

Appendix 7.2 Sodium hyaluronate

Study: Calis 2006⁶⁶

Outcome: Pain (pain overall) measured using VAS

Data provided in graphical format only. Text states that there was significant improvement in pain severity at 3 months within all treatment groups including no intervention group ($p < 0.001$). There was significantly greater improvement in the steroid group than in the placebo group ($p = 0.02$)

Study: Calis 2006⁶⁶

Outcome: Function and disability measured using the Constant score

Intervention ^a	Time point	No. randomised	Mean	SD	
Sodium hyaluronate injection	Baseline	24 (27 shoulders)	50.1	8.9	
Steroid injection		25 (26 shoulders)	54.6	9.7	
PT		21 (22 shoulders)	55.3	9.4	
No intervention		20 (20 shoulders)	51.2	12.1	
Intervention ^a	Time point	No. analysed	Final value mean	SD	p-value
Sodium hyaluronate injection	15 days	24 (27 shoulders)	58.4	11	
Steroid injection		25 (26 shoulders)	66.5	11.6	
PT		21 (22 shoulders)	70.2	11.6	< 0.05 ^b
No intervention		20 (20 shoulders)	57.9	11.5	
Sodium hyaluronate injection	3 months	24 (27 shoulders)	70.1	10.3	< 0.05 ^c
Steroid injection		25 (26 shoulders)	70.3	9.9	< 0.05 ^d
PT		21 (22 shoulders)	76.1	10.7	< 0.05 ^e
No intervention		20 (20 shoulders)	61.2	10.8	

PT, physiotherapy.

a All interventions received concomitant home exercise.

b p-value for difference between physical therapy and sodium hyaluronate, and between physical therapy and no intervention.

c p-value for difference between sodium hyaluronate and no intervention.

d p-value for difference between steroid and no intervention.

e p-value for difference between physical therapy and no intervention.

Study: Calis 2006⁶⁶**Outcome: Range of movement – passive abduction (°)**

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>	
Sodium hyaluronate injection	Baseline	24 (27 shoulders)	109.6	17.8	
Steroid injection		25 (26 shoulders)	117.8	23.6	
PT		21 (22 shoulders)	116.8	16.4	
No intervention		20 (20 shoulders)	114.2	22.1	
<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>	<i>p-value</i>
Sodium hyaluronate injection	15 days	24 (27 shoulders)	127.2	19	
Steroid injection		25 (26 shoulders)	135.1	23.4	
PT		21 (22 shoulders)	145.4	19.2	< 0.05 ^b
No intervention		20 (20 shoulders)	125	20.1	
Sodium hyaluronate injection	3 months	24 (27 shoulders)	145.9	21	
Steroid injection		25 (26 shoulders)	150.3	19.6	< 0.05 ^c
PT		21 (22 shoulders)	158.4	18.3	< 0.05 ^d
No intervention		20 (20 shoulders)	133.5	15.3	

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

<i>Intervention^a</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>	
Sodium hyaluronate injection	Baseline	24 (27 shoulders)	43.7	10.5	
Steroid injection		25 (26 shoulders)	47.3	12.5	
PT		21 (22 shoulders)	50	10.6	
No intervention		20 (20 shoulders)	45.7	9	
<i>Intervention^a</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>	<i>p-value</i>
Sodium hyaluronate injection	15 days	24 (27 shoulders)	52.9	10.7	
Steroid injection		25 (26 shoulders)	54.8	10.5	
PT		21 (22 shoulders)	63.8	11.7	< 0.05 ^e
No intervention		20 (20 shoulders)	52.7	9.3	
Sodium hyaluronate injection	3 months	24 (27 shoulders)	63.3	11.4	
Steroid injection		25 (26 shoulders)	63	10.8	
PT		21 (22 shoulders)	73.8	10.4	< 0.05 ^e
No intervention		20 (20 shoulders)	55	8.1	

PT, physiotherapy.

a All interventions received concomitant home exercise.

b *p*-value for difference between physiotherapy and sodium hyaluronate, and between physical therapy and no intervention.

c *p*-value for difference between steroid and no intervention.

d *p*-value for difference between physiotherapy and no intervention.

e *p*-values for difference between physiotherapy and sodium hyaluronate, physical therapy and steroid, and physical therapy and no intervention.

Study: Calis 2006⁶⁶**Outcome: Quality of life**

Not reported

Study: Calis 2006⁶⁶**Outcome: Other**

Not reported

Study: Calis 2006⁶⁶**Outcome: Adverse events**

Not reported

Study: Rovetta 2008⁶⁸**Outcome: Pain (pain on passive joint motion), measured using VAS 0–10 cm**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean^a</i>	<i>SD^b</i>	
Sodium hyaluronate + steroid injection + PT	Baseline	14	7.7	1	
Steroid injection + PT		16	7.6	1	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean^a</i>	<i>SD^b</i>	<i>p-value^c</i>
Sodium hyaluronate + steroid injection + PT	6 months	14	6	1	<0.0001
Steroid injection + PT		16	5.2	1	<0.0001

PT, physiotherapy.

a Assumed to be a mean, although not explicitly stated in the paper.

b Assumed to be SD, although not explicitly stated in the paper.

c *p*-value for within-group change from baseline.**Study: Rovetta 2008⁶⁸****Outcome: Function and disability**

Not reported

Study: Rovetta 2008⁶⁸**Outcome: Range of movement – abduction (°)**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean^a</i>	<i>SD^b</i>	
Sodium hyaluronate + steroid injection + PT	Baseline	14	77.8	6	
Steroid injection + PT		16	76.5	56	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean^a</i>	<i>SD^b</i>	<i>p-value^c</i>
Sodium hyaluronate + steroid injection + PT	6 months	14	95.5	31	<0.01
Steroid injection + PT		16	98.7	30	<0.05

Outcome: External rotation (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean^a</i>	<i>SD^b</i>	
Sodium hyaluronate + steroid injection + PT	Baseline	14	16.4	5	
Steroid injection + PT		16	12.2	3	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean^a</i>	<i>SD^b</i>	<i>p-value^c</i>
Sodium hyaluronate + steroid injection + PT	6 months	14	38.5	21	<0.001
Steroid injection + PT		16	37.8	19	<0.001

Outcome: Range of movement – internal rotation (°)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean^a</i>	<i>SD^b</i>	
Sodium hyaluronate + steroid injection + PT	Baseline	14	25.7	7	
Steroid injection + PT		16	25.3	7	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean^a</i>	<i>SD^b</i>	<i>p-value^c</i>
Sodium hyaluronate + steroid injection + PT	6 months	14	27.5	10	<0.001
Steroid injection + PT		16	51.2	18	<0.01

PT, physiotherapy.

a Assumed to be a mean, although not explicitly stated in the paper.

b Assumed to be SD, although not explicitly stated in the paper.

c *p*-value for within-group change from baseline.

Study: Rovetta 2008⁶⁸**Outcome: Quality of Life**

Not reported

Study: Rovetta 2008⁶⁸**Outcome: Other**

Joint capsule thickness was reported but data were not extracted as this was not an outcome of interest

Study: Rovetta 2008⁶⁸**Outcome: Adverse events**

Not reported

Study: Takagishi 1996⁷⁰**Outcome: Pain (pain on activity), measured using VAS 0–10**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Sodium hyaluronate injection	Baseline	10	8	1.8
Steroid injection		10	7.2	2.1
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Sodium hyaluronate injection	5 weeks ^a	10	3.7	1.7
Steroid injection		10	4.2	2.7

Outcome: Pain (no. of patients experiencing pain at night)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>No. of patients</i>
Sodium hyaluronate injection	Baseline	10	8
Steroid injection		10	9
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>No. of patients</i>
Sodium hyaluronate injection	5 weeks ^a	10	4
Steroid injection		10	0

Outcome: Pain (no. of patients experiencing daytime pain)

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>No. of patients</i>
Sodium hyaluronate + steroid injection + PT	Baseline	10	8
Steroid injection + PT		10	8
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>No. of patients</i>
Sodium hyaluronate + steroid injection + PT	5 weeks ^a	10	4
Steroid injection + PT		10	2

PT, physiotherapy.

a Data were reported in graphical format only for weeks 1, 2, 3 and 4.

Study: Takagishi 1996⁷⁰**Outcome: Function and disability measured using activities of daily living (ADL) questionnaire^a**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>	
Sodium hyaluronate injection	Baseline	10	5.35	1.83	
Steroid injection		10	4.95	2.5	
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>	<i>p-value^b</i>
Sodium hyaluronate injection	5 weeks ^c	10	NR	NR	<i>p</i> < 0.08
Steroid injection		10	NR	NR	<i>p</i> < 0.05

a ADL questionnaire: Are the following impossible (0 points), difficult (0.5 points) or possible (1 point): tie hair, tie belt behind back, reach hand to mouth, sleep on painful side, take things from side pocket, reach opposite shoulder blade, open and close a sliding door, reach for things in the cupboard above one's head, go to the toilet, put on a jacket.

b *p*-value for within-group change from baseline.

c Data were reported in graphical format only for weeks 1, 2, 3 and 4.

Study: Takagishi 1996⁷⁰**Outcome: Range of movement – external rotation (°)**

<i>Intervention</i>	<i>Time point</i>	<i>No. randomised</i>	<i>Mean</i>	<i>SD</i>
Sodium hyaluronate injection	Baseline	10	18	13.6
Steroid injection		10	22.5	24.4
<i>Intervention</i>	<i>Time point</i>	<i>No. analysed</i>	<i>Mean</i>	<i>SD</i>
Sodium hyaluronate injection	5 weeks ^a	10	24	22
Steroid injection		10	26	22

a Data were reported in graphical format only for weeks 1, 2, 3 and 4.

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 joint flexion.

Study: Takagishi 1996⁷⁰**Outcome: Quality of life**

Not reported

Study: Takagishi 1996⁷⁰**Outcome: Other**

Not reported

Study: Takagishi 1996⁷⁰**Outcome: Adverse events**

Not reported