



**Do As I Say!!**  
**Facilitating Treatment Adherence in Pain Medicine**

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**Disclosure**

- None



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**Learning Objectives**

- Describe three primary barriers to improving adherence in pain management
- Explain the difference between adherence and compliance



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### Introduction WHO Take Home Messages

- In 2003, the World Health Organization published the document, "Adherence to Long-term Therapies: Evidence for Action"
- "Poor adherence to treatment of chronic disease is a worldwide problem of striking magnitude"
- "The impact of poor adherence grows as the burden of chronic disease grows worldwide"
- "The consequences of poor adherence to long-term therapies are poor health outcomes and increased healthcare costs"
- "Improving adherence also enhances patient safety"
- "Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments".
- "Patients need to be supported, not blamed"
- "Health professionals need to be trained in adherence."
- Sabaté E, ed. Adherence to Long-Term Therapies: Evidence for Action. Geneva, Switzerland: World Health Organization, 2003




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### The Evolution of Adherence

- Hippocrates cautioned that "keep a watch also on the faults of the patients, which often make them lie about the taking of things prescribed. For through not taking disagreeable drinks, purgative or other, they sometimes die."
- In modern times, healthcare providers continue to be concerned with issues of patient compliance and non-adherence to treatment regimens but often feel ill equipped to influence it.
- Surveys of healthcare providers indicate that one of the most distressing features of clinical practices is that of patient non-adherence

1. Hippocrates-Decorum. [http://www.loebclassics.com/view/hippocrates\\_cos-decorum/1923/pb\\_LCL148.271.xml](http://www.loebclassics.com/view/hippocrates_cos-decorum/1923/pb_LCL148.271.xml). Accessed 5-1-2016




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"In an area where efficacious therapies exist or are being developed at a rapid rate, it is truly discouraging that one half of patients for whom appropriate therapy is prescribed fail to receive full benefit through inadequate adherence to treatment"

R.B. Haynes

Haynes RB. Interventions for helping patients to follow prescriptions for medications. Cochrane Database of Systematic Reviews, 2001;1.




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**What is the difference between compliance and adherence?**

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**Compliance**

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- Refers to the extent that patients are obedient to the instructions, proscriptioin, and prescriptions of healthcare providers



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**Adherence**

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- Implies a more active, voluntary, collaborative involvement of the patient in a mutually acceptable course of behavior to produce a desired preventative or therapeutic result
- The World Health Organization defines adherence as "The extent to which a person's behavior taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a healthcare provider."

- Sabaté E, ed. Adherence to Long-Term Therapies: Evidence for Action. Geneva, Switzerland: World Health Organization, 2003



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**Patient Perspective**

- In the early history of medicine, non-adherence may have been a means to survive
  - Chapin in 1915 commented on the state of medical care of the time "we might not be surprised that people do not believe all we say, and often fail to take us seriously. If their memories were better, they would trust us even less"
  - The incidence of iatrogenic effects and the frequency of adverse drug effects are of considerable magnitude
  - There is increasing awareness that HCPs are sometimes wrong and their instructions are best ignored
  - Adherence must be balanced with the patients objectives of quality of life, adjustment, and the patient's own efforts to cope with illness
- Chapin CV. Truth in publicity. Am J Public Health. 1915 Jun;5(6):493-502.




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**Patient Perspective**

- Considerations of adherence must be aligned with and tied to the patient's treatment goals and objectives, self-view and perceptions of quality of life, adjustment to an acute or chronic condition, ability to cope with illness over time, social support systems, and ability to make autonomous decisions.
- Adherence depends on a strong clinician-patient therapeutic alliance and developing a trusting relationship that is based on collaboration.




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**Incidence of non-adherence**

- "The desire to take medicine, is perhaps the greatest feature that distinguishes man from animals"

Sir William Osler

- In direct contradistinction, the incidence of non-adherence to medical prescriptive advice is staggering.




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### Incidence of Non-Adherence

- 50% to 60% of patients fail to keep appointments for preventative programs and 30 to 40% fail to keep appointments for curative regimens
- Only 7% of diabetics adhere to all steps considered necessary for good control
- 20% to 60% of patients will discontinue Rx medications prior to being instructed to do so
- 19% to 74% will not follow medication instructions
- 25% to 60% will make errors in self administration and 35% of such errors will endanger the patient<sup>1</sup>
- Over 50% of patients with chronic non-cancer pain are non-adherent with their prescribed exercise treatment<sup>2</sup> and 8% to 62% of patients with chronic non-cancer pain are non-adherent to psychopharmacological treatment.<sup>3,4</sup>
- 1. Nieuwlaet R, Wilczynski N, Navarro T, Hobson N, Jeffery R, Keepanasseril A, Agoritsas T, Mistry N, Iorio A, Jack S, Sivaramalingam B, Iserman E, Mustafa RA, Jedraszewski D, Cotal C, Haynes RB. Interventions for enhancing medication adherence. Cochrane Database Syst Rev. 2014;11: CD000011
- 2. Alexandre NM, Nordin M, Hiebert R, Campello M. Predictors of compliance with short-term treatment among patients with back pain. Rev Panam Salud Publica. 2002 Aug;12(2):86-94.
- 3. Sewitch MJ, Dobkin PL, Bernatsky S, Baron M, Starr M, Cohen M, Fitzcharles MA. Medication non-adherence in women with fibromyalgia. Rheumatology (Oxford). 2004 May;43(5):648-54.
- 4. Timmerman L, Stronks DL, Groeneweg JG, Huygen FJ. Prevalence and determinants of medication non-adherence in chronic pain patients: a systematic review. Acta Anaesthesiol Scand. 2016 Apr;60(4):416-31.




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### Incidence of Non-Adherence

- General rule of thumb is that one third of all patients always seem to take their medication, one-third sometimes adhere, and the remaining third almost never follow the treatment regimen (Podell)
- The level of treatment non-adherence varies depending on the form of treatment, with highest rates of adherence occurring for treatment with direct medication, high levels of supervision and monitoring (ex. 92% adherence rate for chemotherapy)




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### Adherence Behaviors

- Entering into and continuing a treatment program
- Keeping referral and follow-up appointments
- Correct consumption of prescribed medication
- Following appropriate lifestyle changes
- Correct performance of home based therapeutic regimens
- Avoidance of health risk behaviors




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**Forms of Non-Adherence**

- Drug errors
- Behavioral



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**Forms of Treatment Non-Adherence Drug Errors**

- Failure to fill the Rx
- Filling the Rx but failing to take the medication or taking only a portion of it
- Not following the frequency or dose instructions
- Taking medication not prescribed



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**Forms of Non-Adherence: Behavioral**

- Not taking recommended preventive measures
- Incomplete implementation of instructions
- Sabotaging of treatment regimen
- Creating one's own treatment regimens to fill the gaps of what one believes one's HCP is overlooking
- Substituting one's own program for the recommended treatment regimens



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### Assessment of Adherence

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- Interview
- Self-report
- Self-monitoring
- Pill counts of unused tablets
- Tallies of refill of medications
- Behavioral measures



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### Assessment of Adherence (cont'd)

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- Clinical rating
- Marked-sign techniques (inactive or false markers imbedded in treatment package)
- Biochemical indicators
- Record of broken appointments
- Clinical outcome improvement or stability in medical condition or symptoms



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### Factors Affecting Adherence

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- Patient characteristics
  - Treatment regimen characteristics
  - Features of the disease
  - Relationship between HCP and patient
  - Clinical setting
- Meichenbaum D, Turk DC. Facilitating treatment adherence: A practitioner's guide. 1987. Plenum Press, New York, New York



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**PATIENT VARIABLES**

**Reasons Patients May Decide Not to Adhere**

- Uncertainty about the efficacy of the treatment
- Prior experience with illness
- Expectations about symptoms, illness, HCPs and treatment
- Past experiences with HCPs
- Concerns about side effects
- Inconvenience outweighs potential benefits
- Embarrassment about being in treatment
- Pessimism
- Impatience with level of progress
- Fatalism
- Competing environmental demands deemed more salient
- Role of the patient's beliefs
- Meichenbaum D, Turk DC. Facilitating treatment adherence: A practitioner's guide. 1987. Plenum Press, New York, New York




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**Treatment Variables**

- Complexity of the therapeutic regimen: the more complex the demands of the treatment, the poorer the rates of adherence
- Intrusiveness
- Duration of Treatment: adherence rates deteriorate over time unless behaviors become automatic and habitual
- Knowledge of Illness: minimal association between the amount of information patients possess about their illness and adherence
- Meichenbaum D, Turk DC. Facilitating treatment adherence: A practitioner's guide. 1987. Plenum Press, New York, New York




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**Illness and Symptom Variables**

- If an illness is easily recognizable and has unpleasant symptoms that are relieved by following HCPs advice adherence is more likely
- Adherence is lowest when the treatment recommendations are prophylactic
  
- Meichenbaum D, Turk DC. Facilitating treatment adherence: A practitioner's guide. 1987. Plenum Press, New York, New York




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### Relationship Variables

- Perceived approachability and friendliness of HCP
- The degree to which patient participates and understands treatment regimen
- The amount of HCP supervision
- The patients' feelings that she or he is held in esteem and treated with respect
- The degree to which the HCP establishes trust

Mascherbaum D, Turk DC. Facilitating treatment adherence: A practitioner's guide. 1987. Plenum Press, New York, New York.



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### Organizational/Structural Variables

- Nature of the referral process
- Continuity of care
- Personalized care
- Scheduling of appointments
- Length of referral time (<1 week enhances adherence)
- Length of waiting time (<1 hour enhances adherence)
- On-site treatment
- Increased patient supervision
- Good links between IP and OP services
- Staff's positive attitude and enthusiasm toward treatment and adherence to it

Mascherbaum D, Turk DC. Facilitating treatment adherence: A practitioner's guide. 1987. Plenum Press, New York, New York.



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### Most Important Variables Leading to Non-Adherence

- Patient does not know what to do
- Patient does not have the skills or resources to carry out the treatment regimen
- Patient does not believe that he/she has the ability to carry out the treatment regimen
- Patient does not believe that carrying out the treatment regimen will make a difference
- Treatment regimen is too demanding and the patient does not believe the potential benefits of adhering will outweigh the cost



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**Most Important Variables Leading to Non-Adherence (cont'd)**

- Adherence is associated with aversive or non-reinforcing events or sensations
- Quality of relationship between patient and HCP is poor
- No continuity of care
- Clinic is not mobilized toward facilitating adherence



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**Enhancing the Patient and HCP Relationship**

"The patient, though conscious that his condition is perilous, may recover his health simply through his contentment with the goodness of the physician."



Hippocrates



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**Enhancing the Patient and HCP Relationship (cont'd)**

- The relationship between the patient and the physician is critical in facilitating adherence
- Few medical schools or residency programs pay much attention to the importance of communications
- How physicians relate to their patients is critical in affecting the adherence process



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### Types of HCP-Patient Relationships

- There are two prevalent types of healthcare provider-patient relationships: that of an active physician, passive patient and that of co-mutually active physician and patient.
- A number of studies have demonstrated that when patients feel that they are actively involved in the decision making around their healthcare issues and treatments, that this greatly increases adherence.



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### Non Provider Enhancement of Adherence

- Treatment contracts: A recent systematic review analyzed the impact of written treatment contracts on adherence involving several clinical areas. The results suggest that the potency of contracts at influencing adherence is weak at best.
- Peer delivered interventions: a review of the results 11 studies evaluated the effect of peer-delivered interventions on recommended treatment adherence in several chronic disease conditions. The authors concluded that peer-to-peer facilitated interventions have an overall positive impact on adherence to medication use and other recommended therapeutic modalities, including exercise
- Bosch-Capblanch X, Abba K, Prictor M, Garner P. Contracts between patients and healthcare practitioners for improving patients' adherence to treatment, prevention and health promotion activities. The Cochrane Collaboration, 2009, John Wiley & Sons, Ltd.
- Enriquez M, Conn VS. Peers as facilitators of medication adherence interventions: A review. J Prim Care Community Health, 2015



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### Adherence in Pharmacotherapy

- Comprehensive assessment with a thorough history (risk assessment tools, UDT, PDMP, record review, PE)
- Mandatory opioid agreement
- Regular monitoring (risk assessment tools, UDT, PDMP)



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**Interventions to Improve Adherence to Rx**

- Behavioral and psychological interventions
- Electronic monitoring




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**Behavioral and Psychological Interventions**

- Jamison and colleagues conducted a RCT examining the benefits of close monitoring and cognitive-behavioral interventions in order to improve opioid therapy compliance among "high-risk" patients.
- Close monitoring involved monthly urine screens as well as the use of opioid compliance checklists.
- Cognitive-behavioral interventions were designed to educate patients on opioid misuse and substance use problems, to enhance and maintain patients' motivation to be compliant with their prescribed opioid therapy regimen, to enhance patients' problem-solving skills, and to enhance patients' coping skills in order to deal with cravings and urges to misuse opioids.
- Results revealed that compliance training paired with careful monitoring of high-risk patients reduced the rates of prescription opioid misuse. In this trial, opioid compliance rates among high-risk patients were improved to that of low-risk patients.
- Jamison RN, Ross EL, Michna E, Chen LQ, Holcomb C, Wasan AD. Substance misuse treatment for high-risk chronic pain patients on opioid therapy: a randomized trial. Pain. 150:390-400, 2010




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**Behavioral and Psychological Interventions (cont'd)**

- Garland et al. conducted a RCT examining the effectiveness of mindfulness-based interventions for improving adherence among patients prescribed long-term opioid therapy.
- The intervention, Mindfulness-Oriented Recovery Enhancement (MORE) was a novel multimodal intervention that integrates mindfulness training, cognitive reappraisal skills, and emotion regulation training.
- Patients were randomly assigned to either MORE or a support group.
- Results from the RCT indicated that patients assigned to the 8-week MORE treatment condition reported significantly less opioid craving and opioid misuse behaviors at the end of the treatment than patients from the support group.
- Garland EL, Manusov EG, Froeliger B, Kelly A, Williams JM, Howard MO. Mindfulness-oriented recovery enhancement for chronic pain and prescription opioid misuse: Results from an early-stage randomized controlled trial. Journal of Consulting and Clinical Psychology. 82:448-459, 2014




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### Electronic Monitoring

- The Internet and mobile technologies, offer significant, novel opportunities to improve clinical outcomes and adherence to pharmacotherapy.
- There has been rapid growth of mobile health (mHealth) and electronic health (eHealth) applications in pain assessment and management
- The Global Observatory for eHealth (GOe) of the WHO defines mHealth as "medical and public health practice supported by mobile/wireless devices, such as mobile phones, patient monitoring devices, tablets, personal digital assistants (PDAs), and wireless applications such as text messaging, downloadable programs (i.e., apps), movement monitors, and social media
- Martel, M; Jamison R. Adherence In Pharmacotherapy: Maximizing Benefit and Minimizing Risk. In Cheatele M and Fine P (Eds). Facilitating Treatment Adherence in Pain Medicine. Oxford University Press, 2017




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### Weight Loss and Physical Activity




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### Adherence to Weight Loss and Physical Activity

- Weight management and regular physical activity each contribute to health generally and have specific benefits for the individual with pain.
- Adults who maintain a healthy weight and remain active and physically fit are less likely to develop chronic pain or if they suffer from chronic pain it may be more manageable.
- For patients with chronic pain, those who manage their weight and maintain both daily activity levels and regular exercise are more likely to have favorable pain intensity, pain disability, and quality of life outcomes compared to those who have heavier weights and/or are inactive
- Janke EA; Goodrich D. Adherence to Weight Loss and Physical Activity. In Cheatele M and Fine P (Eds). Facilitating Treatment Adherence in Pain Medicine. Oxford University Press, 2017




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### Weight and Chronic Pain

- Chronic pain and obesity are increasingly recognized as a common and troubling co-morbidity.
- Individuals with persistent pain and are overweight or obese are likely to experience increased disability, poorer psychosocial function, reduced quality of life, attenuated treatment responsiveness, and increased healthcare utilization and cost.
- Increased weight is a risk factor for poor pain outcomes and several pain-related conditions, making adherence to weight loss an important treatment target with high relevance to pain as well as overall health.



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### BMI and Pain Conditions

- In one community-based twin study, compared to normal weight twins, those with a BMI  $\geq 25$  were more likely to report physician-diagnosed low back pain, tension-type or migraine headache, fibromyalgia, abdominal pain, and chronic widespread pain.
- Longitudinal studies and meta-analytic designs have demonstrated that the presence of being overweight and obese increases the risk for back pain over time, and similar findings have been demonstrated for osteoarthritis of the knee, hip, and hand.
- Rates of obesity in fibromyalgia have been shown to be high, ranging from 47% to 73%, and overweight individuals may be at 60% to 80% greater risk for developing fibromyalgia with increasing weight associated with rising symptom severity and disability.



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### Patient Motivation and Adherence

- A cornerstone of adherence is patient motivation, without it successful engagement with any self-management behaviors—including those associated with weight loss and physical activity—remains unlikely.
- For self-management to be effective, patients must identify, engage, evaluate, and maintain a number of behavior changes over time.
- Motivation is not a fixed state or a stable trait; rather, it is fluid and open to influence.
- Motivational models describe the relationship between important constructs in motivation and adherence—self-efficacy, perceived importance, and readiness to change



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**Motivation/Readiness for Change/Stages of Change**

- It is critical in devising any type of treatment intervention, whether it be pharmacotherapy, rehabilitation or various psychological strategies to improve pain coping, that one assesses the patient's motivation to change.
- Motivational stages for behavior change include: precontemplative, contemplative, preparation, action and maintenance
- Assess the patient's motivational system and level and begin edging the patient from precontemplative to contemplative to preparing action and maintenance.
- This typically involves primarily education and awareness about unhealthy vs. healthy behaviors for someone in the precontemplative stage, engendering a patient's self-empowerment, which is typically used in the contemplation stage, and then enacting specific behavior change strategies during the action/maintenance stage.




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**Operant Conditioning**

- Weight control and sustained engagement in physical activity involve a number of behavioral decisions that take place over a sustained period of time.
- Operant conditioning describes the relationship between behavior and the environment—rewards increase the likelihood of a behavior reoccurring, negative consequences (punishments) decrease the likelihood. Many of the decisions that influence weight and engagement in activity do not have an immediate, observable and rewarding outcome.




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- Eating is an extremely rewarding activity for most individuals, particularly when it involves the consumption of palatable, high calorie food.
- For an individual attempting weight loss, the momentary reward they receive from eating a high-calorie food is often inconsistent with their eventual goal of weight loss.
- For those attempting weight loss, immediate consequences (such as the reinforcing power of food) have more influence than the delayed negative consequence of weight gain.
- Behaviors are most easily established when they are rewarded immediately and often, once established are best maintained with inconsistent, infrequent rewards.
- What is needed for success is the ability to delay gratification and manage temptations. To date, treatments that encourage such decision-making and provide alternative approaches to temptation management are being developed




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### Examples of Interventions

- Contingency contracts, where the individual agrees to receive certain rewards if they achieve their weight loss or physical activity goal, or abide by predetermined penalties if they fail to reach their goal, have some empirical support.
- Group insurance plans often offer rewards as part of their wellness programs, and financial incentives have been used successfully to help motivate behaviors associated with weight management including dietary change and physical activity.




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### Self-Efficacy

- Self-efficacy is an important mechanism responsible for long-term, successful adherence to weight loss and physical activity.
- Self-efficacy is a belief in one's ability to perform a behavior, or set of behaviors, to achieve a particular goal.
- Self-efficacy is frequently cited as a critical psychological mechanism that predicts successful weight management and increased physical activity, and is also noted in the pain management literature as important to successful pain management outcomes.
- Improved self-efficacy during an intervention and maintained post-intervention has been shown to be associated with weight loss and physical activity
- Treatment approaches are increasingly including elements that directly target self-efficacy to improve behavioral adherence




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### Fear Avoidance Model of Pain

- Pain catastrophizing, anxiety sensitivity, and pain related fear are commonly identified as primary concepts in the fear avoidance model of pain
- Catastrophic misinterpretations of pain can cause an excessive fear of pain and fear of activities that may cause pain (kinesiophobia). These fears eventually may generalize to a fear of physical movement which leads to disuse, disability, and more pain.
- Anxiety sensitivity – a generalized fear of anxiety-related sensations due to the belief that they may have harmful consequences – may contribute to pain either by magnifying fear or through its effect on pain catastrophizing
- Individuals who demonstrate elevated anxiety sensitivity and catastrophizing about their pain may engage in a variety of avoidance coping behaviors. These may include eating during emotional stress and avoidance of physical activity that will contribute to weight gain, increased pain and poor health.




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### Social Networks

- Social norms influence our health behaviors, dictating not only which health behavior goals we choose to pursue but also our adherence to these goals
- Individuals are far less likely to be adherent to a plan to engage in weight loss or physical activity if individuals in their social network do not provide a context that supports these behaviors.
- Obesity interventions are increasingly targeting social-relational constructs in intervention design, most commonly incorporating social support into treatment protocols which also is applicable to improving physical activity and pain management



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### Motivational Interviewing

- Motivational interviewing (MI) is a collaborative, patient-centered counseling approach that includes strategies likely to facilitate a working alliance.
- MI is designed to promote motivation in individuals who are ambivalent about changing a behavior. MI is associated with improved pain adherence and weight management adherence and outcomes
- MI emphasizes two active components of HCPs relationships with patients: (1) a relational component focused on empathy, interpersonal process, and understanding of the patient's perspective and (2) a technical component that involves promoting discrepancy and reinforcement of change talk.
- A goal of MI is to help patients find their own solutions to problems and foster internal motivation to change.
- MI consistent behaviors could include reinforcement and praise ("That's great that you are trying to stop drinking soda!"), collaboration ("What can I do to help you meet your daily walking goal?"), and statements that help evoke change talk from the patient ("What might be some good things that come from being more physically active?").



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### Goal Setting and Behavior Change

- Realistic goal setting can be a very powerful motivator in changing behaviors and maintaining the new behavior over time
- Goals should be specific, realistic and achievable, thus engendering a sense of self-efficacy and competence, and must be tied to meaningful rewards.
- Goal setting should be a dynamic, not a static process, as the patient evolves through a treatment program.



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### Behavioral Contracting

- Another strategy that has been employed to improve adherence to a treatment regimen is developing a behavioral contract.
- Behavioral contracting involves a process specifically discussing well-defined behaviors that can lead to enhanced health, such as nutritional changes, weight loss, exercise, use of stress reduction techniques, and that by fulfilling the contract this also leads to tangible rewards, both intrinsic and extrinsic.



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### CBT/ACT and Adherence



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### CBT/ACT, Depression, and Adherence

- There is robust literature that supports that cognitive behavioral therapy is an effective treatment for depression.
- A significant proportion of patients with chronic pain suffer from depression and depression is a primary factor that affects adherence.
- There is a cycle of pain leading to depression leading to poor adherence, which contributes to continued pain and suffering
- Patients provided with access to cognitive behavioral therapy and other psychological therapies (ACT, mindfulness-based stress reduction, etc) could break this cycle, thus improving adherence to other therapeutic interventions for chronic pain



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### Cognitive Behavioral Therapy

- CBT focuses on maladaptive thought patterns (catastrophizing) and behaviors (kinesiophobia) that occur frequently in patients with CNCP
- The objective of CBT is to guide the patient in recognizing and reconceptualizing his/her personal view of pain, identifying their role in the process of healing and promoting the patient being proactive rather than passive, and competent rather than incompetent
- CBT include specific skill acquisition (relaxation therapy, stress management, cognitive restructuring) followed by skill consolidation and rehearsal, and relapse training (Turk, Flor, 2006)




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### Biological Substrates of CBT on Pain

- 16 high catastrophizing patients with fibromyalgia were randomized into a group that received a 4 week course of CBT or a control group that received only fibromyalgia education material.
- Resting state fMRI evaluated functional connectivity between key pain processing brain regions at baseline and post-treatment.



Lazaridou, A., et al. Effects of Cognitive-Behavioral Therapy (CBT) on Brain Connectivity Supporting Catastrophizing in Fibromyalgia. *Clin J Pain*, 2017, 33(3); p. 215-221.




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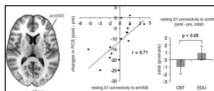
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- Results revealed that catastrophizing correlated with increased resting state functional connectivity between S1 and anterior insula.
- The CBT group demonstrated a larger reduction in both pain and catastrophizing as compared to the control group at the 6-month follow-up and reduced resting state connectivity between S1 and anterior/medial insula at post-treatment and these changes were associated with concurrent treatment-related reduction in catastrophizing.
- The authors concluded that CBT via reducing catastrophizing helps normalize pain-related brain responses




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### Efficacy/Effectiveness

- Objective: To evaluate the effectiveness of psychological therapies for chronic pain (excluding headache) in adults, compared with treatment as usual, waiting list control, or placebo control, for pain, disability, mood and catastrophic thinking
- Data collection and analysis: Forty-two studies met our criteria and 35 (4788 participants) provided data. Two authors rated all studies.
- Main Results: CBT is effective in altering mood and catastrophising outcomes, when compared with treatment as usual/waiting list, with evidence that this is maintained at six months.
- Authors Conclusions: CBT is a useful approach to the management of chronic pain.




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### Psychological therapies for the management of chronic pain (excluding headache) in adults

Amanda C de C Williams<sup>1</sup>, Christopher Eccleston<sup>2</sup>, Stephen Marley<sup>3</sup>  
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**Editorial group:** Cochrane Pain, Palliative and Supportive Care Group.  
**Publication status and date:** Edited (no change to title/abstract), published in Issue 2, 2013.  
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**Citation:** Williams ACDC, Eccleston C, Marley S. Psychological therapies for the management of chronic pain (excluding headache) in adults. *Cochrane Database of Systematic Reviews* 2012, Issue 11, Art. No. CD007407. DOI: 10.1002/14651858.CD007407.pub3.




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### CBT (cont'd)

- CBT has been found to be efficacious for a number of chronic pain disorders including:
  - Arthritis (Keefe & Caldwell, 1997)
  - Sickle cell disease (Chen et al, 2004)
  - Chronic low back pain (Lamb et al, 2010; Glombiewski et al, 2010)
  - TMJ (Turner et al, 2006)
  - Lupus (Greco et al, 2004)
  - Pain in breast cancer patients (Tatrow et al, 2006)




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### Acceptance and Commitment Therapy

- Acceptance and commitment therapy (ACT) is a form of CBT that is a directive and experiential type of therapy based on rational frame theory. The goal of ACT is to experience life mindfully and reinforce psychological flexibility.
- The core processes of ACT include:
  - Contact with the present moment
  - Self-as-context
  - Defusion
  - Acceptance
  - Values
  - Committed action
- There are 5 randomized control trials on the use of ACT in chronic pain demonstrating efficacy in improving mood and function.




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Acceptance and values-based action in chronic pain: A three-year follow-up analysis of treatment effectiveness and process

Kevin E. Vowles<sup>a,b,c,d,e,f,g</sup>, Lance M. McCracken<sup>h,i</sup>, Jane Zhao O'Brien<sup>h,i</sup>

<sup>a</sup>Department of Psychological Health Assessment and Cognitive Remediation, University Hospital, Stirling University, Stirling, UK; <sup>b</sup>Department of Psychology, Stirling University, Stirling, UK; <sup>c</sup>Department of Psychology, University of Stirling, Stirling, UK; <sup>d</sup>Department of Psychology, University of Stirling, Stirling, UK; <sup>e</sup>Department of Psychology, University of Stirling, Stirling, UK; <sup>f</sup>Department of Psychology, University of Stirling, Stirling, UK; <sup>g</sup>Department of Psychology, University of Stirling, Stirling, UK; <sup>h</sup>Department of Psychology, University of Stirling, Stirling, UK; <sup>i</sup>Department of Psychology, University of Stirling, Stirling, UK

- 171 subjects with chronic MSK completed a course of ACT
- At a three year f/u 68% of the cohort noted improvement in key outcomes including pain-related anxiety, physical and psychosocial disability and depression




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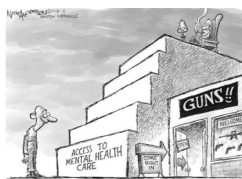
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### Access Issues




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### Barriers to Receiving Cognitive Behavioral Therapy/ ACT

- Pain is typically inadequately treated in primary, secondary and tertiary care settings
- Psychological interventions, in particular, are underutilized
- Factors accounting for underutilization of psychological treatment for pain include:
  - Financial
  - Environmental (lack of transportation or providers in the geographic region)
  - Patient attitude (stigma) associated with receiving psychological care
  - Healthcare system barriers




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### Interventions

- Office-based interventions
  - Antidepressant therapy/pain self-management program
  - Kroenke et al 2009
- E-health
  - Computer-assisted CBT
  - Telemedicine
  - Smartphone apps




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### Computer-Assisted Interventions

**Article**

**Computer-Assisted Delivery of Cognitive-Behavioral Therapy for Addiction: A Randomized Trial of CBT4CBT**

**Kathleen M. Carroll, Ph.D.**  
**Samuel A. Ball, Ph.D.**  
**Steve Martino, Ph.D.**  
**Charfa Nish, M.S.**  
**Theresa A. Babuscio, M.A.**  
**Kathryn F. Nuro, Ph.D.**  
**Melissa A. Gordon, B.A.**  
**Galina A. Portnoy, B.S.**  
**Bruce J. Rounsaville, M.D.**

**Objectives:** This study evaluated the efficacy of a computer-based version of cognitive-behavioral therapy (CBT) for substance dependence.

**Method:** This was a randomized clinical trial in which 77 individuals seeking treatment for substance dependence at an outpatient community setting were randomly assigned to standard treatment or standard treatment with head-to-head, in-person, or computer-based training in CBT4CBT4CBT.

**Results:** Treatment retention and drug availability were comparable across the treatment conditions. Participants exposed to the CBT4CBT condition achieved significantly more abstinence episodes that were negative for any type of drug

and tended to have longer continuous periods of abstinence during treatment. The CBT4CBT program was positively evaluated by participants. In the CBT4CBT condition, individuals who used the program in treatment on most, but not all, occasions had significantly better outcomes and a significant predictor of treatment effectiveness.

**Conclusions:** These data suggest that CBT4CBT is an effective adjunct to standard outpatient treatment for substance dependence and may provide an important means of making CBT an empirically validated treatment, more broadly available.

Am J Psychiatry 2009; 166:987-995




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### Smartphone Apps



Kazdin A. Rebooting Psychotherapy Research and Practice to Reduce the Burden of Mental Illness. *Perspectives on Psychological Science* January 2017 vol 6 no 1 21-37



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### Ten Commandments of Adherence



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### Ten Commandments of Facilitating Adherence

1. Anticipate non-adherence
2. Consider the prescribed self care regimen from the patient's perspective
3. Foster a collaborative relationship based on negotiation
4. Be patient oriented
5. Customize treatment
6. Enlist family support
7. Provide a system continuity and accessibility
8. Utilize other healthcare providers and personnel as well as community resources
9. Repeat everything
10. DON'T GIVE UP!!!!!!!!!!!!!!!



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**Why HCPs will not adhere to the recommendations in this talk**

- The patient should take my advice
- I tried it in the past and it doesn't work with my population
- It's too complicated
- Who has the time?
- You don't get reimbursed for education and prevention
- The system doesn't support adherence counseling
- I'm not a shrink, and I am not trained to do these things




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**Conclusions**

- As long as healthcare professionals treat patients and not diseases
  - As long as they appreciate that they are bound in a reciprocal relationship with their patients
  - As long as they think of collaboration, negotiation, and flexibility in their dealings with their patients in order to achieve mutually desired outcomes
- TREATMENT ADHERENCE WILL IMPROVE*




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**HCP-Patient Relationship**

"It is more important to know what kind of a person has a disease than what kind of disease a person has."

"The good physician treats the disease; the great physician treats the patient who has the disease."

William Osler




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“There is no truth.  
There is only perception.”

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**Gustave Flaubert**

**Pain**week

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