

Appendix 7.6 Distension

Study: Buchbinder 2004⁴³

Outcome: Pain (pain overall) measured using Likert 0–10 scale

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	25	6.0	2.0
Placebo (arthrogram only)		21	5.7	2.1
<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean change from baseline^b</i>	<i>SD</i>
Arthrographic distension + steroid	3 weeks	25	2.5	2.5
Placebo (arthrogram only)		21	0.2	1.7
Arthrographic distension + steroid	6 weeks	25	2.4	2.7
Placebo (arthrogram only)		21	1.0	2.4
Arthrographic distension + steroid	12 weeks	25	3.1	2.4
Placebo (arthrogram only)		21	2.4	2.8

Outcome: Pain (pain overall) measured using Likert 0–10 scale – calculated values^c

<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD^d</i>
Arthrographic distension + steroid	6 weeks	25	3.6	2.69
Placebo (arthrogram only)	6 weeks	21	4.7	2.73
Arthrographic distension + steroid	12 weeks	25	2.9	2.69
Placebo (arthrogram only)	12 weeks	21	3.3	2.73

a All interventions received concomitant home exercise.

b Baseline – follow-up value.

c Calculated for 6-week and 12-week data only.

d Imputed using R model.

Study: Buchbinder 2004⁴³**Outcome: Function and disability measured using SPADI total score**

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	25	53.8	18.5
Placebo (arthrogram only)		21	55.7	22.6

<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean change from baseline</i>	<i>SD</i>
Arthrographic distension + steroid	3 weeks	25	21.8	19.3
Placebo (arthrogram only)		21	4.7	19.8
Arthrographic distension + steroid	6 weeks	25	21.6	23.0
Placebo (arthrogram only)		21	16.6	21.4
Arthrographic distension + steroid	12 weeks	25	28.7	23.9
Placebo (arthrogram only)		21	24.3	25.8

Outcome: Function and disability measured using the problem elicitation technique score

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	25	172.6	48.2
Placebo (arthrogram only)		21	169.9	76.7

<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean change from baseline</i>	<i>SD</i>
Arthrographic distension + steroid	3 weeks	25	62.5	75.5
Placebo (arthrogram only)		21	8.7	29.0
Arthrographic distension + steroid	6 weeks	25	71.3	81
Placebo (arthrogram only)		21	25.3	34.4
Arthrographic distension + steroid	12 weeks	25	107.7	74.2
Placebo (arthrogram only)		21	53.3	70.3

a All interventions received concomitant home exercise.

Study: Buchbinder 2004⁴³**Outcome: Range of movement – active abduction (°)**

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	25	79.8	27.5
Placebo (arthrogram only)		21	72.9	21.2
<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean change from baseline</i>	<i>SD</i>
Arthrographic distension + steroid	3 weeks	25	20.2	30.2
Placebo (arthrogram only)		21	-0.2	22.5
Arthrographic distension + steroid	6 weeks	25	24.4	34.2
Placebo (arthrogram only)		21	15.5	26.1
Arthrographic distension + steroid	12 weeks	25	32.8	38.1
Placebo (arthrogram only)		21	28.3	29.9

Outcome: Range of movement – external rotation (°)

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	25	41.7	20.2
Placebo (arthrogram only)		21	35.8	27.0
<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean change from baseline</i>	<i>SD</i>
Arthrographic distension + steroid	3 weeks	25	9.0	18.5
Placebo (arthrogram only)		21	3.2	19.9
Arthrographic distension + steroid	6 weeks	25	8.8	28.0
Placebo (arthrogram only)		21	15.3	33.7
Arthrographic distension + steroid	12 weeks	25	19.9	27.9
Placebo (arthrogram only)		21	17.8	29.2

Outcome: Range of movement – hand behind back (°)

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	25	16.0	3.9
Placebo (arthrogram only)		21	16.7	4.2
<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean change from baseline</i>	<i>SD</i>
Arthrographic distension + steroid	3 weeks	25	3.2	3.7
Placebo (arthrogram only)		21	-0.2	3.8
Arthrographic distension + steroid	6 weeks	25	3.4	4.3
Placebo (arthrogram only)		21	1.5	4.8
Arthrographic distension + steroid	12 weeks	25	4.2	4.4
Placebo (arthrogram only)		21	3.4	5.0

^a All interventions received concomitant home exercise.

Note: Other range of movement reported, which was not of relevance to this review and is therefore not presented in the data extraction table, was shoulder flexion.

Study: Buchbinder 2004⁴³**Outcome: Quality of life**

Not reported

Study: Buchbinder 2004⁴³**Outcome: Other**

Not reported

Study: Buchbinder 2004⁴³**Outcome: Adverse events**Total reported adverse events: arthrographic distension ($n=25$): 9 (36%), placebo ($n=21$): 1 (4%)Pain associated with procedure: arthrographic distension ($n=25$): 4 (16%), placebo ($n=21$): 1 (4%)Increased pain for up to 48 hours after procedure: arthrographic distension ($n=25$): 3 (12%), placebo ($n=21$): 1 (4%)Claustrophobia at time of procedure: arthrographic distension ($n=25$): 1 (4%), placebo ($n=21$): 1 (4%)Unsettled, anxious and hot: arthrographic distension ($n=25$): 0 (0%), placebo ($n=21$): 1 (4%)Shoulder noisy (i.e. fluid noises): arthrographic distension ($n=25$): 1 (4%), placebo ($n=21$): 0 (0%)**Study: Gam 1998⁸⁶****Outcome: Pain (pain at rest, pain on activity) measured using VAS 0–10 cm**

Intervention	Time point	No. randomised	Mean	SD	
Distension + steroid	Baseline	12	NR	NR	
Steroid injection		8	NR	NR	
Intervention	Time point	No. analysed	Mean	SD	<i>p</i> -value
Distension + steroid	Unclear	11	NR	NR	No difference between groups ($p=0.1$)
Steroid injection		7			

Outcome: Pain (analgesic consumption)

Intervention	Time point	No. randomised	Mean	SD	
Distension + steroid	Baseline	12	NR	NR	
Steroid injection		8	NR	NR	
Intervention	Time point	No. analysed	Mean	SD	<i>p</i> -value
Distension + steroid	Week 11	11	NR	NR	Analgesic consumption significantly lower in the distension group than in the steroid group ($p=0.008$)
Steroid injection		7			

NR, not reported.

Study: Gam 1998⁸⁶**Outcome: Function and disability**

Not reported

Study: Gam 1998⁸⁶**Outcome: Range of movement – passive abduction^a**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>	
Distension + steroid	Baseline	12	NR	NR	
Steroid injection		8	NR	NR	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>	<i>p-value^b</i>
Distension + steroid	Unclear	11	There was no significant difference between groups (reported in the text)		NR
Steroid injection		7			

Outcome: Range of movement – passive external rotation^a

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>	
Distension + steroid	Baseline	12	NR	NR	
Steroid injection		8	NR	NR	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>	<i>p-value^b</i>
Distension + steroid	Unclear	11	There was a significant improvement with distension compared with steroid (reported in the text)		0.0007
Steroid injection		7			

a Graphical data only presented (for number achieving four levels of improvement).

b *p*-value for between-group difference.

Note: Other range of movements reported, which were not of relevance to this review and are therefore not presented in the data extraction tables, included passive flexion and extension.

Study: Gam 1998⁸⁶**Outcome: Quality of life**

Not reported

Study: Gam 1998⁸⁶**Outcome: Other**

Not reported

Study: Gam 1998⁸⁶**Outcome: Adverse events**

Two cases of unacceptable pain (dropouts)

Study: Tveita 2008³⁶**Outcome: Pain**

Not reported

Study: Tveita 2008³⁶**Outcome: Function and disability measured using SPADI total score^a**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	63	20
Steroid injection		39	59	20
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	26	19
Steroid injection	injection	39	20	17

a Data were adjusted for baseline differences.

Study: Tveita 2008³⁶**Outcome: Range of movement – active abduction (°)**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	57	21
Steroid injection		39	55	20
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	83	37
Steroid injection	injection	39	86	34

Outcome: Range of movement – active external rotation (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	23	15
Steroid injection		39	22	16
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	37	17
Steroid injection	injection	39	39	20

Outcome: Range of movement – active internal rotation (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	46	15
Steroid injection		39	45	16
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	66	18
Steroid injection	injection	39	68	17

Outcome: Range of movement – passive abduction (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	31	11
Steroid injection		39	31	11
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	46	13
Steroid injection	injection	39	12	17

Outcome: Range of movement – passive external rotation (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	19	13
Steroid injection		39	16	14
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	29	16
Steroid injection	injection	39	27	17

Outcome: Range of movement – passive internal rotation (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	Baseline	37	34	14
Steroid injection		39	32	13
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Arthrographic distension + steroid	6 weeks after last	37	48	15
Steroid injection	injection	39	45	12

Study: Tveita 2008³⁶**Outcome: Quality of life**

Not reported

Study: Tveita 2008³⁶**Outcome: Other**

Not reported

Study: Tveita 2008³⁶**Outcome: Adverse events**Injections reported as very painful: distension: $n=5$, steroid: $n=6$ Other possible side effects reported: distension: $n=14$, steroid: $n=20$ Complaints of flushing or disturbances in heat regulation: distension: $n=9$, steroid: $n=13$ Minor loss of sensation and motor control loss in affected arm: distension: $n=2$; steroid: $n=2$

Loss of sleep, nausea or dizziness: number and treatment group unspecified

Glenohumeral joint infection: treatment group unspecified: $n=1$