

## Treatment of Resistant RSI: An R.C.T. of Low-Dose Amitriptyline and Acupuncture

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## Study Overview

- Phase I: Run in-2 weeks  
Placebo pill compared to “Sham”  
Acupuncture
- Phase II: Treatment-6 weeks
  - Amitriptyline 25mg per day vs. placebo pill
  - Acupuncture vs. “Sham” acupuncture

## Study Subjects

- Adults, >18 years old
- RSI type arm pain for at least 3 months, and received some type of treatment
- Willing to be randomized to either pill or acupuncture treatment
- Level of 3 or more on the 1-10 pain scale.

## Study Subjects

### Exclusions:

- Medications that have interactions with amitriptyline
- Medical conditions (examples: RA, cervical radiculopathy, neuropathy,)
- Speak and read English
- Use of amitriptyline or acupuncture in last year
- Pregnancy

## Recruitment From the Greater Boston Community

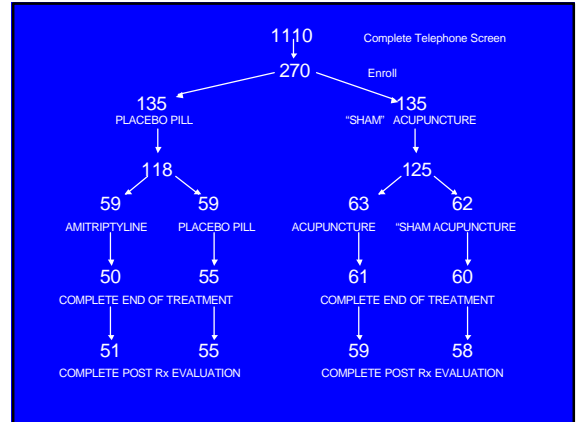
- Ads in local newspapers
- Posters in neighborhoods
- Ads on the MBTA
- Announcements through the medical community

## Key Outcome Measures

- Pain with movement: 1-10 point scale
- Pransky: Upper Extremity Function Scale (UEFS)
- Levine Symptom Severity Scale
- Grip strength, pinch strength

## Other Outcome Measures and Effect Modifiers

- Clinical diagnoses
- Job, industries
- Depression (CES-D scale)
- The General Well Being Scale
- Current Stress at work; satisfaction with current job



## Demographics

Indicator	Pill	Acupuncture
Age, mean	37	35
Women	77 (57%)	67 (50%)
White, non Hisp	106 (79%)	107 (79%)
Education ≥ HS	135 (100%)	134 (99%)
≥ College	104 (77%)	105 (78%)

## Most Impt. Clinical Diagnoses

Most Important Diagnosis	#	%
Medial epicondylitis	21	8
Lateral epicondylitis	37	14
DeQuervain's tendonitis	19	7
Wrist/forearm flexor tendonitis/pain	38	14
Wrist/forearm extensor tendonitis/pain	60	22
Carpal tunnel syndrome	24	9
Cubital tunnel syndrome	07	3
Ulnar entrapment at wrist	02	1
Ganglion	06	2
Non-specific upper extremities pain	28	10
Thoracic outlet syndrome	02	1
Shoulder strain	03	1
Rotator cuff tendonitis	02	1
Tension Neck Syndrome	0	0
Other	19	7

## Diagnosis by Category

Dx Group	Pill	Acupuncture
Tendonitis/Epicondyl.	89 (66%)	86 (64%)
Neuralgia/Neuropath.	18 (13%)	15 (11%)
Non-specific	16 (12%)	12 (9%)
Other	11 (8%)	22 (16%)

## Current Tasks That Worsen Arm Problems

- Keyboarding and mousing was most frequently sited task  
Total = 162 (60%)
- Playing a musical instrument  
Total = 21 (8%)
- Mechanical/Assembly/Construction  
Total = 44 (16%)

## Self-Reported Impact on Work Activities

Days of work missed in past month due to arm problems:

- 0 days = 205
- 1 to 4 days = 13
- $\geq 5$  days = 5

## Self-Reported Impact on Work Activities

How has work performance been affected by arm pain in last 2 weeks?

- No effect 77 (29%)
- Moderate decrease 121 (45%) in effectiveness
- Marked decrease 25 (09%) in effectiveness

## Primary Outcome Measure: Intensity of Pain

Rate the **intensity** of the pain or discomfort you have had in your most severely affected arm, wrist, or hand during the **past week WHEN YOU MOVE OR USE IT**. Circle the one number that best describes the intensity of this pain or discomfort.

No Pain or Discomfort 1 2 3 4 5 6 7 8 9 10 Pain or Discomfort as intense as you can imagine

## Upper Extremity Function Scale (UEFS)

Please indicate which of the following things you have **difficulty in doing** because of your arm symptoms. Circle the number that indicates how much difficulty you have with each activity:

	No Problem	Major Problem (Can't do at all)
Sleeping.....	1 2 3 4 5 6 7 8 9 10	
Writing.....	1 2 3 4 5 6 7 8 9 10	
Opening jars.....	1 2 3 4 5 6 7 8 9 10	
Picking up small objects with fingers.....	1 2 3 4 5 6 7 8 9 10	
Driving a car more than 30 minutes.....	1 2 3 4 5 6 7 8 9 10	
Opening a door.....	1 2 3 4 5 6 7 8 9 10	
Carrying milk jug from the refrigerator.....	1 2 3 4 5 6 7 8 9 10	
Washing dishes.....	1 2 3 4 5 6 7 8 9 10	

## Baseline Key Outcome Assessment

Type of treatment	Baseline		
	N	Mean	SD
<b>Intensity of Pain</b>			
Sham Acupuncture	134	5.62	1.53
Placebo Pill	134	5.22	1.71
<b>UEFS Function Scale</b>			
Sham Acupuncture	125	23.77	12.20
Placebo Pill	124	24.29	12.12