

**Doc, What Else Can I Do?
Learning the Evidence Behind
Complementary and Alternative
Chronic Pain Management
for Chronic Nonspecific Low Back Pain
Part 2**

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APA PCSS-O; February 1, 2013

Conflicts of Interest

- No Financial Conflicts
- Biases, favorable toward:
 - Bio-psycho-social approach to health care
 - Self empowered Care / Self-Efficacy
 - Evidence Based Practice (EBP)
 - Systems of Care
 - Patient Centered Medical Home

NCCAM Summary

Scientific Evidence on CAM for Pain	Promising Evidence of Potential Benefit	Limited, Mixed, or No Evidence To Support Use
Low-Back Pain		
Acupuncture	✓	
Massage	✓	
Spinal Manipulation	✓	
Progressive Relaxation	✓	
Yoga	✓	
Prolotherapy		✓
Herbal Remedies		✓

http://nccam.nih.gov/sites/nccam.nih.gov/files/D456_05-14-2012.pdf

Sorry, we can't cover everything

- Goals: to Learn and Keep Learning
- Part 2 Today:
 - More, How to Not be Fooled by the “Evidence”
 - A lot more CAM Evidence:
 - Now what?
- Part 1 Taped and available through:
 - www.pcoss-o.org
 - www.psychiatry.org/pcossowebinars

CAM Categories:

- Whole Medical Systems
- Mind-Body Medicine
- Natural, Biologically Based Products
 - Devil's Claw
 - Glucosamine
- Manipulation and Body Based Practices
 - Spinal Manipulation, Massage, Acupuncture, Prolotherapy and Alexander Technique
- Energy Medicine
 - Reiki

Natural, Biologically Based Products

- Herbal Medicine (“Botanicals”)
- Vitamins
- Minerals

Other Terms for Biologically Based Tx

- Phytomedicine
- Nutraceutical
- “Functional food”
- “Natural Product”
- “Dietary Supplement”

Dietary Supplements and the FDA

- Dietary Supplement Health and Education Act (DSHEA) of 1994
- “This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.”
- But, OK to claim improved “Structure” or “Function”

Devil’s Claw

- Harpagophytum Procumbens standardized to 50 mg (H50) or 100 mg harpagoside(H100) vs placebo (P); BID
 - Acute on chronic LBP; 197 patients enrolled
 - Randomized, Double Blind; 4 weeks
 - Outcome = # of patients without pain (last week):
6 (H50), 10 (H100) and 3 (Placebo)

Chrubasik S, Junck H, Breitschwerdt H, Conradt C, Zappe H. Eur J Anaesthesiol. 1999 Feb;16(2):118-29. Effectiveness of Harpagophytum extract WS 1531 in the treatment of exacerbation of low back pain: a randomized, placebo-controlled, double-blind study.

NNT Devil's Claw

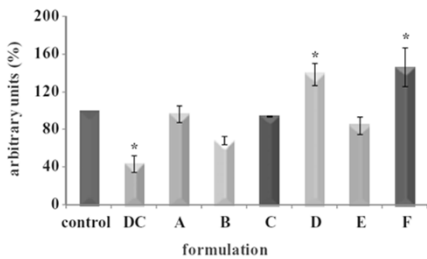
- Pain free at 4 weeks, approximately:
 - 6 of 61 on H50 (10%)
 - 3 of 61 on Placebo (5%)
- $NNT = 1 / ARR$
 $1 / (0.10 - 0.05) = 20$
 But with wide confidence intervals for small sample
- Similar effect on pain in 2nd pilot study of 88 patients between Doloteffin (Devil's Claw) and low dose Vioxx (Rofecoxib)

S. Chrubasik et al. A randomized double-blind pilot study comparing Doloteffin and Vioxx in the treatment of low back pain
 Rheumatology 2003;42:141-148

Safety of Devil's Claw

- Reportedly similar "mild" GI side-effects as seen with placebo
- Beware possible hypoglycemic effect
- Long term studies not available
- Caution with Asthma
- Avoid in pregnancy

Potencies of Devil's Claw Products



Estimation of the relative anti-inflammatory efficacies of six commercial preparations of *Harpagophytum procumbens* (Devil's Claw) Nassima Abdelouhab Ouitas and Charles Heard *Phytother Res* 24: 333-338 (2010)

?? Cost of Devil's Claw

- Difficulty of finding similar product
- Actual ingredients in non-FDA "supplement" are unknown
 - USP or NSF label may help

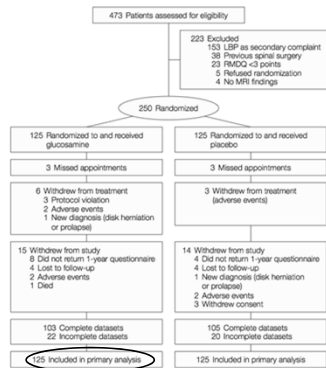
Certification of OTC Supplements

- USP (United States Pharmacopeial Convention)
 - USP is a scientific, nonprofit, standards-setting organization that advances public health through public standards and related programs that help ensure the quality, safety, and benefit of medicines and foods.
- NSF (initially: the National Sanitation Foundation)
 - NSF International was founded from the University of Michigan's School of Public Health as the National Sanitation Foundation to standardize sanitation and food safety requirements

<http://www.usp.org>, http://www.nsf.org/business/about_NSF/

Glucosamine for cLBP

- Randomized; double blinded
- Daily intake of 1500 mg of oral glucosamine
- 6 months



Wilkins et al. Effect of Glucosamine on Pain-Related Disability in Patients With Chronic Low Back Pain and Degenerative Lumbar Osteoarthritis. JAMA. 2010;304(1):45-52

Infinitely Large NNT for Glucosamine

- Equal reductions in RDQ Roland Morris Disability Questionnaire (0-24 scale)

	Glucosamine	Placebo
– Baseline	9.2	9.7
– 6 month	5	5
– 12 month	4.8	5.5

Wilkins et al. Effect of Glucosamine on Pain-Related Disability in Patients With Chronic Low Back Pain and Degenerative Lumbar Osteoarthritis. JAMA. 2010;304(1):45-52

Safety of Glucosamine; N(%)

Adverse events ^b	Glucosamine	Placebo	OR (95% CI)	P
Resulting in study agent termination	4 (3.2)	6 (4.8)	0.66 (0.48-1.36)	.52
Any type	40 (32.0)	46 (36.8)	0.83 (0.49-1.40)	.48
Skin problems	12 (32.0)	15 (12.0)	0.79 (0.35-1.76)	.56
Neurological effects	13 (10.4)	19 (15.2)	0.65 (0.31-1.38)	.26
Heartburn	1 (0.8)	1 (0.8)	0.99 (0.06-15.9)	.99
Fatulence	7 (5.6)	12 (9.6)	0.55 (0.21-1.44)	.22
Abdominal pain	4 (3.2)	3 (2.4)	1.32 (0.29-6.04)	.72
Nausea/vomiting	7 (5.6)	4 (3.2)	1.77 (0.50-6.21)	.37
Constipation	4 (3.2)	1 (0.8)	4.03 (0.44-36.69)	.18
Diarrhea	4 (3.2)	7 (5.6)	0.55 (0.16-1.92)	.34
Headache/vertigo	5 (4.0)	5 (4.0)	0.98 (0.28-3.49)	.98
Musculoskeletal concerns	5 (4.0)	11 (8.8)	0.42 (0.14-1.25)	.11

Wilkins et al. Effect of Glucosamine on Pain-Related Disability in Patients With Chronic Low Back Pain and Degenerative Lumbar Osteoarthritis. JAMA. 2010;304(1):45-52

Cost of Glucosamine

- OTC (often with Chondroitin...)
- \$60 for 6 months

Wilkins et al. Effect of Glucosamine on Pain-Related Disability in Patients With Chronic Low Back Pain and Degenerative Lumbar Osteoarthritis. JAMA. 2010;304(1):45-52

Body Based Practices

- Spinal Manipulation Therapy (SMT)
- Massage
- Acupuncture
- Prolotherapy
- Movement Therapies
 - Alexander Technique
 - Pilates

Spinal Manipulation in Chronic LBP

- “Hands-on” treatment of the spine, includes:
 - Manipulation and
 - Mobilization

Spinal Manipulation in Chronic LBP

- Cochrane Review:
 - 26 RCTs (total participants = 6070),
nine with a low risk of bias
 - “Sensitivity analyses ... suggest that neither the technique nor profession of the therapist had a profound influence on the overall pooled effect”

Rubinstein SM, van Middelkoop M, Assendelft WJ, de Boer MR, van Tulder MW. Spinal manipulative therapy for chronic low-back pain. Cochrane Collaboration (2012)

Safety of Spinal Manipulation

- Infrequent complications
- Rare herniated discs

Rubinstein SM, van Middelkoop M, Assendelft WJ, de Boer MR, van Tulder MW. Spinal manipulative therapy for chronic low-back pain. Cochrane Collaboration (2012)

Cost of Spinal Manipulation \$300+

- Initial evaluation: \$55-200
- “Adjustments” (follow-up visits): \$50-150
 - <http://www.howmuchisit.org/chiropractic-care-cost/> accessed Dec 2012

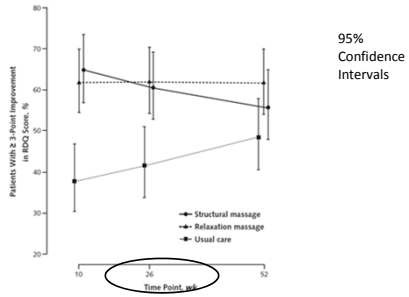
Cherkin et al. Ann Intern Med. 2003;138:898-906

Massage Therapy in Chronic LBP

- Many massage therapy techniques:
 - Swedish
 - Structural
 - Fascial or connective tissue release techniques
 - Cross fiber friction
 - Myofascial trigger point techniques
- Low quality evidence for most of the studies

Brosseau et al. Ottawa Panel – Massage – LBP. J Bodyworks and Movement Tx; 2012.

Message – Change in Function

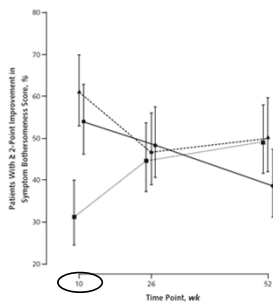


Cherkin, D.C., Sherman, K.J., Kahn, J., Wellman, R., Cook, A.J., Johnson, E., et al., 2011. A comparison of the effects of 2 types of massage and usual care on chronic low back pain: a randomized, controlled trial. *Annals of Internal Medicine* 155 (1), 1-9.

NNT Massage: Function

- 3 point RDQ Score (0-24) decrease at 26 weeks:
 - 60% Massage; 40% UC
 - NNT = 5
- But no difference at 52 weeks

Message – Change in “Bothersomeness”



Cherkin, D.C., Sherman, K.J., Kahn, J., Wellman, R., Cook, A.J., Johnson, E., et al., 2011. A comparison of the effects of 2 types of massage and usual care on chronic low back pain: a randomized, controlled trial. *Annals of Internal Medicine* 155 (1), 1-9.

NNT Massage: Bothersomeness

- 2 point “Bothersome” (0-10) decrease at 10 weeks
 - 60% Massage; 30% UC
 - NNT approximately 3 during treatment
- But no difference at 26 weeks

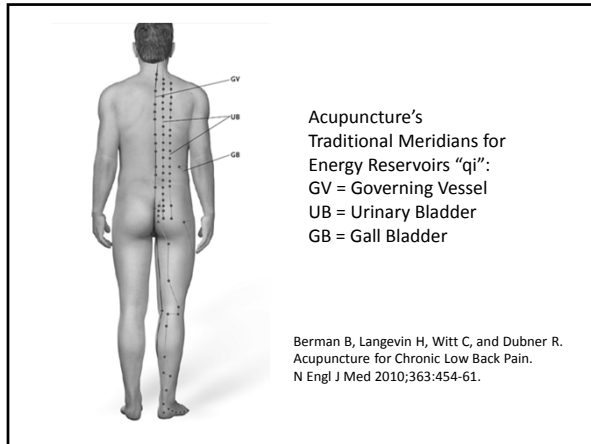
Safety of Massage

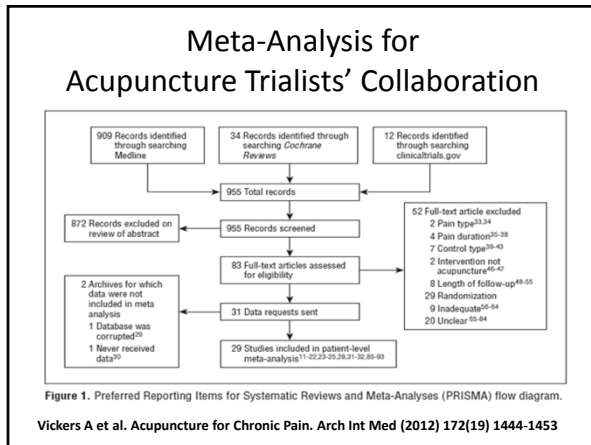
- No known side-effects

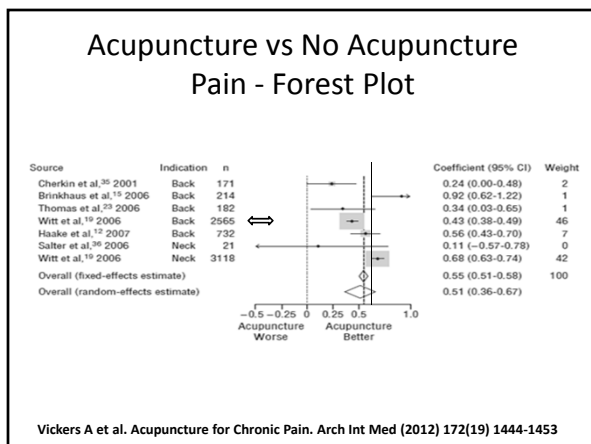
Cost of Massage \$250+

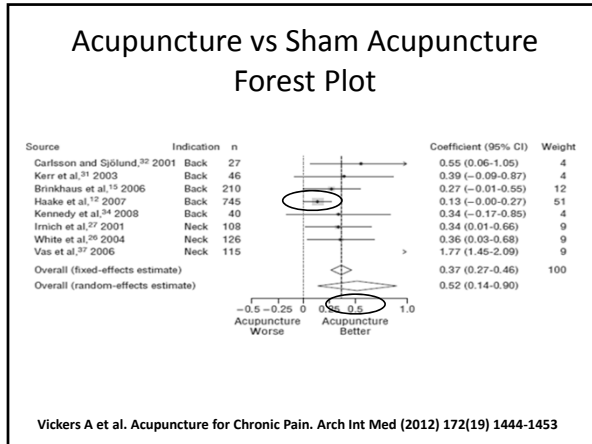
- 8 sessions

Cherkin et al. Ann Intern Med. 2003;138:898-906





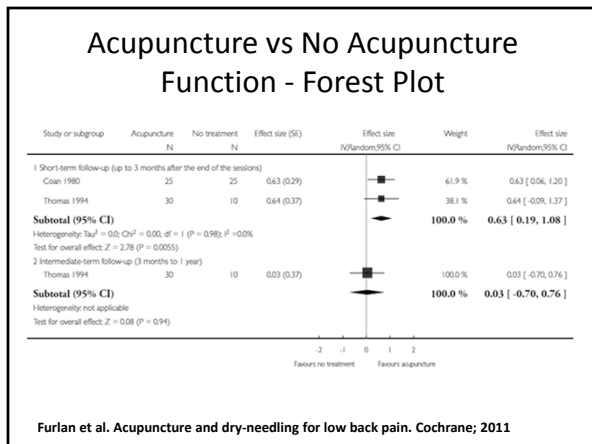




NNT: Pain No Tx vs Sham vs Acupuncture

- Estimated 50% reduction in pain achieved in:
 - 30% no acupuncture group
 - 42.5% sham acupuncture group
 - 50% acupuncture group
- NNT = 5 for acupuncture vs no acupuncture
 - while acupuncture was ongoing
 - ?Infinitely large for acupuncture vs sham

Vickers A et al. Acupuncture for Chronic Pain. Arch Int Med (2012) 172(19) 1444-1453



NNT: Function
Acupuncture vs No Acupuncture

- ? NNT
 - Larger, higher quality studies are needed

Furlan et al. Acupuncture and dry-needling for low back pain. Cochrane; 2011

Safety of Acupuncture

- Infrequent to have complications
- But see:
 - “Acupuncture: Does it alleviate pain and are there serious risks? A review of reviews”
 - commentary: “Acupuncture’s claims punctured: Not proven effective for pain, not harmless”

Ernst E, Lee MS, Choi TY. Acupuncture: Does it alleviate pain and are there serious risks? A review of reviews. PAIN 152 (2011) 755–764
Harriet Hall. Acupuncture’s claims punctured: Not proven effective for pain, not harmless. PAIN 152 (2011) 711–712

Cost of Acupuncture \$250-750

- 10 sessions over 7 weeks
- Cost per session:
 - Individual \$65-120;
 - Supervised student: \$40
 - “Community Acupuncture”: \$15
 - <https://www.pocacoop.com/> Accessed Dec 2012
- No difference in outcomes per level of training

<http://www.nytimes.com/2010/05/08/health/08patient.html>; accessed Dec 2012
Witt et al. Journal of Pain, Vol 11, No 5 (May), 2010; pp 431-435

Comparative Effectiveness of Exercise, Acupuncture, and Spinal Manipulation for Low Back Pain

- Structured exercise and SMT equally effective
- Insufficient comparisons acupuncture to SMT
- Insufficient comparisons for cost-effectiveness
- “If no clinical benefit is appreciated after using one of these approaches for 8 weeks, then the treatment plan should be reevaluated and consideration should be given to modifying the treatment approach or using alternate forms of care. Strength of recommendation: Weak.”

Standaert et al. Comparative Effectiveness of Exercise, Acupuncture, and Spinal Manipulation for Low Back Pain. SPINE Volume 36, Number 215, pp S120–S130

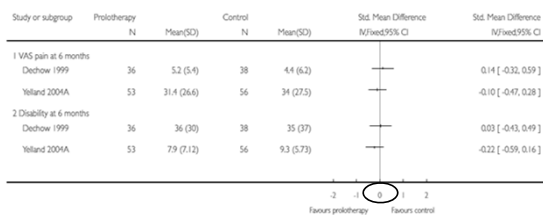
Prolotherapy Theory

- “Prolotherapy treatment is the injection of an irritant ... in the painful area ... that creates a short duration of inflammation.
- Prolotherapy rapidly produces collagen and cartilage... which stimulates the immune system’s own healing mechanism.
- The new collagen ... strengthens and restores joints, and supporting soft tissue, reducing or eliminating many different types of pain.”

<http://prolotherapyinstitute.com/prolotherapy-questions.htm> accessed Dec 2012

? Infinitely Large NNT Prolotherapy

Review: Prolotherapy injections for chronic low-back pain
 Comparison: 2 Prolotherapy vs control - Between group differences in means
 Outcome: 1 pain or disability at 6 months



Dagenais S, Yelland MJ, Del Mar C, Schoene ML. Prolotherapy injections for chronic low-back pain (Review) (2010) Cochrane Collaboration.

Safety of Prolotherapy

- Frequent soreness
 - felt by Practitioners to be sign of “healing”
- 2-4% headache consistent with spinal HA
- Infrequent menopausal spotting
 - if steroids used for injection
- Nausea or diarrhea in < 42%

Dagenais S, Yelland MJ, Del Mar C, Schoene ML. Prolotherapy injections for chronic low-back pain (Review) (2010) Cochrane Collaboration.

Cost of Prolotherapy \$1000?

- ?Four treatments
- Each treatment may cost \$125-500
- Insurance does not cover

http://www.answerbag.com/q_view/2100771

Alexander Technique

“individualized approach designed to develop lifelong skills for self care that help people recognize, understand, and avoid poor habits affecting postural tone and neuromuscular coordination.”

http://www.youtube.com/watch?v=coVXuDjHrfM&feature=player_embedded#!

Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

Alexander Technique

- “The art of learning to overcome unnecessary muscle tension”
– Accessed Jan 2013 <http://www.calpress.com/dancersoutlet/0260587>
- Stages; you learn:
 1. How to recognize habits of tension
 2. How to decrease the frequency of those habits
 3. Skills for more optimal brain and body coordination– Accessed Jan 2013 <http://alexandertechniqueguide.com/faq/>

Alexander Technique

Table 1 | Trial groups for patients with chronic or recurrent back pain

Intervention	No exercise	Exercise*
Normal care	Group 1 (control)	Group 5
Therapeutic massage (6 sessions)†	Group 2	Group 6
Alexander technique lessons (n=6)‡	Group 3	Group 7
Alexander technique lessons (n=24)§	Group 4	Group 8

*Doctor prescription and up to three sessions of behavioural counselling with practice nurse. Doctor exercise prescription was scheduled six weeks into trial to allow groups 7 and 8 to have some Alexander technique lessons before starting exercise but not to delay any further the start for group 5.
 †One session a week for six weeks.
 ‡Two lessons a week for two weeks then one lesson a week for two weeks.
 §Twenty two lessons over five months, initially two a week for six weeks, one a week for six weeks, one fortnightly for eight weeks, and one revision lesson at seven months and one at nine months.

Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

Alexander Technique

- At baseline, over the course of 28 days, each group had a mean of at least 24 painful days
- On average they were:
 - 45 years old
 - High school graduates
 - > 2/3 women

Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

Outcomes Alexander Technique: 1yr

	RDQ disability	# days LBP/28 days
Control	NS (9.2)	NS (23)
6 Massage	NS	NS
6 Alexander	NS	-13
24 Alexander	- 4.1	-20
Exercise	NS	-11
Exercise + Massage	- 2.4	-11
Exercise + 6 AT	- 3	-13
Exercise + 24 AT	- 4.2	-20

Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

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Control	NS (9.2)	NS (23)
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24 Alexander	- 4.1	-20
Exercise	NS	-11
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Ex + 6 AT	- 3	-13
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Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

NNT Alexander Technique

- As the results are presented as improvements in continuous variables rather than a percentage who meet a certain cut point of improvement, we cannot calculate a NNT

Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

Safety Alexander Technique

- No adverse events were reported by exercise or Alexander Technique
- One patient noted worse pain with massage

Little et al; RCT Alexander Technique, Exercise and Massage; BMJ 2008;337:a884

Cost Alexander Technique \$600?

- “similar rate ... to private music lessons”
– Accessed Jan 2013 http://en.wikipedia.org/wiki/Alexander_technique
- Private Lessons
 - 10 sessions: \$585
 - 1 session: \$65
– Accessed Jan 2013 <http://alexandertechniqueguide.com/faq/>
- Group Classes, ATL Certified Instructor
 - 8 sessions: \$95
 - drop-in: \$15
– Accessed Jan 2013 <http://www.robbinmarcus.com/at-class-schedule.html>
- DVDs: \$15-90

Energy Medicine

- Veritable (measurable)
 - Magnetic
 - Light
 - Direct- or alternating- current fields
- Putative (yet to be measured; “BioField”)
 - Qi Gong
 - Reiki
 - Healing or Therapeutic Touch

Reiki

- The word Reiki is made of two Japanese words
 - Rei which means "God's Wisdom or the Higher Power" and
 - Ki which is "life force energy".
 - Reiki is actually "spiritually guided life force energy."

<http://www.reiki.org/faq/WhatsReiki.html> accessed Dec, 2012

Reiki

as per:
<http://www.reiki.org/faq/WhatsReiki.html>

- "A treatment feels like a wonderful glowing radiance that flows through and around you...."
- Reiki is a simple, natural and safe method of spiritual healing and self-improvement that everyone can use. It has been effective in helping virtually every known illness and malady and always creates a beneficial effect. It also works in conjunction with all other medical or therapeutic techniques to relieve side effects and promote recovery."

Reiki

per "Learn Reiki in 10 minutes" Video

- "Benevolent love energy"
- "Permeates universe"
- If "attuned" to "harmonic vibration" then cleansed
- Gratitude is key attitude
 - "Cure for" "anger" and "worry"
 - I.e. Mindfulness add-on to Reiki

<http://www.bing.com/videos/search?q=reiki&mid=0FDD99317F3A3569D1080FD99317F3A3569D108&view=detail&FORM=VIREZ> Dec 2012

?? NNT for Reiki

- “To date, based on the poor quality of studies and their reporting, it is currently impossible to draw definitive conclusions about the efficacy of Reiki.”
- Jadad scores = 0-2 in 11 of 12 studies

Sondra vanderVaart et al. J ALTERNATIVE AND COMPLEMENTARY MEDICINE Volume 15, Number 11, 2009, pp. 1157-1169

Safety of Reiki

- “exacerbation rates of reported symptoms”
 - 2.5% for physical pain
 - 1.1% for palpitation/dizziness
 - 0.7% for anxiety/depression

Alternative Therapies in Health and Medicine Suzuki, Kiyoshi yr:2012 vol:18 iss:4 pg:38 -50

Cost of Reiki ? \$200?

- Each healing ritual session \$25-100
- Lasting approximately one hour each

<http://www.reiki.org/FAQ/Questions&Answers.html> accessed Dec, 2012

State of EBP for CAM for cLBP

- Low quality of evidence
- Short term, modest benefits possible from:
 - ? Devil's Claw
 - Massage
 - Spinal manipulation
 - Acupuncture
- Long term, modest benefits possible from:
 - Alexander Technique
 - Yoga
 - ? Mindfulness

Duration of Therapy?

- SMT, Massage and Acupuncture
 - Partially effective during active administration
 - Should they be continued indefinitely?
 - What would the cost be?
 - Would the small benefit persist?
- Yoga
 - Growing trend of effect
 - Should treatment continue beyond 8 weeks?
 - What would the cost be?
 - Would the small benefit grow?

Integrated, Evidence Based Practice

The diagram consists of three overlapping circles. The top-left circle is labeled 'Client and Situation', the top-right circle is 'Research Evidence', and the bottom circle is 'Own Expertise and Experience'. The central area where all three circles overlap is shaded and labeled 'EBP'.

Sackett, D.L. (1999). Evidence-based medicine: How to practice and teach EBM (2nd ed.). Edinburgh: Churchill Livingstone.
<http://www.library.auckland.ac.nz/subject-guides/edu/ebp/ebpsocialwork.htm> (accessed Dec 3, 2012)

Can I Apply this CAM for My Patient?

- IF reasonably valid and moderately effective,
- Consider:
 - Values, preferences of this patient
 - Cost of therapies
 - Local availability of therapies
 - Note some CAM providers give free or reduced fee tx
 - Possible side-effects

Table 5: Willingness to Participate in Clinical Trials of CAM Therapies for Low Back Pain and Preference for Therapies

	Percent (N = 249)
Definitely willing to participate in clinical trial of acupuncture, chiropractic, massage, and a self-help back pain book (%) ^a	62
Preferred treatment among above:	
Massage	43
Acupuncture	35
Chiropractic	18
None or Other	3
Book	1
Definitely willing to participate in clinical trial of massage, meditation, t'ai chi, and a self-help back pain book (%) ^a	53
Preferred treatment among above:	
Massage	63
T'ai Chi training	24
Book	5
Meditation training	4
None or Other	4

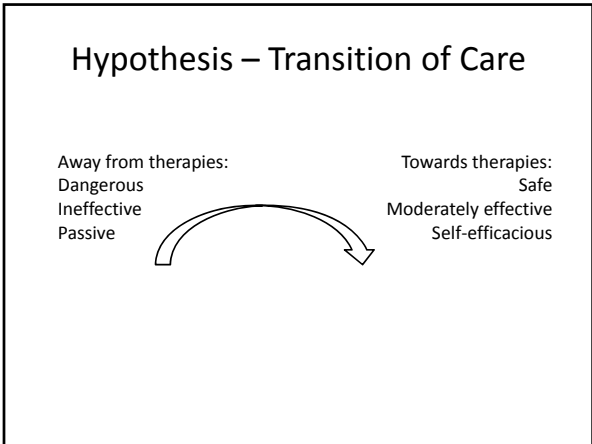
Sherman et al. BMC Complementary and Alternative Medicine 2004, 4:9

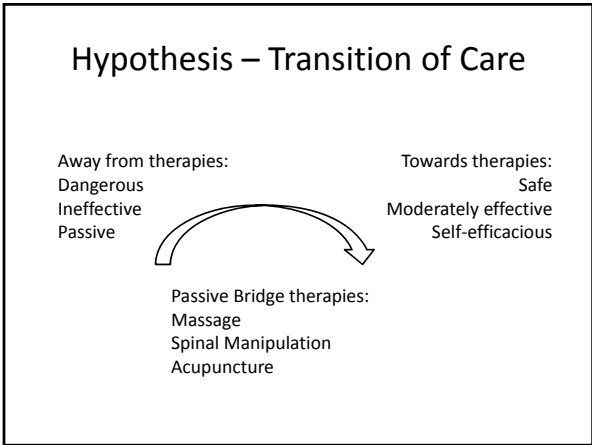
Hypothesis – Transition of Care

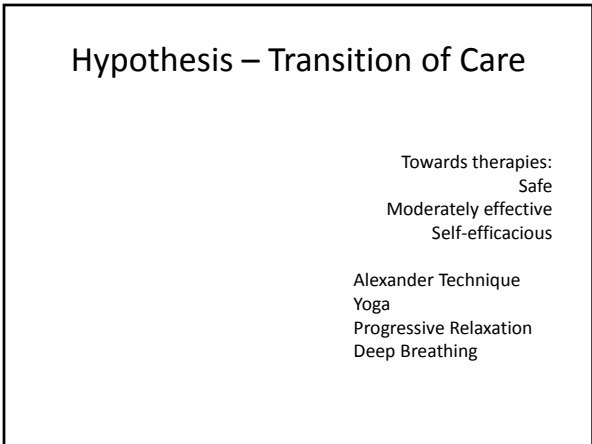
Away from therapies:

- Dangerous
- Ineffective
- Passive

- High Dose Opioids
- Benzodiazepines
- Chronic “Muscle Relaxants”
- Chronic “Sleep Medications”







In Summary, Our Obligation

- For each specific condition, offer patients evidence-based treatment, including evidence-based CAM
- If the patient remains symptomatic, Re-evaluate and consider offering other CAM modalities as may be appropriate.

Questions?

Dr. Richard Deyo – “Back Pain Research: Past History, Pitfalls, and Possibilities”

“There has been a history of ineffective treatment “fads” for back pain. Treatment utilization and costs have increased rapidly, but without corresponding declines in reported functional limitations and number of work disability claims related to back pain. It is unclear whether much meaningful progress has been made.”

<http://nccam.nih.gov/sites/nccam.nih.gov/files/2009septmin.pdf> accessed Jan 2013
National Advisory Committee, Complementary and Alternative Medicine; Minutes of the 37th Meeting; Sept 2009

Dr. Richard Deyo – “Back Pain Research: Past History, Pitfalls, and Possibilities”

“Pitfalls that have impeded true progress include:

1. Exaggerated reports of treatment success from “experts” and the popular media;
2. Misleading clinical trial outcomes (apparent treatment-related improvements that actually reflect factors such as placebo)
3. Methodological challenges in randomized clinical trials (RCTs)
 - Statistically significant results often are not clinically important

<http://nccam.nih.gov/sites/nccam.nih.gov/files/2009septmin.pdf> accessed Jan 2013
National Advisory Committee, Complementary and Alternative Medicine; Minutes of the 37th Meeting: Sept 2009

Hypothesis – Transition of Care

Away from therapies:
Dangerous
Ineffective
Passive



Towards therapies:
Safe
Moderately effective
Self-efficacious

Passive Bridge therapies:
Massage
Spinal Manipulation
Acupuncture

Hypothesis – Transition of Care

Towards therapies:
Safe
Moderately effective
Self-efficacious

Alexander Technique
Yoga
Progressive Relaxation
Deep Breathing

Learn and Keep Learning

- Cochrane Collaboration
- Trip Database
 - [http://library.medicine.yale.edu/guides/screencasts/finditfast/finditfast_9/PubMed Advanced](http://library.medicine.yale.edu/guides/screencasts/finditfast/finditfast_9/PubMed%20Advanced)
 - <http://www.ncbi.nlm.nih.gov/pubmed/advanced>

NCCAM References/Resources

- Subscribing to CAM newsletter
<https://nccam.nih.gov/tools/subscribe?digest=1>
Summary Table

- <http://nccam.nih.gov/health/providers/digest/pain-science/chart>

For Patient Reference

- 6 Tips for patients considering CAM
<http://nccam.nih.gov/health/tips/pain>
- NCCAM Clinical Digest
<http://nccam.nih.gov/health/providers/digest/chronicpain.htm>
MedlinePlus
<http://www.nlm.nih.gov/medlineplus/medlineplus.html>

Other References

- What is Complementary and Alternative
<http://medicine/2http://nccam.nih.gov/health/whatiscom#types> accessed December, 2012
- Jacobs B, Gundling K The ACP Evidence-Based Guide to Complementary and Alternative Medicine 2009 ACP Press
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