Appendix S1 Nelson Hospital Questionnaire

1. How bad is the pain in your thumb *at rest when <u>not</u> using it?*

None	minimal/occasional	mild	moderate	bad but bearable	severe	worst possible
12	10	8	6	4	2	0

2. How bad is the pain in your thumb *when you use it?*

None	minimal/occasional	mild	moderate	bad but bearable	severe	worst possible
12	10	8	6	4	2	0

3. Do you have weakness of the thumb?

None	Mild (occasional)	Mild	Moderate	Severe
8	6	4	2	0

4. Do you take tablets for the pain in your thumb?

None	Occasionally	Regularly
8	4	0

Please rate your ability to do the following tasks **using the affected hand**. Use the following scale:

No problem	10 points
Slight difficulty	8 points
Moderate difficulty	6 points
Very difficult	4 points
Impossible except with aid of gadget	2 points
Impossible	0 points

5. Turning pages of a book ...... **6.** Turning a key to lock a door ......

Score the last four tasks although they need **both hands**:

7. Opening a jar .... **8**. Pulling up a zip ....

9. Getting dressed .... **10**. Buttoning a shirt ....

Appendix S2: Summary table of STRICTA criteria for acupuncture trial reporting

Item	Feature	Description	Reported on page
1	Acupuncture rationale	Style: Manual Rationale: Western medical acupuncture based on local stimulus of the nervous system for pain relief (White 2009*) Literature sources for treatment plan: BMAS guide to acupuncture points and peer review. There are no published studies that report acupoints or treatment frequency or duration for this condition. Adequacy for chronic knee pain has been suggested as a minimum of 6 treatments, at least once a week (White 2008)	3
2	Needling details	Points used: see table 1 for acupoints protocol - a minimum four local points, from a choice of six for the initial session, and a choice of nine points for subsequent sessions. Number of needles: range (3-6), average intial session 4 acupoints, average 6th session 5 acupoints. Depth of insertion: <1cm except 1st metacarpal base periosteal pecking and 1st dorsal interosseous muscle (LI4). Responses elicited: De Qi Needle stimulation: manual Needle retention time: ≥ 15 minutes Needle type: 0.3 x30mm guage 8 Streitberger™ (asia-med, Germany)	Table 1
3	Treatment regime	Number of sessions: 6 Frequency: twice weekly	5
4	Co-interventions	None Setting: NHS secondary care, specialist hand clinic.	4
5	Practitioner background	Duration of training: BMAS (surgical registrars) and AACP (Physiotherapists) basic training courses. Length of clinical experience in acupuncture: 1-10 years Expertise in condition: specialists in Hand Surgery & Hand Therapy.	5
6	Control interventions	Intended effect: placebo (non-penetrating sham, participant blinded) Explanations given: The use of acupuncture as a treatment for pain, study purpose to assess if acupuncture would benefit those with basal thumb osteoarthritis, and the need to test the treatment by using true acupuncture or a treatment that looks like acupuncture. Details: Streitberger sham needle apparatus ™ (asia-med, Germany) Sources justifying control: successful blinding has been achieved (McManus et al 2007), needling of non acupoints would be an invalid placebo as it	5

		would still stimulate the nervous system (White 2009).	

* White A. Western medical acupuncture: A definition. Acupuncture in Medicine. 2009, BMJ 27: 33-5. https://aim.bmj.com/content/acupmed/27/1/33.full.pdf

Appendix S3 Southampton Needling Questionnaire

Part 1

From the time of needle insertion until the needle was removed, did you experience any of the following *sensations*?
Please put a mark next to each sensation on the table below to state whether or not you felt any specific *sensation*, and
how intense that feeling was *or* whether you had *no feeling*.

	None (0)	*Slight (1)*	*Moderate (2)*	*Intense (3)*
Pricking				
Sharp				
Bruised				
Electric shock				
Warm				
Spreading				
Dull Ache				
Heavy				
Numb				
Tingling				
Twinge				
Stinging				
Uncomfortable				
Fading				
Deep Ache				
Pressure				
Throbbing				

Part 2

Overall, did you think that *acupuncture* was painful? Please place a mark on the line below at the point which best describes how painful (or not) this was.

No   Worst
Pain   I_____I   Pain
                                                                                                                        Imaginable

Parts 3 & 4 are additions for the purpose of this study and do not form part of the Southampton Needling Questionnaire; they were placed on study data collection forms after the questionnaire as shown. Their purpose was to ascertain the acceptability of acupuncture treatment and the effectiveness of blinding.

Part 3 (To be completed at the final treatment visit only)

Would you recommend acupuncture to other people with arthritis of the thumb? *(Circle answer)*

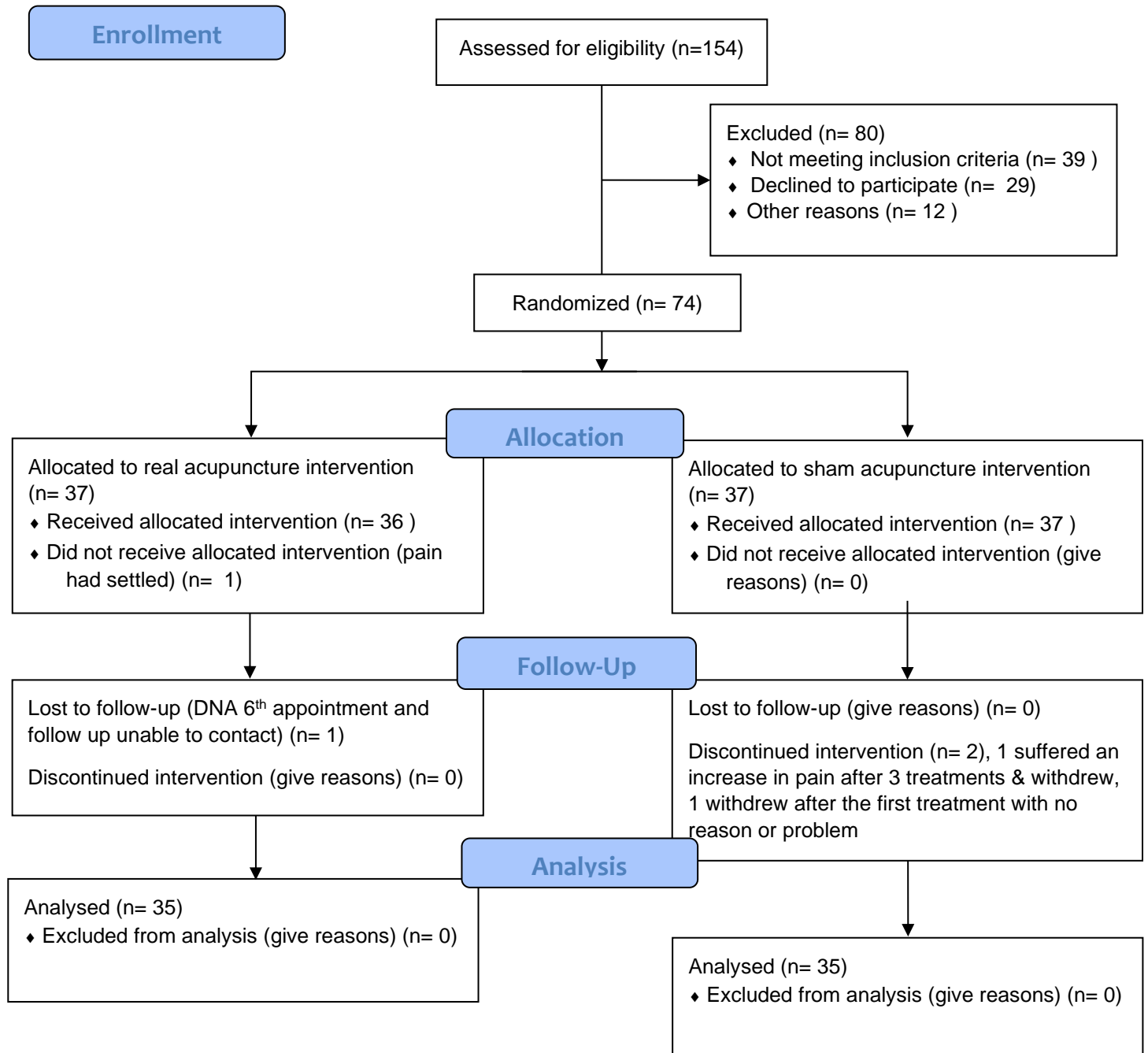Yes   No   Don't know

Part 4 (To be completed at final treatment visit only)

Do you think that you received true acupuncture treatment or the placebo 'sham needling'?

True acupuncture   Sham needling   Don't know

(CONSORT 2010 Flow Diagram)

Enrollment

Assessed for eligibility (n=154)

Excluded (n= 80)
- Not meeting inclusion criteria (n= 39)
- Declined to participate (n= 29)
- Other reasons (n= 12)

Randomized (n= 74)

Allocation

Allocated to real acupuncture intervention (n= 37)
- Received allocated intervention (n= 36)
- Did not receive allocated intervention (pain had settled) (n= 1)

Allocated to sham acupuncture intervention (n= 37)
- Received allocated intervention (n= 37)
- Did not receive allocated intervention (give reasons) (n= 0)

Follow-Up

Lost to follow-up (DNA 6th appointment and follow up unable to contact) (n= 1)

Discontinued intervention (give reasons) (n= 0)

Lost to follow-up (give reasons) (n= 0)

Discontinued intervention (n= 2), 1 suffered an increase in pain after 3 treatments & withdrew, 1 withdrew after the first treatment with no reason or problem

Analysis

Analysed (n= 35)
- Excluded from analysis (give reasons) (n= 0)

Analysed (n= 35)
- Excluded from analysis (give reasons) (n= 0)

Appendix S5: Baseline characteristics by treatment group

(Values are number (%) unless otherwise stated)

Variables	Real acupuncture (n=36)	Sham acupuncture (n=37)
Demographic details:		
Women	24 (66)	27 (73)
Occupation group:		
Working	14 (39)	17 (46)
Retired	17 (47)	18 (49)
Not known	5 (14)	2 (5)
Affected side: Right	19 (53)	22 (59)
Dominant Hand: Right	31(86)	35 (95)
Expectation of acupuncture effect:		
Positive	33 (91)	34 (92)
Negative	1 (3)	1 (3)
No expectations	1 (3)	0 (0)
Not known	1 (3)	2 (5)
Prior treatment:		
Paracetamol	15 (42)	13 (35)
NSAID	9 (25)	9 (24)
Opiate	9 (25)	7 (19)
Atypical analgesic	1 (3)	1 (3)
Previous splint	17 (47)	17 (46)
Previous exercise therapy	12 (33)	8 (22)
Disease activity:		
Eaton Littler grading:		
Stage 2	2 (5)	4 (11)
Stage 3	15 (42)	18 (49)
Stage 4	8 (22)	9 (24)
Not done	11 (31)	6 (16)
Mean (SD) duration of symptoms {months}	46.52 (59.56)	42.22 (63.12)
Symptom stability:> 6 weeks	35 (97)	35 (95)

Appendix S6: Outcomes of real and sham acupuncture additional measures

Outcome	Groups	Baseline	1 week post acupuncture	Within group difference from baseline & level of significance	Level of significance for the difference real vs. sham
Grip strength kg median (IQR)	real	15 (9, 22)	17 (11, 24)	0.7 (-2, 5) p=0.1872	p=0.3501
	sham	13(9, 22)	17 (9, 26)	1.3 (-0.7, 4) **p**=0.0049	
ROM Abduction ∞ Mean (SD)	real	45 (42, 47)	46 (43, 49)	1 (-1.8, 3.5) p=0.5140	p=0.5846
	sham	44 (41, 48)	46 (44, 49)	2 (0, 4) p=0.0975	
ROM Extension ∞ Mean (SD)	real	44 (42, 47)	44(42, 47)	0 (-2, 2) p=1.0	p=0.2361
	sham	44 (41, 47)	46 (42, 49)	2 (-0.5, 4.5) p=0.1153	
∞ Abduction and extension by goniometry in degrees. Data described by median and IQR if non-normal distribution (Wilcoxon signed rank and Mann Whitney tests used). Normally distributed data described by mean and 95% confidence interval (paired & two sample t-tests used).					