Is manual therapy an effective treatment for sprained ankles?

Percent of patients significantly improved after just 2 treatment sessions of manual therapy and exercise.

75%

Data taken from:
Predicting short-term response to thrust and nonthrust manipulation and exercise in patients post inversion ankle sprain.
Predicting short-term response to thrust and nonthrust manipulation and exercise in patients post inversion ankle sprain.


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Study background: Took place 3/06 – 3/08 at 5 different PT clinics (Concord, NH; Salt Lake City, UT; Boulder, CO; Greenwood Village, CO; Littleton, CO). 85 consecutive pts were studied (49% female/32 yoa, avg.). All had ankle pain (22 days, on avg.) due to inversion ankle sprain (either grade I or II) in past yr. "Worst pain in the past week" > 3 (on 0-10 NPRS). All underwent a comprehensive assessment: 1) sx - OPQRST, etc.; 2) orthophysical: squeeze test, anterior drawer test, impingement sign, navicular drop, external rotation test, relaxed calcaneal stance, etc.; ROM, mm strength, figure-of-eight measurement, balance (eyes open, closed), etc.; passive accessory joint mobility (Maitland) – tibiofibular (proximal and distal), talocrural, and subtalar (inversion and eversion). All underwent a 4-part, standardized tx program (1 tx every 2-4 days for a max of 2 txs; evaluations took place at baseline, after 1 tx, and after 2 txs): 1) instruction in the use of ice and elevation; 2) advice to maintain usual activity within the limits of pain; 3) general mobility exercises: see description in indented paragraph below; 4) ankle/foot thrust and non-thrust manipulation: see description in indented paragraph below.

Results: 1) % of pts w/ "successful outcome" (at least a +5 score on a 15-point Global Rating of Change scale {from -7 to +7}; +5 = "quite a bit better") – 75% (64/85; after 1 tx - 41%, after 2 txs - an additional 34%); 2) overall avg. decrease in pain – 65% ("successful outcome" pts – 70% {from 4/10 to 1.2}, "unsuccessful outcome" pts – 49% {3.9 to 2}); 3) likelihood of tx success (four variables best correlated w/ tx success: symptoms worse when standing, symptoms worse in evening, navicular drop >= 5 mm {normal = 7}, and distal tibiofibular joint hypomobility): 1 variable present – 50%, 2 variables present – 78%, 3 variables present – 95%, 4 variables present – 56%. Conclusion: "We have developed a CPR to identify [ankle sprain pts] most likely to benefit rapidly and dramatically from manual therapy and general exercise."

Ankle/foot thrust and non-thrust manipulation:

1) eversion mobilization:
   - stabilize malleoli w/ one hand
   - grasp the rearfoot w/ other hand:
   - thenar just below lateral malleolus
   - drive medial to lateral:
   - 1-3 oscillations/second for 30s
   - repeat 4x more
2) talocrural mobilization:
   - pt supine w/ ankle off end of table
   - stabilize malleoli w/ one hand:
   - stabilize foot w/ ant. thigh
   - place web of other hand talus
   - drive posteriorly:
   - 1-3 oscillations/second for 30s
   - repeat 4x more
3) distal fibular mobilization:
   - pt's distal leg one edge of table
   - stabilize medial malleolus w/ one hand
   - place thenar of other hand over lat. malleolus
   - drive posteriorly:
   - 1-3 oscillations/second for 30s
   - repeat 4x more
4) rearfoot distraction manipulation:
   - pt supine w/ ankle off end of table
   - grasp dorsum of pt's foot w/ interfaced fingers:
   - thumbs on bottom of pt's foot
   - pre-thrust positioning:
   - dorsiflex to end-range
   - pronate
   - apply long-axis traction
   - thrust:
   - apply an HVLA thrust in a caudal direction
5) proximal fibula manipulation:
   - pt supine w/ hip/knee flexed
   - place your second MCP jt in pt's popliteal fossa:
   - apply lateral soft-tissue pull until MCP is firmly stabilized behind the fibular head
   - other hand grasps pt's distal lower leg:
   - externally rotate pt's lower leg
   - bring hip/knee into further flexion to engage the "restrictive barrier"
   - HVLA thrust:
   - direct pt's heel towards the ipsilateral buttock

General mobility exercises:

1) Achilles tendon stretch:
   - 30s static (pain-free), 3 rep's (2x/day)
   - w/ towel (non-weight bearing)
2) alphabet exercises – 2x/day
3) ankle eversion self-mobilization:
   - bad ankle resting on opposite knee
   - push back part of foot towards floor:
   - 30 rep's, repeat 2x
4) dorsiflexion self-mobilization:
   - Achilles tendon wall stretch, but oscillate instead of static:
   - 30 rep's, repeat 2x
How helpful is manual therapy for acute ankle pain?

On average, how much better do acute ankle pain patients feel following a single manual therapy treatment?

37% Better

Data taken from:
Osteopathic manipulative treatment in the emergency department for patients with acute ankle injuries.
Department of Emergency Medicine, St Barnabas Hospital, Bronx, NY, USA.
A single manual therapy treatment cuts acute ankle pain by nearly 40%.

- J Am Osteopath Assoc. 2003 Sep;103(9):417-21

On average, acute ankle pain patients feel 37% better immediately following a single manual therapy treatment.
Osteopathic manipulative treatment in the emergency department for patients with acute ankle injuries.

Department of Emergency Medicine, St Barnabas Hospital, Bronx, NY, USA.

Study background: 55 ankle sprain pts were studied (31 yoa, avg./62% female). All had a 1st or 2nd degree acute, unilateral ankle sprain, and all were seen in the ER w/in 24 hrs of injury.

They were randomly assigned to 1 of 2 txs (all pts received tx on a single visit):
1) Osteopathic manipulative therapy (OMT): specific txs varied based on findings, but typically consisted of the following: a) manipulation for posterior proximal fibula ("the proximal fibula [is often] noted to be more posterior"); b) manipulation for dropped cuboid bone ("there is often a dropped cuboideum (cuboid bone)..."); c) muscle energy technique (MET) for fibularis (aka "peroneus longus" muscle); d) lymphatic drainage. Pt also received crutches, analgesics, and advice to "RICE" (rest, ice, compression, elevation). Tx lasted 10-20 min's;
2) Control tx: same as what the OMT group received, except no OMT.

Results:
1) Immediately after OMT tx (for the OMT pts:ss): a) pain – 37% decrease (from 6.5/10 to 4.1); b) ROM – 39% increase (from 28° to 39°; ROM = flex/ext ROM; good ankle = 59°); c) swelling – 5% decrease (from 27cm to 25.8cm; swelling = ankle circumference; good ankle = 25cm);
2) 1 wk later: a) follow-up rate: 73% (20/28 OMT pts, 20/27 control pts); b) pain: OMT – 51% decrease (from 6.5 to 3.2), control – 52% decrease (from 7.3 to 3.5); c) ROM: OMT – 54% increase (from 28° to 43°; good ankle = 48°), control – 77% increase (from 22° to 39°; good ankle = 53°); d) swelling: OMT – 4% decrease (from 27cm to 26cm; good ankle = 25cm), control – 4% decrease (from 27cm to 26 cm; good ankle = 25cm).

Conclusion: "...a single session of OMT in the ED can have a significant effect on the management of acute ankle injuries." "...one OMT intervention session was effective with respect to reducing edema and pain."

Comments: As for immediate effects, the OMT pts improved ss from their baseline scores. One week later, however, both pt groups improved ss, but the OMT group results were not ss superior to the control group results.