reported	Not stated
Yildiz (2004) Hyperbaric oxygen n=1	Extension deficit, clinical observation	1	0	0	None at 1 year	No adverse effects.

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