Acetaminophen: Move to the Back

- RCT 1652 patients acute low back pain (age 44).
  - Regular modified-relief acetaminophen (TID), as needed acetaminophen (QID), or placebo x 4 weeks
- Outcomes: No difference in any outcome
  - Days to recovery: 17 in either Tx group, 16 in placebo
  - 1, 4, 12 wks: Pain, disability & global change
  - Quality of life (Px & mental function)
  - Other drugs, investigators, seeing providers
- Sys Rev found similar.
- Bottom-Line: Acetaminophen does nothing in LBP

Lancet. 2014;384(9954):1586-96. BMJ 2014;350:h1225

Activity: Back

- 61 RCTs (6390 pts): acute (11), subacute (6) and chronic (43) LBP (1 unclear).
  - In acute, likely no effect
  - In Chronic: In patients mean improvement was 13.3 points (5.5 to 21.1) for pain, 6.9 (2.2 to 11.7) for function
- 9 RCTs (1520 patients) of activity to prevent recurrence
  - Prevents recurrence of LBP episodes: RR 0.5 (0.34-0.73)
    - 10 out of 100 people will have recurrences of back pain within 0.5-2 years, down to 5 if active (NNT 20).
- **Bottom-Line**: Activity is key. Encourage strongly.

Cochrane 2005; 3: CD000335 Cocrhane 2010; 1: CD006555

NSAIDs

- Back: 65 RCTs (11,237 pts). 28 (42%) were high quality.
  - Versus Placebo below.
  - Borderline vs acetaminophen (SMD 0.21 (-0.02 to 0.43)).
  - No difference non-selective vs Cox-2

	Effect size	Proportion & NNT
Acute		
Pain ≤3 wks (100mm)	8.4 mm (4.1-12.7)	
Global improve ≤3 wks	RR 1.19 (1.07-1.33)	61% v 51% (NNT 11)
Side Effects ≤3 wks	RR 1.35 (1.09-1.68)	16.5% v 12.3% (NNH 24)
Chronic		
Pain ≤12 wks (100mm)	12.4 mm (9.3-15.5)	
Side Effects ≤12 wks	RR 1.24 (1.07-1.43)	46.6% v 37.9% (NNH 12)

Cochrane 2008; 1: CD000396

Cyclobenzaprine & Muscle Relaxants

- Cyclobezaprine: 14 RCTs (3027 patients)
  - Quality 4.3/8; Generally 10mg TID:
  - At 14 days NNT 3 for any improvement
    - Pain, spasm, tenderness, ROM, ADL: SMD=0.38-0.58
  - AE: Any (NNH 4) Drowsiness (6), Dry Mouth (17), Dizziness (34)
- Cochrane: 11 RCTs (≥4 types Muscle relaxants)
  - Quality of RCTs in Meta-analysis: 4-8/11
  - Pain resolution in first week NNT 4-7
  - Global improvement in first week: NNT 4-10

Arch Intern Med 2001;161:1613-20. Cochrane 2003; 4: CD004252.

Opioids in Back Pain

- 15 trials:
  - Tramadol: 5 trials,
    - Pain, SMD 0.55 (0.44-0.66),
    - Reduced disability SMD 0.18 (0.07-0.29).
    - AE: nausea NNH 11 & constipation NNH 20
  - Strong Opioids: Pain 0.43 (0.33-0.52)
    - ≥30% pain relief: NNT 6
    - ≥50% pain relief: NNT 8
    - AE: nausea NNH 8 & constipation NNH 9
- One trial example: Global assessment at least "good" at 18d: 59% morphine vs. 63% oxycodone vs. 27% placebo

Cochrane 2013; 8: CD004959. . Ann Intern Med. 2007;146:116-127.

Adding to Naprosyn for 1st back pain

- RCT: all 10 d Naprosyn (500 BID): cyclobenzaprine 5mg, oxycodone/acetaminophen 5/325mg, placebo (1-2 TID)
  - New acute (non-radicular) low back pain < 2 weeks old
  - Frequent/always back pain at d6: 29%, 28%, 35%
  - Return to normal activities: 4d, 4d and 5d.
  - Note: 22% never took >1 pill (those taking pills did better, oxycodone ss on one outcome)
- Bottom-Line: Most patients taking high dose naprosyn don't need more. Most people are better/mostly better in 1 week.

JAMA. 2015;314(15):1572-1580.

Miscellaneous: For Chronic Pain

- Anti-depressants:[1]
  - Cochrane review: No (but trazodone, SSRI, etc)
  - TCA: SMD 0.41 (0.22-0.61) or 0.64/10 better pain score
  - Duloxetine: SMD 0.24 (0.0-0.55) (meta by manufacturer)
- Gabapentin: Maybe if some radiculopathy or sciatica (mean 27 (15-38) out of 100)
  - Others find less
- **Bottom-Line**: possibly in chronic pain (gababentin only if neuro symptoms)

1) Cochrane 2008; 1: CD001703. Ann Intern Med. 2007;147:505-14. Pain Physician 2013; 16:E685-E704. Eur Spine J 2013;22:1996-2009 2. BMJ. 2012;344:e497. Ann Intern Med 2007;147:505-14

Spinal Manipulation: Acute

- Acute Back Pain: 20 RCTs (2674 pts)
  - Risk of Bias (mean score 4/13)
  - 6 high quality: No benefit
  - Spinal Manipulation vs all other therapies:

	Control	Manipulation	Significance
Pain 1 week (0-10)	2.6-3.5	0.1 worse	ns
Pain 1 month (0-10)	0.5-2.3	0.2 better	ns
Function (0-24)	4.1	0.5 better	ns
Recovery 1 month	87%	92%	1.06 (0.94-1.21)

If all studies pooled, 1 month pain significant (SMD 0.56 (0.06-1.07)) but not 1 week, 3-6 month, 1 year

Cochrane 2012; 9: CD008880.

Spinal Manipulation: Chronic

- Chronic Back Pain : 26 RCTs (6070 pts)
  - ≥2wks, most ~3 months
  - Risk of Bias (mean score 5/12)
  - Spinal Manipulation vs any other (high quality RCTs):

	Control	Manipulation	Significance
Pain 1 week (0-100)	26-36	3 worse	ss (not clinical)
Pain 1 month (0-100)	26-41	4.5 better	ss (not clinical)
Function (0-24)*	4-21	0.9 better	ss (not clinical)
Recovery 1 month*	60%	72%	1.20 (1.04-1.37)

- Other results, generally no benefit

* From all studies of any other interventions

Cochrane 2011; 2: CD008112.

Chiropractic Care

- Bottom-Line: The present evidence does not support the use of chiropractic care. There may be some small benefits in chronic pain.

Multidisciplinary teams

- Few studies define Multidisciplinary the same way.
- Cochrane: Sys Review (41 RCTs, 6858 pts)[1]
  - Versus Usual Care (16 RCTs)
    - Pain SMD 0.21 (0.04-0.37); meaning 0.5-1.4 out of 10
    - Disability SMD 0.23 (0.06-0.4); meaning1.4-2.5 out of 24.
    - For return work: No difference
  - Versus Other (example Physical manuevers):
    - All similar except,…
    - Working long-term (≥1 yr): 78% vs 66% NNT=9
- Bottom-Line: Huge heterogeneity in what multi-disciplinary means but generally helpful (in chronic).

1) Cochrane 2014; 9: CD000963.

Injection Therapy

- 18 trials (1179 participants).
  - Injection sites varied (epidural sites, facet joints, tender-points).
  - Drugs varied corticosteroids, local anesthetics other drugs.
  - No strong evidence for or against.
- 23 RCTs epidural injections of steroid
  - Pain: 6 points better (out of 100)
  - Function: 3 points better (out of 100)
- Does not seem very effective

Cochrane 2008; 3: CD001824. Ann Intern Med. 2012;157:865-877.JAMA 2013; 309: 2439-40.

Some Miscellaneous

- Massage: low to moderate effectiveness
- Acupuncture: Low to moderate effectiveness
- Traction: No help.
- Lumbar Support: No help
- Thermal Therapy: Cold no, but heat can help
- TENS: No help
- Bed rest: worse mechanical, =sciatica

Cochrane 2008; 4: CD001929. Cochrane 2005; 1: CD001351. Ann Intern Med. 2005;142(8):651-63. Cochrane 2007;2: CD003010. Cochrane 2008; 2: CD001823. Cochrane 2006; 1:CD004750. Cochrane 2008; 4: CD003008 Cochrane 2004; 4:CD001254

Sum-Up

- **Bottom-Line: NSAIDs, Activity (non-acute), cyclobenzaprine, opioids (short-term), activity, heating pad, multi-disciplinary (for chronic)**
- **Minor or none: Injection, massage, acupuncture, chiropractic care**
- **Don't image unless red flags / neuro.**