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Online Psychoeducational Therapy for Chronic Pain

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Online Psychoeducational Therapy for Chronic Pain

by

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Project submitted in partial satisfaction of
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Each person whose signature appears below certifies that this doctoral project in his/her opinion is adequate, in scope and quality, as a doctoral project for the degree Doctor of Psychology.

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ABBREVIATIONS

ACT	Acceptance and Commitment Therapy
ACPA	American Chronic Pain Association
BDI	Beck Depression Inventory
CBT	Cognitive Behavioral Therapy
CSV	Comma Separated Values
CSQ	Coping Strategies Questionnaire
FMS	Fibromyalgia Syndrome
POP	Pain Outcomes Profile
PVAQ	Pain Vigilance and Awareness Questionnaire

ABSTRACT

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The pain experience consists of many factors including biological, psychological, social and spiritual that can exacerbate and perpetuate it, often leading to chronic pain. Provision of an online psychoeducational course, inclusive of social networking capabilities, offers remote access to invaluable information for the enhancement of self-efficacy in the treatment of chronic pain. The focus of this doctoral project was the creation of a website that includes pain management lessons comprised of Cognitive Behavioral Therapy, Acceptance and Commitment Therapy, Family Therapy, and Spirituality modules. The website incorporates psychometrics, automated course tracking, and social network components allowing for research reporting, self-paced interactive lessons, and social interaction.

CHAPTER 1

INTRODUCTION

Very few have escaped the feeling of stubbing their toe into a hard object or falling down and scraping their knee as a child. We have all experienced pain in one form or another. If we think about it, it was not just the physical wound itself that we felt, it had an emotional aspect to it that caused an outward reaction like "yelling" or "crying." Pain is defined as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (Lynch, Craig, & Peng, 2011)." This definition highlights that tissue damage is described by the person as a feature of their experience, but it also establishes that it is not necessarily the exclusive cause, which, points out the important roles of the psychosocial components of pain (Craig & Versloot, 2011). Melzak and Wall, 1965, described the pain experience as consisting of many factors including cognitive, affective, behavioral, and motivational components. Pain is associated with distinct areas of the brain but is also affected and interpreted through the cultural, interpersonal, and situational contexts in which it occurs (T. Hadjistavropoulos et al., 2011). This biopsychosocial/spiritual model of pain elaborates on the complexity of the physical, psychological, social, environmental, and spiritual factors that can exacerbate and perpetuate the pain condition (Keefe, Porter, & Labban, 2006; Turk & Theodore, 2011). In order to assist those who struggle with the daily effects of chronic pain, all of the factors must be addressed into a comprehensive plan for success.

CHAPTER 2

LITERATURE REVIEW

At times, painful conditions may persist beyond the usual period of healing. When this occurs for greater than three to six months, the pain is now considered chronic. Prevalence rates for chronic pain have varied over the years due to inconsistent definitions and samples. However, in a 2010 internet based survey that was conducted from mid-December 2008 through mid-February 2009, consisting of 27,035 participants, it indicated that the prevalence of self-reported chronic pain was 30.7% (Johannes, Le, Zhou, Johnston, & Dworkin, 2010). The sample was considered to be representative of the US population on age, race, Hispanic ethnicity, geographic region, employment status, income, and education. Out of all the participants, 9,326 met the study definition of chronic pain, which was pain lasting at least 6 months, and of those 8,206 had pain lasting one year or more. The prevalence rate for females, 34.3%, was higher than males, 26.7%, and increased with age. Analyses of the demographic data indicated that chronic pain prevalence among US adults is related to indicators of poor socioeconomic status, which was significantly correlated with low household income and unemployment (Johannes et al., 2010). Because chronic pain is associated with the poorest health related quality of life, it has major implications not only for the sufferer, but also the family and loved ones. In addition, it affects the workplace due to the loss of productivity and the community by depriving it of active citizens as well as the incremental costs for their care (Turk & Theodore, 2011).

Multiple Domain Approach

In order to enhance the biopsychosocial/ spiritual well-being of those suffering from chronic pain, multiple domains must be addressed including the somatosensory qualities of the experience, the cognitive features, pain behavior, personal history, psychological stressors, and the social context of the person and chronic pain (Jamison & Craig, 2011). The somatosensory qualities of the experience can be best understood through a description of the severity, location and temporal characteristics of the painful experience. Cognitive features have the ability to exacerbate and maintain dysfunctional pain or facilitate coping. Chronic pain behavior may interfere with the activities of daily living or contribute to functional impairment (Jamison & Craig, 2011). The lives of chronic pain sufferers may be associated with significant disruption that varies greatly depending on the person's behavior in response to the pain, the management of their physical and social activities, and the choices they make regarding participation in those activities (McCracken & Samuel, 2007). These activity patterns are not solely a product of the pain but of multiple cognitive, emotional, and social factors affecting the person. Personal history of an individual includes their ethnic and cultural background, family systems, and important life experiences that may influence their capacity to cope with pain (Jamison & Craig, 2011). Psychosocial stressors have been shown to adversely affect coping, which may result in increased health care utilization and directly or indirectly affect painful episodes. In addition, individuals may be experiencing frustration from lack of success with treatment, financial constraints or negative experiences (Jamison & Craig, 2011). Therefore, the improvement of all of these domains has been

the focus of many interdisciplinary and cognitive behavioral treatment approaches (Jamison & Craig, 2011; McCracken & Samuel, 2007).

Several shifts in perspective are necessary for chronic pain sufferers to effectively manage their chronic pain condition. These include acceptance of the chronic pain diagnosis, an understanding of the mind-body connection, and active orientation towards self-management (Dysvik, Kvaløy, Stokkeland, & Natvig, 2010). The complexity of domains affecting chronic pain individuals requires a comprehensive treatment approach, which will include aspects of cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT), family systems therapy and health behavior modification that is delivered in a psychoeducational social context.

CBT: Thoughts and Emotions

Cognitive behavioral therapy (CBT) approaches have been used with chronic pain patients to provide pain management for many years (Carpenter, Stoner, Mundt, & Stoelb, January 2012; Dysvik et al., 2010). CBT utilizes strategies such as cognitive restructuring, meditation, biofeedback, goal setting, pacing, activity scheduling, values clarification and communication skills in conjunction with behavioral modification. These techniques can be used nearly anywhere or anytime and have few, if any, side effects. CBT teaches patients about the relationship between thoughts, mood, and pain and the skills for increasing the awareness of thinking patterns, evaluating thoughts, disputing and replacing thoughts, and cognitive reframing. It also provides information for the use of stress management for assistance with pain, which includes instruction in breathing and relaxation techniques (Carpenter et al., January 2012). CBT has repeatedly

been shown to be more efficacious than waitlist controls of chronic pain patients in decreasing difficulties with pain interference, pain behaviors, mood, and for increasing activity levels and positive coping (Molton, Graham, Stoelb, & Jensen, 2007). One of the most widely cited meta-analysis, Morley and associates 1999, provided analyses of data from 25 randomly controlled trials of CBT for adults with chronic pain (Newton-John & Geddes, 2008). The results indicated that when compared to alternative treatments such as conservative medical management, CBT provided significantly greater improvements in the areas of pain experience, cognitive coping and appraisal and the reduction of the behavioral expression of pain. An additional meta-analysis in 2007 by Hoffman and colleagues provided similar results from 22 studies indicating significant positive benefits for CBT-based treatments for pain (Newton-John & Geddes, 2008).

ACT: Stress, Relaxation, Mindfulness

The chronic development of pain may result in a pain – stress cycle, which may cause a person to become angry and distressed. When placed into a prolonged state of anger and distress, it may result in the development of comorbid psychopathology, such as depression or anxiety. Carr expressed it most succinctly: "The remarkable restorative capacity of the body after common injury... Is turned upside down (and) hyperalgesia, disuse atrophy, contractures, and mobility, fear – avoidance, helplessness, depression, anxiety, catastrophizing, social isolation, and stigmatization are the norm (Lynch et al., 2011)." The influence of stress has been documented to affect the onset and course of clinical pain conditions such as headache, migraine and fibromyalgia (Crettaz et al., 2013). Changes associated with the hypothalamicpituitary-adrenal (HPA) axis, the core

pathway of the human stress system, contribute to the effect on these pain conditions. Causal relationships of cortisol levels to changes in pain sensitivity have been found in recent studies with animals and humans exposed to experimental stressors (Crettaz et al., 2013). Stress reduction and management can be obtained through relaxation and mindfulness based exercises (Cassidy, Atherton, Robertson, Walsh, & Gillett, 2012; Vowles, Sowden, & Ashworth, 2014). Acceptance and Commitment Therapy includes those exercises and can be beneficial in the treatment of chronic pain.

Acceptance and Commitment Therapy (ACT) is based on research and theory on experiential avoidance; the routine avoidance of private experiences (emotions, thoughts, and symptoms including pain) that lead to various disorders ("Acceptance and Commitment Therapy for chronic pain," 2012; Vowles et al., 2014). It also includes the concept of Relational Frame Theory, in that human language influences experience and behavior. ACT targets the relationships with our feared or avoided thoughts, feelings, memories, and physical sensations. Acceptance and mindfulness can be used to instruct patients on how to decrease avoidance, separate thoughts from actions, and to modify behaviors according to clarified life values and goals. When applied to chronic pain, the goal is not physical symptom reduction. Instead, it is the improvement of functioning through the increase of psychological flexibility, while remaining in the midst of chronic pain and other negative experiences ("Acceptance and Commitment Therapy for chronic pain," 2012; McCracken, Vowles, & Eccleston, 2005).

There is substantial research supporting ACT in the treatment of chronic pain conditions ("Acceptance and Commitment Therapy for chronic pain," 2012; Trompetter, Schreurs, Heuts, & Vollenbroek-Hutten, 2014; Vowles et al., 2014). After attending an 8

weeks of ACT group treatment, patients showed improvement on pain interference, depression, and pain-related anxiety (Wetherell et al., 2011). ACT residential or hospital treatment over three to four weeks provided significant improvements in social, emotional, and physical functioning and decreases in healthcare use, which remained after three months (McCracken et al., 2005). Improvements in most of these outcomes were correlated with increases of acceptance (McCracken et al., 2005). Upon completion of a three month intervention that included mindfulness training, greater mindfulness was predictive of lower levels of anxiety, depression, disability, and catastrophizing (Cassidy et al., 2012).

Pacing / Energy Conservation

Of those suffering from chronic pain, 30% of patients with fibromyalgia and 20% with other pain disorders have ceased all activities (Linder, Ekholm, Lundh, & Ekholm, 2009). Vlaeyen and Linton, 2000, and Asmundson and colleagues, 2004, have provided evidence for a useful model of chronic disabling pain that includes fear, avoidance of activity, disuse, and disability (McCracken & Samuel, 2007). Based on data from 276 individuals with chronic pain, those reporting high activity with low avoidance were the most functional group. Activity avoidance was associated with low levels of physical activity, increased physical disability and anxiety (McCracken & Samuel, 2007).

It is important for chronic pain patients to find a balance between activity and rest because most have primarily been at rest, believing that it would help (LeFort, Gray-Donald, Rowat, & Jeans, 1998). However, long term rest causes muscles to become shortened, tight and tense from inactivity. Stamina is also reduced and the heart, bones,

and mental state also suffer. It is important for chronic pain patients to participate in appropriate exercises for maintaining and improving strength, flexibility, and endurance. Regaining strength will take time and pacing activity and rest is suggested to keep pain symptoms under control while accomplishing daily tasks (LeFort et al., 1998).

Pacing is a skill that can assist a person to regularly carry out activities without causing increased pain ("Pacing for Pain and Fatigue," 2008). Pacing allows the person to spend an appropriate amount of time in an activity without pushing beyond their limits. It provides a balance between doing nothing and over-exertion ("Pacing for Pain and Fatigue," 2008). However, pacing performed for the wrong reasons may actually increase avoidance and share its results of increased disability and anxiety (McCracken & Samuel, 2007). Therefore, pacing needs to be done in a way that reduces the influence of pain and promotes better functioning. In a study regarding pain beliefs and activity-related pain, pain patients were able to remain active despite pain by remaining mindful of their body and learning to interpret its signals and to calculate and plan their daily lives accordingly (Damsgård, Dewar, Røe, & Hamran, 2011). They were able to reinterpret the pain signals from a sign of danger to a reminder to moderate their activities. Through experimenting with different activities, the pain patients were able to learn how to gradually become and remain physically active (Damsgård et al., 2011).

Exercise

Chronic pain perception is associated with patients' beliefs, experiences, and actions and central in understanding pain development and management. Patients' often report increased pain during activities of daily living (ADLs) and exercise; however,

staying active is important and exercise is often included within the treatment plan (Damsgård et al., 2011). The fear of pain or reinjury is a deterrent to physical activity and exercise. Pain-related fear has been shown to increase disability in multiple studies and is also implicated in one explanation of how pain transitions from acute to chronic. It is important to address the fear of pain because it has been associated with restricting activity. Study results indicated that fear of pain and movement can be moderated by learning that appropriate activities do not cause further damage to the body and the active participation in an exercise plan builds the ability to manage pain and facilitates trust in their personal experience (Damsgård et al., 2011).

Exercise is an effective treatment strategy to help relieve pain and improve functioning. Aerobic exercise has been shown to help reduce pain, fatigue, depression, and improve overall health through the improvement of oxygen uptake (Daenen, Varkey, Kellmann, & Nijs, 2015). Exercise goals also include optimizing participation in home, social, and work activities. As physical fitness improves, activities of daily living can be performed with less exertion and may also decrease the likelihood of increasing pain symptoms. Additionally, optimizing exercise and recovery assists in the avoidance of the detrimental effects of stress related to exercising (Daenen et al., 2015).

Sleep

Sleep is required for survival and assists in homeostasis and the optimization of physiologic systems within the body. Therefore, chronic impairments in sleep can have negative impacts on health. Effective pain management is compromised by inadequate sleep, which is a frequent complaint of those suffering from chronic pain (Finan, Goodin,

& Smith, 2013). Ohayon (2005) found that 23% of a self-reported chronic pain sample also reported sleep problems (Ashworth, Davidson, & Espie, 2010). Several other studies have reported an even higher prevalence of poor sleep, between 64% and 88%, among pain patients (e.g., Smith, Perlis, Carmody, Smith, & Giles, 2001; Wilson, Eriksson, D'Eon, Mikail, & Emery, 2002 as cited in Ashworth et al., 2010). Of those who suffer from insomnia, 50% also suffer from chronic pain (Finan et al., 2013). Ashworth and colleagues, 2010, found that poor sleepers with chronic pain reported decreased functioning on measures of pain, depression, pain-related disability and anxiety when compared to good sleepers. Poor sleepers also had higher levels of dysfunctional beliefs about sleep (Ashworth et al., 2010). Sleep impairments have been found to reliably predict new incidents and exacerbations of chronic pain (Finan et al., 2013). Additionally, microlongitudinal studies support the idea that impaired sleep is a stronger, more reliable predictor of pain than pain is of impaired sleep. More recent experiments suggest that inadequate sleep may impair key processes that contribute to the development and maintenance of chronic pain (Finan et al., 2013).

Relationships

Family systems theory views the family as an interrelated group of people that derive meaning and existence through interactions of each other and those around them and its focus is on patterns that develop within the family in order to diffuse anxiety (Brown, 1999). Anxiety within the family is the generated perception of either too much closeness or two great a distance in a relationship. The degree of anxiety in any single-family will be determined by the current level of external stress and generational

sensitivities to particular themes. A state of chronic anxiety may be set in place when family members do not have the skills to think through responses to these relationship dilemmas, but instead react anxiously (Brown, 1999). Specifically, chronic pain impacts the person with pain and their family members in multiple ways that include the validation of pain, coping with the pain, physical and emotional dependence, role changes, financial strains, loss of power, fear of the future, and social and recreational changes (Lewandowski, Morris, Draucker, & Risko, 2007; West, Usher, Foster, & Stewart, 2012). The family should be encouraged to engage in direct and open communication about the pain and related problems, as well as how they deal with the challenges it brings (Hadjistavropoulos, Williams, & Craig, 2011). The negative consequences of personal stress may be buffered by the perception of social support, which includes the family system (Kerns, Rosenberg, & Otis, 2002). Evidence suggests an inverse relationship between spousal support for pain behaviors and depression. Research also indicates that cancer patients' partners report significantly higher levels of emotional distress when the patient is experiencing pain versus those who are pain free (Keefe et al., 2006). In addition, up to 83% of spouses report significant depressive symptoms and it seems to be influenced by how the patient copes with the pain experience (Lewandowski et al., 2007). Spouses reported that the uncertainty of the pain condition leads them to feelings of hopelessness and helplessness by the struggle to understand the pain and fear of the future that arises. Pain relevant social support may also protect against depression in pain patients struggling with self-appraised problem-solving deficits (Kerns et al., 2002). Perceived social support has also led to reduced negative mood and significant reduction in pain and its effects in reflex sympathetic

dystrophy (RSD) patients (Feldman, Downey, & Schaffer-Neitz, 1999). In sum, chronic pain perception affects and is affected by family and social environment and therefore an integral part of treatment.

Spirituality

Our brain has a natural tendency to seek a reason for everything that occurs, which drives us to make meaning out of the information we received from ourselves and our environment (Lysne & Wachholtz, 2011). Two approaches of meaning making that affect a person's ability to endure, deal with, and accept pain include religion and spirituality. The biopsychosocial-spiritual model includes a person's drive towards meaning making and also includes biological factors, psychological health, and social relationships (Lysne & Wachholtz, 2011). Pargament's definition of religion and spirituality are the most widely used in the research literature to define these two terms. Pargament defines spirituality as "has to do with however people think, feel, act, or interrelate in their efforts to find, conserve, and if necessary, transform the sacred in their lives", and religion as "a search for significance through the sacred (Sperry & Shafranske, 2005)." The meaning assigned to any event profoundly affects the body's physical and emotional functioning (Lysne & Wachholtz, 2011).

Religion and spirituality have substantial effects on a person's beliefs, coping strategies, and approaches to pain management (Büssing et al., 2009). There have been many recent studies that have examined the connection between spirituality and religiosity, health, quality of life, and the potential to assist with coping, healing, or the prevention of disease. According to Büssing and colleagues' review of these studies,

religious involvement is related to improved coping, better mental and physical health, and improved outcomes. Chronic pain patients were reported to use religious/spiritual forms of coping, such as prayer and seeking spiritual support. Positive religious coping strategies were associated with positive mood, increased wellbeing, and less reported pain in cancer patients (Büssing et al., 2009). Rippentrop and colleagues found that in a sample of 122 pain patients, spirituality/religiosity was unrelated to pain intensity and life interference due to pain, but mental health status was significantly predicted by forgiveness, negative religious coping, daily spiritual experiences, religious support, and self-rankings of religious/spiritual intensity (A. E. Rippentrop, 2005; E. A. Rippentrop, Altmaier, Chen, Found, & Keffala, 2005).

Social Engagement

Social interaction enhances learning in accordance with social learning theory whether the interaction is in person or through other mediums. Interaction has been recognized as one of the most important components of learning experiences both in conventional education and distance education (Vygotsky, 1978; Holmberg, 1983; Moore, 1993 as cited by (Jung, Choi, Lim, & Leem, 2002). Jung and colleagues (2002) concluded that social interaction is related more to learning outcomes than to learner satisfaction, whereas collaboration among the learners is related more to learner satisfaction than to learning outcome in internet based learning (Jung et al., 2002). Social support has also been shown to enhance psychological well-being for persons with chronic pain as well as buffer the impact of stress (Burckhardt, 1985; Faucett & Levine,

1991; Murphy, Creed, & Jayson, 1988; Turner & Noh, 1988 as cited by Hadjistavropoulos et al., 2011).

Online Self-help Efficacy

Many chronic pain sufferers are partially or totally disabled for long periods of time. Poorly managed pain actually increases the disability effects and increases feelings of distress, hopelessness and despair, which may lead to a decrease in function within the individual and family. Multiple studies have indicated that chronic pain patients can learn skills that will improve their functioning (Buenaver, McGuire, & Haythornthwaite, 2006; Carpenter et al., January 2012). Self-help can be delivered by in group format, books/workbooks, audio, telephone, and through minimal contact methods. These delivery systems have been shown to be effective in the reduction of pain, pain related disability, depression, and anxiety in patients with arthritis, lower back pain, headache, and temporomandibular joint disorder (Carpenter et al., January 2012).

In a randomized controlled pain psychoeducation study, significant improvement was observed in the treatment group when compared to the control group regarding "self-report measures including pain severity and impact, dependency, vitality, physical role functioning, increased involvement in valued adult roles, life satisfaction and in the two hypothesized mediating variables, self-efficacy and resourcefulness (LeFort et al., 1998)." Self-management of pain through psychoeducation has provided improvements in those suffering from arthritis, back pain, and other chronic pain conditions (Ersek, Turner, Cain, & Kemp, 2008). Furthermore, research suggests that the effects are mediated by cognitive and behavioral changes, which include an increase in active pain

coping and self-efficacy for pain management, and a decrease in negative cognitive responses to pain (Ersek et al., 2008).

Online cognitive behavioral interventions are being used to support a variety of health conditions in increasing numbers with some showing equal efficacy to face-to-face interventions. There has also been research indicating the efficacy of Internet-based self-help interventions for chronic pain conditions including headache, non-headache chronic pain, rheumatoid arthritis, osteoarthritis, and fibromyalgia (Carpenter et al., January 2012). Psychoeducation through an online program can reach those who are unable to leave the house due to their pain. It also bridges the "access to treatment" gap that exists within differing socioeconomic categories (Johannes et al., 2010). In a recent meta-analysis of 11 randomized clinical trials providing online CBT for a total of 2,953 chronic pain patients, the results suggest that the treatment group experienced a reduction in pain and pain medication usage as well as an increase in function when compared to waitlist groups (Macea, Gajos, Daglia Calil, & Fregni, 2010). Overall, there is research support to indicate that an online psychoeducational chronic pain program will provide positive benefits to its participants.

CHAPTER 3

OBJECTIVES

The primary objective of this project is to create an online forum for people suffering from chronic pain and their caregivers to learn more about the self-management of chronic pain as well as to provide an interactive component allowing for discussion of its content and social interaction by its participants. The primary goal of the psychoeducational chronic pain online program is to enhance the biopsychosocial/ spiritual well-being of its participants.

The lessons incorporated within the chronic pain psychoeducational program are directed at helping participants learn important information to assist them in the self-management of their chronic pain condition. The focus of the lessons include biopsychosocial-spiritual components that include important aspects discovered by the American Chronic Pain Association and are supported by empirical research.
After 30 years of helping those suffering with chronic pain, the American Chronic Pain Association (ACPA) provided the following information on what they have learned (ACPA, 2015a).

- We need the support of others who experience and understand chronic pain.
- Recognizing emotions helps us to understand ourselves.
- While our pain is certainly not all in our heads, attitudes and expectations do make a difference.
- Learning how to relax is essential. It helps prevent tension and redirects our attention on to other things we have some control over.

- Staying active, within realistic limits, can help us remain flexible and strong and reduce our sense of suffering.
- It is important to set realistic goals and chart our progress toward them.
- Chronic pain not only involves the person with pain, but the family as well.
- Hearing others talk of similar feelings and experiences caused by pain reduces our isolation.
- There are no wrong feelings.
- Half the battle is won when you begin to help yourself.

In order to address the objectives listed above, ten lessons were created and uploaded into an online psychoeducational and socially interactive forum. The ten lessons provided incorporate an overview of chronic pain including its description, associated symptoms, and known treatments. They provide an overview of Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy (ACT) and Family Therapy that will be used within the program to assist with chronic pain management. The specific lessons present information, provide homework, set goals, and provide opportunities for discussion through the online forum. Participants will learn about the importance of addressing mood symptoms and medical implications that frequently accompany chronic pain. They will receive instructions and homework devised to create an individualized plan to explore mood symptoms and identify coping strategies. Information on the benefit of identifying stress and techniques to mitigate stress through relaxation exercises is presented with implementation of relaxation exercises into participants' weekly routines. Participants will learn about the benefit of implementing techniques to conserve energy and the benefit of exercise for those with a chronic pain condition. The importance of

addressing sleep hygiene is presented with various techniques to enhance sleep quality. Relationships are discussed and the importance of exploring and strengthening their significant relationships is encouraged. Education on the importance of spirituality and its effects as it relates to issues of chronic pain is also included. The importance of continuing to implement the techniques after completing this program is stressed and individualized plans are completed that incorporate the most effective techniques for each participant.

In order to maintain the biopsychosocial-spiritual well-being foundation of this chronic pain self-management program, the participant will need to adapt the positive changes made into his/her daily routine. Improvements in health and pain management can be maintained through self-care practices, which will lead to a positive adaptation and cognitive change in the individual. Personal resilience can be increased which will provide the strengths necessary to face additional challenges in the future. Therefore, it is vitally important that the learning is personalized and integrated into the daily lives of each participant. This objective is met through the homework and integration of skills into a weekly schedule.

CHAPTER 4

METHOD

Psychosocial Measures

Psychosocial Measures will be used to collect baseline information about each participant regarding their current depressive symptoms, catastrophizing, attention to pain, and pain severity, interference, disability and its effect on activities of daily living (ADLs) (Table 1). Depressive symptoms will be measured using the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Pain related catastrophizing will be measured using the Coping Skills Questionnaire items 23-28 in order to assess trait catastrophizing (Rosenstiel & Keefe, 1983). The Pain Vigilance and Awareness Questionnaire (PVAQ) will be used to measure the participants' attention to pain related symptoms (McCracken, 1997). Pain severity, interference, disability and its effects on ADL's will be measured using the Pain Outcomes Profile (POP)[1] (Clark, Gironda, & Young, 2003). All measures were acquired through the public domain, with the exception of POP and permission was granted for its use[1], and are located in Appendix B. These measures will also be taken upon completion of the program to determine if there are significant changes in pain and its related symptoms and effects. Because this project's primary focus is on the creation of the online psychoeducational forum, future projects will be necessary to focus on a review of its efficacy.

[1] Note: Permission to use the Pain Outcomes Profile was granted by Jillian Manley from aapainmanage.org (see Appendix C).

Table 1
Psychosocial Measures

Instrument	Measure
Beck Depression Inventory (BDI; Beck et al.,1961)	Depression
Coping Strategies Questionnaire (CSQ; Rosenstiel & Keefe, 1983)	Most commonly used instrument to assess coping techniques employed by individuals with chronic pain
Pain Outcomes Profile (POP; Clark, Gironda, Young, 2003)	Assess pain perception, perceived physical impairment due to pain and several aspects of emotional functioning
Pain Vigilance and Awareness Questionnaire (PVAQ; McCracken, 1997)	General measure of attention to pain

Research Design

Part of the course modules included on the web site have be taken from previous graduate projects and enriched with additional information to support comprehensive learning. Some content will be taken from Eugene Moynier's PsyD project manual, Integrating Educational and Psychological Components in a Social Support Model for Fibromyalgia Patients: A Treatment Manual, and Michelle Karume's PhD dissertation Family Therapy Treatment Manual for Fibromyalgia and have been integrated into 10 weekly sessions (Karume, 2009; Moynier, 2009). Recordings of Dr. Kendal Boyd's presentation on CBT for chronic pain and Dr. Jana Boyd's presentation on the effects of chronic pain on relationships were provided for inclusion on the web site. They were digitally transferred from video recordings and uploaded onto the web site for listening by participants.

Table 2
Treatment Manual Content

Cognitive Behavioral Therapy Modules	**Family Therapy Modules**	**Common Theme**
Overview of fibromyalgia including its description, associated symptoms, and known treatments.	A rheumatologist presenting general information about FMS and known treatments.	**Information about pain and treatment**
Orient group members to the CBT model	Family systems orientation	**Orientation to CBT, ACT, Family therapy**
Benefits of exercise for those with a chronic pain condition.	An exercise physiologist presenting on the benefits of exercise for FMS patients and the development of a personalized exercise plan.	**Exercise**
Importance of addressing mood symptoms that frequently accompany fibromyalgia.	A psychologist presenting how to deal effectively with thoughts and emotions generated by FMS symptoms.	**Thoughts and emotions**
Benefits of identifying stress and on techniques to mitigate stress through relaxation exercises.	A psychiatrist presenting how to manage stress and relax.	**Stress and Relaxation**
Benefits of implementing techniques to conserve energy for those with fibromyalgia.	An occupational therapist presenting on how to pace yourself and conserve energy in daily activities.	**Pacing/ Energy conservation**
Importance of addressing sleep hygiene, especially for those with fibromyalgia.	A psychiatrist presenting on how to improve your sleep.	**Sleep Hygiene**
Present information on the importance of managing relationships.	A marriage and family therapist presenting on managing relationships around FMS symptoms and on how to increase family adaptability and cohesion.	**Relationships**
Continuation of the techniques after formal treatment is discontinued.	Tailoring an FMS management plan.	**Maintenance Plan**
	A chaplain presenting on how to find spiritual meaning in FMS.	**Spirituality**

The treatment manual was created as a combination of CBT, ACT, and Family therapy derived from the aforementioned manuals as well as additional research supported content required to explain each modality offered. The module contents of each manual can be seen in Table 2. A review of the content has provided overlapping themes and each was analyzed for inclusion. Kendal Boyd, Cynthia Nakoski, and Eugene Moynier, made final approval of the online content. The finalized manual is available in Appendix A.

Web Page Design

The web page, www.chronicpaincare.com, was designed using *Joomla 3.4*® content management system web design software that included the social networking component, *JomSocial*®, learning management system, *LMSKing*®, and survey software, *Form Maker*® that were seamlessly integrated to offer the social psychoeducational group format. The front page of the web site contains information about the study and a "Register" link that takes the viewer to a required form to be completed to register to participate in the study and complete the coursework.

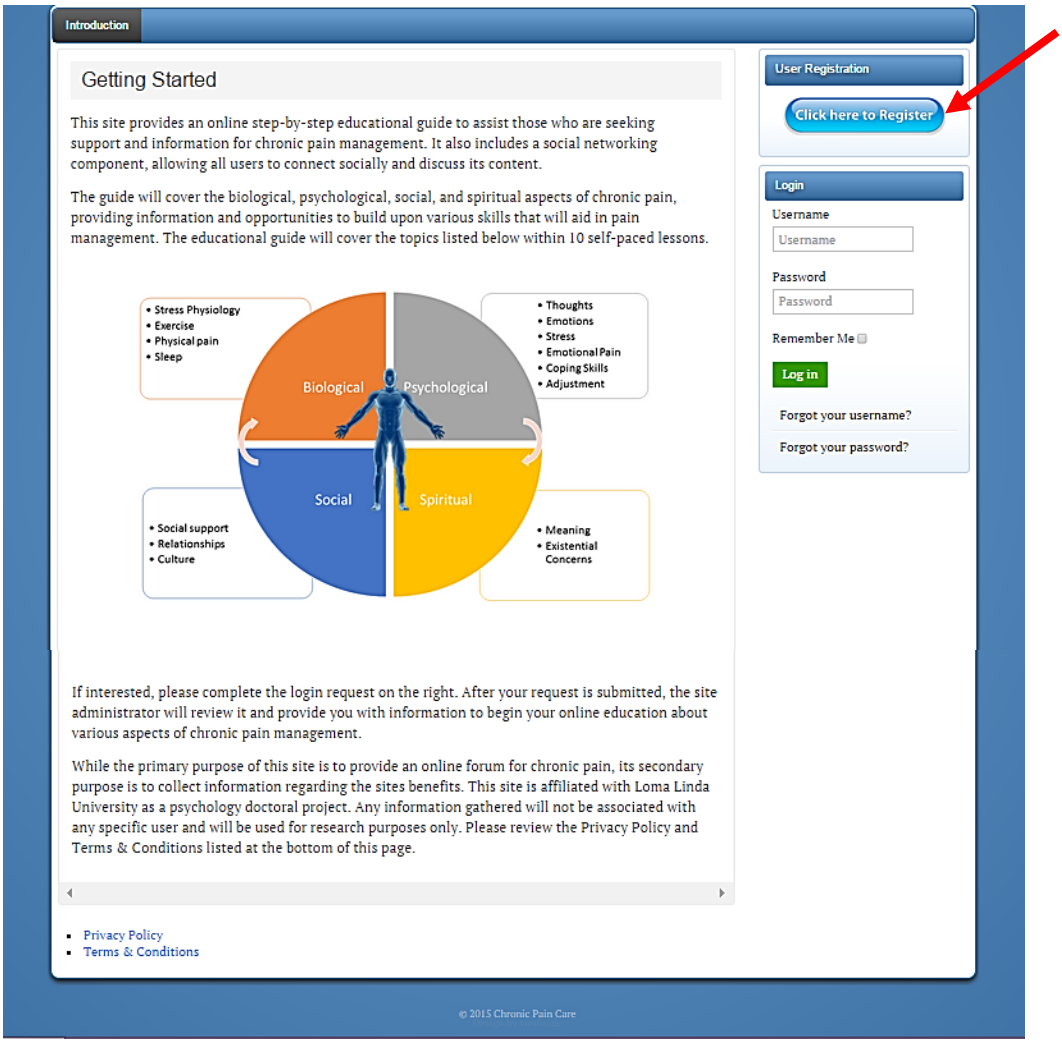

Figure 1. Front page of www.chronicpaincare.com and Web Registration

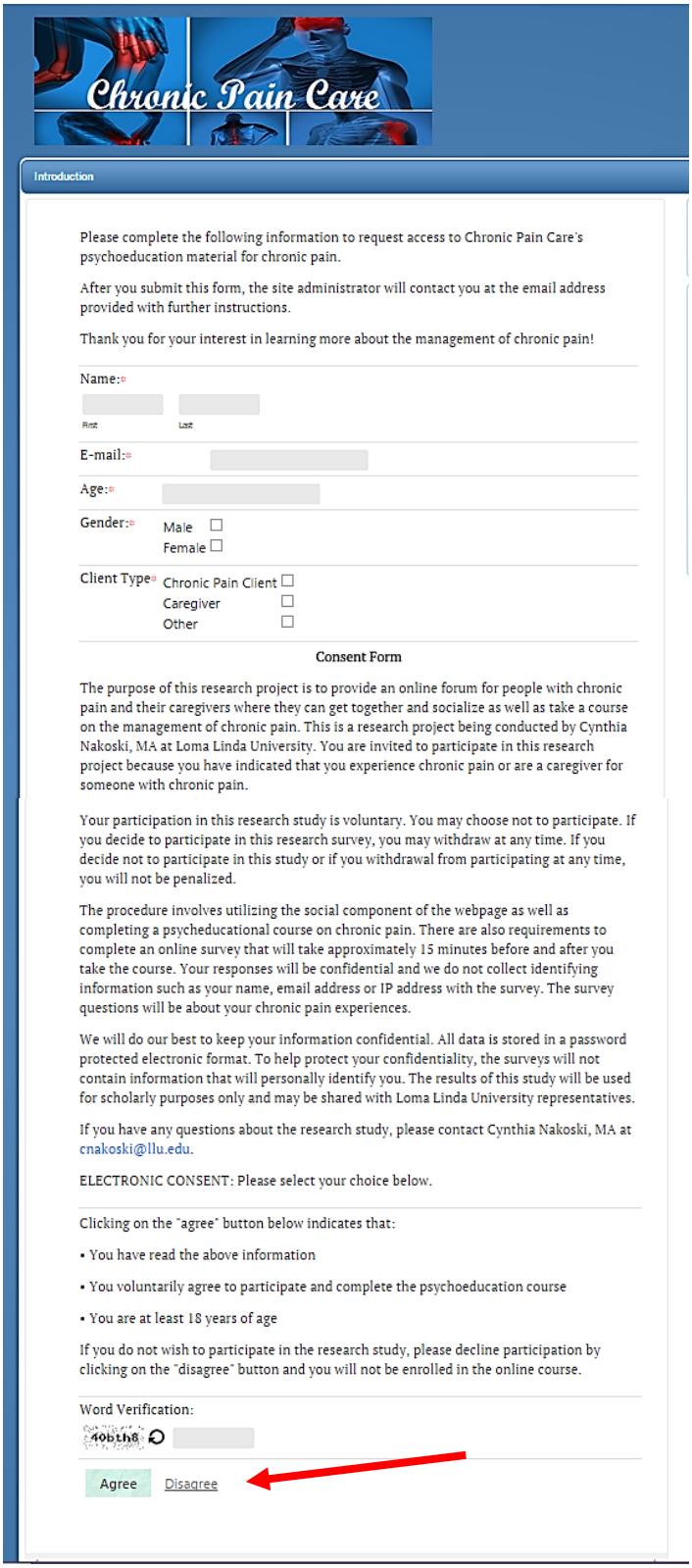

Figure 2. Informed consent and agreement to participate in research.

The registration form contains informed consent information and allows the requestor to electronically consent to the use of submitted data for research purposes.

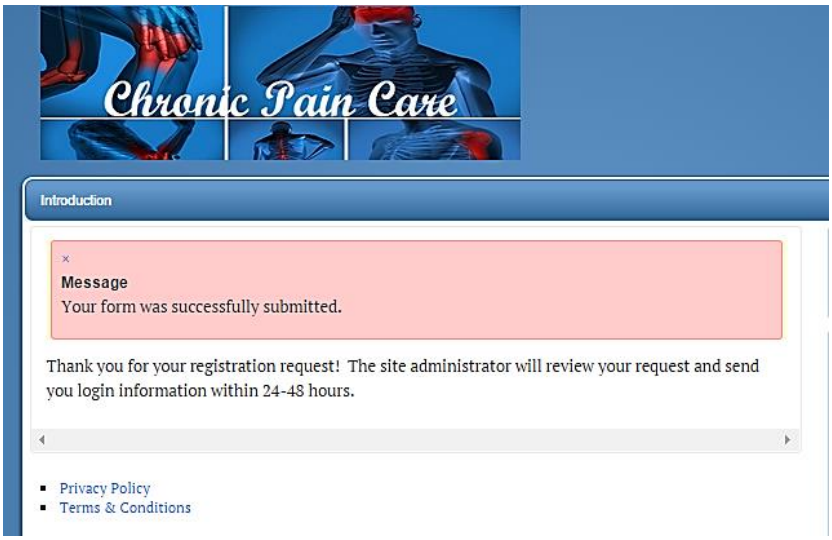

Figure 3. Registration request automated response.

The completed form is processed through *Form Maker*® and automatically emailed to the website administrator's email address for review and account creation.

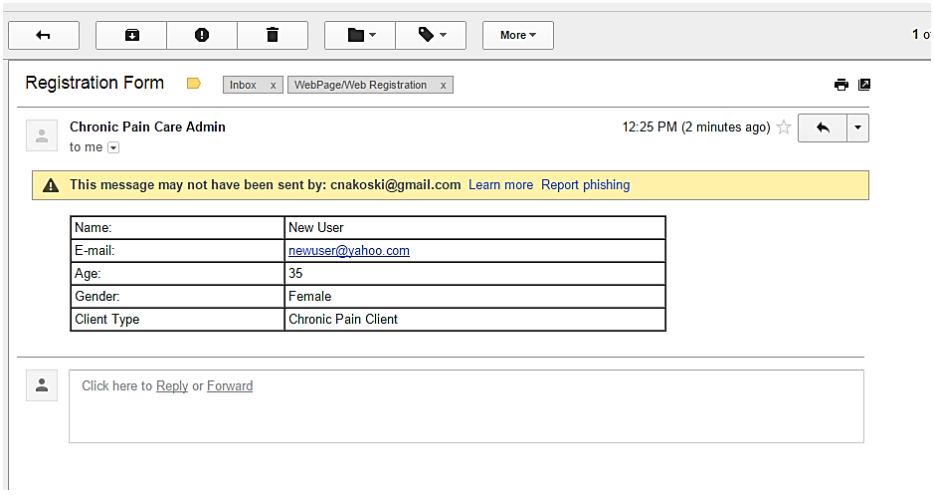

Figure 4. Automated email to administrator for registration request.

After the information is received, a registered user is created by the site administrator using the information provided by the requestor. The registered user is then provided with a login and password to the site via email.

The registered user will then be able to login and view the social networking site My Chronic Pain Community using the *JomSocial*® forum, which is similar in functionality to *Facebook*®. Help files, located towards the right bottom of the screen, are available to assist the registered user with navigating the social networking component of the website.

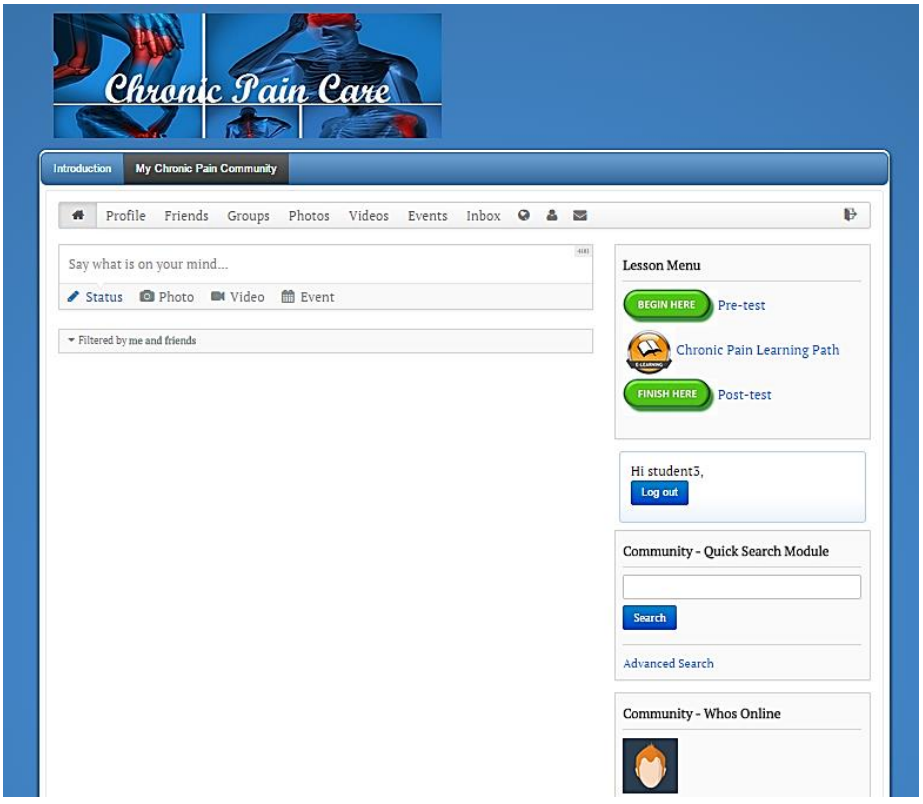

Figure 5. My Chronic Pain Community landing page example.

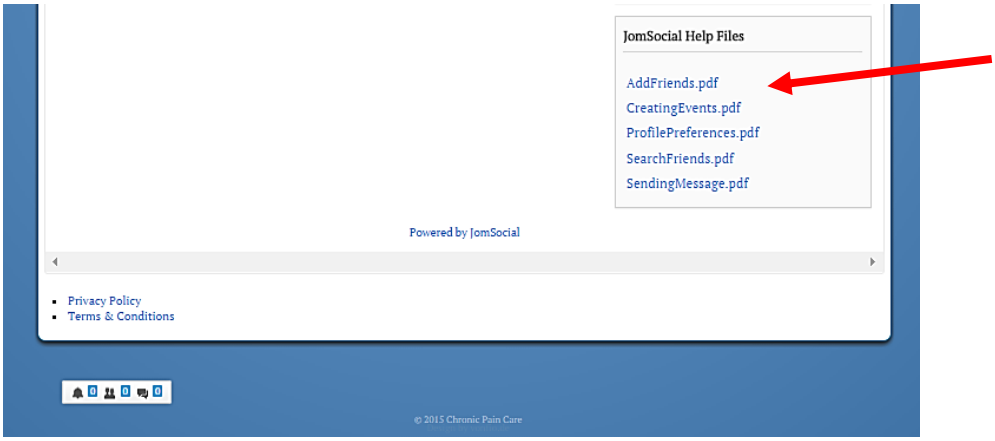

Figure 6. JomSocial help files location.

Each registered user will then be able to modify their profile, contact other users and initiate friendship requests, make status updates, and begin conversations on their "wall" about course content or personal matters.

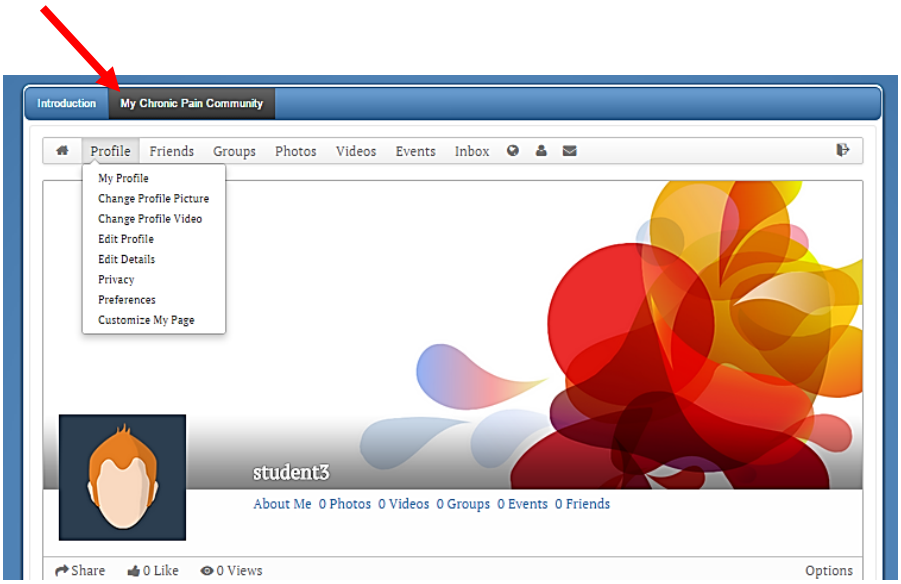

Figure 7. JomSocial Profile page example.

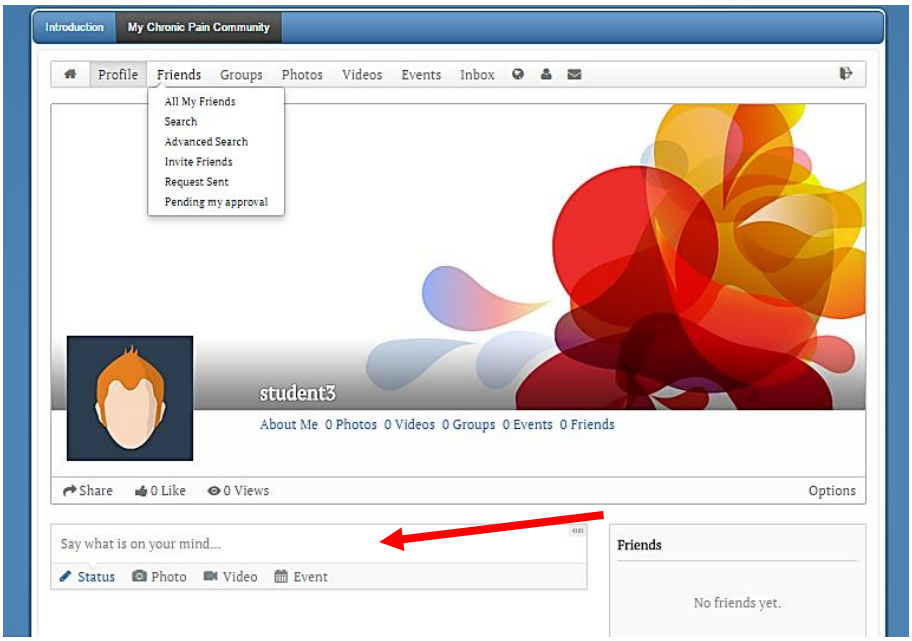

Figure 8. JomSocial Profile and "Wall" for communication with other members.

Figure 9. Notification bar on bottom screen of web page.

Located on the footer of each screen is a shortcut icon with indicators for notifications, friend invites and messages associated with the user's Chronic Pain Community profile. This will allow them to view any new contact information from others while they are completing coursework.

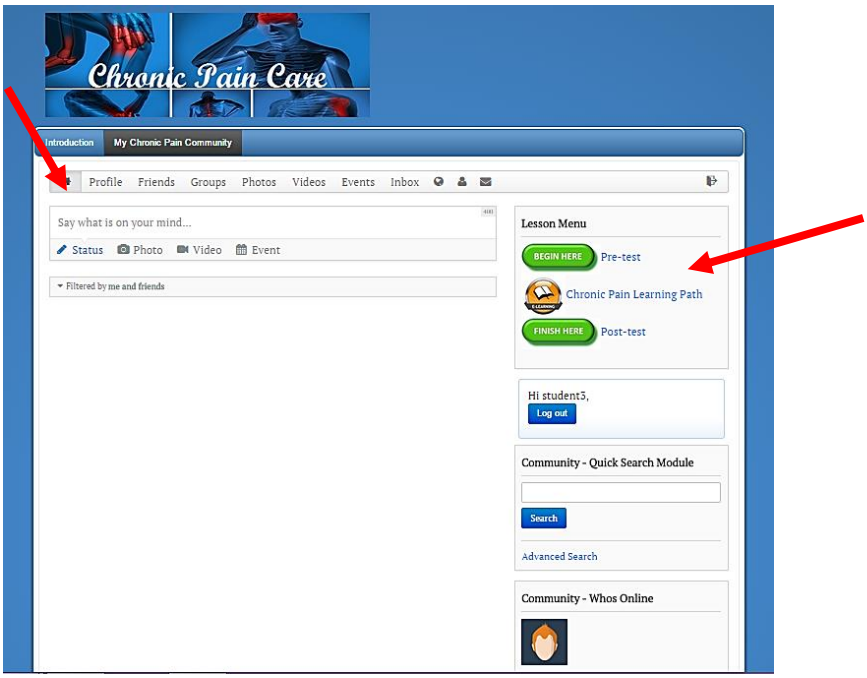

Figure 10. Lesson Menu with Pre-test example.

The "Home" page has a "Lesson Menu" that contains three menu items. The first, labeled "Begin Here", is a link that redirects the registered user to take the initial pre-test, containing the POP, PVAQ, CSQ, and BDI.

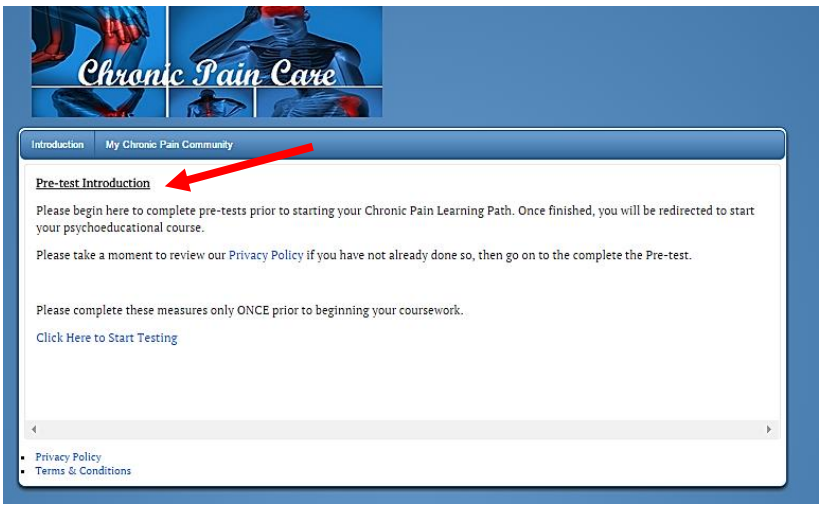

Figure 11. Pre-test Introduction

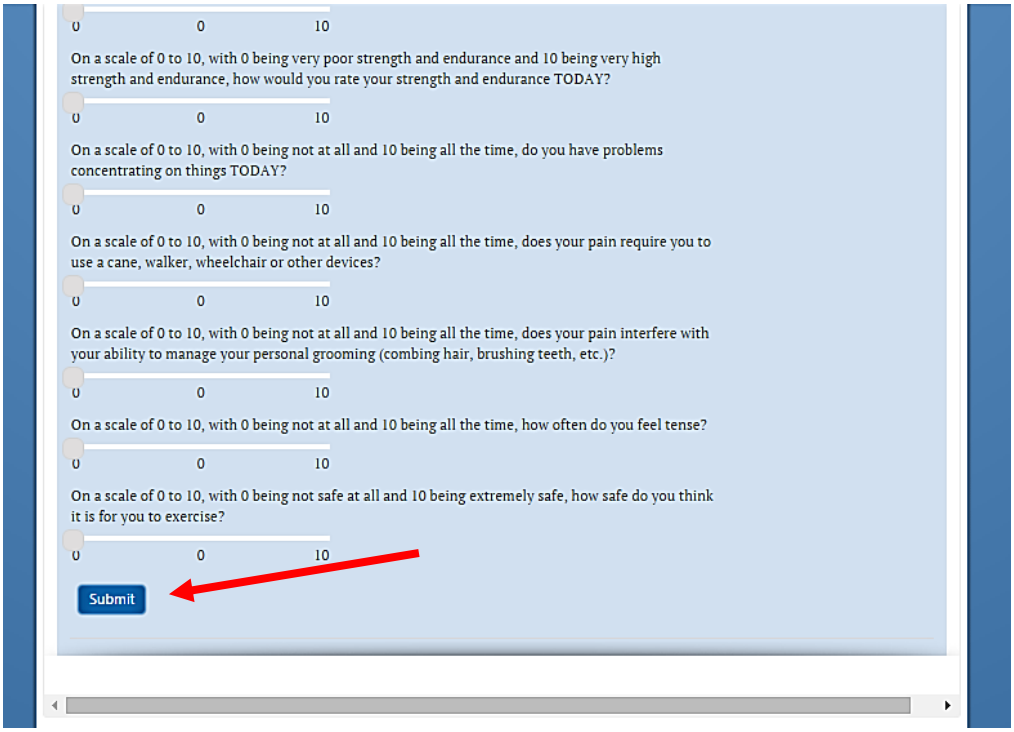

Figure 12. Psychosocial questionnaire example.

After answering the questions on each measure, the registered user will select the "Submit" button and be provided with feedback that their form was successfully submitted.

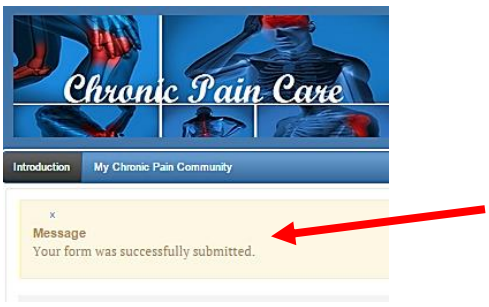

Figure 13. Form submission completion message.

Upon completion of all of the pre-test measures, the registered user is automatically redirected to begin the "Self Care for Chronic Pain" psychoeducational

coursework. Each registered user will then be able to attend the course modules at their own pace. They may also access the course material by selecting the “Chronic Pain Learning Path” menu selection on the right side of the “Home” page.

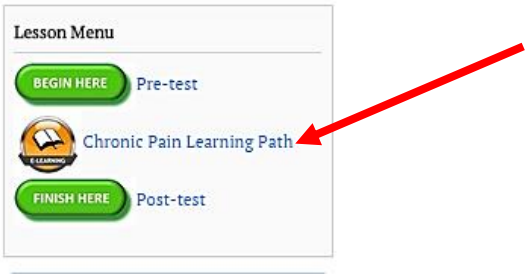

Figure 14. Chronic Pain Learning Path icon location.

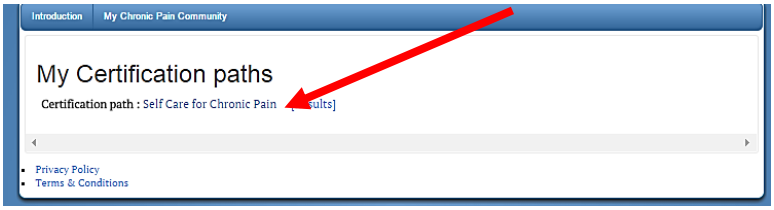

Figure 15. Self Care for Chronic Pain Certification Path

The registered user will then select the certification path: “Self Care for Chronic Pain” and be taken to the course material menu. Each lesson is labeled with its title, whether the lesson has been started, and a “Start now” link that will take the user to the lesson content. The course modules include a reading assignment, homework assignment, and in some cases audio or video that will feature teaching of specific material related to the module (see Appendix A: Online Chronic Pain Patient Manual).

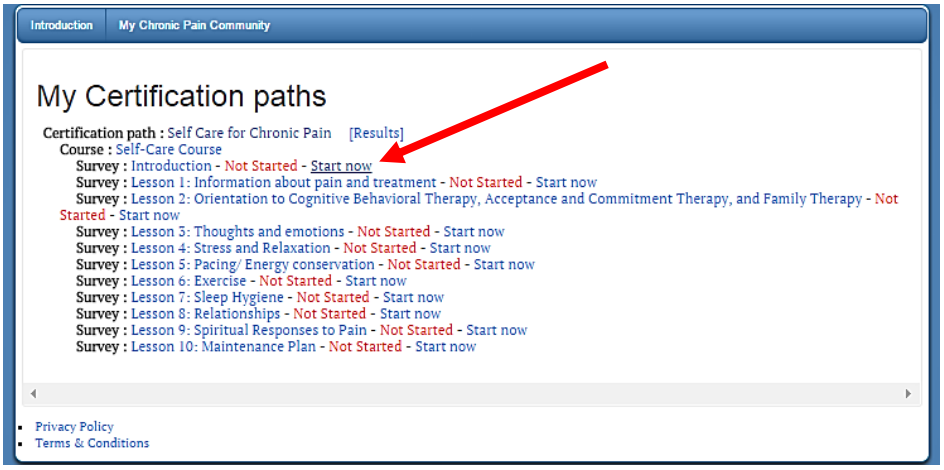

Figure 16. Certification Path Start Lesson

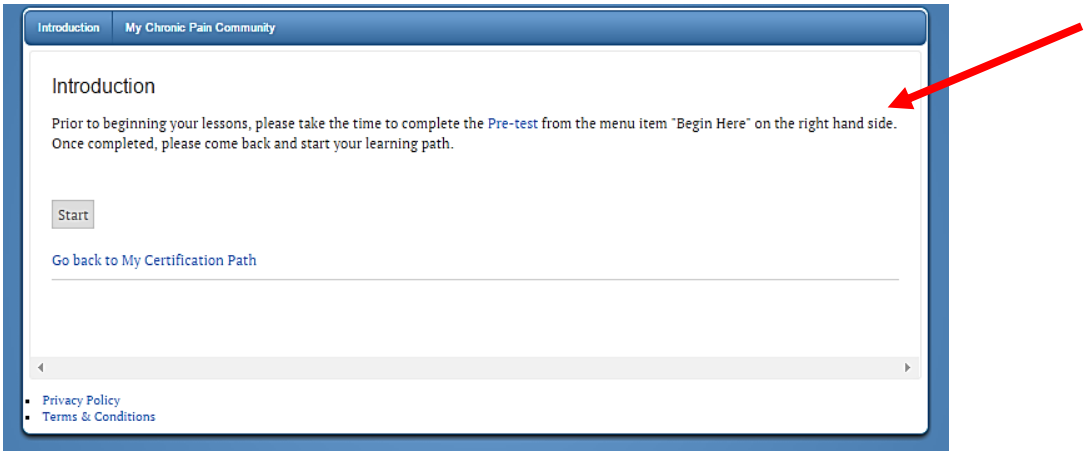

Figure 17. Reminder to take pre-test prior to beginning coursework.

The "Introduction" lesson will re-direct the registered user back to the pre-test to ensure the user completes the psychosocial measures prior to beginning their coursework.

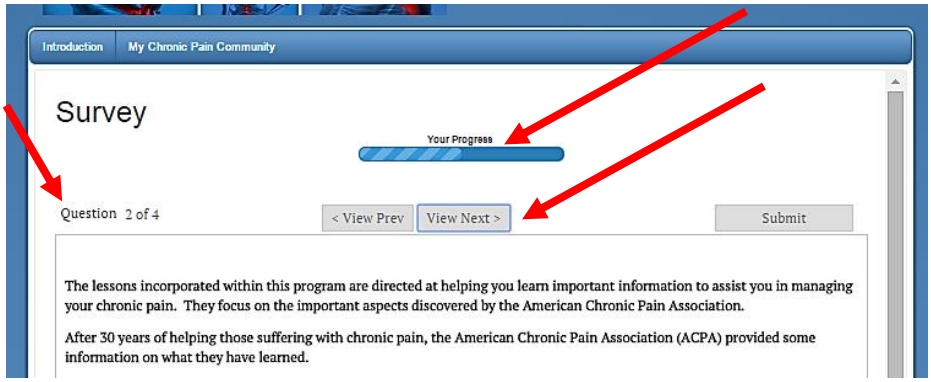

Figure 18. Navigation through coursework.

The registered user will then navigate through the lesson material using the "View Next" or "View Prev" buttons until they come to the end of the lesson. They can also track their progress in the lesson by viewing the "Your Progress" bar or by the question status indicator.

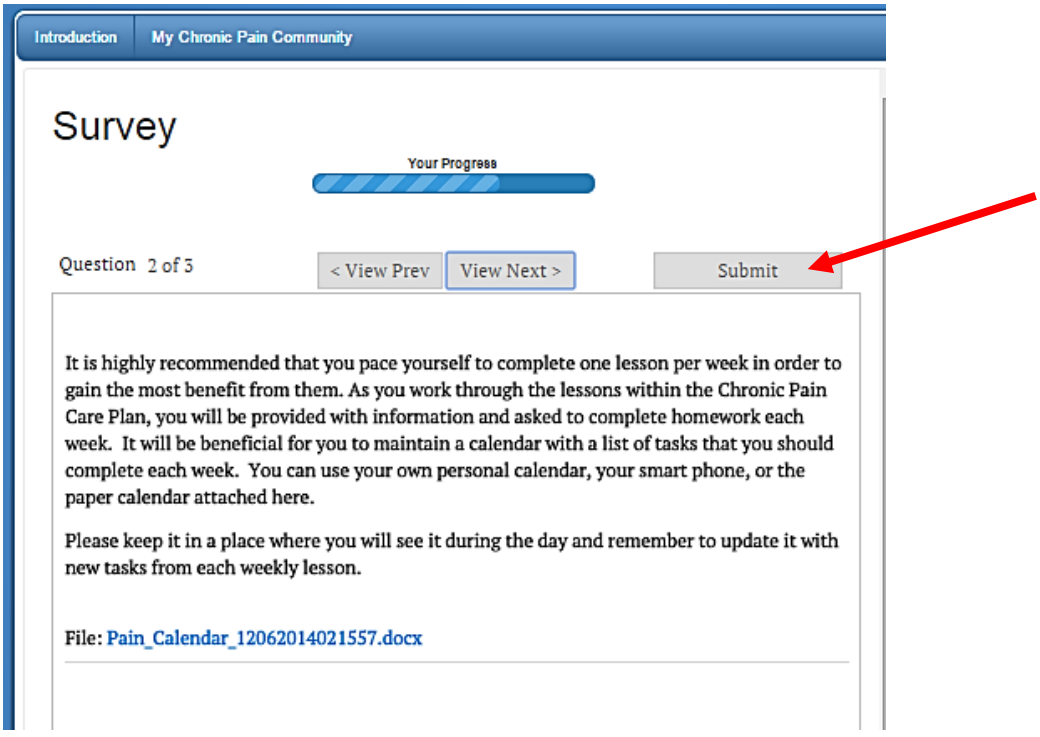

Figure 19. Submit lesson to complete.

The user will be instructed to pace the lessons at one per week and to keep track of each homework assignment task on a calendar in order to gain the most benefit from the course.

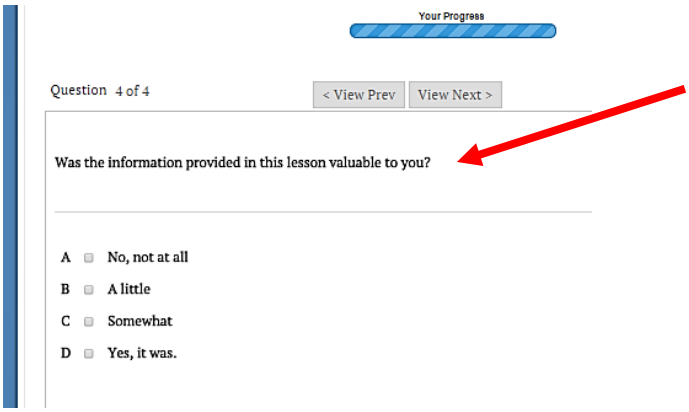

Figure 20. Survey question.

Each lesson will contain a survey question as to whether its contents were valuable to the specific user to be used as a mechanism to improve the contents of the psychoeducational material.

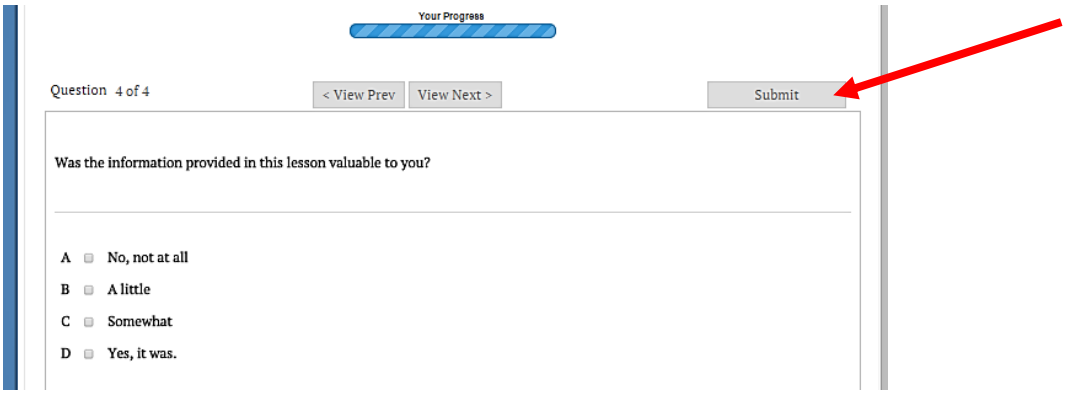

Figure 21. Submit to end lesson.

Upon completion of the lesson and answering the survey question, the registered user will select “Submit” to finalize the completion of the lesson. Two pop-up messages will occur, to allow the user to modify their answer to the survey question and the other will let them know that their lesson has been marked complete.

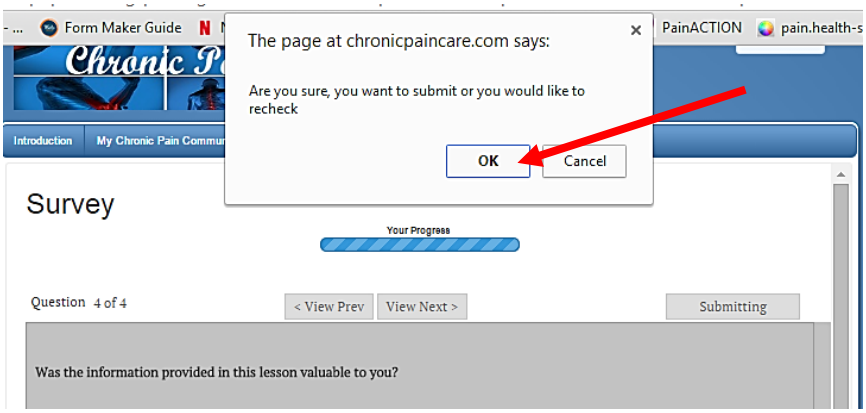

Figure 22. Select OK to submit answers.

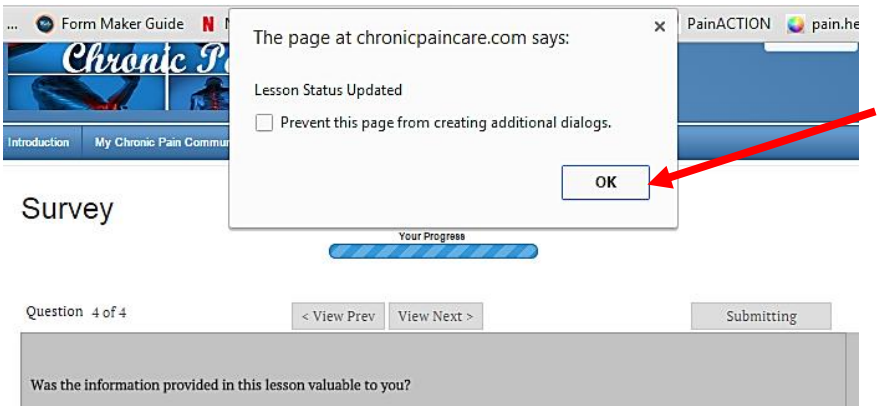

Figure 23. Select OK to update lesson status.

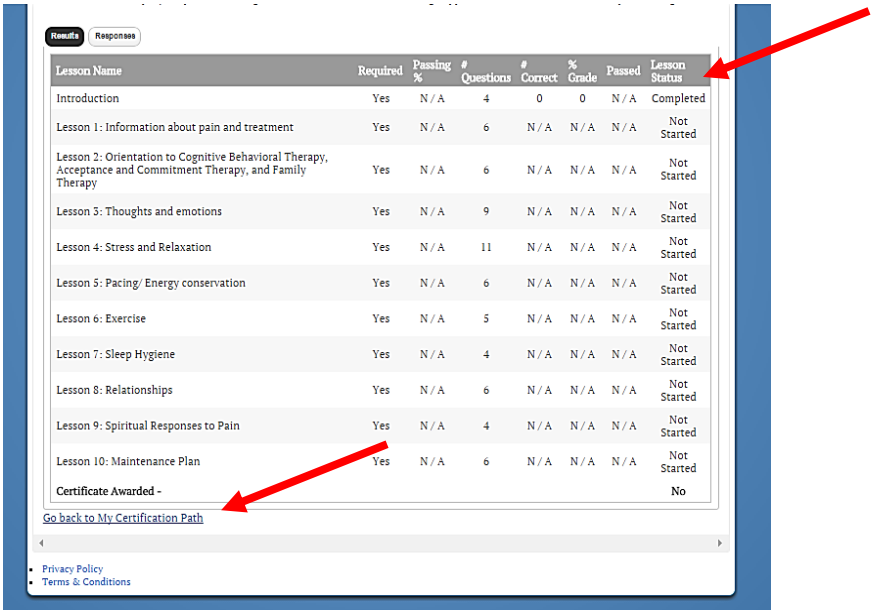

Figure 24. Check status and go back to certification path.

Once the lesson is completed, *LMSKing*® automatically redirects the user to a "Results" page that contains information about each lesson. Because the lessons do not contain quizzes about the lesson material, much of the status information is not relevant. However, the user may view whether the lesson is "Required", "# of Questions", "Lesson Status" and "Certificate Awarded," which indicates whether all lessons have been completed successfully.

In order to continue to the next lesson, the registered user will need to select "Go back to My Certification Path" to be redirected to the "Certification path" menu.

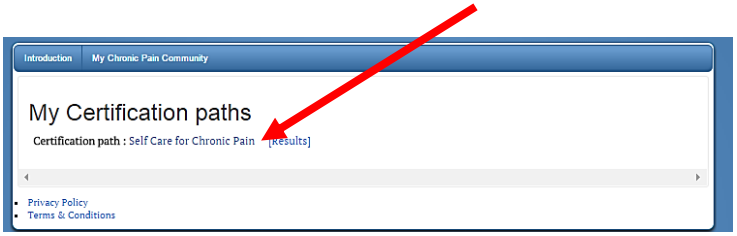

Figure 25. Continue to next lesson.

After selection of "Self Care for Chronic Pain," the status of the lessons will be displayed and the user may select "Start now" to begin the next lesson.

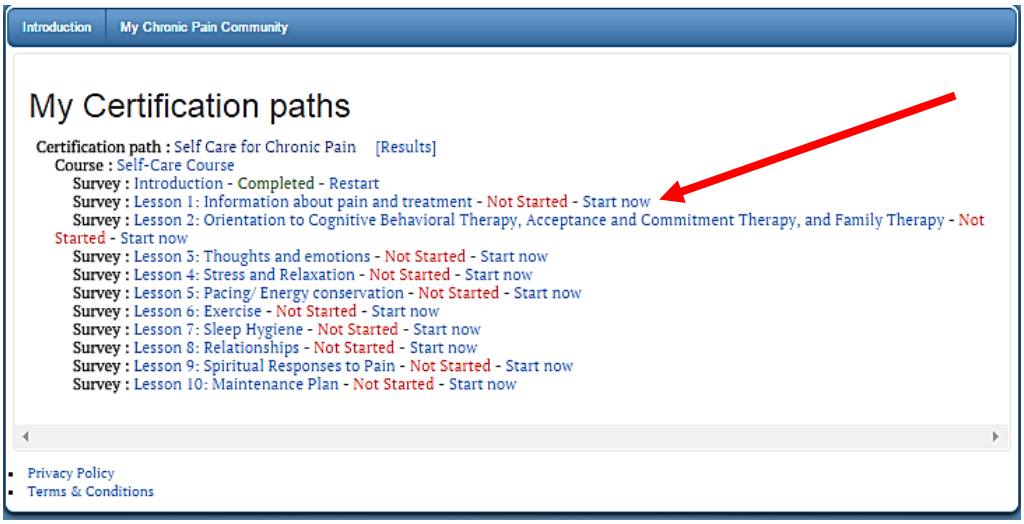

Figure 26. Start next lesson.

The registered user may then advance through each lesson at his/her own pace. However, it is suggested that they complete one lesson per week to allow for optimal learning and application of each suggested homework assignment.

Figure 27. Download homework assignment example.

After completion of all lessons within the course/certification path, the registered user is asked to complete a post-test, which contains the same measures they took prior to beginning the psychoeducational coursework.

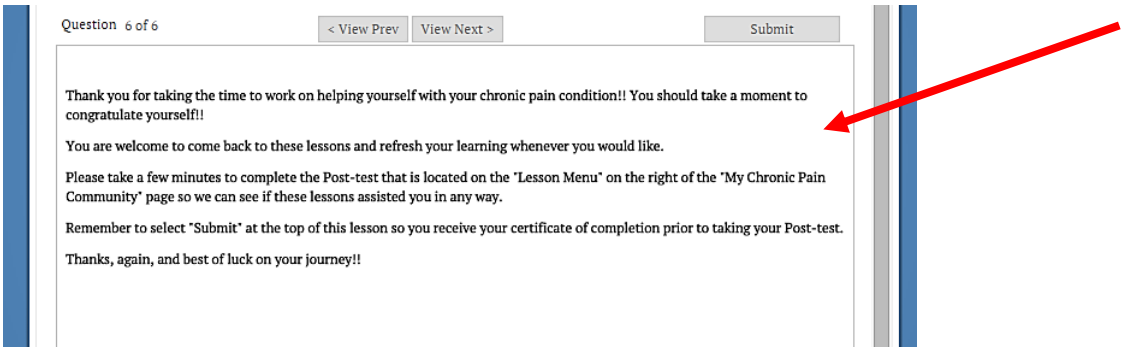

Figure 28. Course Completion.

A link to the post-test is located on the "My Chronic Pain Community" page within the menu on the right.

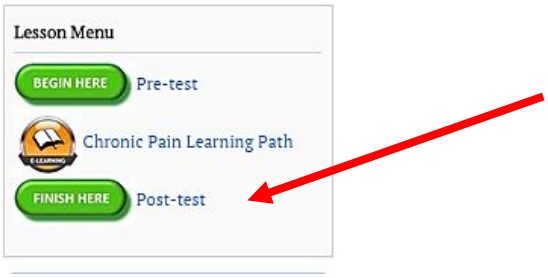

Figure 29. Post-test selection.

The registered user will navigate the "Finish Here / Post-test" in the same manner as the "Begin Here / Pre-test."

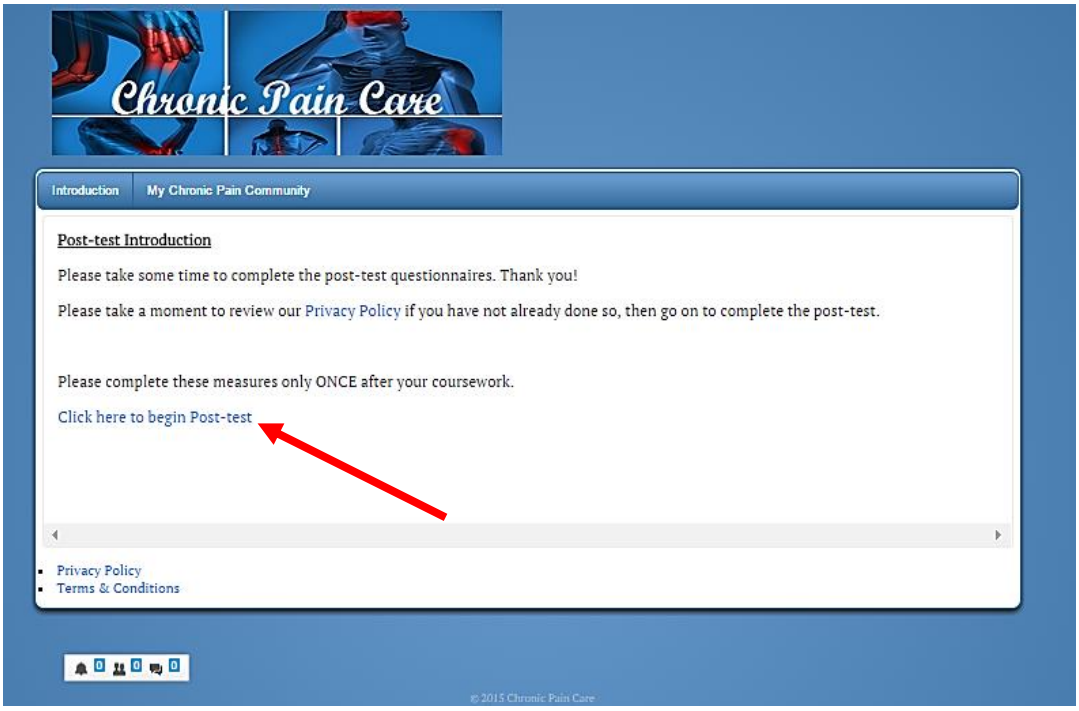

Figure 30. Complete Post-test to finish.

Data Security & Privacy

The website displays links at the bottom of the page with information regarding "Privacy Policy" and "Terms & Conditions" in order to clarify data privacy and limits of the information provided for user consumption.

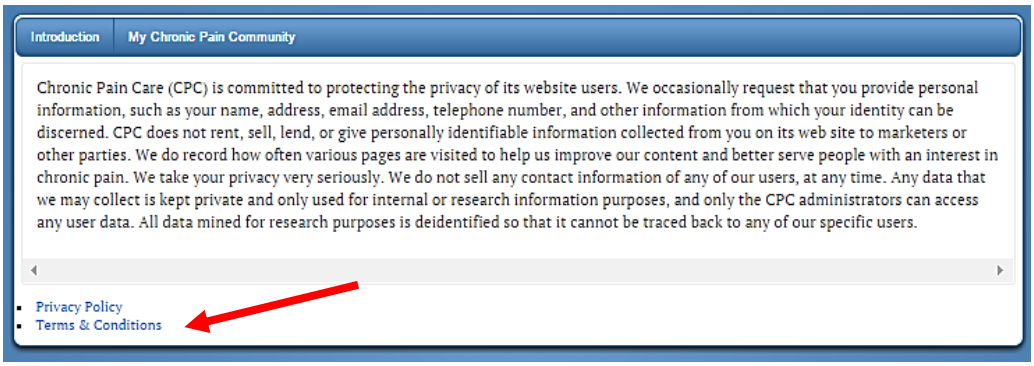

Figure 31. Privacy Policy

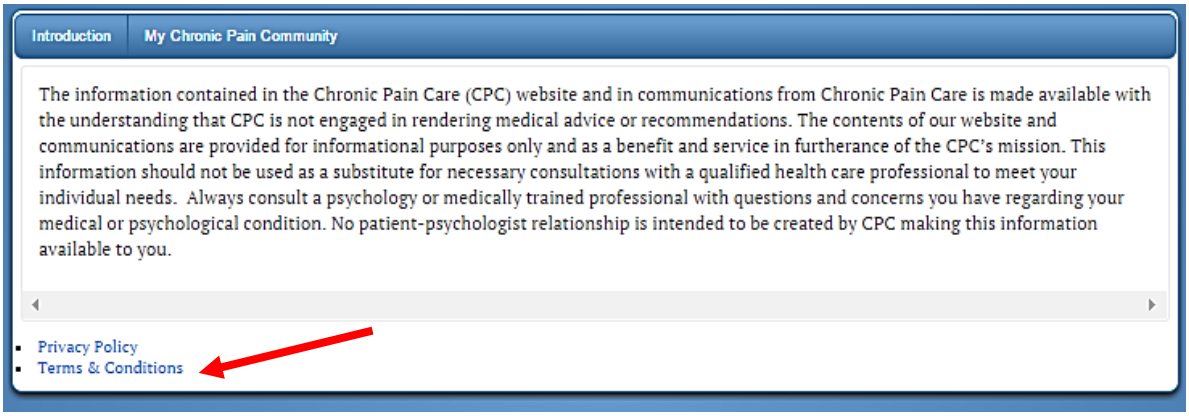

Figure 32. Terms & Conditions

The registered user pre and post-test submission data are held within *Form Maker®*. This program provides the ability to select information associated with the users' submission, allowing for the removal of the user's name, email, and IP address to de-identify each submission.

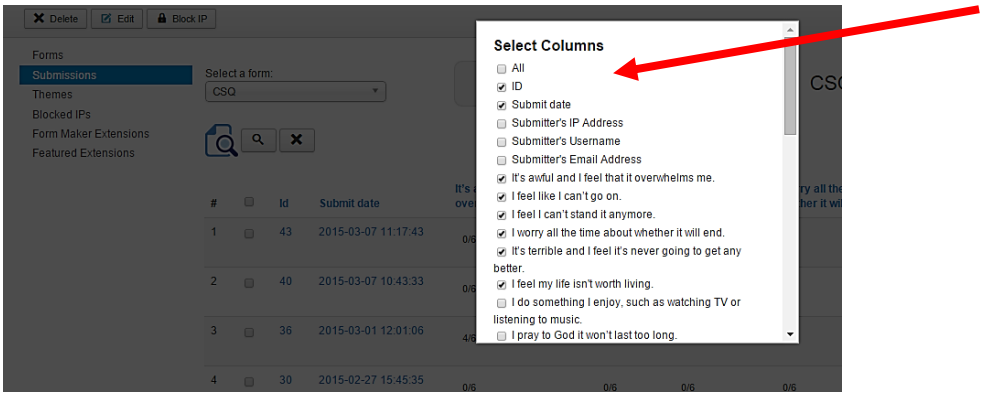

Figure 33. Selection of fields to export.

Each submission is assigned a numeric alias (ID) that can be associated with each user's personal demographic data. Personal demographic data and the participant numeric ID key document will not be stored on the website server, but will be separately stored on a secure computer at Loma Linda University. The website will have strict security access

restrictions that are included within the Joomla software. Only website administrators will have access to the data. Website administrators will include the researcher and supervising professor, Dr. Kendal Boyd.

The website server *JomSocial*® Dashboard provides data associated with social networking conversations. Number of members, email messages, posts, photos, videos, groups, events and discussions are listed with the most recent posts and discussion viewable from the Dashboard.

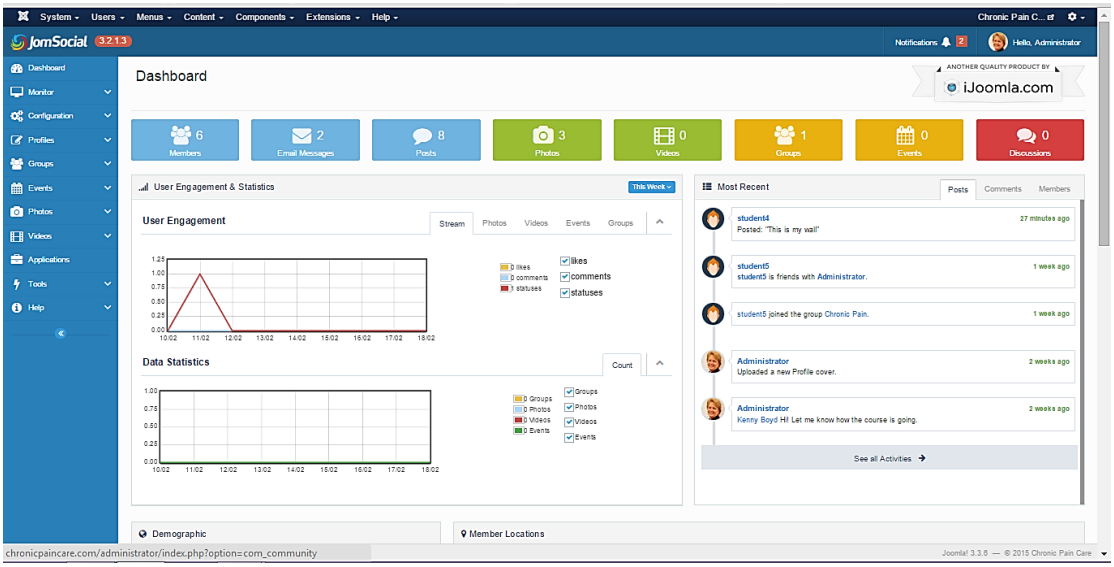

Figure 34. JomSocial Dashboard

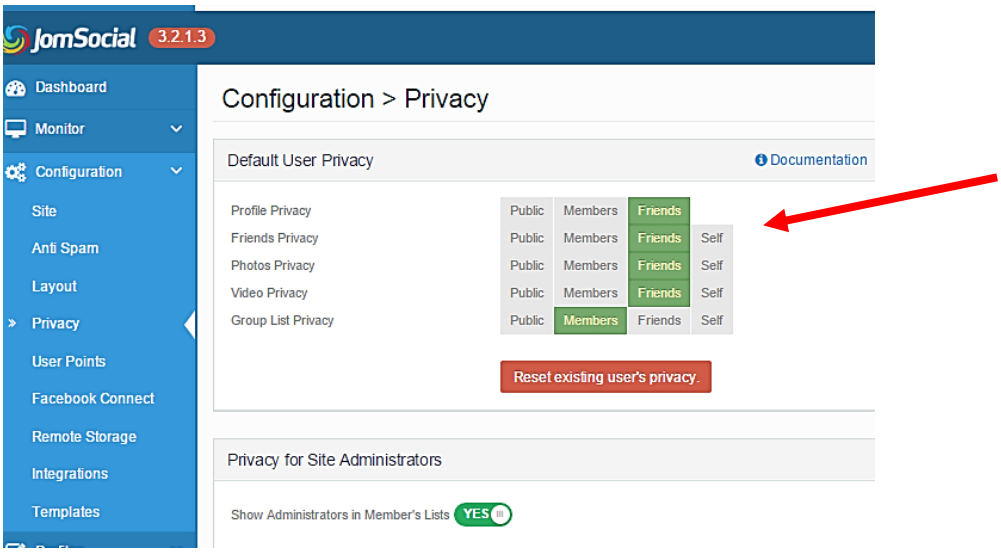

Figure 35. JomSocial privacy.

JomSocial® Privacy is configured to allow users to keep their posts private and viewable only to those they add as "Friends." *Facebook*® interconnectivity is disabled in order to maintain privacy.

LMSKing® also provides reporting and statistics to provide status of each users progress through the course, logins, and survey results.

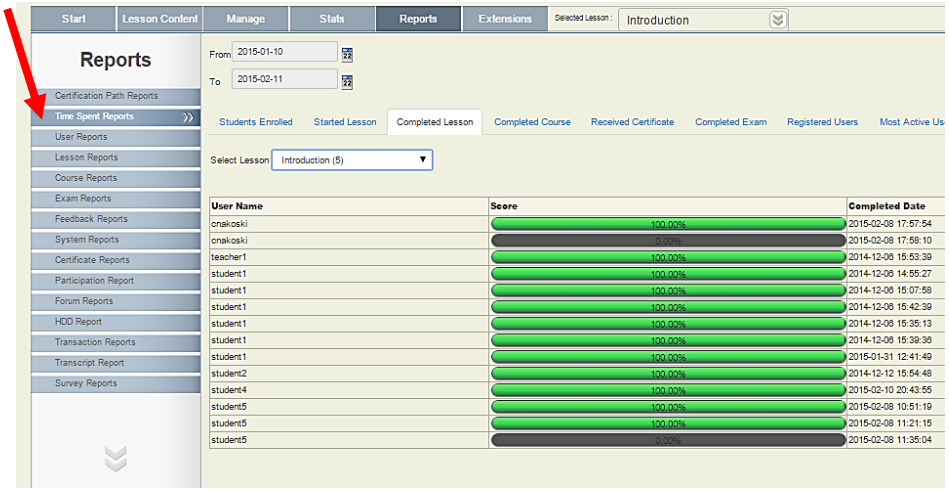

Figure 36. LMSKing Time Spent User Reports.

Each lesson provides the user with an opportunity to answer whether he/she found the information within the lesson valuable. The answers are consolidated and provided within the "Survey Report" tab for each lesson.

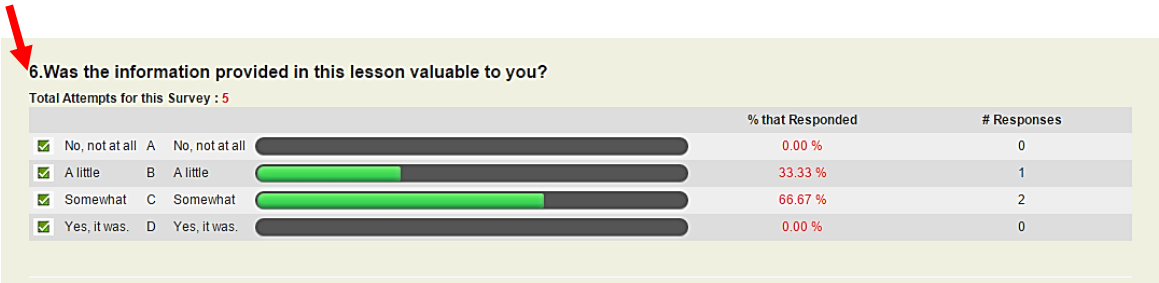

Figure 37. Survey question results.

Statistics can be gathered regarding "User logins" to the learning system.

Figure 38. User login statistics.

Data Analyses Possibilities

Each psychosocial measure submission can be exported to comma separated values (CSV) for further analysis from *Form Maker*®.

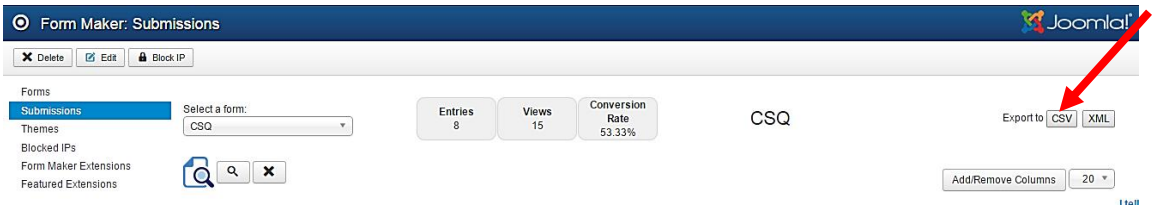

Figure 39. Export psychosocial questionnaire results to CSV.

Pre and post score analyses of the BDI, CSQ, PVAQ, and POP may be performed to determine if there were significant changes corresponding to the psychoeducational treatment. It is expected that the psychoeducational components will initiate changes in pain behavior, coping skills, sense of life-control, affective distress, and the response of significant other to pain. Follow-up measures may also be analyzed for sustained change. It is expected that changes at the end of treatment will be maintained twelve weeks later. Analyses could include t-test statistics for mean comparison of scores as well as regression analyses to understand if there are gender, age, or pain type effects on pre and post test scores.

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APPENDIX A

Online Chronic Pain Patient Manual

Loma Linda University

Pain Patient Care Guide

Chronic Pain Care web page manual

By: Cynthia Nakoski, MA

TABLE OF CONTENTS

INTRODUCTION

Prior to beginning your lessons, please take the time to complete the Pre-test from the menu item "Begin Here" on the right hand side. Once completed, please come back and start your learning path.

The lessons incorporated within this program are directed at helping you learn important information to assist you in managing your chronic pain. They focus on the important aspects discovered by the American Chronic Pain Association.

After 30 years of helping those suffering with chronic pain, the American Chronic Pain Association (ACPA) provided some information on what they have learned.

- We need the support of others who experience and understand chronic pain.
- Recognizing emotions helps us to understand ourselves.
- While our pain is certainly not all in our heads, attitudes and expectations do make a difference.
- Learning how to relax is essential. It helps prevent tension and redirects our attention on to other things we have some control over.
- Staying active, within realistic limits, can help us remain flexible and strong and reduce our sense of suffering.
- It is important to set realistic goals and chart our progress toward them.
- Chronic pain not only involves the person with pain, but the family as well.
- Hearing others talk of similar feelings and experiences caused by pain reduces our isolation.
- There are no wrong feelings.
- Half the battle is won when you begin to help yourself.

(ACPA, 2015a)

Your Basic Rights – ACPA

People with chronic pain are often "people pleasers." We find it hard to express our needs and require that others respect them. And when our needs are not met, tension is increased and our pain seems worse.

But you do have the same basic rights that you grant to others. You have the right to:

- Act in a way that promotes dignity and self-respect.
- Be treated with respect.
- Make mistakes.
- Do less than you are humanly capable of doing.
- Change your mind.
- Ask for what you want.
- Take time to slow down and think before you act.

- Ask for information.
- Ask for help or assistance.
- Feel good about yourself.
- Disagree.
- Not have to explain everything you do and think.
- Say "no" and not feel guilty.
- Ask why.
- Be listened to and taken seriously when expressing your feelings.
- Read and reread these rights so that you not only know them by heart, but so that they become part of your daily life.

(ACPA, 2015b)

It is highly recommended that you pace yourself to complete one lesson per week in order to gain the most benefit from them. As you work through the lessons within the Chronic Pain Care Plan, you will be provided with information and asked to complete homework each week. It will be beneficial for you to maintain a calendar with a list of tasks that you should complete each week. You can use your own personal calendar, your smart phone, or the paper calendar attached here.

Pain Management Activities

Weekly Calendar

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
6	AM							
	:30							
7	AM							
	:30							
8	AM							
	:15							
	:30							
	:45							
9	AM							
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Please keep it in a place where you will see it during the day and remember to update it with new tasks from each weekly lesson.

LESSON 1: INFORMATION ABOUT PAIN AND TREATMENT

Objective:

- Provide an overview of chronic pain including its description, associated symptoms, and known treatments.

Goals:

- Group members will obtain a better understanding of the nature of chronic pain.
- Group members will gain an understanding of their personal experience with chronic pain by completing the worksheet for this week.
- Group members will be oriented to scheduling their activities using the calendar presented in the introduction.

What is Pain?

Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. The presence of pain often is an indication that something is wrong. Pain can appear suddenly or can come about slowly.

Each individual is the best judge of his or her own pain. Feelings of pain can range from mild and occasional to severe and constant. Pain can be classified as acute pain or chronic pain.

What is Acute Pain?

Acute pain begins suddenly and is usually sharp in quality. It serves as a warning of disease or a threat to the body. Acute pain might be caused by many events or circumstances, including:

- Surgery
- Broken bones
- Dental work
- Burns or cuts
- Labor and childbirth

Acute pain might be mild and last just a moment, or it might be severe and last for weeks or months. In most cases, acute pain does not last longer than six months, and it disappears when the underlying cause of pain has been treated or has healed. Unrelieved acute pain, however, might lead to chronic pain. ("Acute vs Chronic pain," 2014)

What is Chronic Pain?

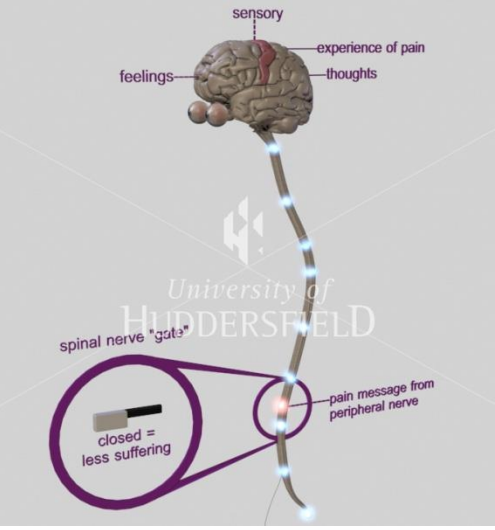
- Chronic pain: Pain with a duration of 6 months or greater that is often associated with functional, psychological and social problems that can negatively impact a person's life.

Chronic Pain is Multi-Factorial

- Psychological factors – depression, anxiety, somatization
- Socioeconomic factors – cultural differences, urban poor, gender
- Spiritual factors – spiritual suffering, meaning of pain
- Physical factors – VERY complex neuroanatomy creating the pain sensation, from pain receptors to afferent nerves to spinothalamic tract, to thalamus to cortex with modulators all along the way

Gate Control Theory

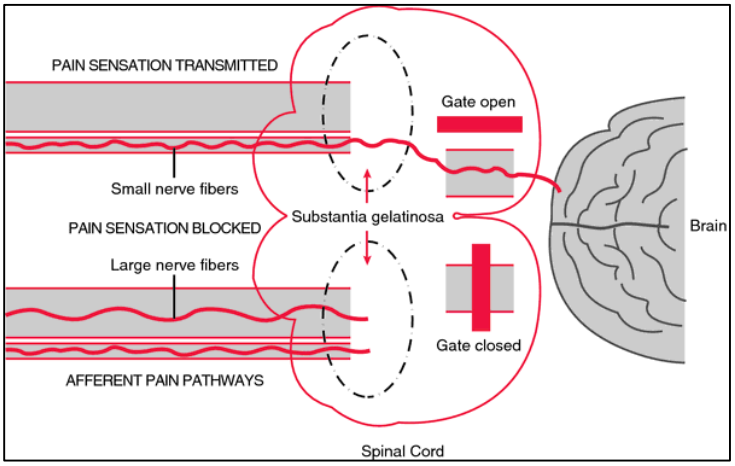
Pain is complicated. It is a result of much more than the initial disease or injury that set it off. In the past, people believed that pain signals traveled only one way - from a nerve injury up to the brain. Scientists have now learned that the brain has the ability to act like a "gate", controlling the messages that are received and sent out from it. They call this the "Gate Control Theory" of pain. An important part of this theory is that scientists know that the brain can send messages that block painful sensations down to different parts of the body.



The pain gate theory or gate control theory of pain, put forward by Ron Melzack and Patrick Wall in 1965, is the idea that physical pain is not a direct result of activation of pain receptor neurons, but rather its perception is modulated by interaction between different neurons. They suggested that there is a "gating system" in the central nervous system that opens and closes to let pain messages through to the brain or to block them. Gate control theory of pain is often used to explain chronic pain.

The gate is open when Substantia Gelatinosa (SG) cells are inhibited as the cells allows nociceptive stimulation to be passed on higher center and the Gate is closed when SG cells are excited. Gate control theory of pain argues that human thoughts, beliefs and

emotions affect the amount of pain felt from a given physical sensation. The basis of this theory is that both the psychological and physical factors guide the brain's interpretation of painful sensations and subsequent response.



Things that open the gate:

- Physical: degenerative changes, muscle tension, drug abuse
- Cognitive: attention to pain, thoughts about uncontrollability of pain, beliefs about pain as mysterious, terrible thinking
- Emotions: depression, fear/anxiety, anger
- Activity: too much or too little activity, poor diet and other health behaviors, imbalance between work, social, and recreational activities
- Social: little support from family and friends; others focusing on your pain; others trying to protect you too much

Things that close the gate:

- Physical: drugs; surgery; reduced muscular tension
- Cognitive: distraction or external focus of attention; thoughts of control over pain; beliefs about pain as predictable and manageable
- Emotions: emotional stability; relaxation and calm, positive mood
- Activity: appropriate pacing of activity; positive health habits; balance between work, recreation, rest, and social activity
- Social: support from others; reasonable involvement from family and friends; encouragement from others to maintain moderate activity

Known Treatments

There are hundreds of types of pain. Common pain syndromes include arthritis, back pain, central pain syndrome, cancer pain, headaches, head and facial pain, muscle pain, myofascial pain syndromes, neuropathic pain, reflex sympathetic dystrophy syndrome (RSDS), sciatica, shingles and other painful disorders of the skin, sports injuries, spinal stenosis, surgical pain, temporomandibular disorders, trauma, and vascular disease or injury.

No test can measure the intensity of pain, no imaging device can show pain, and no instrument can locate pain precisely The patient's own description of the type, duration, and location of pain may be the best aid in diagnosis.

Tests used to determine the cause of pain include electrodiagnostic procedures such as electromyography (EMG), nerve conduction studies, and evoked potential (EP) studies; imaging, especially magnetic resonance imaging (MRI); neurological examination; or X-rays.

The goal of pain management is to improve function, enabling individuals to work, attend school, or participate in day-to-day activities.

The most common treatments for pain include:

Analgesic pain relievers (aspirin, acetaminophen, and ibuprofen)	Acupuncture
Anticonvulsants	Antidepressants
Migraine headache medicines	Biofeedback
Capsaicin	Chiropractic
Cognitive and behavioral therapy	Counseling
Cox-2 inhibitors	Electrical stimulation
Exercise	Hypnosis
Lasers	Magnets
Nerve blocks	Opioids
Physical therapy and rehabilitation	R.I.C.E. -- rest, ice, compression, and elevation
Surgery	

It is believed that pain affects men and women differently. This may be due to hormones, psychology, and culture (MedicineNet, 2014).

Take some time and reflect on your chronic pain and the various treatments you have used to manage it in the past using the attached worksheet (Karume, 2009).

Lesson 1 Worksheet

The goal of this worksheet is to chart your history with chronic pain (Moynier, 2009). This will include previous symptoms, treatments, and medications. This task will provide a foundation for later groups. It is important to have a clear understanding of where you have been in order to successfully plan where you are going. The web page facilitators will provide assistance if you have any questions.

What are your current symptoms of chronic pain?

_____

_____

_____

What were some of your previous symptoms?

_____

_____

_____

What methods have you used to manage your symptoms? Which ones were helpful? Which ones were not?

Methods?	Was it helpful?
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Please update this information as you continue through the program

Which medications have you tried in the past? Which ones were helpful? Which ones were not?

Methods?	Was it helpful?
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

When did you first notice your symptoms?

_____

When were you diagnosed with chronic pain?

_____

Were there any other difficulties during the time you first noticed symptoms (i.e., car accident, physical or mental abuse, excessive stress, family difficulties, trouble at work, etc.). If so, please list?

_____

_____

_____

_____

LESSON 2: ORIENTATION TO COGNITIVE BEHAVIORAL THERAPY, ACCEPTANCE AND COMMITMENT THERAPY, AND FAMILY THERAPY

Objective:

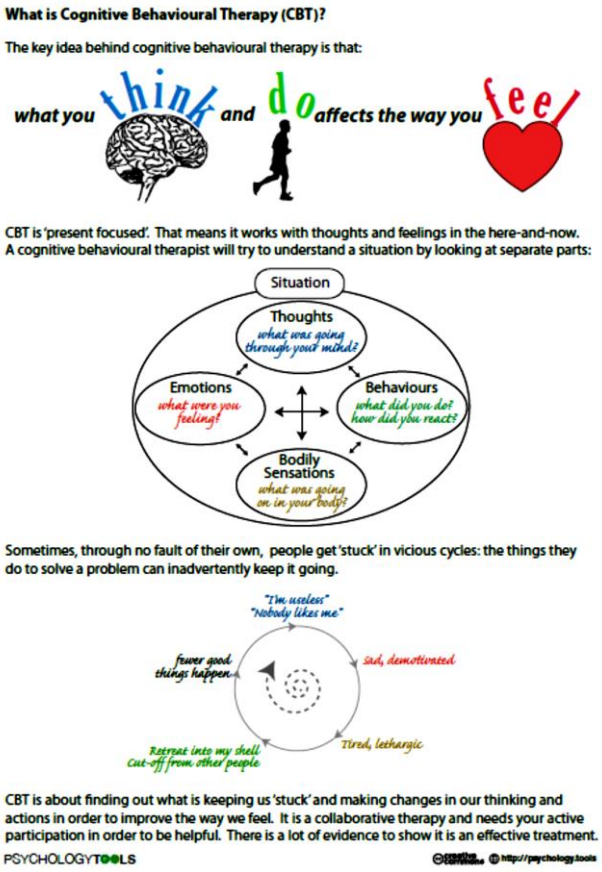
- Provide an overview of the psychological treatments that will be used within this program to assist with chronic pain management.

Goals:

- Group members will obtain a better understanding of Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy (ACT) and Family Therapy
- Group members will gain an understanding of how these treatments will work together to assist them in managing chronic pain.

What is Cognitive Behavioral Therapy?

("What is CBT?," 2008)[2]



[2] Permission to use content from psychology.tools was granted by Dr. Matthew Whalley (see Appendix C).

When your brain helps the pain: Cognitive therapy in action
Written by: Joanne Zeis
Published: April 06, 2010
Reviewed by: Jonas I. Bromberg, Psy.D., March 2010
(Zeis, 2010)[3]

When your brain helps the pain: Cognitive therapy in action

As they say, the only guarantees in life are death and taxes.

But what about pain? We all have that, too – although some feel it more than others. And some people with chronic pain conditions have a 24/7 pain problem that can be ruthless.

How do they handle it?
Medication isn't the only answer: A person's brain can also help to handle the pain.

The impact of pain
There's more to pain than being hurt. Every time you feel pain, your brain also kicks in with its own ideas about what just happened. Some of these thoughts may be helpful, like "Next time I'll need to hold the board more tightly before I start hammering." But if bad memories or feelings about past injuries get in the way, then unhelpful, negative thoughts could take over instead. For example, your brain could start to scold, saying, "I'll never be as good a carpenter as my Dad. I shouldn't even try."

Believe it or not, these types of negative thoughts can affect how much pain you feel: It doesn't matter whether you've had a recent injury, or you're dealing with chronic, neuropathic pain. Experts know that a person's thoughts, emotions, and past experiences can make a painful situation feel much worse than it is… or much better. Your thoughts can also affect how you choose to deal with your pain, now and in the future. That's where therapy can make a difference.

Cognitive therapy
Doctors often suggest cognitive therapy for people with chronic pain conditions – not because they think that their patients' pain is "all in their head," but because it will help their patients to learn new ways to handle (and reduce) their pain. Cognitive therapy is often the treatment of choice. Simply put, it means using your mind to help manage your symptoms. The therapist is usually a psychologist or another mental health provider.

[3] Permission to use articles from PainAction.com was granted from Elsbeth McSorley (see Appendix C).

For most people with chronic pain, cognitive therapy is meant to be a short-term treatment. “Booster” sessions may follow, to check on the person’s progress and results.

What happens in a cognitive therapy session?
Everyone begins therapy with their own beliefs about the pain that they’re in, about its impact on their lives, on the people around them, and on their futures. In treatment, the therapist helps the client to identify, understand, and change any of those beliefs that are unrealistic and/or self-defeating. That’s because those negative beliefs may lead to feelings of low self-worth, – which can lead to stronger feelings of pain. Let’s look at a couple of examples:

"It’s all my fault!”
Some people personalize problems by taking the blame, even if they had no responsibility for what went wrong. Take the case of Sarah, a 24-year-old woman with CRPS (complex regional pain syndrome). Twice a week Sarah’s husband had been picking her up from work and driving her to physical therapy; the therapist was trying to help reduce the pain that Sarah felt in both of her legs. It was raining hard during one of their drives, and when Sarah’s husband hit the brakes, their car spun around and went into a ditch. Neither of them was hurt, but they had to call a tow truck. “My legs wreck everything!” Sarah cried. ”If I didn’t have all of this pain, we’d still have a car to drive. It’s all my fault!” Sarah didn’t want to hear about wet roads or old tires on the car.

A cognitive therapist might help Sarah grasp that this type of thinking is unrealistic and maladaptive: There are other ways to explain the car accident. Sarah can’t control the rain, the brakes, or the road conditions. She needs to focus instead on the things in her life that she is able to control.

“Our lives are ruined!”
Someone who catastrophizes makes a problem seem much worse than it is. John’s story is a good example. John had worked for years as a mechanic at a national car dealership. He liked the job: Even though John had chronic lower back pain, his boss was understanding about taking breaks, seeing doctors, and having to take pain medication.
At home one night, John tried to lift a box that he thought was almost empty – but there were some heavy books in the bottom. He wrenched his back and could barely move. “I’ll never be able to work again!" he thought. “We won’t have any money to pay the bills…we’ll be out on the street.” John decided to call his boss and resign, before he got fired for not being able to work.

A cognitive therapist might help John understand other ways to think about this problem, before making drastic choices. John could ask himself: Am I over-reacting? Have there been other times when I've hurt my back, and been able to go back to work? What's the most likely thing that could happen?

But wait, there's more …
Personalizing and catastrophizing are just two out of ten common "errors of thinking" that are addressed during cognitive therapy. Cognitive therapists also teach other pain management skills, such as deep breathing and muscle relaxation, and help clients to develop better problem-solving skills. By learning skills like how to communicate better, how to be assertive, and how to set realistic goals, people with chronic pain have the tools to lead healthier lives, with reduced pain.

Acceptance and Commitment Therapy (ACT)

Acceptance and Commitment Therapy (ACT) is based on research and theory on experiential avoidance; the routine avoidance of private experiences (emotions, thoughts, and symptoms including pain) that lead to various disorders ("Acceptance and Commitment Therapy for chronic pain," 2012). It also includes the concept of Relational Frame Theory, in that human language influences experience and behavior. ACT targets the relationships with our feared or avoided thoughts, feelings, memories, and physical sensations. Acceptance and mindfulness will be used to instruct participants on how to decrease avoidance, separate thoughts from actions, and to modify behaviors according to clarified life values and goals. When applied to chronic pain, the goal is not physical symptom reduction. Instead, it is the improvement of functioning through the increase of psychological flexibility, while remaining in the midst of chronic pain and other negative experiences. There is substantial research supporting ACT in the treatment of chronic pain conditions demonstrating that ACT improves functioning and mood in heterogeneous chronic pain samples ("Acceptance and Commitment Therapy for chronic pain," 2012). After attending an 8 weeks of ACT group treatment, patients showed improvement on pain interference, depression, and pain-related anxiety (Wetherell et al., 2011).

Family Therapy

Family systems theory views the family as an interrelated group of people that derive meaning and existence through interactions of each other and those around them and its focus is on patterns that develop within the family in order to diffuse anxiety (Brown, 1999). Anxiety within the family is the generated perception of either too much closeness or two great a distance in a relationship. The degree of anxiety in any single-family will be determined by the current level of external stress and generational sensitivities to particular themes. A state of chronic anxiety may be set in place when family members do not have the skills to think through responses to these relationship dilemmas, but instead react anxiously (Brown, 1999). Specifically, chronic pain impacts the person with pain and their family members in multiple ways that include the validation of pain, coping with the pain, physical and emotional dependence, role changes, financial strains, loss of power and social and recreational changes (Lewandowski et al., 2007).

The family should be encouraged to engage in direct and open communication about the pain and related problems, as well as how they deal with the challenges it brings (H. D. Hadjistavropoulos et al., 2011). The negative consequences of personal stress may be buffered by the perception of social support, which includes the family system (Kerns et al., 2002). Evidence suggests an inverse relationship between spousal support for pain behaviors and depression. Research also indicates that cancer patients' partners report significantly higher levels of emotional distress when the patient is experiencing pain versus those who are pain free (Keefe et al., 2006). In addition, up to 83% of spouses report significant depressive symptoms and it seems to be influenced by how the patient copes with the pain experience (Lewandowski et al., 2007). Spouses reported that the uncertainty of the pain condition leads them to feelings of hopelessness and helplessness

by the struggle to understand the pain and fear of the future that arises. Pain relevant social support may also protect against depression in pain patients struggling with self-appraised problem-solving deficits (Kerns et al., 2002). Perceived social support has also led to reduced negative mood and significant reduction in pain and its effects in reflex sympathetic dystrophy (RSD) patients (Feldman et al., 1999). In sum, chronic pain perception affects and is affected by family and social environment and therefore an integral part of treatment.

LESSON 3: THOUGHTS AND EMOTIONS

Objectives:

- Present information on the importance of addressing mood symptoms and medical implications that frequently accompany chronic pain.
- Devise individualized plans to explore mood symptoms, identify coping strategies, and determine the need for concomitant treatment.

Goals:

- Group members will develop an understanding regarding the prevalence of mood symptoms that co-occur with chronic pain conditions.
- Group members will develop an understanding of techniques that enhance coping with mood symptoms.
- Group members will individualize their plan to identify and cope with mood symptoms and how they affect their family members by completing their worksheet and updating their schedule with mood coping activities.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web site.

Insert Dr. Kendal Boyd's audio here

Summary of the Cognitive Model of Pain

Individual variables: Cognitions are partly shaped by these individual considerations.

- Biological factors: Physical pathology/disease state is not a good predictor of patient adaptation to chronic pain but provides information about patient's history of biomedical treatments.
- Personality factors: Temperamental characteristics (e.g., neuroticism, negative affectivity, emotional vulnerability) increase the risk of disability.
- Social roles: Gender roles and cultural expectations influence pain-related beliefs and choice of coping options.
- Core beliefs: Deeply held beliefs about the self as a person in pain may evolve over the course of illness but are grounded in early formulations about the self.

Primary appraisals: Initial judgments regarding pain, potential pain, and related environmental demands shape secondary appraisals and selection of potential coping options.

- Threat: The perception that danger outweighs coping ability affects appraisals.
- Harm/loss: The perception that damage has occurred/resulted from stimulus influences judgments.
- Challenge: The perception that ability to cope is not outweighed by potential danger influences appraisals.

Secondary appraisals: These range from spontaneous situation-specific cognitions to deeply held convictions and can elicit emotional responses and influence coping.

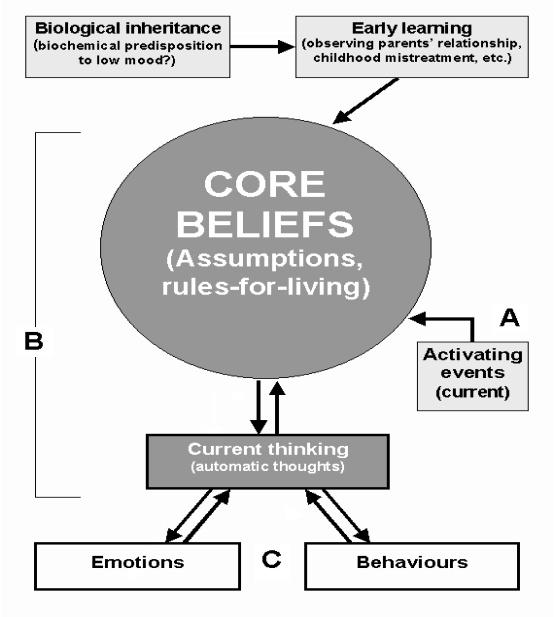
- Automatic thoughts/cognitive errors: Frequently occurring, situation-driven thoughts can occur without conscious awareness (e.g., catastrophizing, negative sense of self, negative interpretation of interaction with others, and self-blame).
- Intermediate beliefs: Acquired attitudes arise from personal, cultural, and environmental factors (e.g., beliefs about the cause and appropriate treatment for pain and beliefs about one's control over pain).

Cognitive coping: Thoughts, or thought techniques, are used in an attempt to mitigate the stress associated with chronic pain.

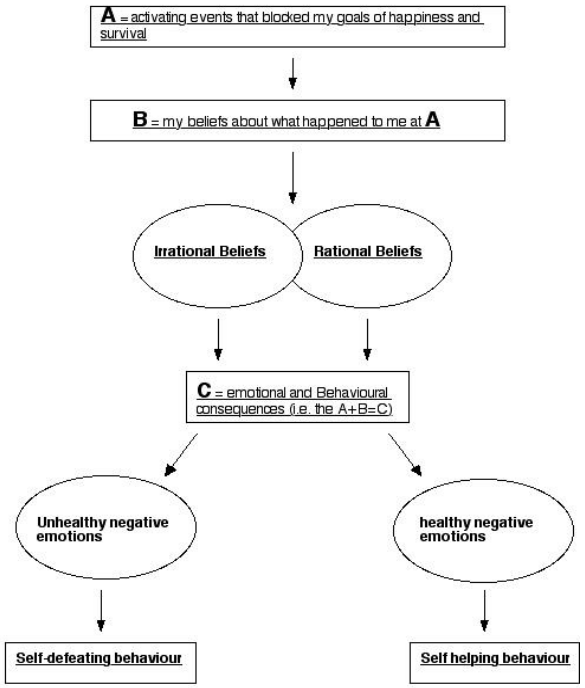
- They encourage cognitive, affective, and behavioral attempts to manage pain and associated environmental demands.
- They may *or may not* be related to mastery or adaptive outcome.

ABC Model of Thinking and Feeling

The ABC model is about the link between thoughts, feelings and behavior, and the way they interact to maintain depression, and anxiety. People's style of thinking develops through their life experiences and continue to affect the way they perceive events. Emotions and feelings are not so much a result of events, but rather what we tell ourselves about these events.



The ABC Model in Graph



(Stolear, 2013)

Activating Events

Events are situations such as being criticized, or being caught in traffic.

Beliefs / Thoughts

Thoughts are the result of our attempts to make sense of everyday events. They occur quickly and often we are not even aware of them. The kinds of thoughts, we have are based on belief systems that we each build up over time as a result of life experiences. The same style of thinking tends to occur automatically, each time we face certain events, so we develop fixed patterns of thinking.

Consequences / Reactions

Consequences or Reactions are the emotions, feelings and behaviors that result from your thoughts. People have different thoughts about the same event, and therefore will feel and act differently as a result.

The **ABC** model states that is not the event which causes the reaction, instead, it is the thoughts that people have about the event, which leads to the emotional reaction. For people with depression and anxiety, these thinking patterns tend to be negative.

Negative thoughts have several characteristics. They are:

Automatic	they just pop into your head, without any effort on your part;
Distorted	they do not fit all the facts;
Unhelpful	they keep you depressed and anxious, make it difficult to change, and stop you from getting what you want out of life;
Unquestioned	to accept them as facts, and it does not occur to you to question the them;
Involuntary	you do not choose to have them, and they can be very difficult to switch off.

Thoughts like these can trap you in a vicious circle. The more depressed or anxious you become, the more negative thoughts you have, and the more you believe them. The more negative thoughts you have, and the more you believe them, the more depressed or anxious you become. The main goal of cognitive therapy is to help you break out of this vicious circle.

Challenge of Pain

- Over time, negative thoughts and beliefs about pain, and behaviors related to pain can become very resistant to change.
- **Thoughts**
    - My pain is going to kill me
    - This is never going to end
    - I'm worthless to my family
    - I’m disabled
    - There is nothing I can do for myself
    - I'm a bad father, husband, and provider
- **Behaviors**
    - Staying in bed all day
    - Sleeping all day
    - Staying away from friends
    - Decreasing activities that have the potential to increase pain
    - Taking more medication than prescribed

Take some time to complete the worksheet and get an idea of your ABC cycles.

ABC Worksheet

Restructuring Thoughts Worksheet						
Situation	**Emotion**	**Automatic Thought**	**Evidence For**	**Evidence Against**	**Positive Coping Thought**	**Emotion**
Describe the event	Specify the emotion (sad, angry, etc.) and rate it from 0% to 100%	What thought preceded the emotion?	What evidence do you have that this is true?	What evidence do you have that this is false?	What else can I say instead of the automatic thought?	What is the emotion now (0-100%)?

Here are some common thought distortions that may be affecting you. Print this and highlight the ones that you feel are most troubling for you.

50 Common Cognitive Distortions
A giant list of ubiquitous cognitive distortions.
Published on January 17, 2013 by Alice Boyes, Ph.D.
https://www.psychologytoday.com/blog/in-practice/201301/50-common-cognitive-distortions

Becoming mindful of these common cognitive distortions will help you understand yourself and other people better, and improve your decision making.

1. Personalizing.
Taking something personally that may not be personal. Seeing events as consequences of your actions when there are other possibilities. For example, believing someone's brusque tone must be because they're irritated with you. (Tips for not personalizing.)

2. Mindreading. Guessing what someone else is thinking, when they may not be thinking that.

3. Negative predictions. Overestimating the likelihood that an action will have a negative outcome.

4. Underestimating coping ability. Underestimating your ability cope with negative events.

5. Catastrophizing. Thinking of unpleasant events as catastrophes.

6. Biased attention toward signs of social rejection, and lack of attention to signs of social acceptance.
For example, during social interactions, paying attention to someone yawning but not paying the same degree of attention to other cues that suggest they are interested in what you're saying (such as them leaning in).

7. Negatively biased recall of social encounters.
Remembering negatives from a social situation and not remembering positives. For example, remembering losing your place for a few seconds while giving a talk but not remembering the huge clap you got at the end.

8. Thinking an absence of effusiveness means something is wrong.
Believing an absence of a smiley-face in an email means someone is mad at you. Or, interpreting "You did a good job" as negative if you were expecting "You did a great job."

9. Unrelenting standards.
The belief that achieving unrelentingly high standards is necessary to avoid a catastrophe. For example, the belief that making any mistakes will lead to your

colleagues thinking you're useless.

10. Entitlement beliefs.
Believing the same rules that apply to others should not apply to you. For example, believing you shouldn't need to do an internship even if that is the normal path to employment in your industry.

11. Justification and moral licensing.
For example, I've made progress toward my goal and therefore it's ok if I act in a way that is inconsistent with it.

12. Belief in a just world.
For example, believing that poor people must deserve to be poor.

13. Seeing a situation only from your own perspective.
For example, failing to look at a topic of relationship tension from your partner's perspective.

14. Belief that self-criticism is an effective way to motivate yourself toward better future behavior. It's not.

15. Recognizing feelings as causes of behavior, but not equally attending to how behavior influences thoughts and feelings.
For example, you think "When I have more energy, I'll exercise" but not "Exercising will give me more energy."

16. All or nothing thinking.
e.g., "If I don't always get As, I'm a complete failure."

17. Shoulds and musts.
For example, "I should always give 100%." Sometimes there are no important benefits of doing a task beyond a basic acceptable level.

18. Using feelings as the basis of a judgment, when the objective evidence does not support your feelings.
e.g., "I don't feel clean, even though I've washed my hands three times. Therefore I should wash my again." (Obsessive Compulsive Disorder example).

19. Basing future decisions on "sunk costs."
e.g., investing more money in a business that is losing money because you've invested so much already.

20. Delusions. Holding a fixed, false belief despite overwhelming evidence to the contrary. For example, believing global warming doesn't exist. Or, believing you're overweight when you're 85lbs.

21. Assuming your current feelings will stay the same in the future.
For example, “I feel unable to cope today, and therefore I will feel unable to cope tomorrow.”

22. Cognitive labeling.
For example, mentally labeling your sister’s boyfriend as a “loser” and not being open to subsequent evidence suggesting he isn’t a loser.

23. The Halo Effect.
For example, perceiving high calories foods as lower in calories if they’re accompanied by a salad.

24. Minimizing.
e.g., “Yes I won an important award but that still doesn’t really mean I’m accomplished in my field.”

25. Magnifying (Cognitively Exaggerating).
For example, blowing your own mistakes and flaws out of proportion and perceiving them as more significant than they are. Making a mountain out of a molehill, but not quite to the same extent as catastrophizing.

26. Cognitive conformity.
Seeing things the way people around you view them. Research has shown that this often happens at an unconscious level.

27. Overgeneralizing
Generalizing a belief that may have validity in some situations (such as “If you want something done well, you should do it yourself.”) to every situation. This is a type of lack of psychological flexibility.

28. Blaming others.

29. Falling victim to the “Foot in the Door” technique.
When someone makes a small request to get a “Yes” answer, then follows up with a bigger request, people are more likely to agree to the big request than if only that request had been made.

30. Falling victim to the “Door in the Face” technique.
When someone makes an outlandish request first, then makes a smaller request, the initial outlandish request makes the smaller request seem more reasonable.

31. Focusing on the amount saved rather than the amount spent.
e.g, Focusing on the amount of a discount rather than on whether you’d buy the item that day at the sale price if it wasn’t listed as on sale.

32. Overvaluing things because they're yours.

e.g., perceiving your baby as more attractive or smart than they really are because they're yours.
Or, overestimating the value of your home when you put it on the market for sale because you overestimate the added value of renovations you've made.

33. Failure to consider alternative explanations.
Coming up with one explanation for why something has happened/happens and failing to consider alternative, more likely explanations.
34. The Self-Serving Bias The self-serving bias is people's tendency to attribute positive events to their own character but attribute negative events to external factors. (Tips for overcoming the self-serving bias.)

35. Attributing strangers' behavior to their character and not considering situational/contextual factors.

36. Failure to consider opportunity cost.
For example, spending an hour doing a low ROI task and thinking "it's only an hour" and not considering the lost potential of spending that hour doing a high ROI task.

37. Assumed similarity.
The tendency to assume other people hold similar attitudes to your own.

38. In-group bias.
The tendency to trust and value people who are like you, or who are in your circle, more than people from different backgrounds.

39. "You don't know what you don't know."
Getting external feedback can help you become aware of things you didn't even know that you didn't know!

40. The tendency to underestimate how long tasks will take.

41. The belief that worry and overthinking will lead to problem solving insights. In fact, overthinking tends to impair problem solving ability and leads to avoidance coping.

42. Biased implicit attitudes.
Psychologists use a test called the implicit association test to measure attitudes that people subconsciously hold. Results show people subconsciously associate fat with lazy etc.
It's useful to be mindful that you may subconsciously hold biased attitudes, then you can consciously correct for them.

43. The Peak-End Rule.

The tendency to most strongly remember (1) how you felt at the end of an experience, and (2) how you felt at the moment of peak emotional intensity during the experience. Biased memories can lead to biased future decision making.

44. The tendency to prefer familiar things.
Familiarity breeds liking, which is part of why people are brand loyal and may pay inflated prices for familiar brands vs. switching.

45. The belief you can multi-task.
When you're multi-tasking you're actually task (and attention) shifting. Trying to focus on more than one goal at a time is self-sabotage.

46. Failure to recognize the cognitive benefits of restorative activities and activities that increase positive emotions.
For example, seeing humor or breaks as a waste of time.

47. Positively biased predictions.
For example, expecting that if you sign up to a one year gym membership you will go, if this hasn't been the case in the past.

48. Cheating on your goals based on positive behaviors you plan to do later.
For example, overeating today if you expect you'll be starting a diet next week. Often the planned positive behaviors don't happen.

49. Repeating the same behavior and expecting different results (or thinking that doubling-down on a failed strategy will start to produce positive results).
For example, expecting that if you nag more, your partner will change.

50. "I can't change my behavior." (or "I can't change my thinking style.")
Instead of telling yourself "I can't," try asking yourself how you could shift your behavior (or thinking style) by 5%.

(Boyes, 2013)

Dual Diagnosis Handout

Living with chronic pain can be physically and emotionally difficult for both you and your family members. The physical difficulties are usually easy to notice, but the emotional symptoms may not be as obvious. There are many natural emotions that people with chronic pain and their family members experience. The goal of this topic is to raise awareness about those emotions and to invite family members in learning about other co-occurring diagnoses and how they affect the patients and inadvertently as family members (Karume, 2009; Moynier, 2009).

What are some of the typical aversive emotions?

1. Depression
    a. Affects about 20% of the population at some point in their lives.
    b. Affects about 30%-50% of chronic pain sufferers at some point in their lives.
    c. Affects twice as many women than men
    d. First episode of depression typically occurs between 25-45 years old.
    e. Emotional Symptoms
        i. Chronic sadness
        ii. Lack of enjoyment in activities that once were pleasurable
        iii. Self-blame
        iv. Loss of sex drive or decreased interest in sex
        v. Feelings of worthlessness
    f. Behavioral Symptoms
        i. Trouble concentrating
        ii. Irritability
        iii. Refusal to participate in social activities
    g. Physical Symptoms
        i. Nausea and indigestion
        ii. Weight loss or weight gain
        iii. Difficulty sleeping
2. Anxiety
    a. Affects between 10-20% of the population.
    b. Affects about 20% of chronic pain sufferers.
    c. Symptoms:
        i. Muscle tension
        ii. Headaches
        iii. Sleep disturbances
        iv. Trembling or twitching
        v. Headaches
        vi. Irritability
        vii. Lack of concentration

What can I do about these feelings?

1. Meet with a mental health specialist
2. Pharmacotherapy
3. Self-management skills

Dual Challenges Worksheet

Having chronic pain can be extremely stressful and difficult to cope with. It is not uncommon for people with chronic pain and fatigue to have an emotional response. The successful management of chronic pain includes identifying and addressing the emotions that accompany it. The goal of this worksheet is to identify these normal emotional responses that you and your family members experience and to devise ways to manage them (Karume, 2009; Moynier, 2009).

What are your physical symptoms of chronic pain?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Patient: Please identify the emotional responses you typically have to the symptoms listed above. (Note: each symptom may trigger a different emotional response).

1. _____
   _____
2. _____
   _____
3. _____
   _____

Family member: Please explain the feelings you get when the patient has the symptoms listed above. (Note: each symptom may trigger a different emotional response).

1. _____
   _____
2. _____
   _____
3. _____
   _____

Patient: How do you typically manage or cope with these emotions?

1. _____
2. _____
3. _____
4. _____
5. _____

Patient: How do you typically manage or cope with these emotions?

1. _____
2. _____
3. _____
4. _____
5. _____

Patient: What are some additional methods to managing or coping with these emotions?

1. _____
2. _____
3. _____
4. _____

Family member: What are some additional methods to managing or coping with these emotions?

1. _____
2. _____
3. _____
4. _____

Remember, emotions are an important part of everyone's daily life. It is what makes us human. It is not uncommon for chronic pain, fatigue and other physical symptoms to result in difficult emotions. It is not uncommon either, for family member to adverse emotions in reaction to the patient's symptoms. Being aware of your emotional responses is the first step to managing them.

Cognitive Restructuring

Cognitive restructuring has been used successfully to treat a wide variety of conditions, including depression, Post-Traumatic Stress Disorder (PTSD), addictions, anxiety, social phobias, relationship issues, and stress.

For example, you can use it to overcome negative thinking before you speak in public, or to improve your mood when you have a bad day. You can also use it to think positively before you go into a performance review or a job interview, or before you engage in a difficult conversation. It's also helpful for overcoming fear of failure and fear of success, and for beating self-sabotage.

How to use Cognitive Restructuring

Download our free worksheet, and follow the steps below to use the cognitive restructuring technique.

Restructuring Thought Worksheet

Restructuring Thoughts Worksheet						
Situation	**Emotion**	**Automatic Thought**	**Evidence For**	**Evidence Against**	**Positive Coping Thought**	**Emotion**
Describe the event	Specify the emotion (sad, angry, etc.) and rate it from 0% to 100%	What thought preceded the emotion?	What evidence do you have that this is true?	What evidence do you have that this is false?	What else can I say instead of the automatic thought?	What is the emotion now (0-100%)?

This framework is based on the steps in Drs. Dennis Greenberger and Christine Padesky's book, *Mind Over Mood*, which is well worth reading for a deeper understanding of this technique. (Greenberger & Padesky, 1995)

Step 1: Calm Yourself

If you're still upset or stressed by the thoughts you want to explore, you may find it hard to concentrate on using the tool. Use meditation or deep breathing to calm yourself down if you feel particularly stressed or upset.

Step 2: Identify the Situation

Start by describing the situation that triggered your negative mood, and write this into the appropriate box on the worksheet.

Step 3: Analyze Your Mood

Next, write down the mood, or moods, that you felt during the situation.

Here, moods are the fundamental feelings that we have, but they are not thoughts about the situation. Drs. Greenberger and Padesky suggest an easy way to distinguish moods from thoughts: you can usually describe moods in one word, while thoughts are more complex.

For example, 'He trashed my suggestion in front of my co-workers' would be a thought, while the associated moods might be humiliation, frustration, anger, or insecurity.

Step 4: Identify Automatic Thoughts

Now, write down the natural reactions, or 'automatic thoughts,' you experienced when you felt the mood. In the example above, your thoughts might be:

'Maybe my analysis skills aren't good enough.'
'Have I failed to consider these things?'
'He hasn't liked me since…'
'He's so rude and arrogant!'
'No one likes me.'
'But my argument is sound.'
'This undermines my future with this company.'
In this example, the most distressing thoughts (the 'hot thoughts') are likely to be 'Maybe my analysis skills aren't good enough,' and, 'No one likes me.'

Step 5: Find Objective Supportive Evidence

Identify the evidence that objectively supports your automatic thoughts. In our example,

you might write the following:

'The meeting moved on and decisions were made, but my suggestion was ignored.'
'He identified a flaw in one of my arguments.'
Your goal is to look objectively at what happened, and then to write down specific events or comments that led to your automatic thoughts.

Step 6: Find Objective Contradictory Evidence

Next, identify and write down evidence that contradicts the automatic thought. In our example, this might be:

'The flaw was minor and did not alter the conclusions.'
'The analysis was objectively sound, and my suggestion was realistic and well-founded.'
'I was top of my class when I trained in the analysis method.'
'My clients respect my analysis, and my opinion.'
As you can see, these statements are fairer and more rational than the reactive thoughts.

Step 7: Identify Fair and Balanced Thoughts

By this stage, you've looked at both sides of the situation. You should now have the information you need to take a fair, balanced view of what happened.

If you still feel uncertain, discuss the situation with other people, or test the question in some other way.

When you come to a balanced view, write these thoughts down. The balanced thoughts in this example might now include:

'I am good at this sort of analysis. Other people respect my abilities.'
'My analysis was reasonable, but not perfect.'
'There was an error, but it didn't affect the validity of the conclusions.'
'The way he handled the situation was not appropriate.'
'People were surprised and a little shocked by the way he handled my suggestion.' (This comment would have followed an informal conversation with other people at the meeting.)

Step 8: Monitor Your Present Mood

You should now have a clearer view of the situation, and you're likely to find that your mood has improved. Write down how you feel.

Next, reflect on what you could do about the situation. (By taking a balanced view, the situation may cease to be important, and you might decide that you don't need to take action.)

Finally, create some positive affirmations that you can use to counter any similar automatic thoughts in the future.

Important Reminder: Use the approach to cognitive restructuring described here to address occasional negative thinking. Seek the advice of a qualified medical professional if you experience serious or persistent negative thoughts.

LESSON 4: STRESS AND RELAXATION

Objectives:

- Present information on the benefit of identifying stress and on techniques to mitigate stress through relaxation exercises.
- Devise individualized plans to implement relaxation exercises into each group member's weekly routine.

Goals:

- Group members will develop an understanding of the prevalence and sources of stress for those with a chronic pain condition.
- Group members will develop an appreciation for the benefit of identifying stress and managing it through relaxation exercises.
- Group members will individualize their plan to engage in regular relaxation exercises by completing their worksheet for and updating their schedule with relaxation exercises.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web site.

What Is the Stress Response?

The stress response is a three-part reaction to something (an event, emotion, physical feeling) that people think they cannot cope with.

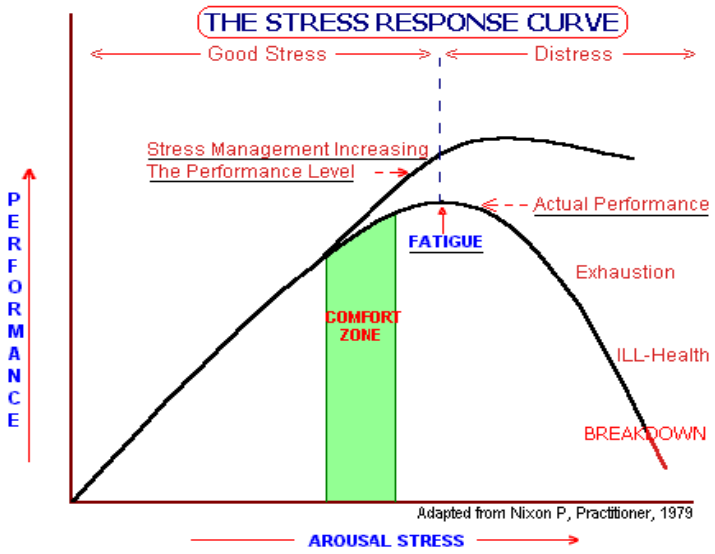
Three parts of the stress reaction:

- Biological: Increased blood pressure, muscle tension, stress hormones; lowered immune response.
- Emotional: Anxiety, sadness, anger, embarrassment, shame, depression.
- Cognitive: Thoughts and images about the event and about the self.

Pain – Stress Relationship

- Pain is a stressor: Chronic pain itself can be a major ongoing stressor, and can lead to the stress response.
- Physical changes, emotions, thoughts, and behaviors can all be (non-pain) stressors

Stress Response



The curve shows that as the level of stress increases, the performance level also increases, to the point of eustress, or healthy tension. Near the point of fatigue, an identified area called the Comfort Zone indicates the range of stress levels that we can absolutely manage and facilitates good performance levels.

As stress begins to be perceived as overwhelming or excessive, the person reaches a fatigue point wherein the performance levels starts to decline. The ultimate end of overwhelming stress, called burnout, can be exhaustion, ill-health or breakdown. (Sincero, February 12, 2012)

Chronic Stress

Chronic stress is the total opposite of acute stress; it's not exciting and thrilling, but dangerous and unhealthy. Chronic stress tears apart a person's mind, body or spirit.

This type of stress is brought about by long-term exposure to stressors, such as unhappy marriage, traumatic experiences, unwanted career or job, stress of poverty, **chronic illnesses**, relationship conflicts, political problems, and dysfunctional families. These stressful situations seem to be unending, and the accumulated stress that results from exposure to them can be life-threatening, and can even lead a person to resort to violence, suicide and self-harm. Serious illnesses like stroke, heart attack, cancer, and psychological problems such as clinical depression and post-traumatic disorder can originate from chronic stress.

Common physical signs and symptoms of chronic stress are:

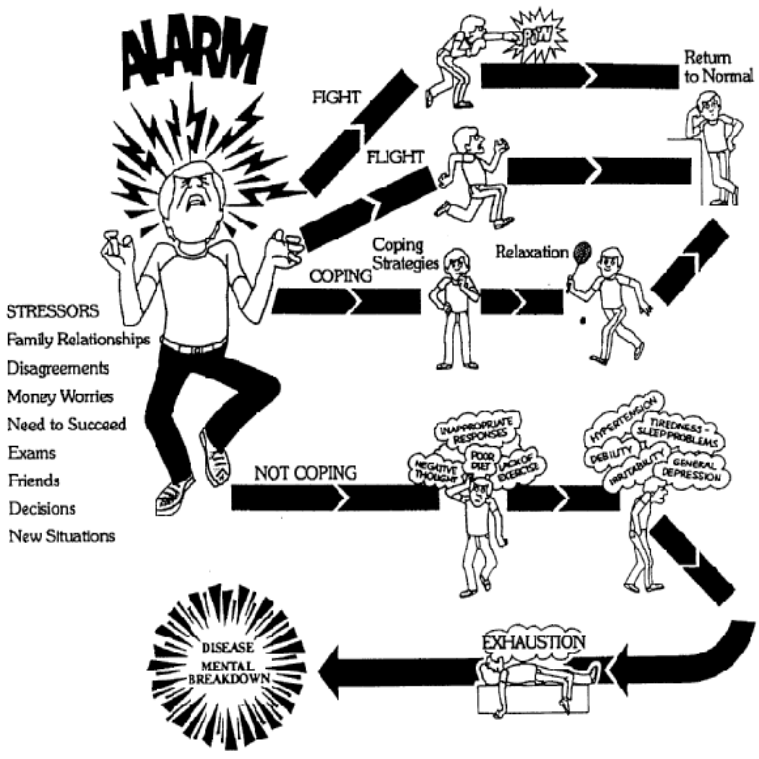
- dry mouth

- difficulty in breathing
- pounding heart
- stomach ache
- headache
- diaphoresis
- frequent urination
- tightening of muscles
- ...and more...

Mental signs and symptoms include:

- sudden irritability
- tension
- problems with concentration
- difficulty in sleeping
- narrowed perception
- frequent feelings of fatigue

(Sincero, September 10, 2012)



Ways to Decrease Stress

- Lifestyle Habits
    - Diet, exercise, sleep, relaxation
- Approaches to Situations
    - Time management, money management, assertiveness, problem-solving coping skills
- Ways of thinking
    - Realistic expectations, sense of humor, support system, positive thinking, challenge negative thinking

Control Your Physical Reaction to Stress
Calming yourself physically will help to relieve your reaction to stress. There are two main ways to become a calmer and more relaxed person:

1. Get the energy out physically
Find a way to move your body. Try tai chi, yoga, stretching or aqua therapy if you can't exercise like before.

- Have a good cry when needed.
- Squeeze a stress ball or play with clay.
- Express your frustrations positively by:
- Talking with your spouse or friends
- Journaling
- Finding a way to laugh

2. Calm your body and your mind
Learn relaxation techniques or visual imagery to slow down your heart rate and lower your blood pressure. Your health care provider may be able to refer you to people or resources that teach these techniques.

- Learn meditation or contemplative prayer practices.
- Listen to calming music.
- Take a silent, slow, meditative walk.

3. Control Your Mindset
Even if you can't control all of your circumstances, it's always possible to control your attitude:

- When you feel overwhelmed, stop and concentrate on that moment in time.
- Ask yourself if getting upset is really worth it.
- Take a deep breath and choose to relax.
- Decide to have a positive mental mindset.
- Don't let negative thoughts stick -- allow them to flow through you and move on.
- Learn to replace your negative thoughts with positive ones.

4. Let Go When You Can't Control

Some major life events – like chronic illness -- can't be controlled. And sometimes, just getting a handle on the pain that you're feeling can be challenging. Accepting the current reality may be your only choice. You can help the process along in several ways:

- Spend some time making a list of your goals and dreams.
  Decide:
  Which ones are still possible
  Which ones may be possible, with changes
  Which ones are, realistically, no longer possible
- Allow yourself to feel the painful emotions of loss over the ones that are no longer possible—especially any that may have been with you since childhood.
- Let go of those unreachable goals and dreams.
- Look to the future. Reinvest your energy in new goals and dreams.

Relaxation Techniques

What is the Relaxation Response? Retrieved from University of Michigan pain research

The relaxation response is defined as your personal ability to make your body release chemicals and brain signals that make your muscles and organs slow down and increases blood flow to the brain. Drugs can do some of this for you, however they often have unwanted side effects. You can get your body to relax just as well without drugs while remaining conscious and aware at the same time. To be physically relaxed and mentally alert is the goal of the relaxation response.
The Relaxation Response is not:

- Laying on the couch
- Sleeping
- Being Lazy

The Relaxation Response is:

- A mentally active process that leaves the body relaxed
- Best done in an awake state
- Trainable and becomes more and more profound with practice

There are many ways of achieving the relaxation response. Some of these techniques are called:

- Deep Breathing
- Progressive Muscle Relaxation (tense & relax)
- Visual Imagery
- Mindfulness Meditation

<u>Deep Breathing</u>
Experts in the field of mind-body medicine say that few people in Western, industrialized

society know how to breathe correctly. We are taught to suck in our guts and puff out our chests, which causes the muscles to tense and respiration rate to increase. As a result, we are a nation of shallow "chest breathers," who primarily use the middle and upper portions of the lungs. Babies breathe from the belly, but with age, most people shift from this healthy abdominal breathing to shallow chest breathing.

Breathing is the only bodily function you can do either consciously or unconsciously. Studies have linked focused breathing with reducing hot flashes in menopausal women, relieving chronic pain and reducing symptoms of PMS.

Learn deep abdominal breathing by following along with this exercise that will open in a new tab/window. Once finished, simply close the tab or window and return to here to continue your lesson.

Abdominal Breathing Exercise
(http://cmhc.utexas.edu/stressrecess/animations/diaphramatic_breathing/diaphragmatic_breathing.html)

As you practice your deep abdominal breathing, remember to complete your log each day. Add this in to your weekly calendar, as well.

Breathing Practice Log

The assignment for this week is:
1. Practice your breathing exercise
2. Rate your relaxation level before and after, using the rating scale below
3. Record the total time spent practicing you breathing

0 ----------10
Not Relaxed Completely Relaxed

Date	Relaxation Rating Before	Relaxation Rating After	Total Time Practicing

Progressive muscle relaxation

Everyone has a resting level of muscle tension. Some people have a great amount of tension at rest, others less. When people are under acute stress, their muscles tend to have higher levels of resting tension that can be painful and fatiguing. After you tense and relax muscles, the tension level not only returns to the original level, but will automatically drop below the original level, producing even greater relaxation to the muscles.

Link to learn progressive muscle relaxation (http://cmhc.utexas.edu/stressrecess/animations/progressive_muscle_relaxation/progessive_muscle_relaxation.html)

As you practice progressive muscle relaxation, remember to complete your log each day. Add this in to your weekly calendar, as well.

Progressive Muscle Relaxation
Practice Log

The assignment for this week is:
1. Practice your PMR exercise
2. Rate your relaxation level before and after, using the rating scale below
3. Record the total time spent practicing

0 ----------10
Not Relaxed Completely Relaxed

Date	Relaxation Rating Before	Relaxation Rating After	Total Time Practicing

Guided Imagery

While some people like tensing and relaxing, others can often become more relaxed by simply imaging a beautiful place. This technique uses your mind to distract you from pain, tension, or problems. It asks you to create images in your mind that are so captivating, so rich in detail, and so all-consuming for your mind, that you get lost in the images your mind creates.

Practice guided imagery and complete the attached log. Remember to include this in to your daily schedule.

Play the following for a guided imagery related to pain. You may also right click on the link and save it to your computer for further practice.

For more practice or other types of guided imagery, please follow this link to: University of Michigan Guided Imagery Audio Library (http://www.mcancer.org/support/managing-emotions/complementary-therapies/guided-imagery/audio-library)

Insert pain_guidedimagery.mp3

Imagery Practice Log

The assignment for this week is:
1. Practice your Imagery exercise
2. Rate your relaxation level before and after, using the rating scale below
3. Record the total time spent practicing

0 ----------10
Not Relaxed Completely Relaxed

Date	Relaxation Rating Before	Relaxation Rating After	Total Time Practicing

Mindfulness Meditation

UCLA's Mindfulness Awareness Research Center has provided cutting edge research on the benefits of practicing mindfulness. "Mindful awareness can be defined as paying attention to present moment experiences with openness, curiosity, and a willingness to be with what is. It is an excellent antidote to the stresses of modern times. It invites us to stop, breathe, observe, and connect with one's inner experience. There are many ways to bring mindfulness into one's life, such as meditation, yoga, art, or time in nature. Mindfulness can be trained systematically, and can be implemented in daily life, by people of any age, profession or background."

"In the last ten years, significant research has shown mindfulness to address health issues such as lower blood pressure and boost the immune system; increase attention and focus, including aid those suffering from ADHD; help with difficult mental states such as anxiety and depression, fostering well-being and less emotional reactivity; and thicken the brain in areas in charge of decision making, emotional flexibility, and empathy."

UCLA has published free online guided meditations to aid in mindful awareness. You can navigate to their link and download meditation mp3's that may be useful to you: http://marc.ucla.edu/body.cfm?id=22

Another excellent resource available are You Tube videos of Jon Kabat-Zinn. Here he is describing a mindfulness meditation exercise for beginners: http://youtu.be/D5Fa50oj45s

Please complete the attached mindfulness practice log and remember to add it to your weekly calendar if you find it helpful in managing your chronic pain.

Mindfuless Practice Log

The assignment for this week is:
1. Practice your Mindfulness exercise
2. Rate your relaxation level before and after, using the rating scale below
3. Record the total time spent practicing

0 ----------10
Not Relaxed Completely Relaxed

Date	Relaxation Rating Before	Relaxation Rating After	Total Time Practicing

Complete the practice worksheet to aid in determining which relaxation techniques work best for you and your pain condition.

Add those techniques in to your weekly calendar to assist with pain management.

Stress and Relaxation Worksheet

Please identify some areas where you experience stress or tension (Karume, 2009; Moynier, 2009). Areas of stress or tension may be external (work, family, traffic, etc.), internal (pain, fatigue, poor concentration, etc.), or a particular time of day (mornings, etc.).

1. _____
2. _____
3. _____
4. _____
5. _____

What were your experiences with each of the relaxation exercises?

Breathing: _____

Progressive Muscle Relaxation: _____

Guided Imagery: _____

Mindfulness Meditation: _____

Other: _____

Which of these techniques was most effective for you?
_____

How might these techniques be effective in reducing your stress or tension in the areas you listed above?
_____

How can you implement this technique(s) into your daily life?
_____

LESSON 5: PACING/ ENERGY CONSERVATION

Objectives:

- Present information on the benefit of implementing techniques to conserve energy for those with chronic pain.
- Devise individualized plans to implement energy conservation techniques into each group member's weekly routine.

Goals:

- Group members will develop an appreciation for the benefit of implementing techniques to conserve energy for those with chronic pain.
- Group members will individualize their energy conservation techniques by completing their worksheet and updating their schedule with energy conservation activities.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web site.

Staying Mindful Of Your Activity Level

Decrease the likelihood of re-injuring Your Body!

At times it may be difficult to radically accept your current physical health and condition of your body. For example, many veterans with chronic pain continue to maintain a physical activity level as they did when they were, for example, in the military. However, their bodies have changed due to pain/physical condition, and cannot perform at that same level. As a result, many people with chronic pain who tend to "over work themselves" without setting limits on their physical activity actually exacerbate their pain and may hurt themselves. For instance, individuals who try to complete a household chore such as yard work, ignoring their pain level, likely aggravate the injury and end up in more pain for extended periods of time.

Underactivity
Injuries may lead to physical deconditioning due to periods of inactivity for healing. However, once healing has occurred, physical activity should resume accordingly. Prolonged periods of inactivity leads to muscle atrophy, impaired mobility, weakness, and lethargy. In turn, this gives to depression causing an individual to be less likely to engage in physical rehabilitation

Overactivity
This can be counterproductive to one's physical well-being and cause increased levels of pain. Additionally, one may be more prone to re-injuring oneself if activities levels are not carefully monitored. Frustration may also result due to re-injury and pain flare-up, which may lead to avoidance of physical activity.

When was the last time you were Underactive? What did you notice?

_____

_____

When was the last time you were Overactive? What did you notice?

_____

_____

What is Activity Pacing?

Chronic pain often leads to a dilemma. People with pain know that the more they do, the more likely they are to experience pain. Some people make the choice to do less, or to do nothing. This approach makes sense, but it is not normally a good choice. Doing nothing can lead to boredom and depression, which can make the pain worse. Also, doing nothing makes you less fit. This means that it takes less and less activity to make you feel pain ("Pacing for Pain and Fatigue," 2008).

Other people choose to be very active and to battle through the pain. This approach also makes sense, but it can also be counterproductive. Some people find that they push themselves too hard and end up suffering. They can be laid low for several hours or days following over-exertion.

Pacing is a skill that enables you to consistently carry out activities without causing extra pain. It is a middle ground between doing nothing and over-exertion. Pacing also means spending just enough time in an activity to get the most out of it, without pushing yourself so far that you end up in a lot more pain. Over time you may find that pacing enables you to do more.

Pacing Techniques

- Different types of activities require different activity/rest schedules
- Estimates are not always accurate the first time. Adjust as you go.
- If flare-ups occur, cut the activity level in half at first, then over 3 days build it back up
- Do not stop practicing activity pacing skills even when you feel good

General Tips (Karume, 2009)

1. Gradually start new activities. Begin to do a little more each day as you feel better, but remember to take frequent breaks.
2. Establish a routine: Allow enough time to complete each task.
3. Be mindful of your body's reaction to activity. Be sure to take a break when your body gives you signs of fatigue, dizziness, headache, etc.
4. Avoid or reduce stress as much as possible. Be sure to take time to relax at the end of each day.

5. Try to keep your activity level the same each day. Don't overwork yourself on "good days."

Use the attached worksheet to help with scheduling and tracking your activities.

Activity Pacing Worksheet								
Activity	Goal	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
EX: Walking	Active: 7 min Resting: 10 min	Active: 4 min Resting: 15 min	Active: 5 min Resting: 15 min	Active: 5 min Resting: 12 min	Active: 6 min Resting: 12 min	Active: 6 min Resting: 11 min	Active: 7 min Resting: 11 min	Active: 7 min Resting: 10 min
	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:
	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:
	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:	Active: Resting:

Energy Conservation (Karume, 2009)

1. **Make a plan for the day, week, month** (Remember scheduling!)
    a. Alternate heavy and light activities
    b. Plan rest periods
    c. Avoid doing too much at any one time.
2. **Analyze each activity**
    a. Is the job necessary?
    b. Can someone else do the task?
    c. Can the job be simplified?

3. **Work smartly.**
    a. Store supplies for each activity in a single place.
    b. Store supplies at point of first use.
    c. Store supplies within easy reach.
4. **Good posture, work at good work heights, adjust as needed.**
    a. Elbows at 90 degrees and shoulders relaxed.
5. **Avoid stretching and bending over.**
6. **Have good working conditions.**
7. **Use both hands as much as possible for greater efficiency and speed.**
8. **Avoid unnecessary worry, irritation, rushing or frustration when possible.**
    a. Use relaxation techniques as needed (deep breathing, visualization, etc.)

Work Efficiently

1. Plan smartly what you will be doing that day.
    a. Allow enough time for each task
    b. Plan for more strenuous tasks when you know you can do them.
    c. Devise more efficient ways of doing each task.
    d. Go slowly and pace yourself.

Energy Conservation Worksheet

It is not uncommon for pain and fatigue to impede your daily activities. The goal of this topic is to provide concrete tips on making your daily tasks more manageable. Accordingly, the goal of this worksheet is to tailor this information around your individual circumstances (Karume, 2009; Moynier, 2009). Please take the time to determine how this information can directly benefit you.

Please list your most strenuous daily activities (including tasks, chores, errands, etc.)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Please choose two from the list above and write how you can pace those activities.

1. _____
   _____
   _____

2. _____
_____
_____

For the same two activities, please identify which energy conservation and work efficiency tips might help.

1. _____
_____
_____

2. _____
_____
_____

Pleasant activity scheduling

Why?

- Pain is often associated with reduced activity & social withdrawal
    - Physical limitations
    - Fear of hurting self or pain
    - Not wanting to answer questions
        - "You don't look like you are in pain"
        - "What's wrong with you?"
    - Feeling embarrassed or frustrated
- Removal from reinforcing activities and positive social situations leads to depression
- Increase in more positive activities
    - Reduce negative thoughts and emotions
    - Increase overall activity
    - Decrease pain
    - Remember to pace activities

Pleasant Activity Schedule

Take a look at the Pleasurable Activities list and check off a few that you would consider doing. Then, complete the Pleasant Activity Schedule and remember to place them on your master schedule for future weeks.

	List of Pleasurable Activities		
	Check the activities you're willing to do and then add any others you can think of that you might also like to do:		Go to a library.
	Talk to a friend on the telephone.		Go to a bookstore and read.
	Go out and visit a friend.		Go to your favorite café for coffee or tea.
	Invite a friend to visit you at your home.		Visit a museum or local art gallery.
	Text message your friends.		Go to the mall or the park and watch other people; try to imagine what they're thinking.
	Spend time with your family.		Pray or meditate.
	Organize a party.		Go to your church, synagogue, temple, or other place of worship.
	Exercise.		Join a group at your place of worship.
	Lift weights.		Write a letter to God.
	Do yoga, tai chi, or Pilates, or take classes to learn.		Call a family member you haven't spoken to in a long time.
	Stretch your muscles.		Learn a new language.
	Go for a long walk in a park or somewhere else that's peaceful.		Sing or learn how to sing.
	Go outside and watch the clouds.		Play a musical instrument or learn how to play one.
	Go for a jog.		Write a song.
	Ride your bike.		Listen to some upbeat, happy music. (Start collecting happy songs for times when you're feeling overwhelmed.)
	Go for a swim.		Turn on some loud music and dance in your room.
	Go hiking.		Memorize lines from your favorite movie, play, or song.
	Do something exciting, like surfing, rock climbing, skiing, skydiving, or kayaking, or learn how to do one of these sports.		Make a movie or video with your camcorder.
	Go to your local playground and join a game being played or watch a game.		Take photographs.
	Go play something you can do by yourself if no one else is around, like basketball, bowling, handball, miniature golf, billiards, or hitting a tennis ball against the wall.		Join a public speaking group and write a speech.

	Get a massage; this can also help to soothe your emotions.		Participate in a local theater group.
	Get out of your house, even if you just sit outside in the fresh air.		Sing in a local choir.
	Go for a drive in your car or take a ride on public transportation.		Join a club.
	Plan a trip to a place you've never been before.		Plant a garden.
	Sleep or take a nap.		Do some outdoor work around the house.
	Eat chocolate (it's good for you!) or eat something else you really like.		Knit, crochet, or sew—or learn how to.
	Eat your favorite ice cream.		Make a scrapbook with pictures.
	Cook your favorite dish or meal.		Paint your nails.
	Cook a recipe that you've never tried before.		Change your hair color.
	Take a cooking class.		Take a bubble bath or shower.
	Go out for something to eat.		Work on your car, truck, motorcycle, or bicycle.
	Go outside and play with your pet.		Sign up for a class that excites you at a local college, adult school, or online.
	Borrow a friend's dog and take it to the park.		Read your favorite book, magazine, paper, or poem.
	Give your pet a bath.		Read a trashy celebrity magazine.
	Go outside and watch the birds and other living creatures.		Write a letter to a friend or family member.
	Find something amusing to do, like reading the Sunday comics.		Write a list of the things you like about yourself.
	Watch a funny movie. (Start collecting funny movies to watch when you're feeling overwhelmed with pain.)		Write a poem, story, movie, or play about your life or someone else's life.
	Go to a movie theater and watch whatever's playing.		Write in your journal or diary about what happened to you today.
	Watch television.		Write a loving letter to yourself when you're feeling good, and keep it with you to read when you're feeling upset.
	Listen to the radio.		Make a list of ten things you're good at or that you like about yourself when you're feeling good, and keep it with you to read when you're feeling upset.
	Go to a sporting event, like a baseball or football game.		Draw a picture.
	Play a game with a friend.		Paint a picture with a brush or your fingers.

	Play solitaire.		Share intimate experiences with someone you care about.
	Play video games.		Make a list of the people you admire and want to be like—they can be real or fictional people throughout history. Describe what you admire about them.
	Go online to chat.		Write a story about the craziest, funniest, or sexiest thing that ever happened to you.
	Visit your favorite websites.		Make a list of ten things you would like to do before you die.
	Visit crazy websites and start keeping a list of them.		Make a list of ten celebrities you would like to be friends with and describe why.
	Create your own website.		Write a letter to someone who has made your life better and tell the person why. (You don't have to send the letter if you don't want to.)
	Create your own online blog.		Create your own list of pleasurable activities.
	Join an Internet dating service.		Other ideas:
	Sell something you don't want on the Internet.		
	Buy something on the Internet.		
	Do a puzzle with a lot of pieces.		
	Go shopping.		
	Get a haircut.		
	Go to a spa.		

Pleasant Activity Schedule								
Paced? Yes/No	**Activity**	**Sun**	**Mon**	**Tues**	**Wed**	**Thurs**	**Friday**	**Sat**
EXAMPLE Yes	Garden		X		X		X	

LESSON 6: EXERCISE

Objectives:

- Present information on the benefit of exercise for those with a chronic pain condition.
- Devise individualized plans to implement exercise into each group member's weekly routine.

Goals:

- Group members will develop an appreciation for the benefits of exercise for those with chronic pain.
- Group members will develop an understanding of which exercises are appropriate for those with chronic pain.
- Group members will individualize their exercise regimen by completing their worksheet and updating their schedule with exercise activities.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web page.

Exercise is an important part of everyone's health. It has been shown to elevate mood, enhance sleep, and increase energy for those with chronic pain.

Pain relief through exercise
Written by: Jonas I. Bromberg, Psy.D.
Published: July 30, 2008
Reviewed by: Kevin L. Zacharoff, MD, September 2013
(Bromberg, 2011b)[4]

Pain relief through exercise

Exercise is the last thing you want to do when you feel pain, right? Consider this: exercise may reduce pain. It gets adrenaline flowing, the endorphins kick in, and fresh oxygen is delivered to the muscle groups. All of this can do both your body and mind a world of good. If you have let your exercise slip, read on. You may discover some feeling-good, or at least some feeling-better, strategies. Exercising your way through pain can sometimes bring pleasantly surprising results.

Exercise excuses

When you don't feel well, excuses go a long way to stop exercising. Do these sound familiar?
"I don't feel like it!"
It can be a vicious cycle: you don't feel well; you don't feel like moving;

[4] Permission to use articles from PainAction.com was granted from Elsbeth McSorley (see Appendix C).

you don't move. Ultimately, you may be robbing yourself of one of the key ways to feel better. The National Pain Foundation and the Mayo Clinic report that lack of exercise can harm your physical and mental health. You may lose muscle tone and strength, your heart and lungs may work less efficiently, and your pain can increase.

"I'm too tired!"
There are times when what you need most is sleep. At those times, sleep! If you feel sluggish, however, consider that sluggishness can result from lack of movement. The less you move, the more sluggish you feel, and the less you want to move.

"I have no time!"
How do you break the cycle? Start easy. Unrealistic expectations can lead to disappointment. Begin with a short exercise like a 10-minute walk, or a 10-minute exercise in your living room with music. You will be surprised how much you'll want to keep the good feeling. Pace yourself. It's better to exercise three times a week for 10 minutes, than once a week for 1 hour, and then not again for months. Set small, achievable goals and enjoy your progress.

"I have no one to exercise with and I can't get motivated."
If this sounds like you, ask a friend or neighbor to join you once a week. If you have someone in mind but you aren't sure, ask. You might hear "Yes, I'd love to!" You may find exercising together too enjoyable for only once a week.

"I lose track of my goal without a regular reminder."
If you don't have someone to exercise with and you need a regular reminder, make an appointment with yourself on your calendar. Adding it to your calendar and seeing it again is the next best thing to getting the phone call from your buddy.

"It is not my thing."
Exercise is just not your thing. Remember, the human body was designed to move. When it does not move, it atrophies. Atrophy means the degeneration or "wasting away" of skin, tissue, muscle or bone, and your pain can increase too.

"Physical exercise is not how I relax. I need to talk to someone."
If this sounds familiar, try both. Physical exercise releases endorphins, which make you feel good. Talking with someone after a workout can be more productive as you'll likely have more positive thoughts.

Exercise your options
What are your exercise options? There are three types of exercise: aerobic, strengthening, and flexibility. All can help. Choose one type or a combination. Always talk with your physician, or physical therapist, before you start.

Aerobic. Aerobic exercise increases heart rate for a prolonged period. Increasing your heart rate 20 minutes a day, four times a week is a great long-term goal. Like any activity, starting is half the battle. Start with what is manageable. You'll be more successful with achievable goals, rather than becoming disappointed because you were overeager and can't keep up. If it causes pain, stop and tell your physician. You may not be able to do all kinds of aerobic activity, but there is likely something you can do.

Strengthening. Maintaining your weight and exercising your muscles with strength and resistance training keep your bones healthy. As you increase muscle mass, you improve coordination and prevent injury. Strength training and weight management keep your joints lubricated and not over-taxed with excess weight.

Flexibility. Stretching exercises are a good way to ease into program. Some good stretches are relaxing and can be done while watching TV or taking a short work break. The benefits are great, decreasing pain by increasing flexibility. Stretching exercises are most effective when done daily, are a pleasant activity to look forward to, and can prevent injury when done before a workout.

Get moving
Ask your provider for help designing an exercise program with the right level and amount of stretching, strengthening and aerobic exercises. Swimming, biking, and walking are easy and good choices for most people. Relaxation exercise, like tai chi and yoga, may help you to deal with stress.

Many people worry that they'll hurt themselves and make their pain worse through exercise. With proper direction from your provider, you can safely exercise and improve your physical condition and emotional well-being. Regular exercise eases pain for many people. Whatever program you choose, getting into a routine makes it easier to keep it going. Make the choice to keep yourself in as good physical condition as you can.

What types of exercise may be appropriate for those with chronic pain? (Karume, 2009; Moynier, 2009)

1. ROM/Stretching

2. Low Impact Exercise
    a. Bicycling (goal of 60 minutes)
    b. Aquatic exercise
3. Aerobic Exercise
    a. Walking or Jogging
        i. Start slowly (5 minutes)
        ii. Work up to 60 minutes per day (3-4 times per week)
        iii. Alternate between walking and slow jogging

What are some of the barriers to starting an exercise routine?

1. Lack of time
2. Hard to get going (i.e., too much pain).
3. Insufficient resources

Remember: Add your exercise routine to your weekly calendar.

Exercise Worksheet

The goal of this worksheet is to examine the benefits and barriers in developing and maintaining a healthy exercise routine. Research has repeatedly shown that exercise helps to reduce fatigue, pain, and stress while increasing the quality of sleep for those with chronic pain. It is difficult for many with chronic pain to initiate a healthy exercise routine. This is due to many of the same reasons (fatigue, pain, and stress). It is important to note that the benefits of exercise are not immediate, but you should notice a difference after a few weeks (Karume, 2009; Moynier, 2009).

What are some of the previous or current exercises you have done?
_____

Which ones have you found helpful?
_____

Which benefits of establishing a healthy exercise routine appeal to you?
_____
_____
_____
_____

What are some of your barriers to establishing a healthy exercise routine? (e.g., time, pain, fatigue, etc…) _____

Since exercise has been demonstrated to significantly help those with chronic pain, our goal is to help you to creatively work around some of the barriers. Please work with the group and discuss the barriers to exercising. Also, please take notes below because this is often an informational process.

Notes:_____
_____
_____

Please list each of your barriers to exercise and the creative solution or alternative. You may find that some of your barriers do not have adequate solutions yet. This is a work in progress that we hope you will continue.

Barrier	Creative solution or alternative
_____	_____
	_____
	_____
Barrier	Creative solution or alternative
_____	_____
	_____
	_____
Barrier	Creative solution or alternative
_____	_____
	_____
	_____
Barrier	Creative solution or alternative
_____	_____
	_____
	_____
Barrier	Creative solution or alternative
_____	_____
	_____
	_____

LESSON 7: SLEEP HYGIENE

Objectives:

- Present information on the importance of addressing sleep hygiene, especially for those with chronic pain.
- Devise individualized plans to utilize the various techniques presented to enhance sleep quality

Goals:

- Group members will develop an understanding for the prevalence of sleep difficulty that co-occur with chronic pain conditions.
- Group members will develop an understanding of techniques that help to enhance sleep quality.
- Group members will individualize their plan to implement sleep hygiene techniques by completing their worksheet and updating their schedule with regular sleep hygiene activities.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web page.

Sleep Cycle

Necessity of Sleep

Not getting the proper amount or quality of sleep leads to more than just feeling tired. Sleepiness affects:

- Physiological repair cannot take place
    - Increased pain and fatigue
- Increased emotional distress
- Personality changes
- Increased clumsiness and poor circulation
- Decreased work performance and memory lapses
- Increased risk of automobile accidents
- Difficulty concentrating
- Contributes to the development of obesity, diabetes, and heart disease

Sleep Hygiene

Chronic pain typically reduces sleep quality. This is problematic as sleep quality impacts mood, health, and pain tolerance. There are several ways to increase sleep quality while living with chronic pain. In most cases, medication alone is not the most effective way to improve sleep. In fact, there are several things you can do with or without medication that will help your sleep (Karume, 2009).

1. **Sleep only when sleepy**
    a. This reduces the time you are awake in bed.
2. **If you can't fall asleep within 20 minutes, get up and do something boring until you feel sleepy.**
    a. Sit quietly in the dark or read the warranty on your refrigerator. Don't expose yourself to bright light while you are up. The light gives cues to your brain that it is time to wake up.
3. **Don't take naps**
    a. This will ensure you are tired at bedtime. If you just can't make it through the day without a nap, sleep less than one hour before 3pm.
4. **Get up and go to bed the same time every day**
    a. When your sleep cycle has a regular rhythm, you will feel better.
5. **Refrain from exercise at least 4 hours before bedtime**
    a. Regular exercise is recommended to help you sleep well, but the timing of the workout is important. Exercise in the morning or early afternoon.
6. **Develop sleep rituals**
    a. It's important to give your body cues that it is time to slow down and sleep. Listen to relaxing music, read something soothing for 15 minutes, have a cup of caffeine free tea, do relaxation exercises.
7. **Only use your bed for sleeping**

    a. Refrain from using your bed to watch TV, pay bills, do work or reading. So when you go to bed your body knows it's time to sleep. Sex is the only exception.

8. **Stay away from caffeine, nicotine and alcohol at least 4 hours before bed.**
    a. Caffeine and nicotine are stimulants. Coffee, tea, cola, chocolate and some medication contain caffeine. Cigarettes contain nicotine. Alcohol may seem to help sleep, but it causes fragmented sleep, thus reducing sleep quality.
9. **Have a light snack before bed**
    a. If your stomach is too empty, that can interfere with sleep. Also, a heavy meal before bedtime can interfere as well. Warm milk and turkey contain tryptophan, which acts as a natural sleep aid. Tryptophan is probably why a warm glass of milk may help.
10. **Take a hot bath 90 minutes before bedtime**
    a. A hot bath will raise your body temperature, but it is the drop in body temperature that may leave you feeling sleepy.

Remember, good sleep will likely elevate your mood, promote good health and enhance your ability to cope with chronic pain. These tips were shown to be effective on those with sleep difficulties. Every suggestion may not right for you, but most likely a few of them will help to increase your sleep quality.

Sleep Hygiene Worksheet

Sleep is an important part of everyone's health. Poor sleep can decrease concentration, focus, and attention, while increasing pain and fatigue. The goal of this worksheet is to chart your typical sleeping pattern, as well as to devise a personalized strategy to enhance sleep (Karume, 2009).

What time do you typically fall asleep? _____

What time do you usually wake up? _____

On average, how much sleep do you get each night? _____

How consistent is your sleeping schedule? _____

What is the quality of your sleep? _____

What behaviors may be preventing you from falling asleep?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

What are some new things you can do to increase your sleep?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

LESSON 8: RELATIONSHIPS

Objective:

- Present information on the importance of managing relationships.
- Devise individualized plans to explore the nature of each group member's significant relationships and devise techniques to enhance those relationships.

Goals:

- Group members will develop an appreciation of how symptoms of chronic pain impact meaningful relationships.
- Group members will develop an understanding of techniques that help to enhance the quality of significant relationships.
- Group members will individualize their plan to enhance the quality of their significant relationships by completing their worksheet and updating their schedule with activities that promote healthy relationships.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web page.

Insert Dr. Jana Boyd audio here

Managing Relationships Handout

I. Impact of Fibromyalgia on you and your family

a. Possible losses

i. Income

ii. Independence

iii. Good health

iv. Future plans

b. Strain on relationships

i. Tendency to isolate

ii. Difficulty expressing emotions, needs and experiences with others

iii. Less likely to take initiative to meet new people

iv. Family and friends may become exasperated because they don't

know how to respond to your chronic pain condition.

II. Take responsibility for making your relationships positive.

a. Talk about changes in the relationship.

b. Educate self and others about your pain condition.

c. Foster good communications skills.

III. Ways to Nurture your relationships

a. Recognize that chronic pain has changed your life.

b. Learn new ways to communicate

c. Talk with partner about sexual intimacy

d. Adjust expectations

e. Be prepared to let some friends go.

f. Emphasize what you CAN do rather than what you CANNOT do.

IV. Communicating with Children

a. Children cannot be fooled – be honest.

b. Encourage children to help around the house.

c. Recognize and affirm their emotions

d. Find ways to have positive and fun experiences

e. Assure them you love them!

V. Take Care of Yourself

a. Grieve your losses – dream new dreams

b. Deal with the past, let it go.

c. Make goals for yourself.

d. Love, honor, and value yourself.

e. Educate yourself on your pain condition

f. Watch for signs of depression and get help early.

g. Accept help and give specific suggestions.

h. Establish boundaries for how you want to be treated.

i. Seek support from others with chronic pain

j. Be spontaneous and have fun with family and friends.

Devised in collaboration with Jana Boyd, PhD

Systemic effects on the family (Karume, 2009)

Impact on patients	**Impact on family members**
Loss of jobs	Ambivalence loss
Lack of energy	Increased responsibilities
Health deterioration	Frustration/lack of belief
Loss of friends	Problems of adjusting to new roles
Ambiguous loss	Increased stress

Communicating with Family Members and Patient

1. Increase emotional expressivity
2. Communicating with family members of all ages (children as well as other adults).
3. Communicating one's experiences and feelings (both positive and negative).
4. Communicate about losses of dreams and aspirations.

Communication: Improve your game
Written by: Jonas Bromberg, Psy.D.
Published: March 01, 2010
Reviewed by: Evelyn Corsini, MSW, February 2010
(Bromberg, 2011a)[5]

[5] Permission to use articles from PainAction.com was granted from Elsbeth McSorley (see Appendix C).

Communication: Improve your game

Would you like to improve your communication skills? Effective communication involves both talking and listening. It can be compared to a game of "catch", in which the words are the ball. This article may give you a different way to think about your communication game.

The pitcher and the catcher

If communication is the game of catch, think of the person who is speaking as the pitcher, and the person who is listening as the catcher. The message is the ball. Here is how the game should work.

The speaker aims the message accurately, sending the "pitch" so the listener can follow it. The speaker follows the flight of the message to see if it reaches the target. The listener watches the speaker carefully, tries to follow the "pitch", and lets the speaker know when the message has been received. The listener then makes sure the speaker is ready before returning the next pitch.

Some people are great speakers, but poor listeners. Some people are great listeners, but poor speakers. If both sides are good at speaking and listening, their communication will be successful.

Ways to improve the game

The speaker does not just throw the message, he prepares.

Preparation means planning ahead:

- Think about the message you want to deliver. Practice it.
- Deliver the message clearly when you are ready.
- Maintain good eye contact with the listener.
- Deliver the message slowly and directly to the listener.

If your message misses the listener, change your position and try again from another angle.

Listening is an important and often overlooked part of communication that can have a strong influence on the communication process, and your relationships with others.

Good communicators practice "active listening". This means making a real effort to hear not only the words, but also letting the other person know that you are listening. Letting the other person know that you are listening can be as simple as nodding your head or saying a simple "uh huh."

Active listening involves:

- Paying attention - Look at the speaker directly. Avoid being distracted by your thoughts or things around you
- Show that you are listening – Face the speaker. Nod occasionally. Make small verbal comments like "yes," and "uh huh."
- Provide feedback – State what you've heard back to the speaker. Ask questions to clarify specific points.
- Don't judge – Avoid interrupting. Allow the speaker to finish.

It takes a lot of concentration to be an active listener. Remind yourself that the goal is to concentrate on the message and really hear what the other person is saying.

Can you be both the catcher and the pitcher?
While the listener is keeping good eye contact with the speaker, the listener is preparing for the next message, concentrating so he can follow it through the air. Whether or not he catches the message, he gives feedback so the pitcher will know if he was successful. The listener then takes the time to prepare to send his message.

Remember: you cannot be the pitcher and the catcher at the same time!

Systemic effects worksheet

As you know, chronic pain does not affect the patient alone. It is a systemic issue. The goal of this worksheet is to identify the effects as they pertain to your family, to identify ways in which friends and family members are being affected. The goal is to enhance adaptability, quality of relationships and increase collaboration of working together as a family (Karume, 2009).

Developing an appreciation

Patient: What do you appreciate about your family member that has been helpful since diagnosis?

_____
_____

Family members: What do you appreciate about the patient and the challenges they have been experiencing and ways in which they have been overcoming since diagnosis?

_____
_____
_____

Patient: What don't you appreciate about your family member that have not been helpful since diagnosis?

_____
_____
_____

Family members: What don't you appreciate about the patient and the ways in which they have been dealing with the chronic pain?

_____
_____
_____

Patient: What are some of the ways you can enhance the quality of your relationship?

_____
_____
_____

Family member: What are some of the ways you can enhance the quality of your relationship?

_____
_____
_____

Family Adjustment and Cohesion

The top stressor within the family is seeing their loved one in pain and feeling helpless to do anything about it. Another is the frustration with their physical limitations that can change from one day to the next. The negative changes in the patient's mood can lead to depression in the significant other or family member. Partners also have feelings of fear and uncertainty about their loved one's future health, along with worries about what that may mean for their relationship. And, finally, a major stressor is the inevitable reduction in pleasurable activities, such as sex, socializing with friends, and "just having fun" (Holliman, 2010).

Family members often assume that some of their support efforts will be helpful, but that is not always accurate. "When a partner criticizes a partner's coping efforts or provides unsolicited or unwanted advice or avoids discussing topics because he/she thinks those topics will be distressing, this actually makes the situation worse for the patient and reduces her/his ability to cope effectively," said Dr. Revenson, professor of psychology at the Graduate Center of City University of New York (Holliman, 2010).

A study by Holtzman and DeLongis published in Pain reported that when patients were satisfied with how their spouses responded, the patients were less likely to increase negative affects due to catastrophizing. These patients were less likely to feel overwhelmed or helpless to deal with their daily pain. “Lower satisfaction with spousal support is associated with decreased coping efforts and decreased effectiveness of coping in reducing rheumatoid arthritis pain and with poorer same-day and next-day mood,” Dr. Revenson said. “It is difficult to cope effectively when you don’t have support and empathy from your partner and it is also very dangerous when you get critical responses from your partner about how you are coping” (Holliman, 2010).

Opening the discussion between the patient and their significant other and family is a very valuable tool in chronic pain management. Use the attached worksheet to begin that discussion.

Family adjustment and cohesion worksheet

You, your family and friends have probably had to make some adjustment in light of the chronic pain diagnosis. With some being easier than others (Karume, 2009).

Adjustment

Patient: In what ways have you had to adjust in your ways of being in light of chronic pain?

_____
_____
_____

Family member: In what ways have you had to adjust since the chronic pain diagnosis?

_____
_____
_____

Patient: What have you found to be helpful and not helpful?

Helpful	Not helpful
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Family members: What have you found to be helpful and not helpful?

Helpful	Not helpful
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

LESSON 9: SPIRITUAL RESPONSES TO PAIN

Spirituality and Meaning

Objectives:

- Educate on the importance of spirituality and its effects as it relates to issues of chronic pain.

Goals:

- Group members will develop a cognitive map that consists of nine steps (Sperry, 2014).
- Group members will identify spiritual rituals in which they may participate.
- Discuss the meaning and beliefs surrounding the illness.

Religion and spirituality are two methods of meaning making that impact a person's ability to cope, tolerate, and accept disease and pain. The biopsychosocial-spiritual model includes the human spirit's drive toward meaning-making along with personality, mental health, age, sex, social relationships, and reactions to stress.

Kenneth Pargament's definition of religion and spirituality are the most widely used in the research literature to define these two terms. Pargament defines spirituality as "has to do with however people think, feel, act, or interrelate in their efforts to find, conserve, and if necessary, transform the sacred in their lives", and religion as "a search for significance through the sacred (Sperry & Shafranske, 2005)."

The brain's natural tendency to seek a cause for every phenomenon drives us to make meaning out of the stream of information we receive from our bodies and our environment. Religious and spiritual belief systems along with science are our most favored systems for establishing order and creating meaning. Religious and spiritual belief systems advocate self-reflection, awareness of one's impact upon others, the seeking of strength from a source greater than oneself, overcoming obstacles, and letting go of the negative. They encourage thinking of other's needs and feelings and not dwelling on one's self. Religious and spiritual beliefs can inspire confidence, hope, and persistence. Both positive and negative beliefs create a cascade of neural activity. The meaning assigned to any event profoundly influences the body's emotional and physical functioning (Lysne & Wachholtz, 2011).

Pain is a condition that will affect all individuals sometime during their lifetime. Inner convictions may be the underlying cause of adaptive or maladaptive pain responses. Beliefs, words and images that evoke a source of love, support, and comfort appear to reduce stress and exert a salutary effect upon specific body mechanisms. Pain, disability, and isolation may cause people to increasingly seek support and strength from the practices religious and spiritual institutions advocate. Religion and spirituality do not

cause or worsen pain for individuals who seek or believe in a benevolent universe or God. However, fearful or pessimistic individuals may experience a worsening of their pain if they believe in a retaliating or punishing universe or God (Lysne & Wachholtz, 2011).

Spiritual Cognitive Map

Spirituality has been found to be a key aspect in people's well-being (Karume, 2009). Different people have different beliefs about the role of spirituality in relation to the illness. The goal of this work sheet is to identify one's spiritual role, identify rituals that would be utilized in improving the quality of life both for the patient and the family member (Sperry, 2014).

Step 1: Can you describe what happened? (A description of what happened including a beginning, middle and end)

_____
_____
_____

Step 2: What were your thoughts about the chronic pain diagnosis?

_____
_____
_____

Step 3: What were your behaviors? (What did you say, what did you do? Describe your feelings as well.

_____
_____
_____

Step 4: What did you want to happen (what did you desire or expect to happen?)

_____
_____
_____

Step 5: What actually happened?

_____
_____
_____

Step 6: Did your behaviors and thoughts promote your health and well-being or did they take away from it?

_____
_____

Step 7: Can you discuss this together and see how you would have handled the illness differently. What would you do different?

_____
_____
_____

Step 8: What have been your thoughts and explanations about the chronic pain. Did the thoughts help or make things worse?

_____
_____
_____

Step 9: What thoughts or behaviors do you think you should do so as to handle the situation better?

_____
_____

Spirituality homework

Spiritual Life maps.

You and your care giver will separately map out a spiritual lifemap (Karume, 2009). Spiritual lifemaps are pictorial descriptions of your spiritual journey. Like a road map that has curves and turns your spiritual lifemap will depict the journey your spirituality has taken from a significant time-point before the diagnosis, through the diagnosis period, highlighting where you are now and finishing off at the point you want to see yourself (Hodge, 2005).

Instructions from Hodge, 2005:

> One way to proceed is to draw this path on the paper first, break the path into years or decades, and then fill in events along the path, a method that ensures that equal space is allotted to all points along the lifecycle. Conversely, others might prefer a more freeform approach in which their path and life events are sketched together. Among the advantages of this approach is the opportunity to devote more space to significant time periods during the spiritual walk. Symbols drawn from the client's spiritual cosmology are typically used to mark key events along the journey. For instance, a cross might be used by a Christian to portray a spiritual conversion, whereas a depiction of the Lingam and Yoni might be used by a Hindu to represent her relationship to Siva.

> Similarly, a stick figure in a meditative pose enveloped in a sunbeam might signify a time of enlightenment for a New Age adherent. Concurrently, because most spiritual cosmologies conceive material existence to be an extension of the sacred reality (Richards & Bergin, 1997), important "secular" incidents are usually included. Both positive (for example, marriage and the birth of a child) and particularly negative events (for example, death, loss of a job, and other trials) may be portrayed. The ultimate goal is depiction of all events perceived to be of spiritual significance by the client on the lifemap (Hodge, 2005).

Once you have done this you will come together with your family member and discuss your lifemaps. It may be helpful to discuss points at which you would want your family member to help you get to your desired spiritual place.

LESSON 10: MAINTENANCE PLAN

Objectives:

- Present information on the importance of continuing to implement the techniques after completing this program.
- Devise individualized plans to identify which interventions have been the most effective and form individualized plans to continue implementing these techniques.

Goals:

- Group members will develop an appreciation for the utility of continuing to implement their newly acquired techniques.
- Group members will identify which techniques have been effective and devise an individualized plan to continue implementing these techniques.
- Group members will have an opportunity to discuss relevant issues utilizing the social support format of the web site.

Components of Pain Flare-Up

Pain Sensation	Automatic Thoughts	Mood Shift	Result
Marked Increase or flare-up in pain sensation	Expectation: "I thought I learned ways to decrease my pain."	Mood becomes negative (anxiety, depression, etc.)	Decrease in activity
	Loss of Control: "I can't deal with this."		
	Catastrophizing: "This is unbearable."		

How to Handle

- Preparation
  - Prepare before it occurs
  - Become aware of emotional and physical cues
  - Rehearse positive coping statements
  - Stop negative thoughts and redirect

- Confrontation
    - Confront the pain flare-up by using strategies you have learned
    - Switch between strategies as necessary
- Critical Moments
    - Do not magnify the sensations
    - Use positive coping statements in place of negative thoughts
- Reflection and Planning
    - After the flare-up, congratulate yourself for trying new strategies
    - Make a list of what worked
    - Try to catch it earlier next time by reflecting on new cues you may have noticed

When Pain Returns

Written by: Robert Jamison, Ph.D.
Published: July 29, 2008
(Jamison, 2011)[6]

"Relapse" means a long setback. Unfortunately, chronic pain that lasts for at least 3 to 6 months is hard to cure. While pain can lessen with time there can continue to be good and bad days, improvements and setbacks. A setback, like a period of increased pain, may lead to unhealthy changes in behavior.

- Decreased activity
- Increased worries about pain
- Overreliance on medication
- Increased social isolation
- Depression

While it is hard to predict if or when this might happen, it is important once progress has been made, to be prepared to deal with the setbacks that can occur, in order to have them end as quickly as possible. This can prevent a relapse.

Paul's story
Paul is a good example of someone with a setback that got out of control. He slipped and fell on his back while coming down some stairs. He had almost forgotten his previous back pain and surgery. Now his old pain was back and worse than ever. His doctor said there was no additional damage to his back.

[6] Permission to use articles from PainAction.com was granted from Elsbeth McSorley (see Appendix C).

He was given pain medication and told to rest for a short time, then resume normal activity and return in one month. Paul decided to limit his activity and to stop exercising.

Over the next two weeks Paul had more stiffness and noticed that his back and leg muscles were weaker. This made him think that further damage had taken place, so he relied more on his pain medication. He took a leave of absence from work and stayed inside reclining most of the day.

After 3 weeks, Paul was even more discouraged that there was no improvement, and requested more pain medication. He remembered when his back pain was very bad and he worried that this time things were not going to improve. He fell right back to where he was before – in severe pain, not sleeping, relying on medication, feeling weak and socially isolated, and being depressed.

How to prevent a relapse
There is a difference between a lapse, which is a short setback, and a relapse, which can leave you completely deconditioned, disabled and depressed. Everyone has lapses. What you want to avoid is turning your lapse into a relapse.

Here are some ways:
Look for gradual progress. Gradual progress is better than trying to change things instantly. It is easy to get impatient, but slow change with gradual progress and the chance to maintain the gains is best.

Develop a written plan. Have specific goals with timelines. List realistic things you can accomplish, both short-term and long-term. Show your plan to someone who knows you well to get realistic feedback about your goals and timelines.

Keep records. Monitor your condition. Daily records that include your pain, mood, activity level, sleep, medication use, and recurrent worried thoughts will help you to see patterns and help to identify early signs of relapse.

Maintain an activity program no matter how brief. Engage in some activity every day: range of motion exercises, stretching, or mild aerobics such as walking. Gradually getting back to a regular activity program will set you on the road to improvement.

Watch for body cues. Bodily signals of the onset of a setback are increased pain and fatigue. Be aware of excessive muscle tension and things that cause YOU stress. Pace yourself and avoid stress as much as possible.

Practice relaxation exercises. Diaphragmatic breathing, tensing and relaxing muscle groups, repeating phrases to yourself and guided imagery, can all combat stress and excessive muscle tightness. Listen to relaxation CDs or calming music every day.

Avoid negative habits. Replace bad habits, like smoking, staying inside, and eating "junk food" with positive habits that improve your health and help you feel better about yourself.

Provide time for something fun. Schedule activities that you enjoy. Say 'no' to things that cause further stress and don't try to get back to all your previous activities too quickly. Try to find humor, laughter and good company.

Seek professional help. Healthcare professionals can help you identify ways to get better control over your situation. Find someone who can listen to you and offer concrete feedback. Counselors using cognitive-behavioral therapy are most useful. Support groups focused on building positive skills can be particularly valuable.

What happened to Paul?
Paul decided to make some changes. He reminded himself that he had made progress in the past and should avoid the negative thinking that made him feel sad and frustrated.

He set goals to increase his activity gradually. Despite some initial discomfort, he showed improvements in his endurance and strength. He kept his mind occupied and began listening to a 30-minute relaxation CD twice a day. He started walking slowly each evening. With time, he saw that he could go further than the day before. He used his medication as prescribed. His sleep improved and others remarked that he seemed less irritable and more prone to laugh. Even though he continued to have pain, his lifestyle had improved. Overall, he felt that he had recovered from his setback and avoided a relapse.

Goal Setting worksheet

Weekly Goal Completion Form

Please rate goal accomplishment for the week by marking the scale below:
0 = not accomplished to 10 = completely accomplished.
Please complete for each goal you have set.

Goal 1:

0--------1--------2-------3-------4-------5-------6-------7-------8-------9-------10

Notes:

Goal 2:

0--------1--------2-------3-------4-------5-------6-------7-------8-------9-------10

Notes:

Goal 3:

0--------1--------2-------3-------4-------5-------6-------7-------8-------9-------10

Notes:

Goal 4:

0--------1--------2-------3-------4-------5-------6-------7-------8-------9-------10

Notes:

Goal 5:

0--------1--------2-------3-------4-------5-------6-------7-------8-------9-------10

Notes:

Bolstering Your Resiliency

Written by: Alicia Potter
Published: January 07, 2013
(Potter, 2013)[7]

What is resiliency?
Think of being resilient as the ability to bounce back in the face of difficulties. For people with chronic pain, it means not letting symptoms interfere with living a full life. Resiliency also may make you feel better; experts have found that people with positive outlooks often experience less pain and stress.

Of course, that's not to say that having chronic pain is a walk in the park. Your symptoms are real, even debilitating, and you shouldn't dismiss them or any related anxiety or depression. (Always keep your health care provider informed of how you're feeling.) But know that you can learn to adapt well to major life changes — including living with chronic pain.

Responding with resilience
Experts have identified five areas of life that offer opportunities to build resiliency. Each area is described below, and examples of action steps are given. Some of the suggestions may seem minor, but in combination with the steps they can help you to create a more positive outlook.

Physical
Set a "good-for-you" goal: Whether it's adding an extra serving of fruit and vegetables to your daily diet or going for a 15-minute walk at lunchtime, committing to a healthy new habit can boost your mood and inspire other changes.
Perform "range-of-motion" exercises: These simple moves are designed to keep your body flexible. They also can be relaxing. However, be sure to consult your health care provider before starting any physical activity, as some exercises might not be recommended for your situation.

Mental
Practice seeing "the glass as half full": If something is getting you down, try to find a positive aspect to it. For instance, if your arthritis pain is making it difficult for you to complete a certain task, try to "rethink" the situation as a chance to catch up on something else or to take a break. Return to the original task when you feel better. If the task is impossible for you to finish, ask for help and consider it a chance to let someone else feel good about helping.

[7] Permission to use articles from PainAction.com was granted from Elsbeth McSorley (see Appendix C).

Gain some perspective: What turns a bad mood around for you? Is it laughing at a funny movie? Spending time with friends, children, or animals? Listening to upbeat music? Make activities that improve your overall outlook an important part of your life, not just something you do when you have the time.

Emotional

Create positive emotions: Take the time to do what you love most, even if just for 15 minutes a day or an hour a week. Also, consider volunteering. Studies have found that helping others releases chemicals in the brain that produce positive emotions.

Take action: Procrastinating or avoiding problems can increase stress and feelings of hopelessness and loss of control. Whenever you can, try to act decisively on situations in your life.

Social

Nurture relationships: How might you participate more fully in your social life? By planning more sit-down dinners with your family? Going out with friends more? Listening more attentively? Look at ways to strengthen your bonds. Continue to make new connections by taking a class or joining a local organization.

Connect with your partner: Consider ways to improve communication and closeness in your relationship. For instance, keep in mind that men and women have different approaches to seeking closeness. Knowing what works for your partner (and you!) will make a positive difference.

Spiritual

Take a breather: At least once a day, step back and recharge. Even if it's just for a few minutes, try stretching or meditating, listening to soothing music, reading a few pages of a good book, or sitting in a peaceful spot.

Participate in spiritual practices: What makes you feel hopeful and connected to the world? Maybe it's prayer or meditation, being part of a faith community, or spending time in nature. Whatever your answer, find meaningful ways to nurture your spirituality.

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APPENDIX B

Psychosocial Measures

Pain Outcomes Profile

Pain Outcomes Profile

Patient Name _____

Patient ID # _____

1. Enter today's date:_____/_____/_____ *(MM/DD/YY)*

2. Enter your date of birth: _____/_____/_____ *(MM/DD/YY)*

3. How long have you had the pain for which you are now seeking treatment?

   _____Years _____Months

4. On a scale of 0 to 10, with 0 being no pain at all and 10 being the worst possible pain, how would you rate your pain ***right now***?

   0 *no pain at all* 1 2 3 4 5 6 7 8 9 10 *worst possible pain*

5. How would you rate your pain on the ***average*** during the ***last week*** ?

   0 *no pain at all* 1 2 3 4 5 6 7 8 9 10 *worst possible pain*

6. Does your pain affect your self-esteem or self-worth?

   0 *not at all* 1 2 3 4 5 6 7 8 9 10 *all the time*

7. Does your pain interfere with your ability to walk?

   0 *not at all* 1 2 3 4 5 6 7 8 9 10 *all the time*

8. Does your pain interfere with your ability to bathe yourself?

   0 *not at all* 1 2 3 4 5 6 7 8 9 10 *all the time*

9. How would you rate your physical activity?

   0 *significant limitation in basic activities* 1 2 3 4 5 6 7 8 9 10 *can perform vigorous activities without limitation*

10. How would you rate your feelings of depression ***today***?

    0 *not depressed at all* 1 2 3 4 5 6 7 8 9 10 *extremely depressed*

please turn over →

11. Does your pain interfere with your ability to carry/handle everyday objects such as a bag of groceries or books?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

12. Does your pain interfere with your ability to dress yourself?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

13. How would you rate your overall energy?

0 (*totally worn out*) 1 2 3 4 5 6 7 8 9 10 (*most energy ever*)

14. How much do you worry about re-injuring yourself if you are more active?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

15. How would you rate your feelings of anxiety ***today***?

0 (*not anxious at all*) 1 2 3 4 5 6 7 8 9 10 (*extremely anxious*)

16. Does your pain interfere with your ability to climb stairs?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

17. Does your pain interfere with your ability to use the bathroom?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

18. How would you rate your strength and endurance ***today***?

0 (*very poor strength and endurance*) 1 2 3 4 5 6 7 8 9 10 (*very high strength and endurance*)

19. Do you have problems concentrating on things ***today***?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

20. Does your pain require you to use a cane, walker, wheelchair or other devices?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

21. Does your pain interfere with your ability to manage your personal grooming? (for example combing your hair, brushing your teeth, etc)

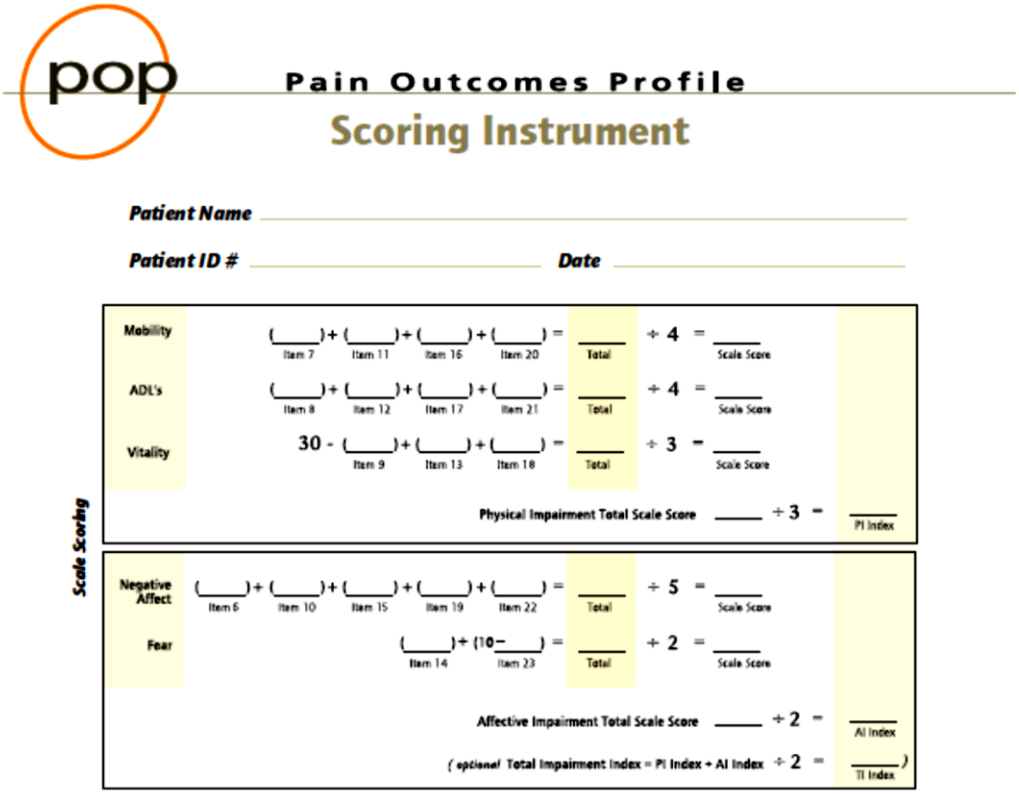
0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

22. How often do you feel tense?

0 (*not at all*) 1 2 3 4 5 6 7 8 9 10 (*all the time*)

23. How safe do you think it is for you to exercise?

0 (*not safe at all*) 1 2 3 4 5 6 7 8 9 10 (*extremely safe*)



Pain Vigilance and Awareness Questionnaire

Pain Vigilance and Awareness Questionnaire (PVAQ): (McCraken, 1997)

0 (never) to 5 (always)
1. I am very sensitive to pain
2. I am aware of sudden or temporary changes in pain
3. I am quickly to notice changes in pain intensity
4. I am quick to notice effects of medication on pain
5. I am quick to notice changes in location or extent of pain
6. I focus on sensations of pain
7. I notice pain even if I am busy with another activity
8. I find it easy to ignore pain
9. I know immediately when pain starts or increases
10. When I do something that increases the pain, the first thing I do is check to see how much pain was increased
11. I know immediately when pain decreases
12. I seem to be more conscious of pain than others
13. I pay close attention to my pain
14. I keep track of my pain level
15. I become preoccupied with pain
16. I do not dwell on pain

Coping Strategies Questionnaire

(CSQ): (Rosenstiel & Keefe, 1983) Catastrophizing Questions (α 0.859)
I feel I can't stand it anymore.
I feel like I can't go on.
I worry all the time about whether it will end.
I feel my life isn't worth living.
It's awful and I feel that it overwhelms me.
It's terrible and I feel it's never going to get any better.

Beck Depression Inventory

This depression inventory can be self-scored. The scoring scale is at the end of the questionnaire.

1. 0 I do not feel sad. 1 I feel sad 2 I am sad all the time and I can't snap out of it. 3 I am so sad and unhappy that I can't stand it.
2. 0 I am not particularly discouraged about the future. 1 I feel discouraged about the future. 2 I feel I have nothing to look forward to. 3 I feel the future is hopeless and that things cannot improve.
3. 0 I do not feel like a failure. 1 I feel I have failed more than the average person. 2 As I look back on my life, all I can see is a lot of failures. 3 I feel I am a complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to. 1 I don't enjoy things the way I used to. 2 I don't get real satisfaction out of anything anymore. 3 I am dissatisfied or bored with everything.
5. 0 I don't feel particularly guilty 1 I feel guilty a good part of the time. 2 I feel quite guilty most of the time. 3 I feel guilty all of the time.
6. 0 I don't feel I am being punished. 1 I feel I may be punished. 2 I expect to be punished. 3 I feel I am being punished.
7. 0 I don't feel disappointed in myself. 1 I am disappointed in myself. 2 I am disgusted with myself. 3 I hate myself.
8. 0 I don't feel I am any worse than anybody else. 1 I am critical of myself for my weaknesses or mistakes. 2 I blame myself all the time for my faults. 3 I blame myself for everything bad that happens.
9. 0 I don't have any thoughts of killing myself. 1 I have thoughts of killing myself, but I would not carry them out. 2 I would like to kill myself. 3 I would kill myself if I had the chance.
10. 0 I don't cry any more than usual. 1 I cry more now than I used to. 2 I cry all the time now. 3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated by things than I ever was. 1 I am slightly more irritated now than usual. 2 I am quite annoyed or irritated a good deal of the time. 3 I feel irritated all the time.
12. 0 I have not lost interest in other people. 1 I am less interested in other people than I used to be. 2 I have lost most of my interest in other people. 3 I have lost all of my interest in other people.

13. 0 I make decisions about as well as I ever could. 1 I put off making decisions more than I used to. 2 I have greater difficulty in making decisions more than I used to. 3 I can't make decisions at all anymore.
14. 0 I don't feel that I look any worse than I used to. 1 I am worried that I am looking old or unattractive. 2 I feel there are permanent changes in my appearance that make me look unattractive 3 I believe that I look ugly.
15. 0 I can work about as well as before. 1 It takes an extra effort to get started at doing something. 2 I have to push myself very hard to do anything. 3 I can't do any work at all.
16. 0 I can sleep as well as usual. 1 I don't sleep as well as I used to. 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep. 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual. 1 I get tired more easily than I used to. 2 I get tired from doing almost anything. 3 I am too tired to do anything.
18. 0 My appetite is no worse than usual. 1 My appetite is not as good as it used to be. 2 My appetite is much worse now. 3 I have no appetite at all anymore.
19. 0 I haven't lost much weight, if any, lately. 1 I have lost more than five pounds. 2 I have lost more than ten pounds. 3 I have lost more than fifteen pounds.
20. 0 I am no more worried about my health than usual. 1 I am worried about physical problems like aches, pains, upset stomach, or constipation. 2 I am very worried about physical problems and it's hard to think of much else. 3 I am so worried about my physical problems that I cannot think of anything else.
21. 0 I have not noticed any recent change in my interest in sex. 1 I am less interested in sex than I used to be. 2 I have almost no interest in sex. 3 I have lost interest in sex completely.

INTERPRETING THE BECK DEPRESSION INVENTORY

Now that you have completed the questionnaire, add up the score for each of the twenty-one questions by counting the number to the right of each question you marked. The highest possible total for the whole test would be sixty-three. This would mean you circled number three on all twenty-one questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero. This would mean you circles zero on each question. You can evaluate your depression according to the Table below.

Total Score_____Levels of Depression

1-10_____These ups and downs are considered normal

11-16_____ Mild mood disturbance

17-20_____Borderline clinical depression

21-30_____Moderate depression

31-40_____Severe depression

over 40_____Extreme depression

APPENDIX C

Permissions to Use Content

Moynier Doctoral Project Manual

Re: Doctoral Project
Eugene Moynier <emoynier@gmail.com> Tue, Feb 10, 2015 at 5:27 PM
To: Cyndi Nakoski <cnakoski@gmail.com>

Hi Cyndi,
Of course, you have permission to access anything you need to further the field of study. Please let me know if there is anything else you need.

On Tue, Feb 10, 2015 at 3:23 PM Cyndi Nakoski <cnakoski@gmail.com> wrote:

Hi Gene,
My name is Cyndi Nakoski and I am a PsyD doctoral student at LLU. I have been working with Dr. Boyd to operationalize a pain management web site that includes some of the material from your doctoral project. I would like your permission to use some of your worksheets on the web page. Please let me know if this is acceptable to you and I will, of course, cite the information I use appropriately. I will send you a link to review the site as soon as it is complete.

Thank you,
Cyndi Nakoski

Pain Outcomes Profile

Re: Use of POP in doctoral project

Jillian Manley <jmanley@aapainmanage.org> Mon, Feb 9, 2015 at 7:03 PM
To: "Nakoski, Cynthia (LLU)" <cnakoski@llu.edu>

Hi Cynthia,

We are happy to provide you with the POP for your study. Please note we have a copy write on this so it should not be used for anything other than your study.
We would like to have the option to put your project it on our website when you are done and it would be great if you could present a poster at our meeting in the Fall when you are done. If you create an account on our website you can sign up for a Free student membership.

Let me know if you have any questions.

Thanks,
Jillian

On Feb 9, 2015, at 11:22 AM, Karen Hebert <khebert@aapainmanage.org> wrote:
From: Nakoski, Cynthia (LLU) [mailto:cnakoski@llu.edu]
Sent: Sunday, February 08, 2015 3:56 PM
To: info@aapainmanage.org
Subject: Use of POP in doctoral project

Hello,
I am a psychology doctoral student at Loma Linda University and am interested in using the POP in my PSYD doctoral project. I would like to know if I need to purchase it or if we can make some other arrangements for its use? I will be placing it in an online forum and plan to only run a pilot group through the site. Each person will take the measure pre and post to determine efficacy of the presented material. I am also interested in becoming a member of The Academy.

I look forward to hearing from you!

Thank you,
Cynthia Nakoski
Psychology Doctoral student

Psychology Tools

Re: Permission to use materials in doctoral project
Matthew Whalley <matthew@whalley.email> Thu, Apr 9, 2015 at 1:54 PM
To: Cyndi Nakoski <cnakoski@llu.edu>

Hi Cynthia,
Nice to hear from you. I'd be happy for you to use those PsychologyTools materials for your research. I'd prefer it if your web page linked directly to those materials rather than hosted on your own site it helps the site to get incoming links, and you'll find the materials load more quickly as I pay for fast hosting through a CDN.

Good luck with the research.

Best,
Matthew
— Dr Matthew Whalley
http://psychology.tools

On 9 Apr 2015, at 15:17, Cyndi Nakoski <cnakoski@llu.edu> wrote:

Hello,

I am a psychology doctoral student at Loma Linda University. I would like permission to use materials from this site in my PSYD doctoral project. Specifically, I would like to use the handout on "What is CBT?" and "Pacing." Please let me know if I need specific permission for each item or if global permission can be granted. I will be hosting the handouts on my psychoeducational web page that will be used for educational research purposes only.

Thank you,
Cynthia Nakoski
PSYD Doctoral student
Loma Linda University

Pain Action

Re: Contact Us

Elsbeth McSorley <emcsorley@inflexxion.com> Wed, Apr 22, 2015 at 9:40 PM
To: "cnakoski@llu.edu" <cnakoski@llu.edu>

Hi Cynthia,
You are welcome to use our articles in your doctoral project please just credit painACTION.com.
Best,
Elsbeth McSorley
PainACTION.com

On Apr 22, 2015, at 9:17 PM, "contact@painaction.com" <contact@painaction.com> wrote:
Data from form "Contact Us" was received on 4/22/2015 9:16:25 PM.

Please contact me regarding permission to use some of your articles in my doctoral project.

Thank you, Cynthia Nakoski