UT Health San Antonio

CBT and ACT for Psychological Management of Pain

How to know which treatment to use when

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Disclaimer: Part of this presentation was derived from research programs W81XWH182008 (PIs: Goodie, McGeary) through the Congressionally Directed Medical Research Program and the NIH-VA-DoD Pain Collaboratory and W81XWH-12-PHTBI-CAP as part of the Consortium to Alleviate PTSD. The views expressed in this presentation are solely those of the presenter and do not represent the views or policies of the CDMRP, the Military Health System, the Defense Health Agency, the United States Army or any of their constituents.

Putative Mechanisms

ACT Acceptance and Commitment Therapy

- Increase *valued* activity in the presence of pain
- Psychological flexibility
- Acceptance of pain chronicity

MBSR Mindfulness-Based Stress Reduction

- Reduce excessive emotional reactivity
- Changes to pain cognition
- Stress reduction

CBT Cognitive-Behavioral Therapy

- Restructure maladaptive cognitions
- Change maladaptive behaviors
- Broad coping skills

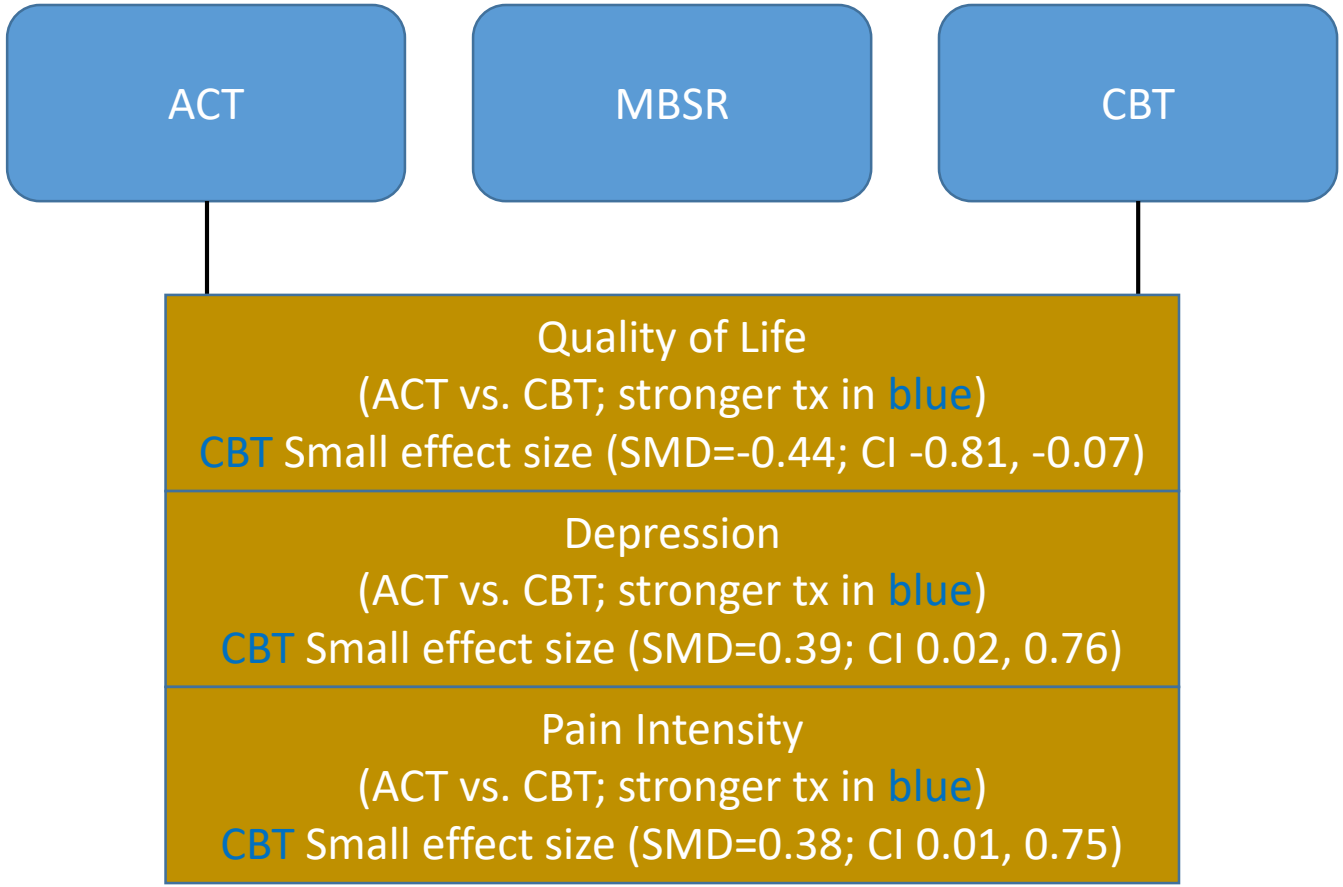
Cherkin DC, Sherman KJ, Balderson BH, Cook AJ, Anderson ML, Hawkes RJ, Hansen KE, Turner JA. *JAMA*. 2016;315:1240-1249.
Hughes LS, Clark J, Colclough JA, Dale E, McMillan D. *Clin J Pain*. 2017;33:552-568

Deciding on Treatment - Effectiveness

- The ***best*** intervention…
- Know your clinical target
  - Pain intensity
  - Disability
  - Mood comorbidity
  - Activity level
  - Quality of life

- Caveat: the available research directly comparing these treatments is subject to methodological weakness and bias – take the following slides with a grain of salt.

Treatment Outcomes – CBT vs. ACT



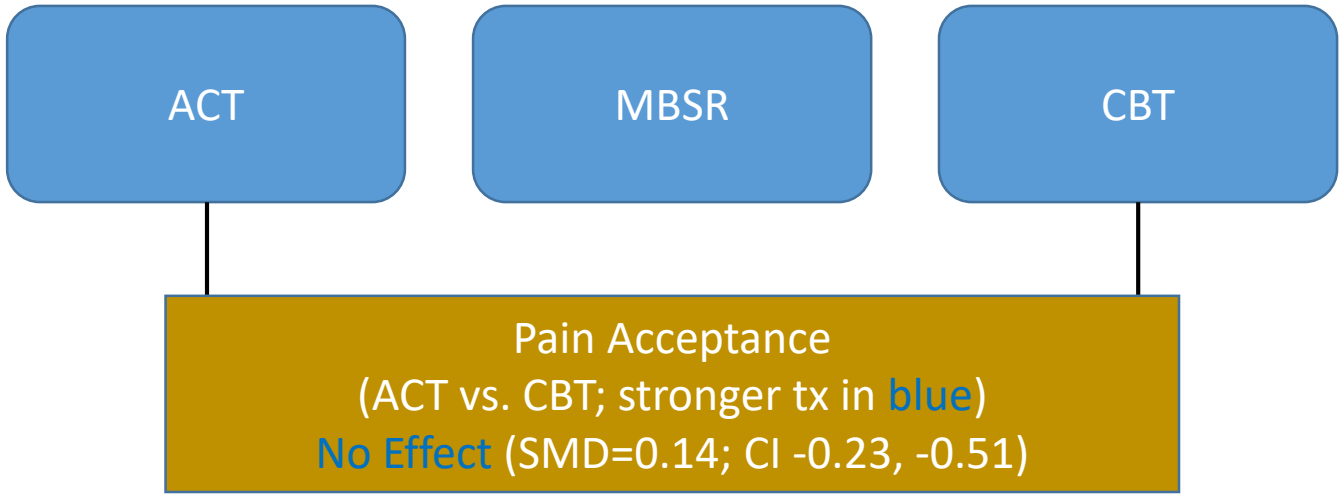
Meta-analysis of ACT for pain compared to other evidence-based treatments.

Identified one study comparing both treatments.

SMD = standardized mean difference

Hughes LS, Clark J, Colclough JA, Dale E, McMillan D. *Clin J Pain*. 2017;33:552-568.

Treatment Outcomes – CBT vs. ACT

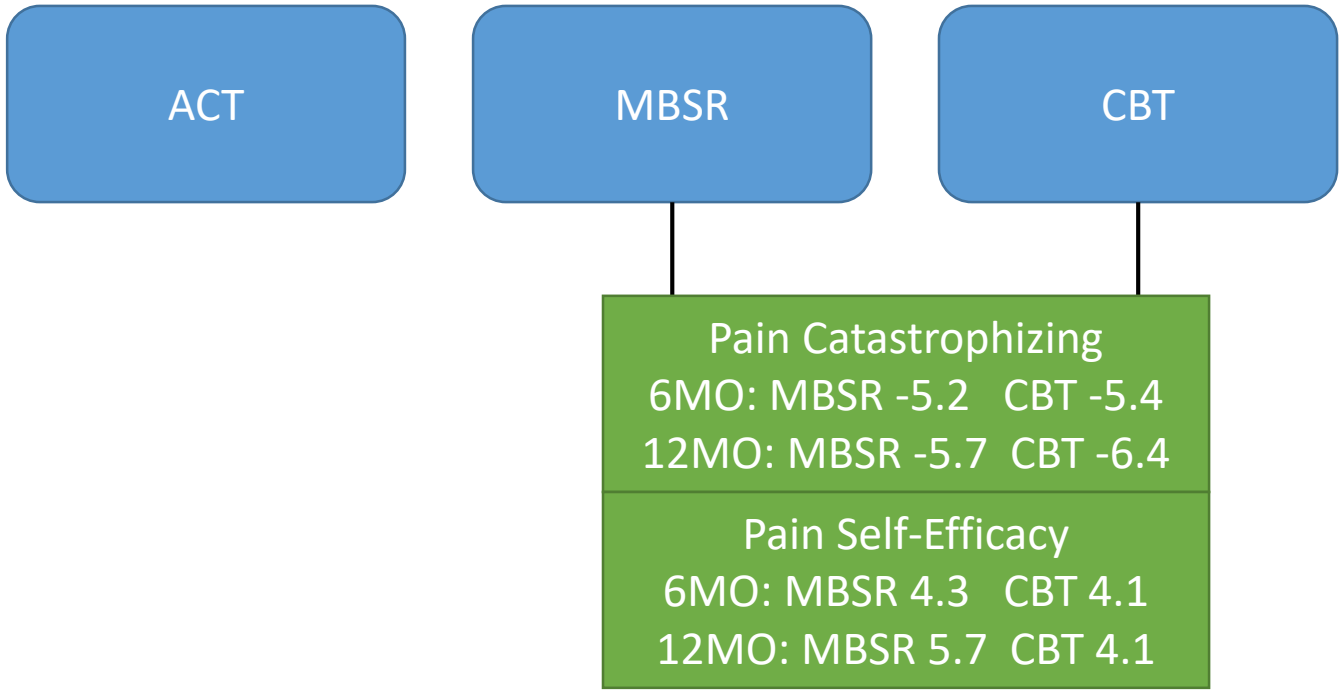


Measure (m,SD)	ACT	CBT
BPI Interference		
Pre	5.8 (2.0)	5.8 (2.1)
Post	5.1 (2.4)	4.5 (2.7)
BPI Severity		
Pre	6.0 (1.2)	5.8 (1.4)
Post	5.6 (1.8)	4.9 (1.9)
MPI Gen Activity		
Pre	2.0 (1.0)	2.3 (0.9)
Post	2.0 (0.8)	2.3 (0.8)
Pain Acceptance		
Pre	53.3 (20.5)	52.1 (18.6)
Post	63.3 (18.5)	60.7 (18.6)

Hughes LS, Clark J, Colclough JA, Dale E, McMillan D. *Clin J Pain*. 2017;33:552-568.

Wetherell JL, Afari N, Rutledge T, Sorrell JT… Atkinson JH et al. *Pain*. 2011;152:2098-2107.

Treatment Outcomes – CBT vs. MBSR

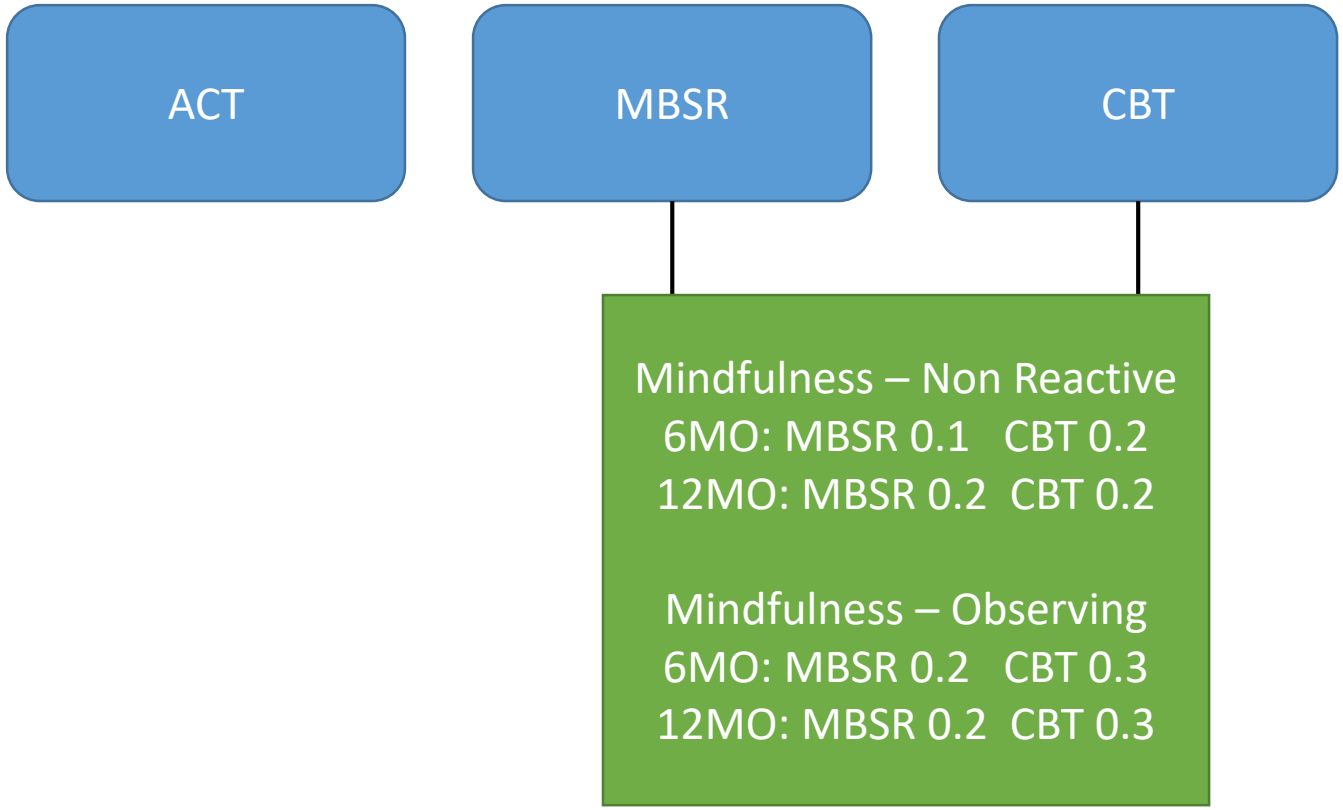


Very few studies directly compare CBT to MBSR.

There are no significant differences between the two treatments based on putative mechanisms of CBT.

Turner JA, Anderson ML, Balderson BH, Cook AJ, Sherman KJ, Cherkin DC. *Pain*. 2016;157:2434-2444.

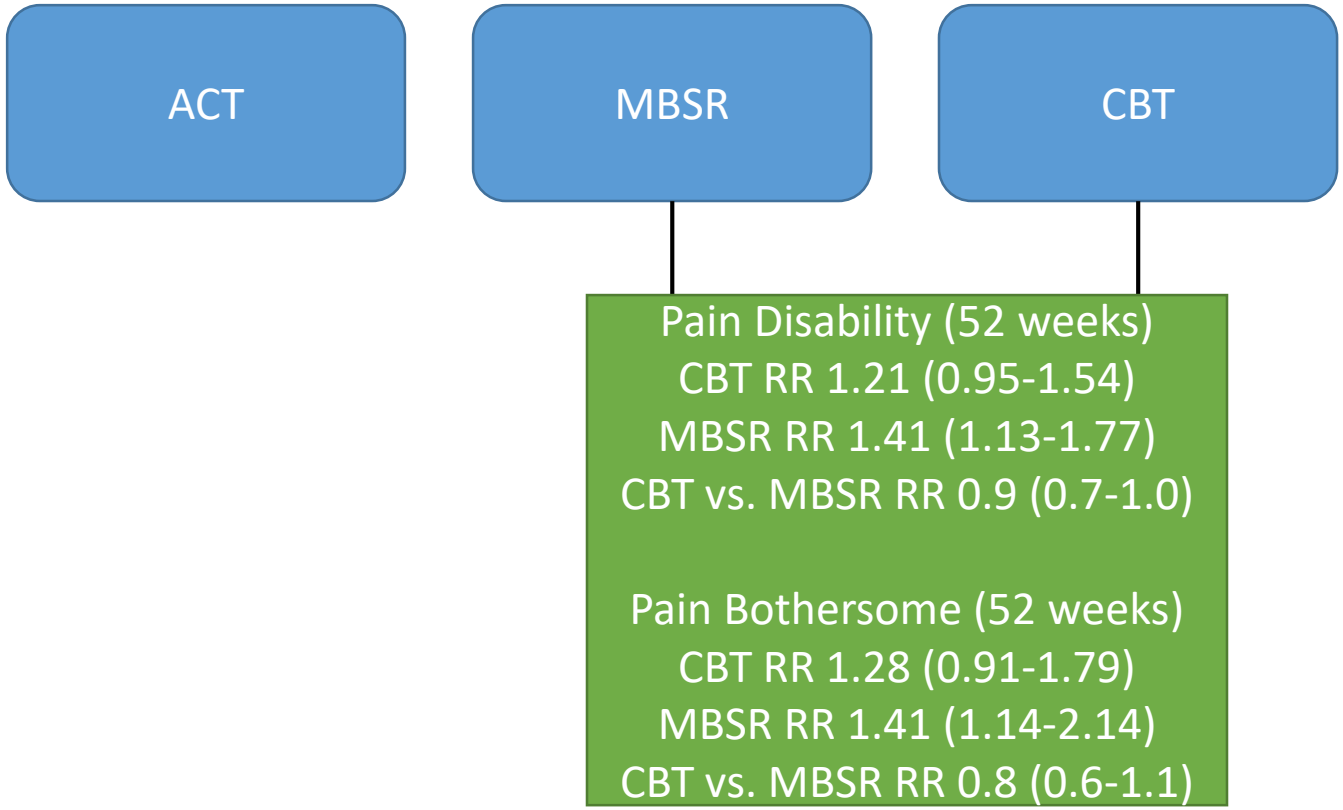
Treatment Outcomes – CBT vs. MBSR



There are also no significant differences between the two treatments based on putative mechanisms of MBSR.

Turner JA, Anderson ML, Balderson BH, Cook AJ, Sherman KJ, Cherkin DC. *Pain*. 2016;157:2434-2444.

Treatment Outcomes – CBT vs. MBSR

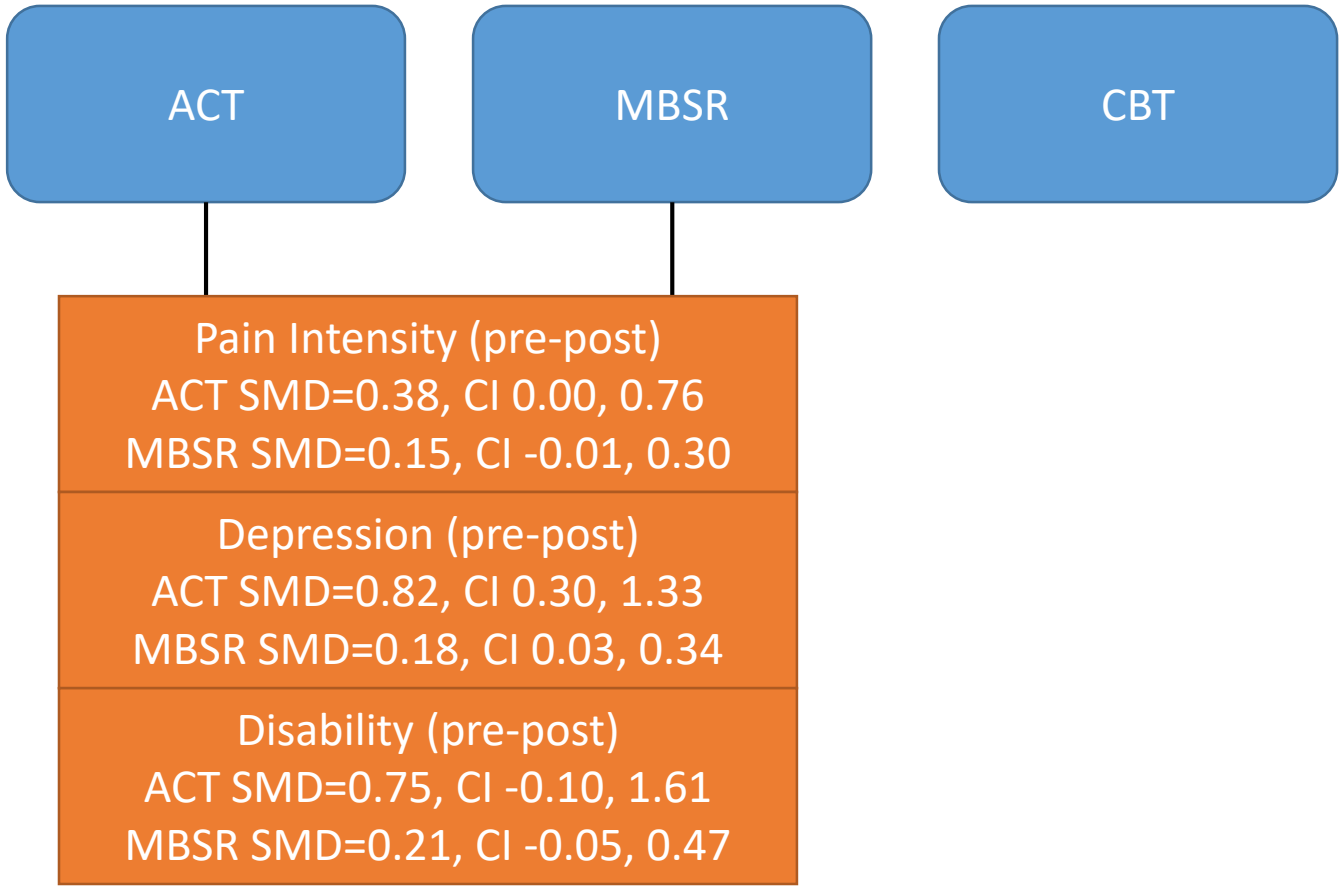


Both CBT and MBSR were efficacious in addressing pain and pain-related disability.

There were no statistically significant differences between the two treatments though RR for MBSR were slightly higher than those for CBT in this study.

Cherkin DC, Sherman KJ, Balderson BH, Cook AJ, Anderson ML, Hawkes RJ, Hansen KE, Turner JA. *JAMA*. 2016;315:1240-1249.

Treatment Outcomes – CBT vs. MBSR



Similarly, there are few direct comparisons of ACT to MBSR.

The few studies that have been done show:

- Slightly more benefit of ACT on pain rating
- More benefit of ACT on depression
- Slightly more benefit of ACT on disability
- Slightly more benefit of ACT on QoL

None of these differences are statistically significant.

Veehof MM, Trompetter HR, Bohlmeijer ET, Schreurs KMG. *Cog Behav Ther*. 2016;45:5-31.

Treatment Outcomes - Discussion

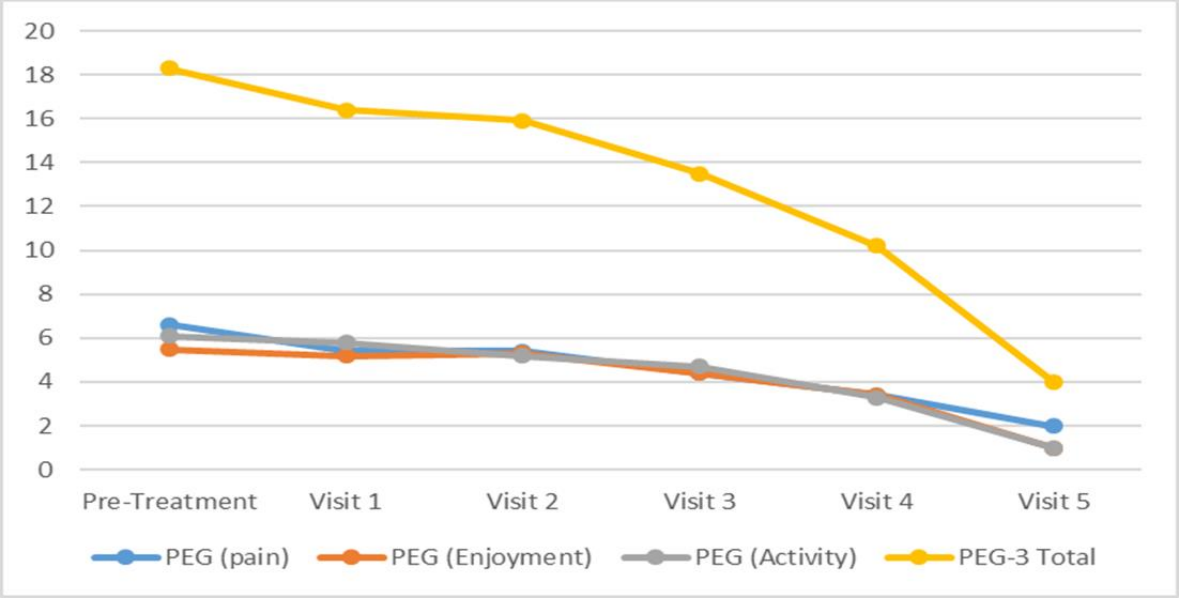
- There are very few outcome differences between these treatments.
- All else being equal, **CBT** may be the best option
  - The effect size in treatment outcome is small
  - CBT outcomes wane in long-term follow-up
- If comorbid depression is a target, then **ACT and CBT** work best

- ***All three treatments demonstrate medium to large effect sizes in most outcomes compared to no treatment at all!***

- Choosing any of these three will be beneficial.

Deciding on Treatment – Uptake and Dose

- There is growing evidence suggesting that non-pharmacological interventions for chronic pain management are dose dependent.



Data from a pilot study of a Brief Cognitive Behavioral Therapy for Chronic Pain (BCBT-CP) in a military Primary Care Clinic (n=33)

PIs: CAPT Jeffrey Goodie, PhD
Don McGeary, PhD

- Thus, the best treatment may be the one that the patient is most likely to stick with.

Uptake – Will it be used?
Satisfaction, Credibility, Acceptability

Wetherell et al., 2011 Herbert et al., 2017 ACT vs. CBT	Loughran et al., 2019 BCBT-CP	Zgierska et al., 2016 MBSR

• Patients find CBT more credible *before treatment*
• Patients were more satisfied with ACT *after treatment*
• Satisfaction with ACT was high *regardless of venue* (VTC vs IP)
	• 71% patients were very satisfied
	• 88% patients found treatment duration "just right"
	• 65% found treatment very helpful
		• Satisfaction for MBSR for pain rated 8/10
		• Usefulness of MBSR for pain rated 7/10
		• Patient Feedback:
		  • *"another tool to deal with pain"*
		  • *"a new and different way of coping"*

What do we know about patient satisfaction?

- Patient satisfaction should always measure:
  - The extent to which patients feel like providers/staff listen and care
  - The extent to which patients feel like care is competent and ethical
    - Ethics of care includes confidentiality
  - The extent to which patients feel like their expectations for care align with those of their provider
  - The extent to which patients feel like their expectations for the visit were met
  - The extent to which patients feel like their care is accessible and affordable

Dose – Will it be used enough? Adherence, Dropout

Herbert et al., 2017 ACT (IP vs VTC)	Zgierska et al., 2016 MBSR	Kerns et al., 2013 CBT (+MI)
• Dropout for ACT in person (IP) was 23% • Dropout for ACT telehealth (VTC) was 46%	• 90% of patients attended at least one session • 67% of patients attended 4+ sessions • Patients completed 267 minutes of practice per week	• Patients complete an average 9 sessions of treatment • 84% of patients receive a minimum dose *in controlled trials* • 78% of patients met their treatment goals • **Adding MI made no difference!**

Uptake and Dose - Discussion

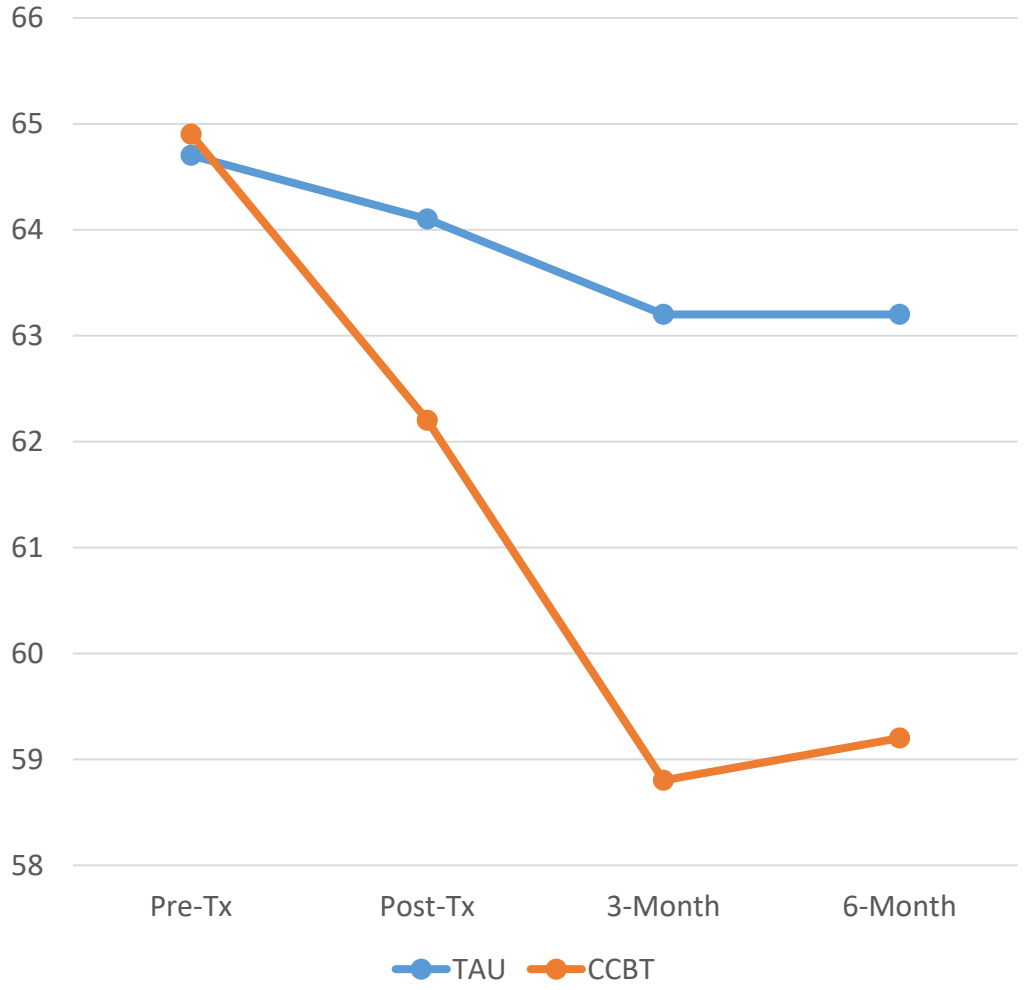
- CBT is generally considered more credible / acceptable ***before treatment***.
- ACT and MBSR are generally more satisfying for patients who ***engage and complete treatment***.
- There are no significant differences in treatment adherence across the three options.

- ***Manualized interventions (regardless of theoretical approach) are more likely to result in better adherence and outcomes.***

A word on manualized interventions: CBT for PTH (CCBT) – PI: Don McGeary, PhD, ABPP

- 8 sessions based on a manualized intervention for migraine
- 30-45 minutes per session
- Treatment delivered by:
  - Licensed Psychologists
  - Unlicensed postdoctoral fellows
  - Unlicensed predoctoral interns
- Modules covered:
  - Biofeedback-assisted stress reduction
  - Behavioral management of headache symptoms
  - Problem-solving and cognitive therapy
  - Activity engagement

Preliminary PTH Outcome Data
*n = 193; no ITT/imputation



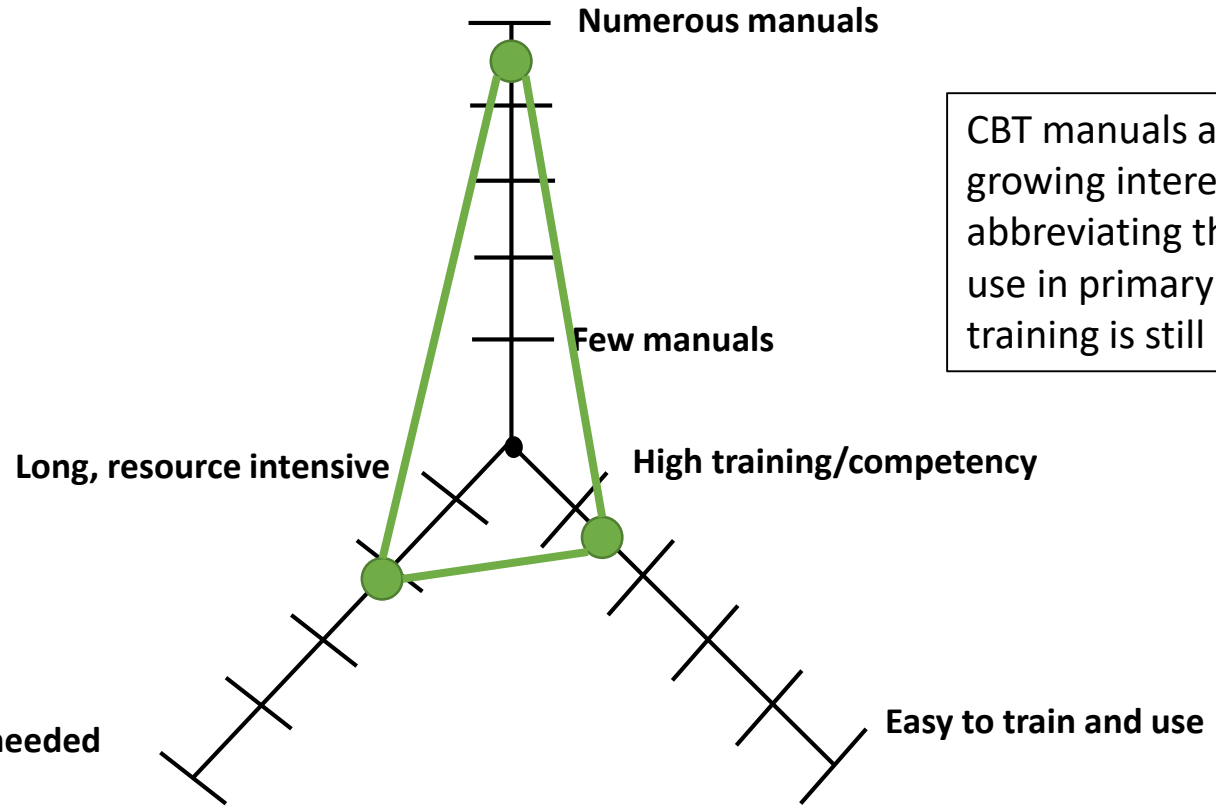
- Clinically significant change in HIT-6 is 2.4 points (Smelt et al., 2014).
- CCBT demonstrated 2+ fold clinically-significant improvement.
- CPT produced a clinically-significant change in PTH disability at Post-Tx and 6-Month follow-up
- TAU is stable over time.

Deciding on Treatment - Availability

- The best outcomes and the strongest adherence rates mean very little if the treatment is not available.
- Some aspects of treatment availability to consider:
  - Manualized options (manualized treatment options)
  - Implementation burden (who can give the treatment, training needed)
  - Resource burden (time, space, cost, referral windows)

Availability – Balancing Factors – CBT

Caveat: many treatments have adapted self-management programs, texts for patients, and online modules that decrease resource burden. These are still being tested, but largely underperform in-person care.



CBT manuals abound. There is growing interest in abbreviating these manuals for use in primary care. Extensive training is still necessary.

From Thorn et al., 2011.
[*Group-based for low-literacy rural patients*]
10 sessions – 27% dropout

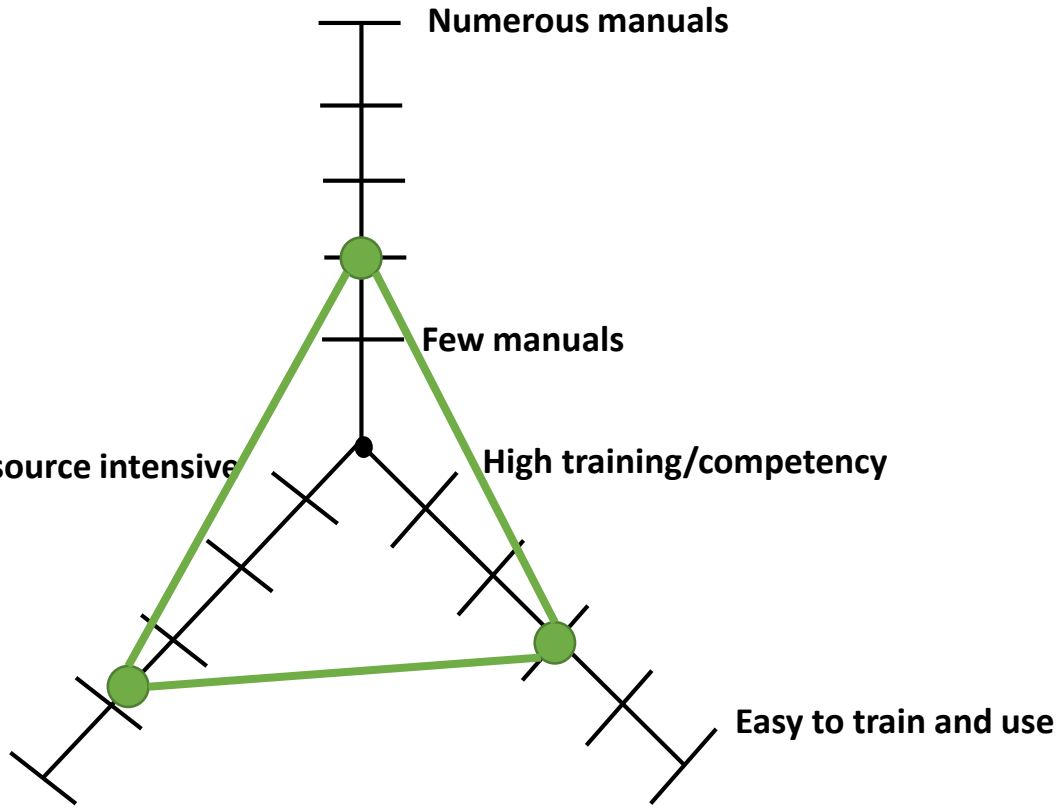
From Thorn et al., 2011.
[*Group-based for low-literacy rural patients*]
Ph.D. Psychologist
Read 2 books
15 hours of hands-on training
15 hours of didactic training

Thorn BE, Day MA, Burns J, Kahujada MC, Gaskins SW… Cabbil C et al. *Pain*. 2011;152:2710-2720

Availability – Balancing Factors – ACT

Caveat: ACT is quickly evolving and data supporting its use are likely to strengthen over time. There is promising data supporting applicability of ACT for comorbid OUD.

From McCracken et al., 2013.
[*brief Group-based ACT*]
4 sessions over 2 weeks
27% dropout from full tx
10% dropout from any tx



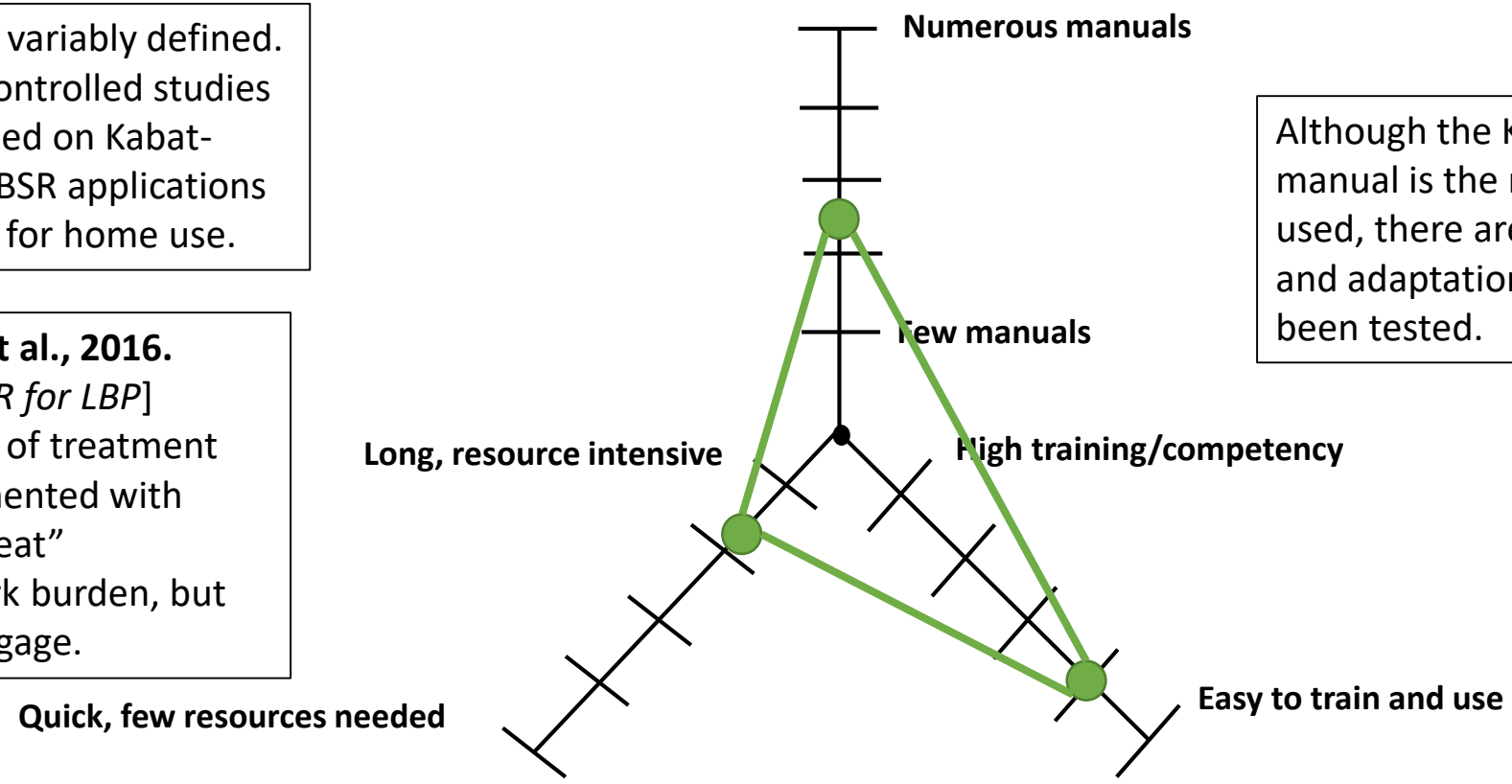
From McCracken et al., 2013.
[*brief Group-based ACT*]
ACT is process focused, emphasizing skills in fostering cognitive flexibility.
Train to skill competency
PhD Psychologist

McCracken LM, Sato A, Taylor GJ. *J Pain*. 2013;14:1398-1406.

Availability – Balancing Factors – MBSR

Caveat: MBSR is variably defined. The most well-controlled studies of MBSR are based on Kabat-Zinn's model. MBSR applications are proliferating for home use.

From Turner et al., 2016.
[*adapted MBSR for LBP*]
10 to 60 hours of treatment
Often supplemented with intensive "retreat"
High homework burden, but patients do engage.



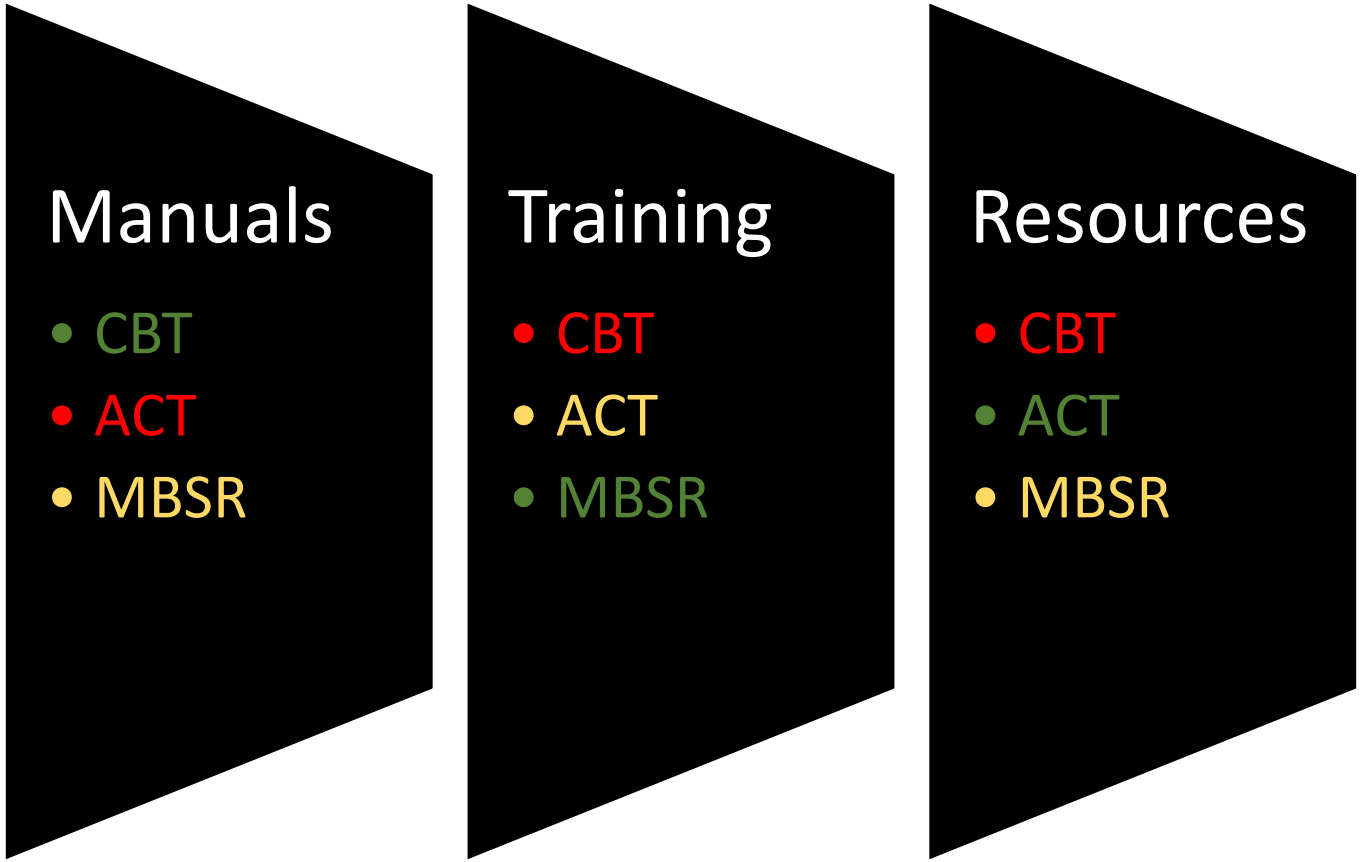
Although the Kabat-Zinn manual is the most widely used, there are other options and adaptations that have been tested.

Formal training is available through UCSD Center for Mindfulness, UMass, but many don't get formally trained.
Any trained provider

Turner JA, Anderson ML, Balderson BH, Cook AJ, Sherman KJ, Cherkin DC. *Pain*. 2016;157:2434-2444.

Availability - Discussion

- The treatments diverge based on availability



How to Decide?

- ***Any*** of these three treatments will benefit your patients.
- Mechanisms and outcomes are mostly equivalent (or at least ***non-inferior***).
- Know your resources – see ***what is available*** locally or through referral.
- If you're interested in training your staff, there are many options (though ***options are limited for MBSR and ACT right now***).
- All these treatments are being adapted into ***web-based interventions*** and evidence is growing.
- There are excellent ***books for your patients*** for each of these.

Questions?

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