Cleveland Clinic

Wellness and Preventive Medicine

Annual Conference



April 11, 2025

Cleveland Clinic Administrative Campus, Bldg 4, Floor 4

Beachwood, OH and Live Stream



Integrative Medicine Approach to Chronic Pain

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Palliative and Supportive Care, Taussig Cancer Institute

Cleveland Clinic

Cleveland Clinic

Learning Objectives

- Discuss Integrative Medicine approach for chronic pain
- Review benefits, indications, and contraindications for **acupuncture** treatment in patients living with chronic pain
- Describe indications, contraindications and scientific evidence of **chiropractic** treatments as part of the multidisciplinary approach to treat chronic pain

Case presentation

29 y.o female c/o headache for 4 years.

- Has headaches 3-5 times a week, takes Ibuprofen 800 mg
- Has 2-3 severe headaches/month that require Sumatriptan or treatment in ER
- For prophylaxis – tried/failed Topiramate (drowsiness), Propranolol (fatigue) and Amitriptyline (no efficacy).
- On Botulinum toxin A injections every 3 months

Case presentation

- Social History:
  - Mother had debilitating migraines
  - Felt neglected as a child
  - Has stressful sedentary job, single, goes to sleep 1-3 AM, spends 3-4 hour daily on social media, does no exercise
- Nutrition:
  - Eats out most days of the week, eats sweets when stressed
  - Does not smoke, drinks alcohol on weekends
- Vital Signs: Blood Pressure normal, Body Mass Index 23

Chronic Pain in the US

50 million people in the US suffer from chronic pain



560 billion $ per year is the estimated cost for medical treatment and lost productivity due to chronic pain

Gomes T et al., 2018
Dahlhamer J et al., 2018).

Chronic Pain Globally

- **Pain affects > 30% of people worldwide**
- 10.4% to 14.3% of people live with moderate-to-severe disabling pain in UK

- **Tension headache** is the most common chronic condition
- **Chronic low back pain** is the most common cause of disability

- Cohen SP, Vase L, Hooten WM. Chronic pain: an update on burden, best practices, and new advances. Lancet. 2021 May 29;
- Fayaz A, Croft P, Langford RM, Donaldson LJ, Jones GT. Prevalence of chronic pain in the UK: a systematic review and meta-analysis of population studies. *BMJ Open* 2016; **6:** e010364.
- Rice, 2016; Vos et al., 2015

Chronic pain

Body/Pain *Mind/Suffering*

Effects of pain and suffering



Deconditioning
Biomechanical problems
Altered nociceptive pathways
Medication use or abuse



Depression
Anxiety
Learned helplessness
Cognitive impairment

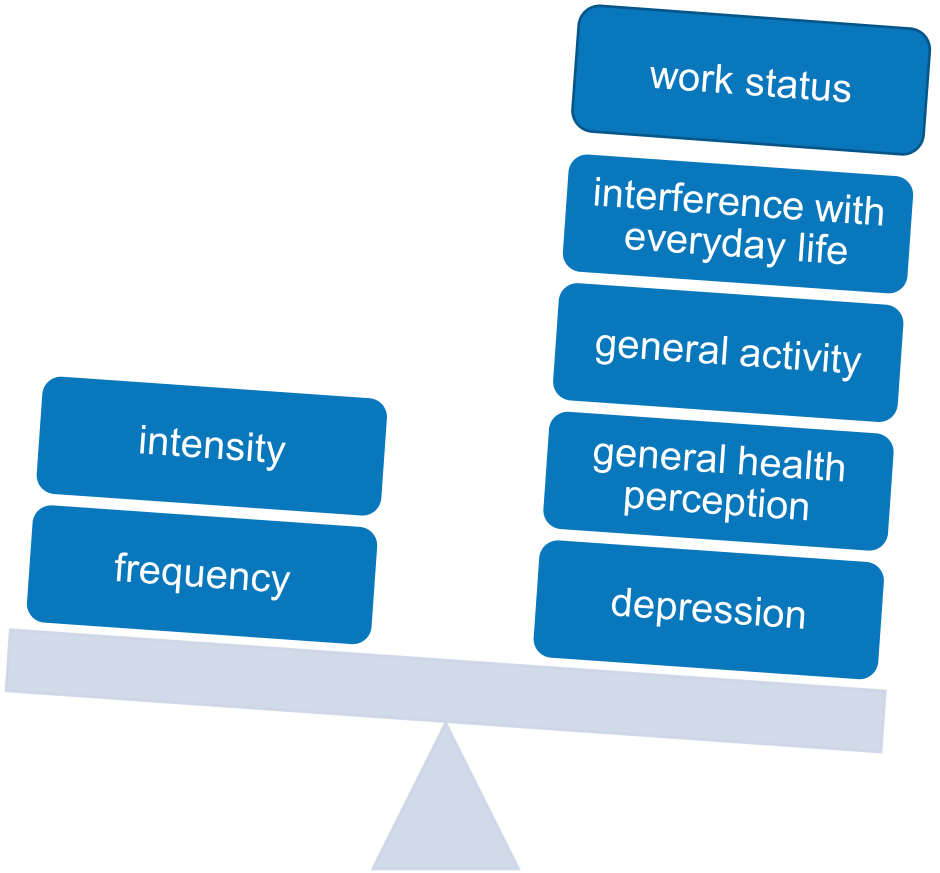


Social withdrawal
Dysfunctional relationships
Increased suicide risk
Isolation

Cohen SP, Vase L, Hooten WM. Chronic pain: an update on burden, best practices, and new advances. Lancet. 2021 May 29;

Treatment goal

Pain



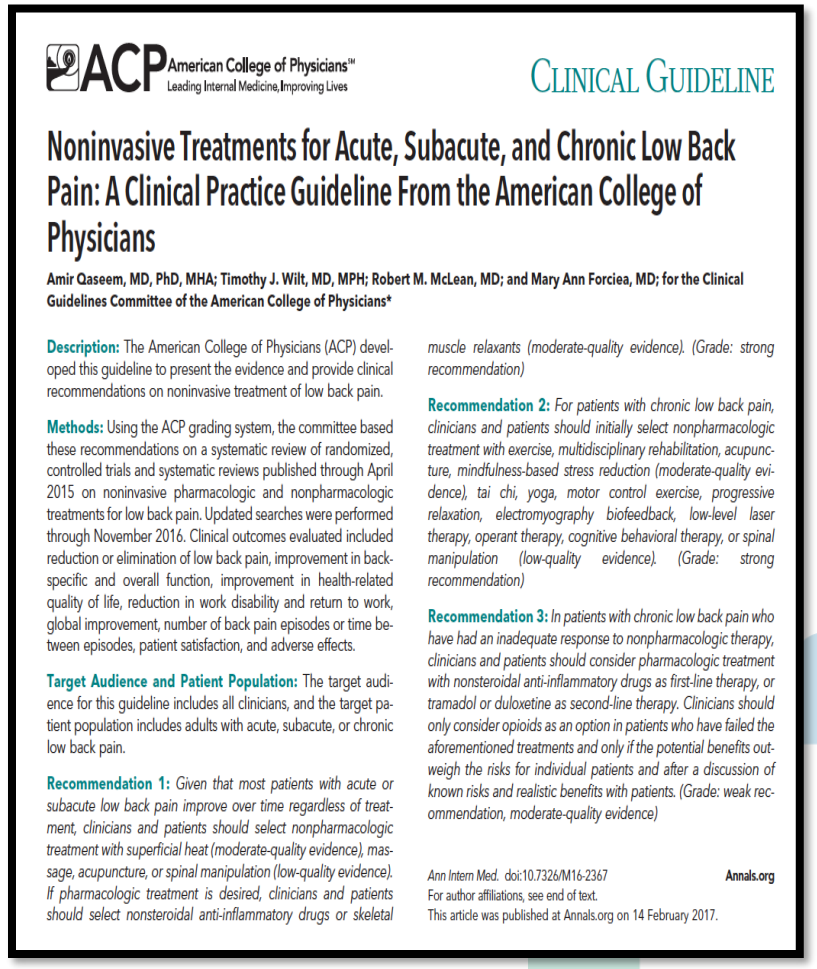
Quality of Life

Offenbaecher M, Pain is not the major determinant of quality of life in fibromyalgia: results from a retrospective "real world" data analysis of fibromyalgia patients. Rheumatol Int. Mar 2021

American College of Physicians Guidelines for Treatment of Chronic LBP

- Use non-pharmacologic treatment first:
  - Exercise (self-care or PT)
  - Spinal manipulation (Chiro or PT)
  - Acupuncture
  - Yoga, Tai chi
  - MBSR, Cognitive Behavioral Therapy
  - Progressive muscle relaxation, EMG biofeedback
  - Multidisciplinary rehabilitation
- If inadequate response, consider:
  - NSAID, Tramadol or Duloxetine
  - Opioids if failed other treatments & potential benefits>risks

Qaseem A et al., Ann Int Med 2017.



ACP American College of Physicians℠
Leading Internal Medicine, Improving Lives

CLINICAL GUIDELINE

Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians

Amir Qaseem, MD, PhD, MHA; Timothy J. Wilt, MD, MPH; Robert M. McLean, MD; and Mary Ann Forciea, MD; for the Clinical Guidelines Committee of the American College of Physicians*

Description: The American College of Physicians (ACP) developed this guideline to present the evidence and provide clinical recommendations on noninvasive treatment of low back pain.

Methods: Using the ACP grading system, the committee based these recommendations on a systematic review of randomized, controlled trials and systematic reviews published through April 2015 on noninvasive pharmacologic and nonpharmacologic treatments for low back pain. Updated searches were performed through November 2016. Clinical outcomes evaluated included reduction or elimination of low back pain, improvement in back-specific and overall function, improvement in health-related quality of life, reduction in work disability and return to work, global improvement, number of back pain episodes or time between episodes, patient satisfaction, and adverse effects.

Target Audience and Patient Population: The target audience for this guideline includes all clinicians, and the target patient population includes adults with acute, subacute, or chronic low back pain.

Recommendation 1: *Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacologic treatment with superficial heat (moderate-quality evidence), massage, acupuncture, or spinal manipulation (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation)*

Recommendation 2: *For patients with chronic low back pain, clinicians and patients should initially select nonpharmacologic treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation)*

Recommendation 3: *In patients with chronic low back pain who have had an inadequate response to nonpharmacologic therapy, clinicians and patients should consider pharmacologic treatment with nonsteroidal anti-inflammatory drugs as first-line therapy, or tramadol or duloxetine as second-line therapy. Clinicians should only consider opioids as an option in patients who have failed the aforementioned treatments and only if the potential benefits outweigh the risks for individual patients and after a discussion of known risks and realistic benefits with patients. (Grade: weak recommendation, moderate-quality evidence)*

Ann Intern Med. doi:10.7326/M16-2367 **Annals.org**
For author affiliations, see end of text.
This article was published at Annals.org on 14 February 2017.

The Global Spine Care Initiative

For patients with chronic low back and neck pain without serious pathology, primary treatment options are:

- exercise, yoga, massage, manual therapy
- cognitive behavioral therapies, progressive relaxation, biofeedback
- acupuncture
- interdisciplinary rehabilitation
- NSAIDs, acetaminophen, and antidepressants



European Spine Journal

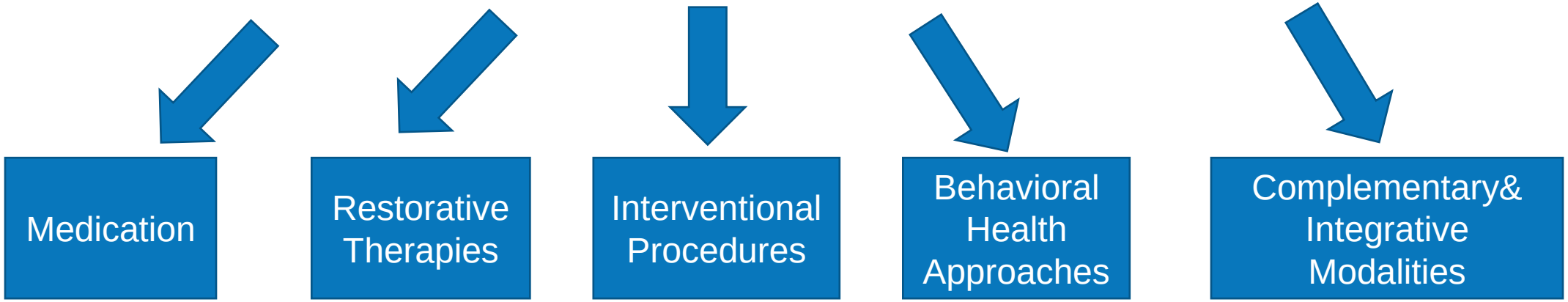
Chou R, Côté P,. The Global Spine Care Initiative: applying evidence-based guidelines on the non-invasive management of back and neck pain to low- and middle-income communities. *Eur Spine J 27(Suppl 6):851-860* 09, 2018



"Moving beyond Medications" 2017 Fact Sheet

- Acupuncture
- Manual therapies
- CBT and Stress Management
- Mind-Body Approaches
- Movement therapies

Pain Management
Individualized, Multimodal, Multidisciplinary



Decision determinants for selecting recommended treatments include:

Cost / insurance coverage

Availability of the intervention

Cultural and patient preferences

Pain Management Best Practices Inter-Agency Task Force Report, May 6th, 2019 – https://hhs.gov

The Group Medical Visits is More than the Sum of its Parts

Benefits for the patient
Patient education
Group support
Experience new modalities
Quality of care

Benefit for the provider
Spend more time with patients
Remove repetition fatigue
Leverage resources
Quality visits



- Kirsh SR, Aron DC, Johnson KD, et al. A realist review of shared medical appointments: How, for whom, and under what circumstances do they work?. *BMC Health Serv Res*. 2017;
- http://www.jabfm.org/content/19/3/276 - Group medical Visits PubMed review , 1974 to 2004

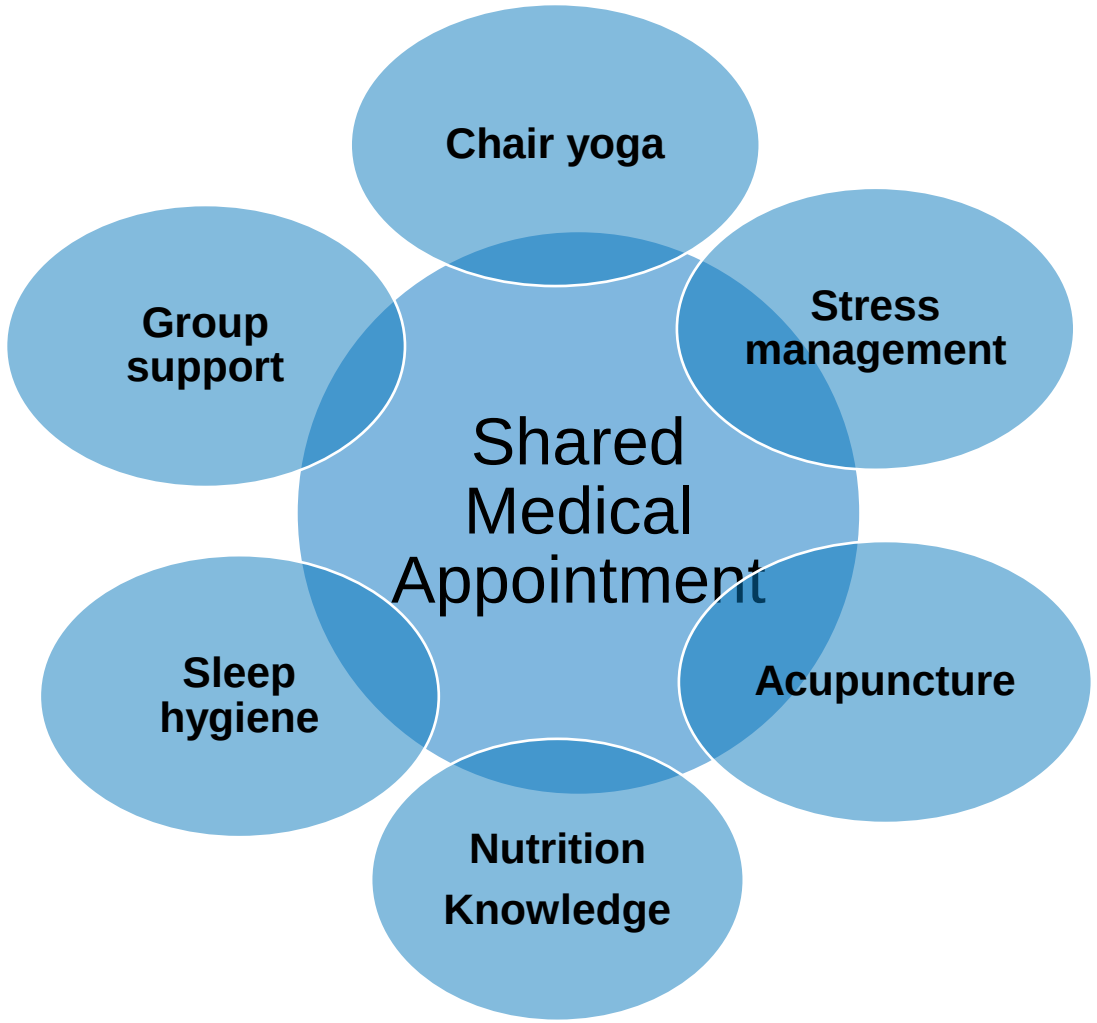
Social Relationships and Mortality Risk: A Meta-analytic Review

There is 50% increased likelihood of survival for participants with stronger social relationships.

The influence of social relationships on risk for mortality is comparable with well-established risk factors for mortality like smoking, alcohol consumption, physical activity and BMI.

Holt-Lunstad J, Smith TB, Layton JB. Social relationships and mortality risk: a meta-analytic review. PLoS Med. 2010 Jul

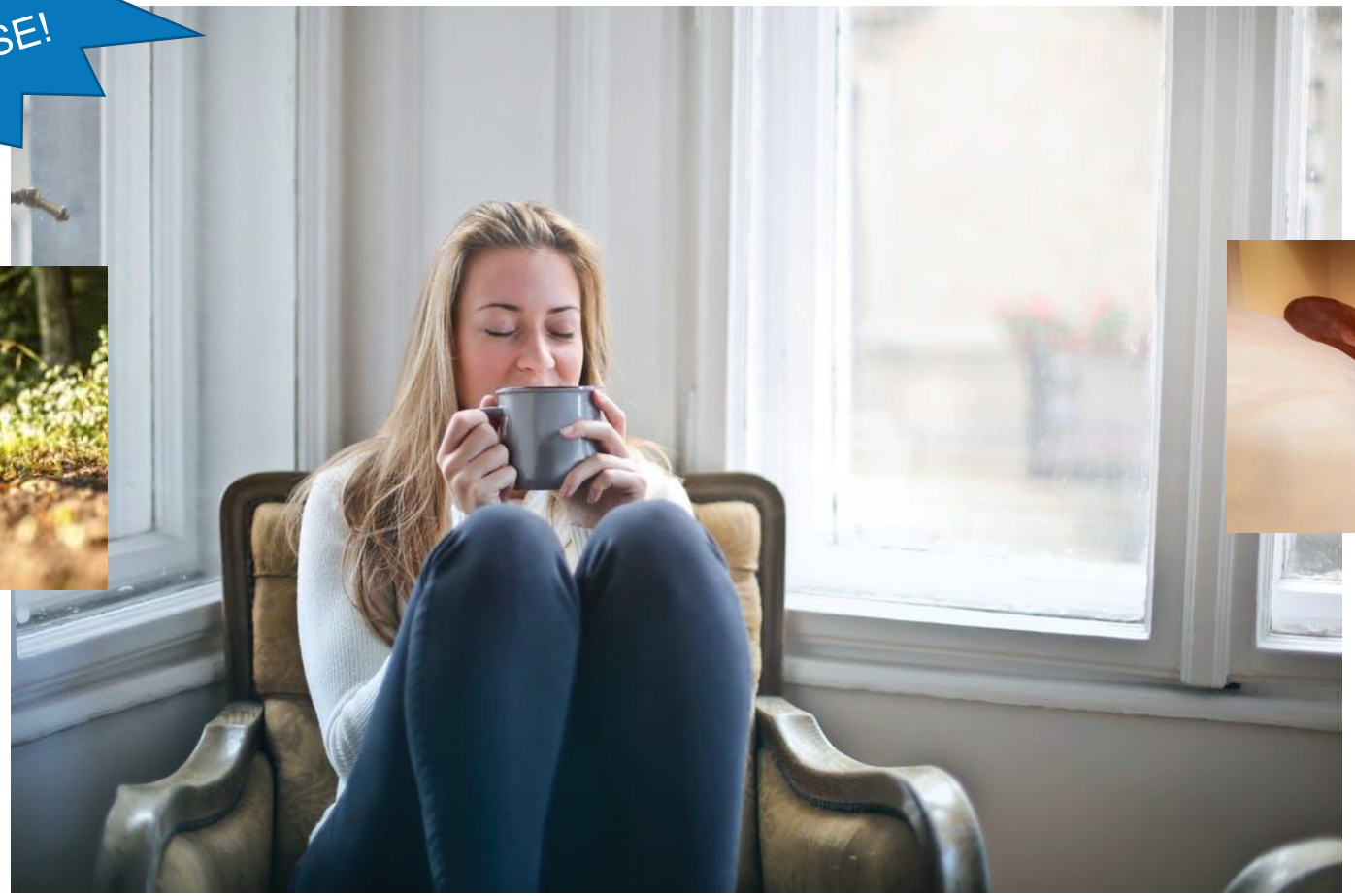
Cleveland Clinic Integrative Medicine Group Medical Visits



- Model
- Team
- Educational and experiential portion

“Living Well with Chronic Pain” Group Medical Visits
Educational piece

Have a PURPOSE!



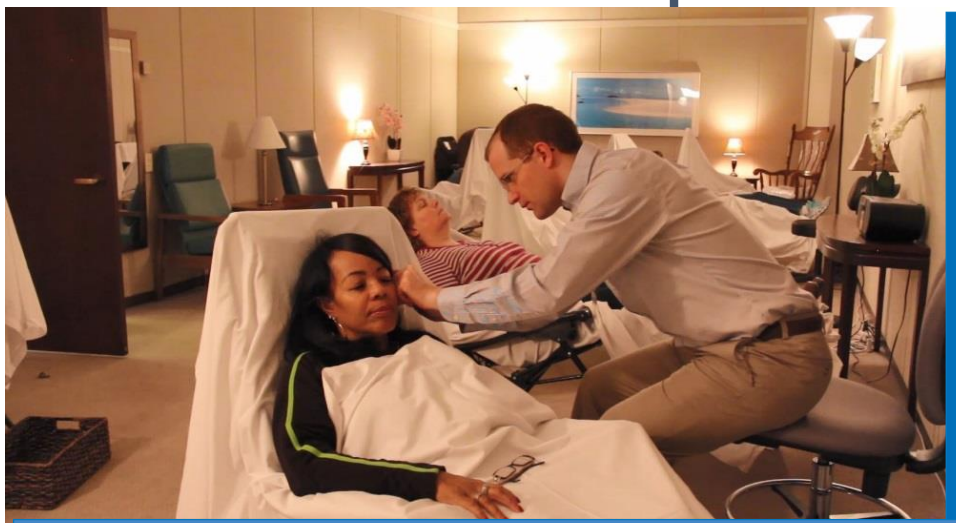








“Living Well with Chronic Pain” Group Medical Visits Experiential portion









Pain Med. 2021 Feb 4;22(1):181-190. doi: 10.1093/pm/pnaa418.

"Living Well with Chronic Pain": Integrative Pain Management via Shared Medical Appointments

Josie Znidarsic, Kellie N Kirksey, Stephen M Dombrowski, Anne Tang, Rocio Lopez, Heather Blonsky, Irina Todorov, Dana Schneeberger, Jonathan Doyle, Linda Libertini, Starkey Jamie, Tracy Segall,

Table 1. Demographics for patients with chronic pain participating in "Living Well With Chronic Pain" SMAs

Age	
Range	26-90
Median	61
Gender	
Female	161
Male	25
Not answered	3
Race	
White	127
Black or African American	44
American Indian/Alaska Native	3
Other	15

Table 2. Percentage of patients showing improvement

	Percentage of patients showing improvement
Physical Function	**58%**
Anxiety	**62%**
Depression	**58%**
Fatigue	**61%**
Sleep Disturbance	**54%**
Social Satisfaction	**63%**
Pain Interference	**67%**
Pain Intensity	**50%**
BMI	**56%**

N=189, observational study
Data collected: PROMIS-57, BMI, Pain intensity scale 1-10
All data expressed as Pre/Post = First SMA Visit/Last SMA Visit

Presented case – 8 months later

- Lifestyle changes
  - Did elimination diet, now follows **Mediterranean diet** and avoids gluten, lost 5 lbs, her acid reflux has resolved
  - Does counseling with **holistic psychotherapy** and keeps a gratitude journal
  - Keeps a **regular sleep schedule** and limits social media/electronics
  - **Supplements** - Magnesium Citrate 400 mg, Riboflavin 400 mg
  - Completed **“Living Well with Chronic pain” group medical visits**
- Headaches
  - Frequency - 2 times a month, severity - 4/10 , take Ibuprofen 200 mg prn
  - Lost 3 days of work in the last 8 months. No ER visits

Key Takeaways

- Chronic pain affects > 30% of people worldwide
- **Multidisciplinary care** can be delivered via an **individualized approach** or **group medical visits**.
- **Group medical visits** that combine patient education with **yoga, acupuncture, chiropractic and guided meditation** treatment modalities lead to reduced pain and improved measures of **physical, mental, and social health**



Acupuncture for Chronic Pain

Thuy Nguyen, DAOM, LAc

Acupuncture Section Head

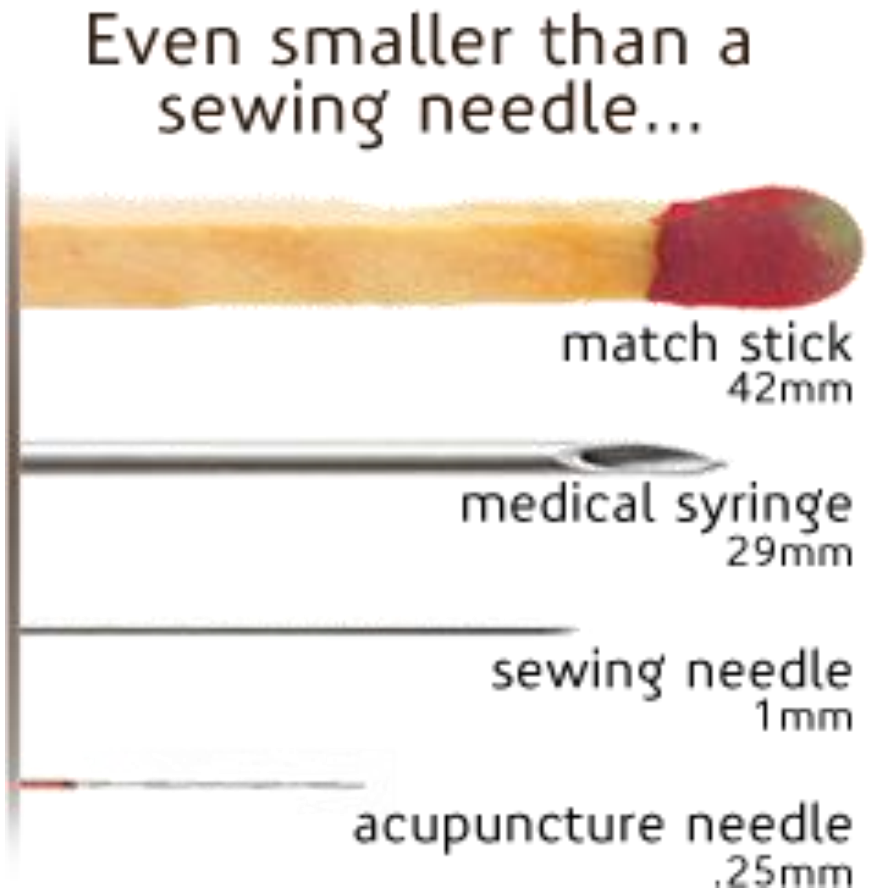
Clinical Assistant Professor of Medicine

Cleveland Clinic

Learning Objectives

- Review acupuncture in modern medical science perspective on chronic pain
- Define the basic theory of acupuncture
- Discuss the benefits, indications, and contraindications of acupuncture

Acupuncture Needle

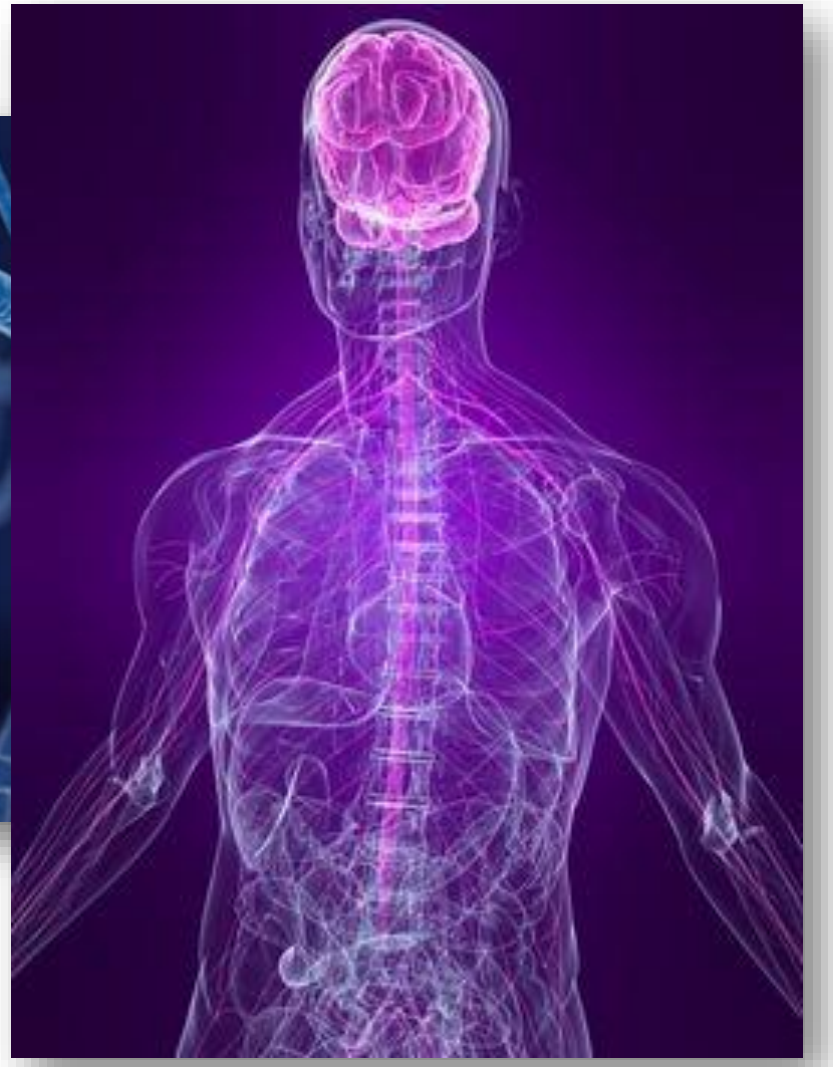




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Modern Medical Science Perspective





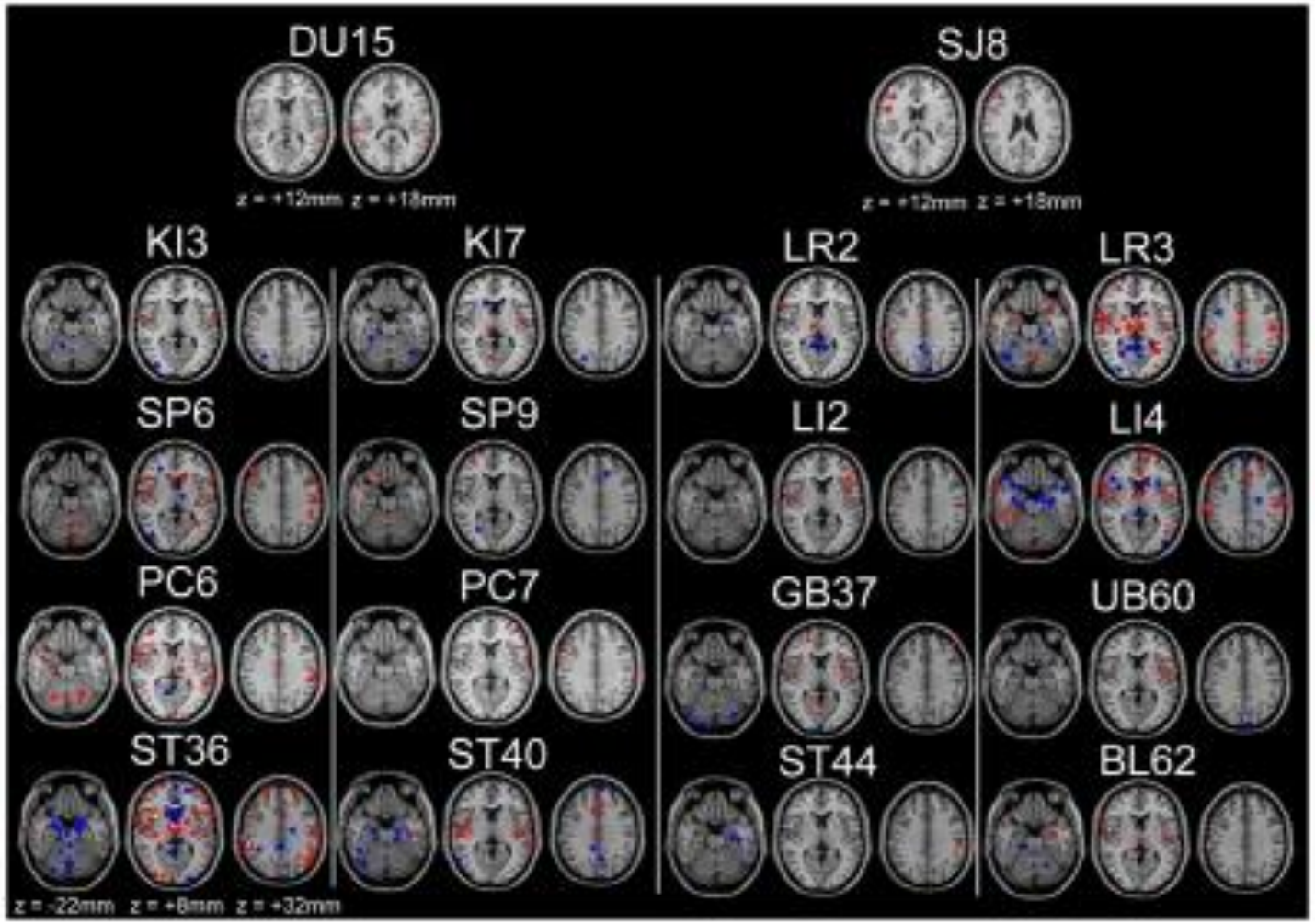
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Science of Acupuncture

- Regulates peripheral and central nervous system
- Release of neuropeptides
- Analgesia effect

Front Neurosci. 2021 Aug 2;15:695670. doi: 10.3389/fnins.2021.695670.
Am J Transl Res. 2022 Mar 15;14(3):1469-1481. eCollection 2022.
Med Acupunct. 2020 Dec 1;32(6):403-404. doi: 10.1089/acu.2020.1485. Epub 2020 Dec 16.

Science of Acupuncture



Huang W, Pach D, Napadow V, Park K, Long X, Neumann J, et al. (2012) Characterizing Acupuncture Stimuli Using Brain Imaging with fMRI - A Systematic Review and Meta-Analysis of the Literature. PLoS ONE 7(4): e32960. https://doi.org/10.1371/journal.pone.0032960

JAMA Internal Medicine

RCT: Acupuncture vs Sham Acupuncture for Chronic Sciatica From Herniated Disk

POPULATION

69 Men, 147 Women



Adults aged ≥18 y with unilateral sciatica from herniated disk for >3 mo

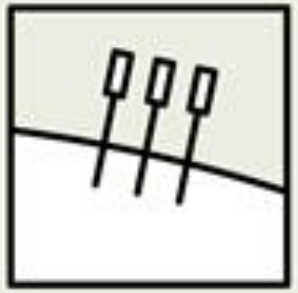
Mean (SD) age, 51.3 (15.2) y

SETTINGS / LOCATIONS

6 Tertiary hospitals in China

INTERVENTION

220 Participants randomized



110 Acupuncture
10 Sessions of acupuncture at acupoint over 4 wk

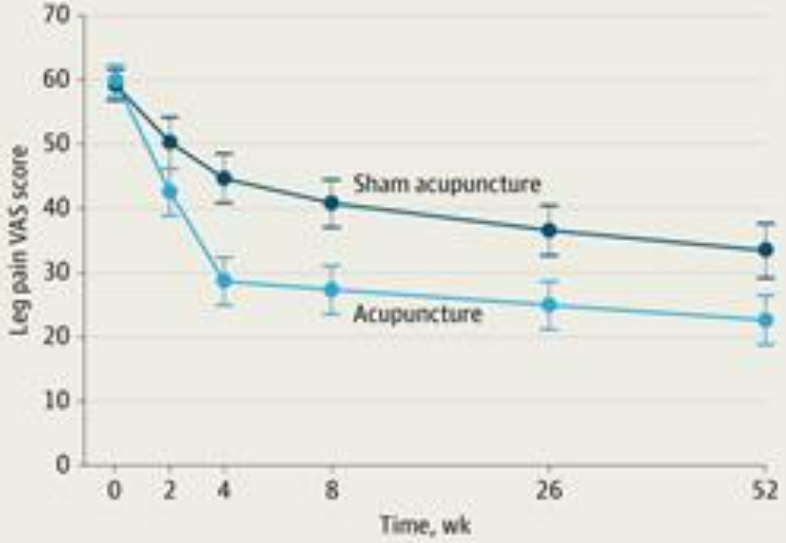
110 Sham acupuncture
10 Sessions of sham acupuncture at nonacupoint over 4 wk

PRIMARY OUTCOME

Changes in leg pain per visual analog scale (VAS, scores 0-100, higher scores indicate more severe pain) and Oswestry Disability Index (ODI, scores 0-100, higher scores indicating greater disability) from baseline to wk 4

FINDINGS

There were significant decreases in VAS (difference, −16.0 [95% CI −21.3 to −10.6]; $P < .001$) and ODI scores (difference, −8.1 [95% CI, −11.1 to 5.1]; $P < .001$) in the acupuncture vs sham group at 4 wk



Changes in scores at wk 4
VAS: acupuncture, −30.8; sham, −14.9
ODI: acupuncture, −13.0; sham, −4.9

Tu JF, Shi GX, Yan SY, et al. Acupuncture vs sham acupuncture for chronic sciatica from herniated disk: a randomized clinical trial. *JAMA Intern Med*. Published online October 14, 2024. doi:10.1001/jamainternmed.2024.5463

© AMA

Review > Adv Ther. 2021 Jan;38(1):76-89. doi: 10.1007/s12325-020-01554-0. Epub 2020 Nov 12.

A Comprehensive Review of Alternative Therapies for the Management of Chronic Pain Patients: Acupuncture, Tai Chi, Osteopathic Manipulative Medicine, and Chiropractic Care

Ivan Urits [1], Ruben H Schwartz [2], Vwaire Orhurhu [3], Nishita V Maganty [4], Brian T Reilly [5], Parth M Patel [4], Christopher Wie [6], Alan D Kaye [7], Ken F Mancuso [7], Aaron J Kaye [8], Omar Viswanath [9 10 11]

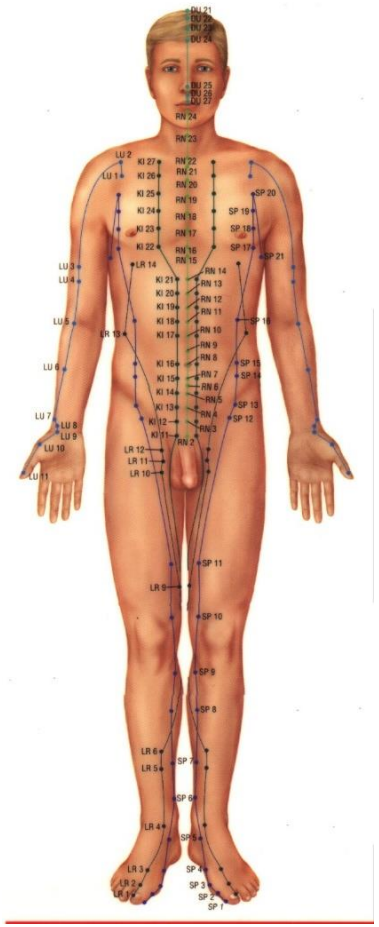
Affiliations + expand

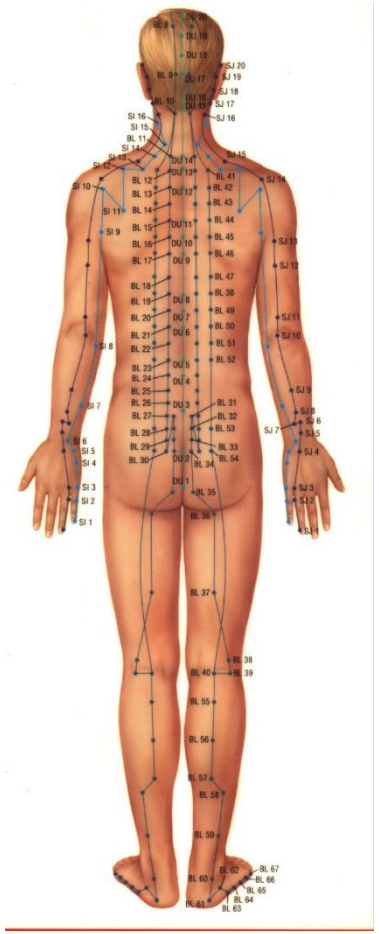
PMID: 33184777 PMCID: PMC7854390 DOI: 10.1007/s12325-020-01554-0

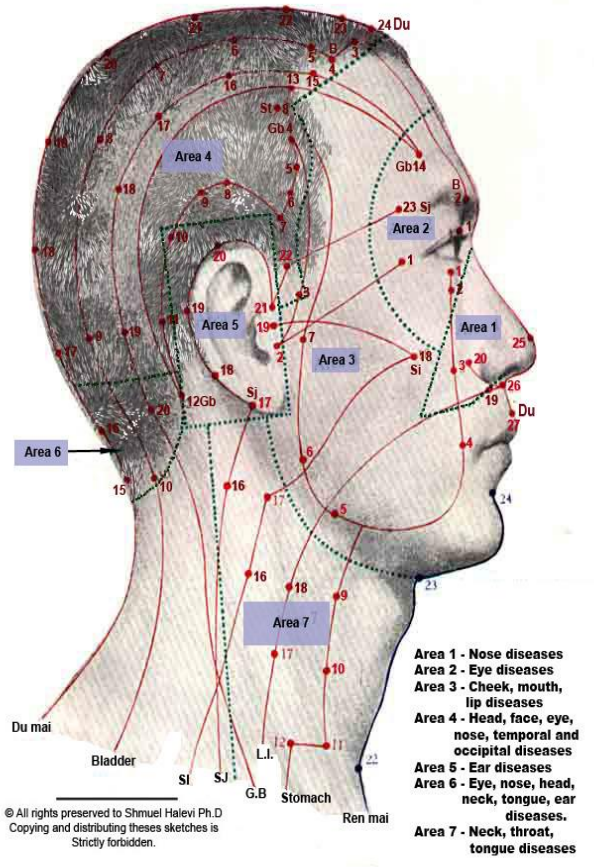
Table 1 Efficacy of acupuncture in the treatment of chronic pain conditions

Low back pain	Acupuncture is superior to traditional pain management in patients with low back pain. The number of sessions required for therapeutic effect is varied
Pregnancy	Acupuncture and sham acupuncture are important treatment options in pregnancy-related back pain and labor
Migraine	Acupuncture may result in a reduction of the frequency and intensity of migraine headaches. Larger cohort studies are needed to analyze this further
Complex regional pain syndrome (CRPS)	Based on case reports, acupuncture may improve chronic pain in patients with CRPS

What is Acupuncture?







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What is Acupuncture?

- Another modality of traditional Chinese medicine
- The insertion of fine needles into specific points in the body to promote Qi (pronounced “chee”)
- Qi – Life force / Flow of Energy
- Acupuncture balances the flow of Qi and stimulates the body’s natural ability to heal

Benefits Experienced by Patients

- Increase energy level
- Improves sleep
- Enhances digestion
- Elevates mood
- Enhances overall quality of life

Jakes D, Kirk R, Muir L. A qualitative systematic review of patients' experiences of acupuncture. J Altern Complement Med. 2014 Sep;20(9):663-71. doi: 10.1089/acm.2013.0446. Epub 2014 Jul 29. PMID: 25072404.

Paterson C, Britten N. The patient's experience of holistic care: insights from acupuncture research. Chronic Illn. 2008 Dec;4(4):264-77. doi: 10.1177/1742395308100648. PMID: 19091935.

Indications for Acupuncture

- Low back pain
- Neck pain
- Knee pain
- Shoulder pain
- Migraines
- Headaches
- Fibromyalgia
- Osteoarthritis
- Tendonitis
- Sciatica
- Carpal tunnel syndrome
- Rheumatoid arthritis
- Plus many more

Bland, John, Viedma, Christiane, Davies, Peter & Thapalyal, Lalit. (1979). Acupuncture [full issue]. *World health,* (December 1979), 2 - 30. World Health Organization.https://iris.who.int/handle/10665/351993

nccih.nih.gov/health/acupuncture-effectiveness-and-safety

Safety of Acupuncture

- Excellent safety profile
- Low incidence of adverse events and side effects
- Most common side effects
  - Mild bleeding
  - Bruises
  - Light head

Chan MWC, Wu XY, Wu JCY, Wong SYS, Chung VCH. Safety of Acupuncture: Overview of Systematic Reviews. Sci Rep. 2017 Jun 13;7(1):3369. doi: 10.1038/s41598-017-03272-0. PMID: 28611366; PMCID: PMC5469776.

Bäumler P, Zhang W, Stübinger T, Irnich D. Acupuncture-related adverse events: systematic review and meta-analyses of prospective clinical studies. BMJ Open. 2021 Sep 6;11(9):e045961. doi: 10.1136/bmjopen-2020-045961. PMID: 34489268; PMCID: PMC8422480.

Caution/Contraindication for Acupuncture

- Medical devices
  - Ex: Central venous catheters, medical pumps, pacemakers, gastrointestinal devices, drains, etc.

- Lab results and overall constitution

Key Takeaways

- Research supports acupuncture's effectiveness in reducing chronic pain
- Acupuncture can be integrated with conventional treatments to enhance pain management and overall well-being
- Acupuncture has a low risk of adverse events, making it safe and well-tolerated option for long-term pain management



Chiropractic Care: Overview and Indications

Andrew Bang, DC

Staff – Wellness & Preventive Medicine

Cleveland Clinic

Roadmap

- Training
- Common Conditions & Indications to Refer
- Treatment
- Evidence
- How to Refer

Chiropractic Training



- Doctors of Chiropractic (DCs) are licensed physicians who provide diagnosis, treatment, and management of musculoskeletal conditions (“manual medicine”)
  - Utilize non-pharmacologic, non-operative methods
- DCs are trained to use standard medical evaluation procedures to establish a diagnosis and formulate a management plan
  - Obtain diagnostic studies and consult other health care providers in accordance with accepted medical indications

Chiropractic Indications

- Indications
  - Low back conditions ± leg pain
  - Neck conditions ± arm pain
  - Persistent pain after spinal surgery (axial ± extremity)*
  - Cervicogenic or tension-type headaches
  - Mechanical extremity complaints
- Contraindications
  - Fracture or frank instability
  - Severe, progressive neurological deficit arising from the region of complaint
  - Pain due to cancer or infection
- Non-indications (2)
  - Non-MSK conditions (colic, hypertension, asthma, primary dysmenorrhea, etc.)

Chiropractic Treatment

- Chiropractic is a healthcare profession and not a technique
  - Chiropractic care ≠ High Velocity Low Amplitude (HVLA) spinal manipulation
- Standard approaches include:
  - HVLA spinal manipulation
  - Joint mobilization (passive oscillatory movements)
  - Drop table (gravity-assisted) spinal manipulation
  - Instrument assisted spinal manipulation
  - Flexion-distraction mobilization
  - Traction
  - Soft tissue/myofascial therapy
  - Patient education
  - Therapeutic exercise
  - Physical modalities (heat, e-stim, taping, etc.)



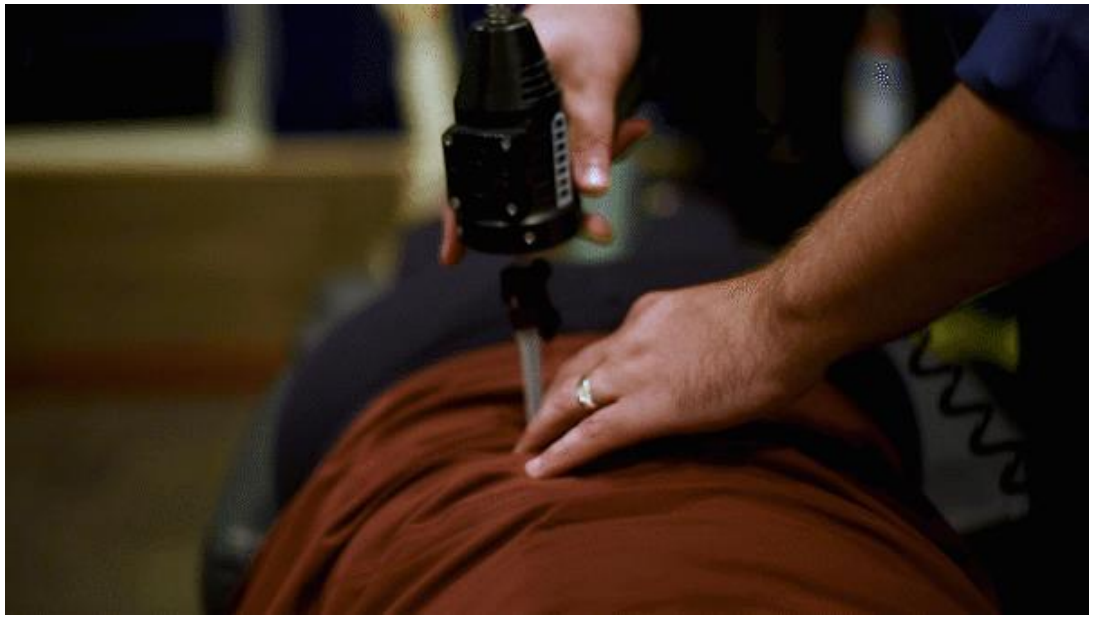
(3)

HVLA spinal manipulation





Instrument assisted & gravity assisted manipulation





Soft tissue manipulation



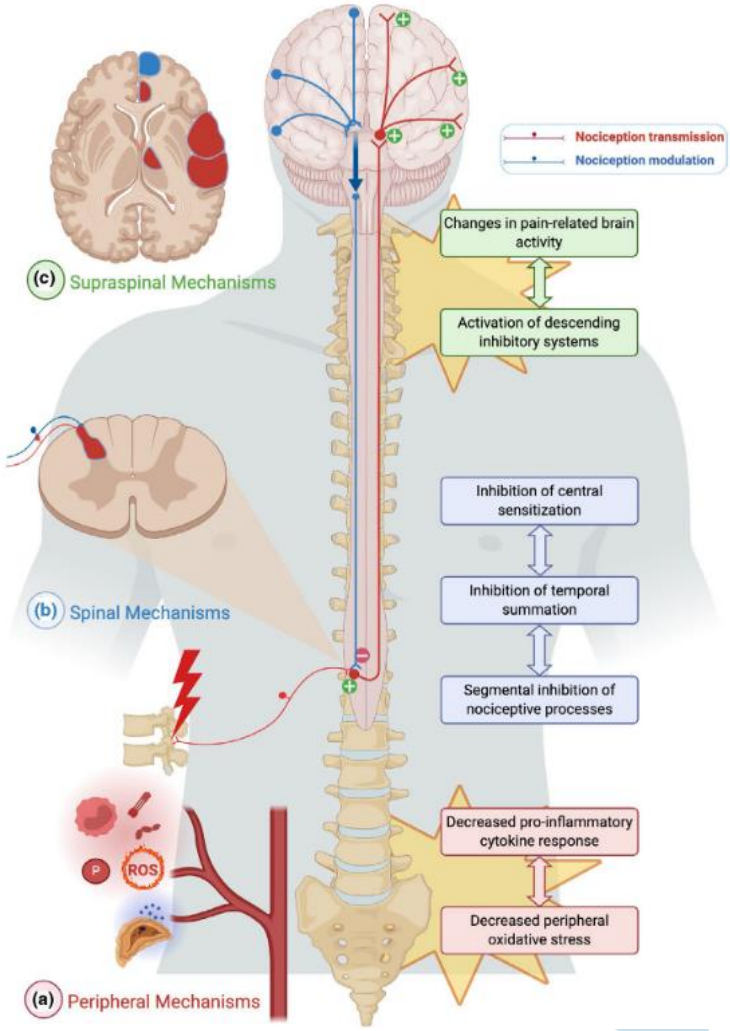


Chiropractic Treatment

- Physiology of manual therapy (4)
  - Peripheral mechanisms
    - Increased range of motion (5)
    - Decreased muscle tension (6)
    - Increased disc diffusion (7)
  - Spinal and supraspinal mechanisms (4)
  - Contextual effects (8)

- Adverse events (9)
  - Association of CAD and spinal manipulation

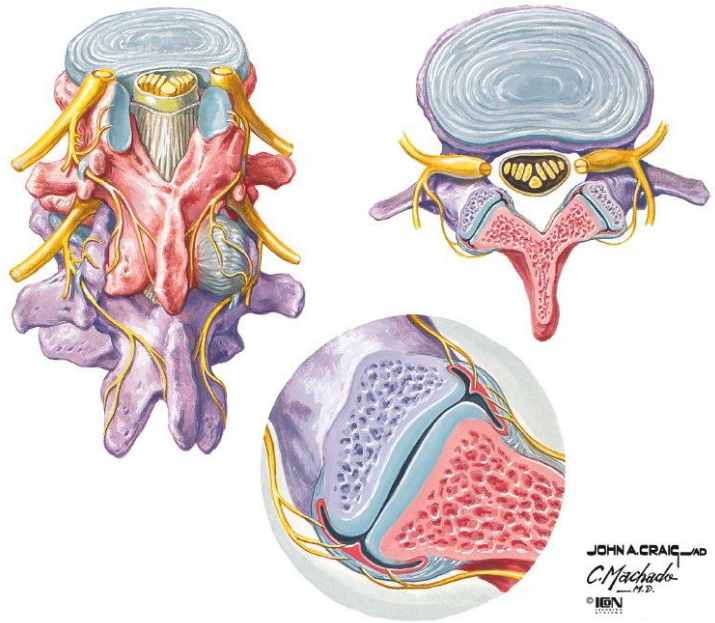
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Chiropractic Treatment

- Treatment frequency and duration (10)
  - Initial trial: 4-6 sessions
- Outcome dependent
  - Acute simple cases
    - Most should resolve
    - If no improvement, consider failed
  - Chronic complex cases
    - Meaningful improvement
      - May consider additional 4-6 visits to attempt further benefit
      - Chronic pain management for subset of patients (11)
    - If no improvement, consider failed

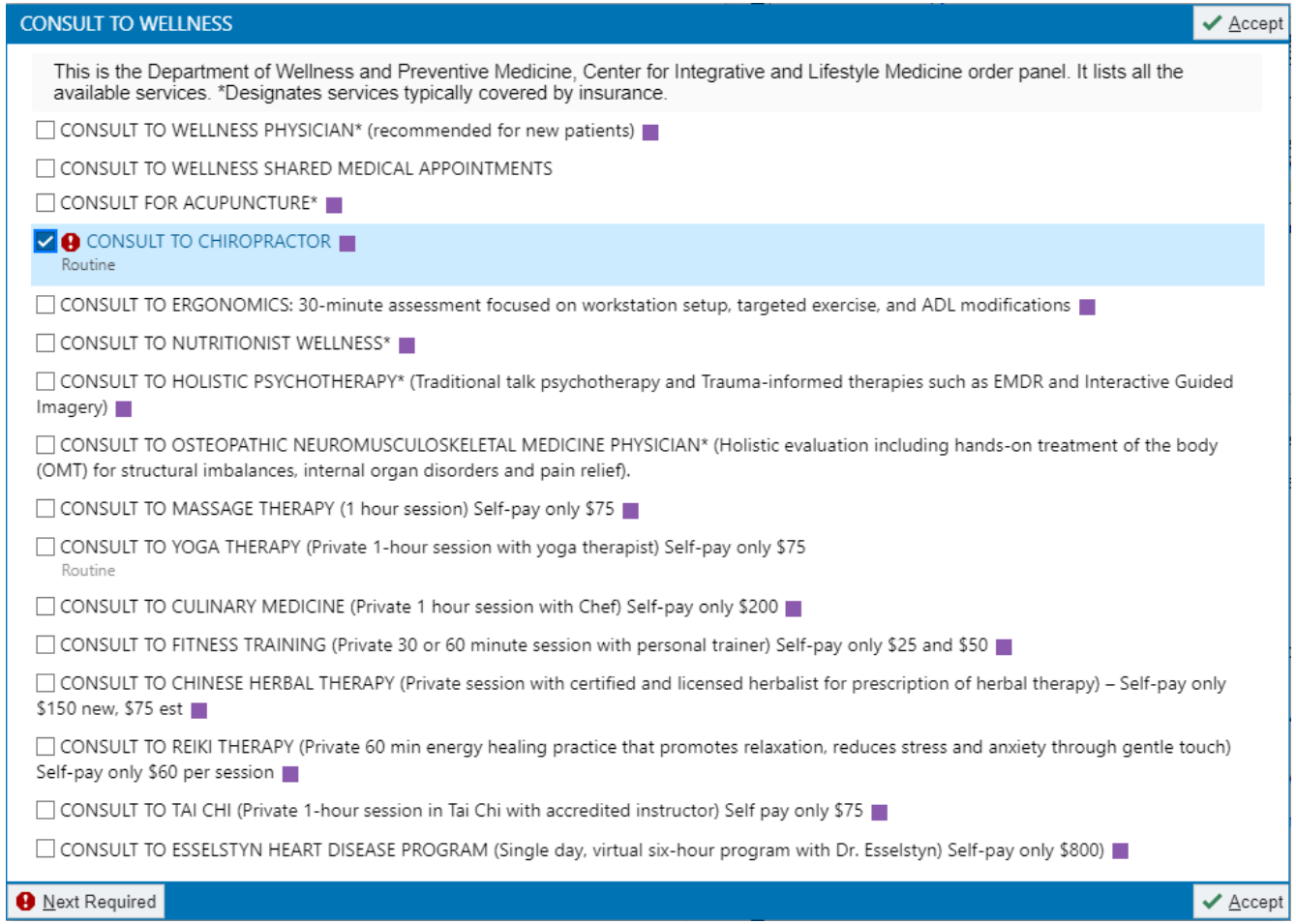


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Chiropractic Evidence

- Multimodal chiropractic care as management approach
  - Associated with positive impacts on:
    - Long-term prescription of tramadol (12)
    - Initial and downstream imaging utilization patterns (13)
    - Inappropriate treatment escalation (14)
  - Preliminary work using DCs to triage spine cases: improving surgical access, appropriateness, and efficiency (15)
    - Triage function for surgical and nonsurgical patients
    - Use nurse practitioners, chiropractors and physical therapists
    - Initial reports show
      - ↓ wait times and
      - ↓MRI utilization
      - ↑ increase in surgical conversion rate

Chiropractic Referral



- No unique work up requirements, no referral required
- No mandatory imaging
- Age range 0-99
- Medicare
- Medicaid
- Private Insurance

Key Takeaways

- Chiropractic is one of the first lines of defense for MSK conditions according to American College of Physicians
- Chiropractic treatments are safe and research shows positive outcomes
- Chiropractic is easy to access for patients and referring providers

References

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