2010

Chronic Pain Program Development: Old Town Clinic, Central City Concern

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Chronic Pain Program Development: Old Town Clinic, Central City Concern

Description

Jessica Gonzales and Jennifer Theusch began their partnership with the Old Town Clinic in the spring of 2009 as part of a pilot fieldwork occupational therapy program sponsored by Pacific University. Jennifer and Jessica worked under the guidance of a supervising occupational therapist for their unique level II mental health fieldwork rotation. Together they performed a needs assessment and gap analysis to determine a strategic fit for occupational therapy at the clinic. The students worked to solidify an occupational therapy program at the clinic that would integrate into the existing system and begin the process of providing services for the clients.

As the relationship between Pacific University and The Old Town Clinic continued the clinic expressed an interest with assistance to develop an interdisciplinary chronic pain program. Jessica and Jennifer choose to return to the clinic during their third and final year of graduate studies for their innovative practice project.

Jessica and Jennifer delved into evidenced based research regarding current chronic pain programming. The students visited a chronic pain rehabilitation institute to meet with an occupational therapist and discuss trends and gain insight in the arena of chronic pain. While researching chronic pain programming Jessica and Jennifer determined appropriate models for practice in this area. These models helped to frame program and evaluation design.

The clinic expressed interest in a comprehensive evaluation tool for chronic pain clients. During their research Jessica and Jennifer determined typical areas of assessment for individuals with chronic pain. Once these areas were determined the students began to review common assessments used to evaluate these specific regions. The assessment list was narrowed to those which were accessible and were supported by evidence. Once the assessments had been chosen work on drafting the evaluation tool began.

The evaluation tool was developed over two and a half months. It took seven drafts and many hours of research. The tool was evaluated during two focus groups and piloted twice with Old Town Clinic clients. The students received professional insight and feedback from the clinic medical director, occupational therapists, and their supervising professor. Once the evaluation tool was completed the students began the process of determining how the information obtained in the tool could be best expressed in an evaluation tool summary template. After two drafts and feedback from the supervising professor the evaluation tool and summary template were ready for use at the clinic.

The clinic determined the chronic pain evaluation tool would be used for all chronic pain clients. Results from the tool would be used to screen clients to different pathways for intervention. It was determined one of these pathways would be occupational therapy individual or group intervention. Jessica and Jennifer returned to research to assist with the determination of appropriate evidence based group topics for chronic pain treatment. Approximately seventeen group topics were researched as possible occupational therapy group interventions. These topics are currently being used to educate chronic pain clients to improve occupational performance and enhance occupational functioning in daily activities.

Disciplines

Occupational Therapy | Rehabilitation and Therapy

Chronic Pain Program Development
Old Town Clinic, Central City Concern

Innovative Practice Project

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Introduction

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Occupational Therapy Needs Assessment

A Needs Assessment of the Old Town Clinic was completed to review the clinic from an Occupational Therapy perspective. The Needs Assessment consisted of assessing clinic function by interviewing staff and compilation of documentation and statistics. This information was reviewed in comparison to the Occupational Therapy Practice Framework, the professional guidelines for the Occupational Therapy profession.

NEEDS ASSESSMENT can be defined as assessing the environment, internal, and external stakeholders for the purpose of understanding the mission, purpose, and goals of the system in relation to day to day operations. The following information was gathered in this review.

A) Old Town Clinic Organizational Goals

1) Mission – Central City Concern has an agency mission to provide pathways to self-sufficiency through active intervention in poverty and homelessness. Old Town Clinic, as program of Central City Concern, has a clinic mission to provide primary health care using a team based approach for people who are homeless or in poverty.

2) Guiding Principles - Old Town Clinic utilizes the following guiding principles:

   a) Team based care that is co-located
   b) The success of the team comes from frequent, fluid, and often informal communication among all team members
   c) Your work of the day is not your schedule, but the health of the population you serve; the team is proactive in meeting the needs of the panel
   d) Behavioral health is incorporated into the primary care visit
   e) Work at the top of your license – every member of the team is fully engaged in the process and does what they are uniquely qualified to do
   f) "Not my job" is not part of the vocabulary; everyone is willing to assist with the work that needs to be done
   g) Everyone on the team is of equal value; the success of the team depends on everyone doing their specific role to the best of their ability
   h) Different work styles are valuable and important; frequent evaluation of how to approach and work with other team members is necessary, and also kind of interesting.

3) Values - Old Town Clinic strive to meet the following values:

   a) Patient care will be team based. **T**eam-based care allows staff to work at the "top" of their license/training and decreases referrals outside the system. The system becomes more efficient.
   b) Panel management will be utilized to proactively plan the care for the patient in advance of their visit to anticipate needs.
   c) Customer driven care will be a guiding principle of decisions. Patient-centered care is consistent with movement toward recovery and resilience and recognizes the importance of establishing a relationship with the patient.
   d) Direct access is essential for quality patient care. Use of advance access and team based care provides more services and contacts for patients to see It also decreases wait time.

e) Behavioral health will be integrated with primary care. PCP's working closely with behavioral health staff will help identify high risk/need patients prior to their appointments and help prepare for optimal engagement and care. This will enhance a safe clinic environment for the patient and staff.

4) Goals – The following Old Town Clinic Goals are currently being addressed.

a) Develop integrated chronic pain recovery program utilizing Evidence Based Practices. The goals of the chronic pain recovery program are to enhance the function of high-risk chronic pain patients, maintain prescribing of controlled substances within reasonable parameters, minimize risks to patients, providers and the community, and allow providers to flourish and grow in what can be a difficult practice environment. Evidence base practices standardize care with indicators tracked to monitor effectiveness of chronic pain management.
b) Continue to develop panel management through proactive patient interventions
c) Increase utilization of behavioral health clinician
d) Continue to develop database to improve population-level care management

B) Old Town Clinic Operational Design

1) Team Structure - CATCH (**C**ollaborative **A**pproach **T**o **C**omplete **H**ealth) is the name Old Town Clinic has used to describe the team based care model. The operations have been designed to meet the collaborative approach to meet the identified goals.

a) Clinical Core Teams - These teams consist of the Primary Care Physician and Medical Assistant pairs, a Panel Manager, behavioral health clinician, acupuncturist, and scheduler. Old Town Clinic has identified three clinical core teams.

i. **Pioneers -** The Park Block Pioneers combine skills, knowledge and creativity to provide top quality care for the patients. Strong communication and flexibility with intentional work together creates quality management of the health care needs of the entire panel. Anticipation and planning for individual patient needs is a focus for efficiency.

ii. **Fountain** - The Skidmore fountain team proudly and creatively combines its skills and knowledge to provide the highest level of patient care. Through a seamless path of care, this team aims to meet patients' immediate and long term needs, while simultaneously increasing clinic efficiency and decreasing stress in the workplace.

iii. **Burnside Bridge-** The Burnside bridge team provides pathways to comprehensive health by improving patients' confidence and active participation in healthy living. This is achieved not only by anticipating patient needs, equipping them with tools for healthful living, and including them as active members of the care team, but also by working as providers to deliver coordinated and thoughtful care that eliminates waste and redundancy, and enhances trust and stability amongst all team members.

(b) Clinical Micro Teams - The Clinical Core Teams can have multiple Clinical Micro Teams which consists of a PCP and Medical Assistant. The Panel Manager assists the Micro Teams.
(c) Professional Disciplines - Old Town Clinic utilizes several professional disciplines to provide quality interdisciplinary treatments. They include:

i. Medical Doctors (MD), Naturopathic Doctors (ND) and Physicians Assistants (PA) serve as the Primary Care Physician (PCP). They provide physical and mental health assessment, diagnosis and development of a care plan; oversight of delivery of comprehensive services to a panel of patients.
ii. The Behavioral Health Clinician (LCSW) provides problem focused assessment and intervention services, solution focused and other evidenced based brief therapies; provides consultation to primary care providers including psychosocial support for patients, identification of brief interventions for maladaptive behaviors, cognitive behavioral therapy, psychosocial skill training, chronic disease self management skills, crisis intervention, linking with specialty mental health and addictions treatment, and patient education.
iii. Acupuncturist - The Acupuncturist provides acupuncture treatment for a variety of issues. Due to the frequent interactions patients often inform the acupuncturists of important health and social events, issues and progress in their life. Given this contact and avenue for communication, the Acupuncturist role has expanded to take referrals , be a point person between team and CCC housing, lifestyle coaching, educate other team members on where patient is in their recovery, de-escalate patients, and provide valuable information for staffing the long acting opiate clinic
iv. The Medical Assistant (MA) is a direct service provider who provides on-site diagnostics and treatments, oversight of flow of patients through the clinic, management of communications and panel related data, and serves to collect data and forward it to panel manager.
v. The Panel manager (PNP, MD,MA) provides oversight of delivery of planned care services including primary and secondary prevention and screening; ensuring safe transition of patient care between primary care and other services; team leadership and coaching including care coordination, case management, disease management, delegation of clinical tasks, back up of MA's, and patient education.
vi. The Scheduler appropriately schedules patient appointments for the panel of patients. Frequent communication with the panel manager and MA is necessary to know how to best schedule individual appointments. The scheduler also assists patients that walk-in to the clinic for questions or advice and determine with the help of the team how to best serve the patient.
vii. Referral Coordinators screens patients for eligibility of different PAP programs; enrolls eligible patients into the program and re-enrolls as necessary; coordinates specialty appointment and medical referrals for the patients at OTC. The referral coordinators assist patients to acquire DME when a provider deems it necessary.

2) Environment - The Old Town Clinic environment has continually been evaluated to meet the team structure and clinical mission. The reception desks are open with a friendly and approachable counter space. Patients have easy access to client restrooms. The environment supports a safe and trusting feeling. Treatment spaces consist of the following:

(a) Individual Treatment Spaces - There are 14 individual treatment spaces. The individual treatment spaces are scheduled from 8:00am to 5:40pm. They are in use about 90% of the time. In addition, the behavioral health specialist sees patients in an office.
(b) Group Treatment Spaces – There is 1 group treatment space in the acupuncture clinic. In addition to the group space, there is a group room available in the Richard Harris Building that joins the Old Town Clinic. This space is available days and evenings and is available to the community and the clinic. This space is utilized approximately 60% of the time.
(c) Acupuncture Clinic - The Acupuncture space also referred to as the Fishbowl is utilized from 8:00am-5:00pm Monday through Friday with occasional Friday afternoons unscheduled.

Old Town Clinic staff indicates that space needs are high and that there is limited space for expanded programs or needs.

3) Policy and Procedures - Although the, mission and organizational goals are evident in the daily operations and staff interviews, there were no documented policies and procedures of operation for review.

C) Patient Demographic s – Old Town Clinic serves patients who are 18 years or above. The following is information taken from the 2008 UDS report and reflects clients served by the entire non-profit of Central City Concern. However, there is little variance suspected between the larger population and the subset serviced by Old Town Clinic. The only statistic available that is specific to the clinic is that approximately 30% of clients receiving services have chronic pain.

1) Total # patients seen is 5,040
2) The clinic saw 1,182 more male patients then female patients
3) In relation to age range the clinic saw the most patients who were between the ages of 45-54
4) The top three zip codes include:
    a) 97209 (1335)
    b) Others (370)
    c) 97205 (257)
5) The top four races seen are:
    a) White (3,864)
    b) Black (599)
    c) Unreported/unknown (481)
    d) Hispanic/Latino (372)
6) 4,831 patients were able to be served using the English language and 209 required another language.
7) 4,577 patients were at or below the poverty level
8) 2,983 patients were not insured; 1,230 patients had Medicaid coverage; 688 patients had Medicare coverage; and 129 patients had private insurance.
9) The top four health problems of selected diagnoses include:
    a) Hypertension
    b) Diabetes Mellitus
    c) Asthma and chronic bronchitis/emphysema
    d) Heart disease
10) The most seen mental health/substance abuse conditions include:
    a) Substance abuse other than alcohol or tobacco (1,670)
    b) Alcohol abuse (1,269)
    c) Depression and other mood disorders (778)
    d) Other mental health disorders (567)
    e) Anxiety disorders and PTSD (463)
    f) ADD and other behavior disorders (62)

D) Perceived Service Needs – In review of perceived clinical needs, the staff offered feedback in the following areas. Note that some of these needs are addressed in the current goals of the clinic.

1) Preventative education for patients.
2) Education individual and group services for patients with chronic health conditions.
3) Increased communication between Central City Concern programs
4) Implementation of Life Skills programs to support increased health management
5) Implementation of Chronic Pain group and individual curriculum using Evidence Based practices

GAP ANALYSIS can be defined as a focused review of the clinic goals in comparison to the current operations and perceived movement towards those goals. Important in the gap analysis is careful review of what resources are needed to meet the goals. In this particular exercise, the Gap Analysis will review current clinic goals and perceived needs in relation to how Occupational Therapy services (as a resource) can assist the clinic in meeting the goals.

A) Occupational Therapy (OT) – helps clients improve functional independence in occupations of daily life. Occupational Therapists provide evaluations and purposeful, goal oriented activities that address problems in basic self-care, independent living skills, leisure skills and work skills.

Table A.1 OT Service Domains

Areas of Occupation	Client Factors	Performance Skills	Performance Patterns	Context and Environment	Activity Demands
•ADL •IADL •Rest/Sleep •Education •Work •Play •Leisure •Social Participation	•Values, Beliefs & Spirituality •Body Functions •Body Structures	•Sensory Perceptual •Motor / Praxis •Emotional Regulation •Cognition •Communication & Social skills	•Habits •Roles •Routines •Rituals	•Cultural •Personal •Physical •Social •Temporal •Virtual	•Required Objects •Space demands •Social demands •Sequencing & Timing •Required Actions •Required Body Functions •Required Body Structures

Table A.2 OT service delivery

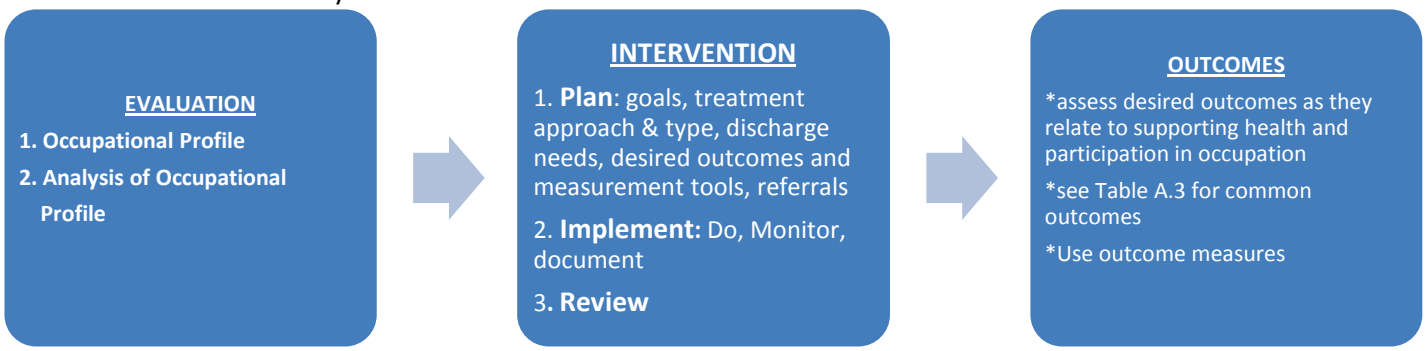
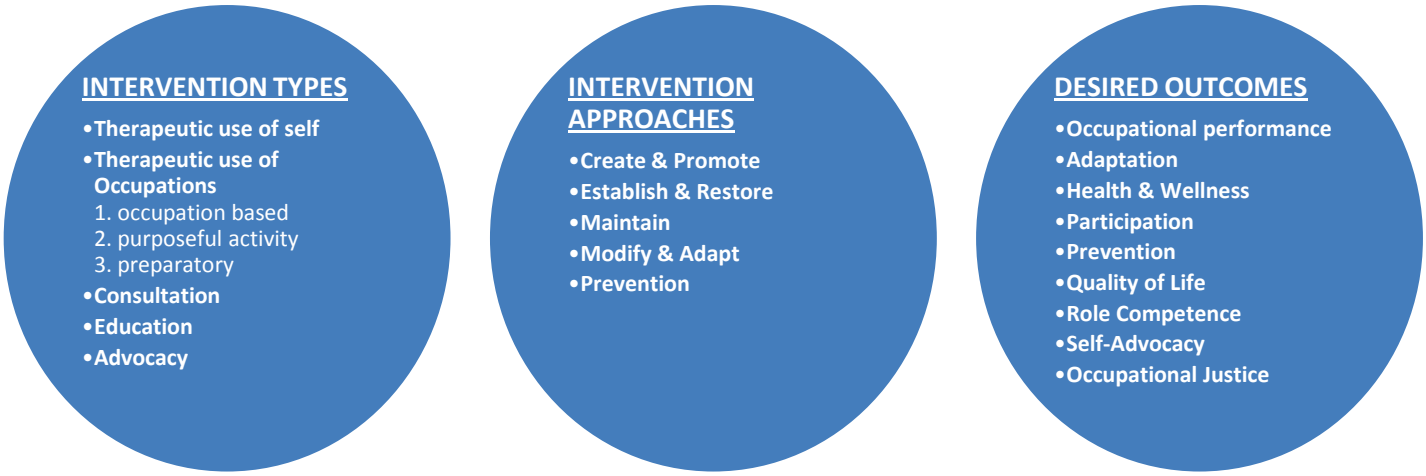


Table A.3 OT intervention types, approaches & outcomes



B) Old Town Clinic Identified Needs

1) Increase utilization of behavioral health clinician
2) Implementation of Life Skills programs to support increased health management
3) Preventative education for patients.
4) Education services for patients with chronic health conditions.
5) Increased communication between Central City Concern programs
6) Develop integrated chronic pain recovery program utilizing Evidence Based Practices. The goals of the chronic pain recovery program are to enhance the function of high-risk chronic pain patients, maintain prescribing of controlled substances within reasonable parameters, minimize risks to patients, providers and the community, and allow providers to flourish and grow in what can be a difficult practice environment. Evidence base practices standardize care with indicators tracked to monitor effectiveness of chronic pain management.
7) Implementation of Chronic Pain group and individual curriculum using Evidence Based practices.
8) Continue to develop panel management through proactive patient interventions
9) Improve Advanced Access (Current goal of 3-5 days not fully attained)
10) Continue to develop database to improve population-level care management
11) Utilization and allocation of Durable Medical Equipment

C) Occupational Therapy at Old Town Clinic – Occupational Therapy is a valuable profession to include among the current service providers at Central City Concern's Old Town Clinic because it can address many of the clinics's identified needs. OT service provisions include:

1) **Behavioral health interventions**: OT is a great service for many of the same clients who utilize the behavioral health clinician at Old Town clinic. An OT would not duplicate services already offered, but rather use a combination of psycho-educational and activity based training to further address behavioral health needs of clients. The OT provides multiple opportunities for clients to practice specific behaviors related to problem solving so that they can receive hands-on training with the cognitive behavioral based problem solving strategies taught by the behavioral health specialist. Commonly used intervention tools and approaches include: Winnie Dunn's Sensory Profile, the Wellness Recovery Action Plan (WRAP), Meichenbaum's "Think Aloud Protocol" for activity based problem solving, coping models that emphasize activities like monitoring thoughts with logs and diaries, and activities that allow for modeling, rehearsal, self-evaluation of specific skills.
2) **Life Skills Programs:** Occupational Therapists receive extensive training in life skills programming. OT is a profession rooted in assessing an individual's current functional skill level in order to determine which skills are supporting and which are hindering daily functioning. OTs can offer life skills training in one-on-one or group formats. Areas addressed may include: basic self-care, meal planning and preparation, home maintenance, money management, medication management, community mobility & transportation management, stress management and coping skills training, safety awareness**,** time management, developing support systems, leisure exploration, assertive communication, problem solving & goal setting.
3) **Preventative Health Education:** Occupational Therapists typically provide health prevention education during services offered to clients for behavioral health, life skills training, and during chronic pain programs. However, an OT at OTC could also provide education and training focused on health prevention and wellness. Wellness activities taught may include the following: relaxation and breathing techniques, stress management, and leisure exploration.
4) **Education for Clients with Chronic Health Conditions:** An OT would likely address this need in conjunction with behavioral health, life skills, and/or chronic pain services. Clients with chronic conditions like hypertension, diabetes, obesity, and COPD benefit from OT services because they receive more than just

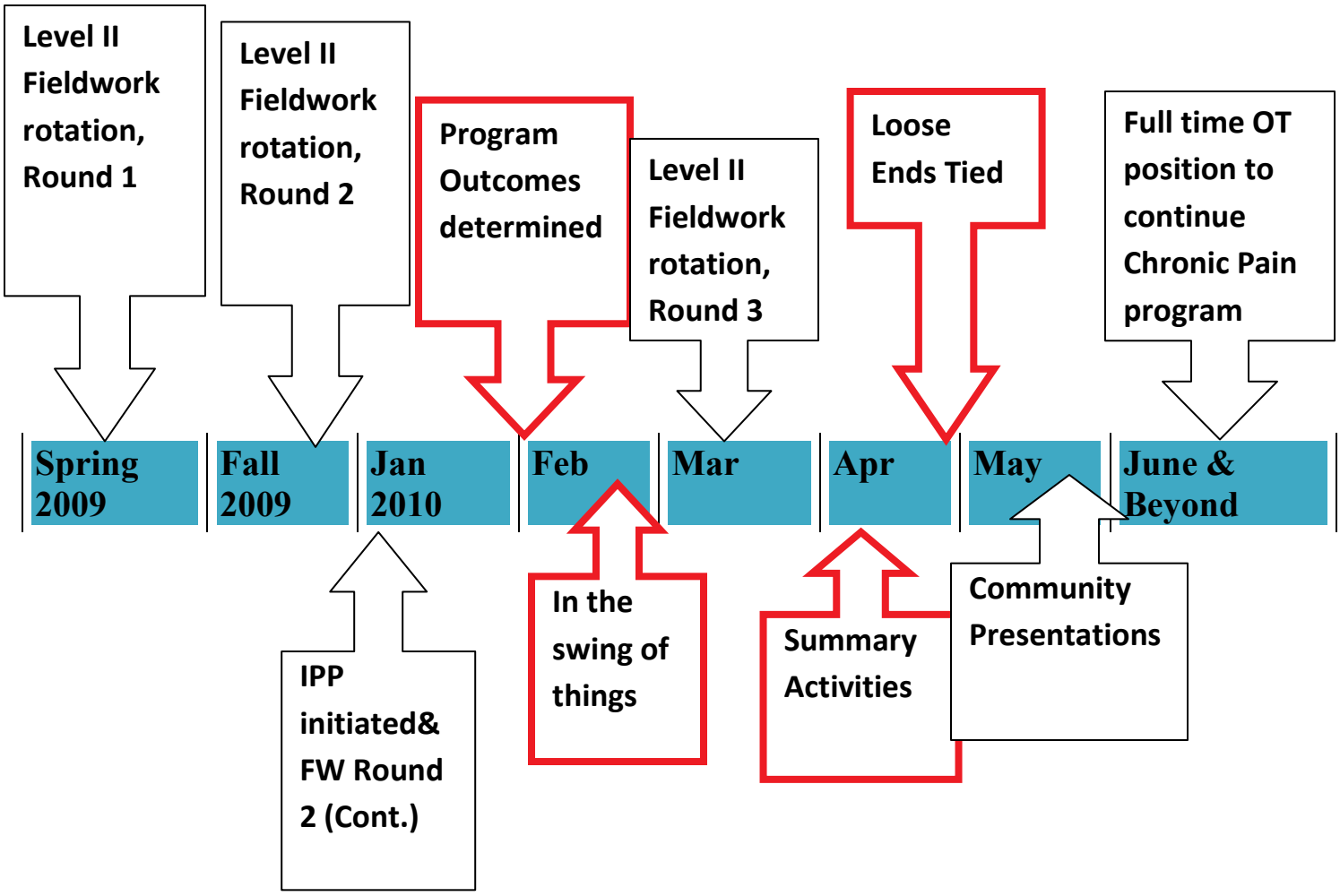
imparted knowledge about their condition. An OT is skilled at being able to help clients understand the power of performance patterns in influencing their health status. A client would be taught to understand the habits, roles, routines and rituals in their life that positively and negatively impact their health conditions.

5) **Chronic Pain Programs:** According to the American Chronic Pain Association a multidisciplinary treatment approach is recognized as the most effective way to help persons with chronic pain. Occupational therapists are uniquely situated by training to be able to offer skilled service to chronic pain sufferers that encompasses both the psychosocial and physical realms. In order to best serve OTC clients, occupational therapist can offer expertise in the areas of education in preparation for ADL, IADL, productive-occupations, and leisure. Specifically by helping clients plan ways to minimize pain/re-injury while participating in occupations. As well as teaching posture & body mechanics, pacing, range of motion, stretching, work simplification, energy conservation, and adaptive equipment if appropriate.
6) **Advanced access:** The occupational therapist will contribute to advanced access improvements by implementing a referral system and screening protocol, scheduling services in an acceptable time frame, and providing continuity of care for those clients selected.
7) **Durable Medical Equipment (DME) resources**- Occupational therapist are experts in the realm of DME. At the OTC the occupational therapist can provide information to resource staff concerning the purpose and function of DME, DME utilization via donated items stored in the basement of the recuperation care program, and help fit OTC clients to DME when available.

Summary:

As a profession that provides client-centered services in a wide variety of settings, Occupational Therapy is able to help many individuals gain the highest possible degree of functional independence. Occupational Therapy fits very well in community mental health and a primary care setting like Old Town Clinic because it embraces an interdisciplinary team approach to care and provides a wide range of both mental and physical health services. Occupational therapists utilize a combination of psycho-educational and occupation-based treatment approaches in order to contribute to, and further, the service benefits received from other health providers. As outlined in the gap analysis review, Occupational Therapy is able to provide unique services that address existing needs and "gaps" at Central City Concern's Old Town Clinic. As capacity issues for the underserved and uninsured grow, Old Town Clinic guiding principles and values can be fully developed by offering Occupation based services.

Timeline of Course Expectations



Project Outcomes

By May 6th Jennifer and Jessica will provide Old Town Clinic with the following services and documents:

Services:

1. Participation in weekly OT department meetings with Nunpa and OT fieldwork students to collaborate on chronic pain program development
2. Conduct a focus group to assess efficacy of chronic pain evaluation tool
3. Pilot the evaluation tool with old town clinic clients referred for OT chronic pain services.
4. Provide training to Old Town Clinic OT department staff on how to administer the evaluation tool and complete the evaluation summary template

Documents:

1. Updated needs assessment, from Spring 2009, to reflect demographic data for chronic pain clients
2. Student/Faculty Contract
3. Mentor/Mentee Partnership agreement
4. Course Expectation Timeline
5. Site Objectives
6. Weekly Objectives
7. Evidence Based Research: Models and Theories for Chronic Pain Program Development
8. Evidence Based Categories for Evaluation of Chronic Pain Programming
9. Evidence Based Research: Assessment Tools
10. Chronic Pain Evaluation Tool (multiple drafts expected)
11. Evaluation Summary Template
12. Focus Group
    a. Protocol Sheet
    b. Consent Form
13. Protocol for Piloting the Chronic Pain Evaluation Tool
14. Chronic Pain Treatment Categories for group and individual Interventions
    a. Treatment Category List
    b. Evidence Based Research: Treatment Categories
    c. List of group module recommendations based on evidence based research

Chronic Pain Models and Theories

Three models were selected for program development based off of research of current chronic pain programs using the databases available to students at Pacific University. These models were selected as each can be utilized as a frame of reference for the profession of occupational therapy. The models selected are; Cognitive Behavioral therapy, The Model of Human Occupation, and the Transtheoretical Model. These models were further researched specifically in relation to their use with chronic pain clients and their use in chronic pain programs.

1. Cognitive Behavioral Therapy-a psychotherapeutic approach that aims to solve problems concerning dysfunctional emotions, behaviors and cognitions through a goal-oriented, systematic procedure.
2. The Model of Human Occupation- one of the leading theories in occupational therapy this model seeks to explain how occupation in motivated, patterned, and performed.
3. Transtheoretical model- assesses an individual's readiness to act on a new healthier behavior, and provides strategies, or processes of change to guide the individual through the stages of change to action and maintenance.

Chronic Pain Models and Theories
Annotated Bibliography

Cognitive Behavioral Therapy

1. Cucciare, M., Sorrell, J., & Trafton, J., (2009). Predicting response to cognitive-behavioral therapy in a sample of HIV-positive patients with chronic pain. *Journal of Behavioral Medicine.* 32 (4) 340-348.

   The primary aim of this study was to examine the role of patient characteristics in predicting response to treatment in a sample of HIV-positive patients receiving 12 weekly sessions of a CBT-based pain management protocol. Multivariate regression analysis showed that higher baseline levels of pain-related anxiety were related to greater improvement in pain-related functioning at post-treatment, and Treatment sessions focused on progressive muscle relaxation and cognitive reconceptualization of pain may be particularly helpful.

2. Dysvik, E., Natvig, G., Eikeland, O., & Brattberg, G., (2005). Results of a multidisciplinary pain management program: A 6 and 12 month follow-up study. *Rehabilitation Nursing.* 30 (5) 198-206.

   The aim of this study was to evaluate an 8-week multidisciplinary pain management program offered to patients suffering from chronic pain. The study initially included 88 participants, and 61 of the sample completed a follow-up program conducted at 6 and 12 months after the initial programs. The pain management program was based on a cognitive behavioral approach with active patient participation in learning new coping skills. . The main goals were change of focus from pain and disability to resources and functional coping strategies. The results indicated that these hypotheses were mainly supported and further pain reduction, decreased emotion-focused coping, better social functioning, and overall physical and mental health gains were observed.

3. Hoffman, B., Papas, R., Chatkoff, D., & Kerns, R., (2007). Meta-Analysis of psychological interventions for chronic low back pain. *Health Psychology.* 26 (1) 1-9

   The purpose of this meta-analysis of randomized controlled trials was to evaluate the efficacy of psychological interventions for adults with noncancerous chronic low back pain. Cognitive-behavioral and self-regulatory treatments were specifically found to be efficacious. Multidisciplinary approaches that included a psychological component, when compared with active control conditions, were also noted to have positive short-term effects on pain interference and positive long-term effects on return to work.

4. Kaapa, E., Frantsi, K., Sarna, S., & Malmivaara, A., (2006). Multidisciplinary group rehabilitation versus individual physiotherapy for chronic nonspecific low back pain: A randomized trial. *Spine.* 31 (4) 371-374.

   The purpose of this study was to evaluate the effectiveness of a semi-intensive multidisciplinary rehabilitation for patients with chronic low back pain in an outpatient setting. The results of this study indicate that semi-light outpatient multidisciplinary rehabilitation program for female chronic low back pain patients does not offer incremental benefits when compared with rehabilitation carried out by a physiotherapist having a cognitive-behavioral way of administering the treatment.

The Model of Human Occupation

1. Gusich, R., (1984). Occupational therapy for chronic pain. *Occupational Therapy in Mental Health.* 4 (3) 59-73.

   Occupational therapy is the health profession qualified to analyze occupational function and dysfunction for remedial action of chronic pain behavior. An occupational therapy approach based on the model of human occupation is described. It is proposed as an appropriate treatment strategy for the short-term. acute-care chronic pain patient on a psychiatric service as part of an interdisciplinary pain program. A discussion of chronic pain, its impact on occupational functioning and the development of an occupational therapy treatment program are presented, along with a case example and implications for further study.

2. Kielhofner, G., Braveman, B., Baron, K., Fisher, G., Hammel, J., & Littleton, M., (1999).The model of human occupation: Understanding the worker who is injured or disabled. *Work.* 12, 37-45.

   Using the model of human occupation as a framework to understand the worker with an injury or disability provides a more complete and holistic understanding of the many factors which can affect a worker. In particular, the model illuminates how factors of capacity, motivation,
   lifestyle, and environment inter-relate in determining a worker's success or failure. Implications for using the model to achieve a more effective work-related practice are discussed.

The Transtheoretical Model

1. Williams, R., Hapidou, E., Lin, C., & Abbasi, H., (2007). Examining the pain stages of change questionnaire in chronic pain. *Physiotherapy Canada.* 59 (2) 132-141.

   This study examined the relationships of a readiness to adopt a self-management approach to chronic pain, measured by the Pain Stages of Change Questionnaire (PSOCQ), with other pain-related scales in patients attending a chronic pain management program and determined if these measures changed from admission to discharge. The PSOCQ consists of four stages: Precontemplation, Contemplation, Action and Maintenance. These findings provide support for the use of the PSOCQ in assessing patients' readiness to adopt a self-management approach to pain and in monitoring their progress in rehabilitation.

2. Zenker, S., Petraschka, M., Schenk, M., Reibharuer, A., Newie, T., Hermanns, K., Wernecke, K., & spies, C., (2006). Adjustment to chronic pain in back pain patients classified according to the motivational stages of chronic pain management. *Journal of Pain.* 7 (6) 417-427.

   According to Prochaska's transtheoretical model, the Freiburg Questionnaire stages of chronic pain management (FQ-STAPM) were used to classify chronic back patients into 4 distinct motivational stages. Patients were in the following motivational stages: precontemplation in 30%, preparation in 19%, action in 30%, maintenance in 21%. The intensity of pain in the precontemplation stage patients was significantly higher compared to patients in the maintenance stage. A lower pain chronicity was related to a significantly higher motivation. Moreover, there was a significant increase in healthcare system expenses by the lesser motivated patients. Patients in the maintenance stage used significantly less opioids than patients in the precontemplation stage.

Evaluation Tool Development

Draft #1: compiled on February 21, 2010

A site visit was made to Progressive Rehabiliation Associates (PRA) on February 10, 2010. Occupational Therapists at PRA allowed IPP students to review their evaluation tools and provided recommendations about assessments categories for chronic pain clients. A meeting was held on February 18, 2010 with Two Foxes Singing and the level II fieldwork students at Old Town Clinc to determine which evidence-based chronic pain assessment tools appeared most valuable for the client population at Old Town Clinic. The team decided that the following assessment tools would be most valuable to use in developing a comprehensive chronic pain evaluation for Old Town Clinic:

Pain

- Brief Pain Inventory – Short Form
- Short-Form McGill Pain Questionnaire
- Numeric Pain Rating Scales

Functional Performance

- Pain and Functional Performance assessment – Final Verson
- Occupational Therapy Practice Framework, 2nd edition

Quality of Life

- World Health Organization Quality of Life Questionnaire

Cognitive Behavioral

- Pain Self-Efficacy Questionnaire

Mood

- Profile of Mood States

These tools were chosen as they met the inclusion criteria of being supported by evidence and availability. In addition these tools assess necessary areas for chronic pain evaluation. Specifically when evaluating pain the tool focuses on the average pain experienced during the day by the individual as well as assists to determine possible activities that may inhibit or exacerbate pain conditions. Functional performance areas are important when addressing areas of occupation and daily or routine activities. These areas are especially helpful to guide occupational therapy intervention to improve occupational functioning. Quality of life is an important aspect to evaluate for chronic pain clients as pain can greatly impact a person's life satisfaction. The cognitive behavioral assessment chosen assists the evaluator to assess a individuals readiness for response to intervention. This factor is key to the development of therapeutic interaction and guidance for individuals to change pain beliefs. The final assessment was used to suggest a manner for the evaluators to evaluate client mood and possibly assist evaluators with referral to appropriate treatments.

Draft#2: compiled on February 27, 2010

Draft #1 was presented to the faculty advisor, Sandra Pelham-Foster, and several changes were made regarding format, grammar and semantics of evaluation questions.

Draft#3: compiled on March 4, 2010

The evaluation tool was presented to the site coordinator, Two Foxes Singing, and the level II fieldwork students at Old Town Clinic, Pam Hursey and Christy King. The meeting was held on March 1, 2010. The following changes were proposed:

- add a second clock sphere to differentiate between a.m and p.m
- Possibly simplify the pain categories listed in the McGill Pain Questionnaire
- Add another question about daily routine
- add a question about their **support system**
- add a question about their **belief system**
- ask them what makes their life **meaningful**

- we talked about looking into and discussing the area of religious/spritual activities in the areas of occupation section
- create space between the tables of ADL/IADL/areas of occupation so that there is room to take notes
- add a question about, "in your wildest dreams what do you want to do or be?"
- Rachel provided the students with an article about acute pain management that she really liked and requested the table of questions on page650 to be added and used as “core outcome measures”
- create 2 questions to address environment/sensory threshold

Draft#4: compiled on March 7, 2010

Two focus groups were conducted on Friday March 5, 2010 using four 3rd year occupational therapy students in each group. The third draft of the chronic pain evaluation tool was shown to focus group participants and valuable feedback was received regarding content, layout, and value of the information obtained. Comparisons were made between feedback from the two groups and changes were made for suggestions that were consistent between groups.

Draft#5: compiled on April 1, 2010

The fourth draft of the chronic pain evaluation tool was piloted with two chronic pain referral clients at Old Town Clinic. The first pilot administration was conducted by Jessica Gonzales on March 18, 2010. The second pilot administration was conducted by Jennifer Theusch on March 25, 2010. A meeting was held on March 30, 2010 with faculty advisor Sandra Pelham-Foster to discuss minor changes to the evaluation tool and to analyze client responses in order to determine an appropriate method of summarizing client data obtained.

Draft #6: compiled on April 15, 2010

After creating an evaluation summary template it became clear that a few minor changes needed to be made to draft #5. Two questions were removed from the section on pain rating and location and exercise was added to the list of IADL areas in the daily function section. Also, The Old Town Clinic medical director provided the students with the Opioid Risk Tool, which was added to assess risk factors for addiction.

Draft #7: compiled on April 22,2010

On April 22, 2010 a training was held at Old Town Clinic to teach the OT department (Fieldwork Educator and Fieldwork Students) how to administer the evaluation tool and fill out the summary report. During the training Jennifer and Jessica noticed a few grammatical or formatting errors. Immediately after the training they made these corrections and also added a better descriptive introduction for the Opioid Risk Tool.

Evaluation Tool Categories

According to evidence based research, the following eight categories are known to be most appropriate to address in a comprehensive chronic pain evaluation tool. Using these categories, an additional search was conducted to find existing evaluation tools that meet the following inclusion criteria:

1. Address one or more of the categories listed
2. Are supported by evidence
3. Are readily available for viewing or download

Pain (rating, location, previous tx)	**Physical** (structures & function)	**Performance/Function** (ADL/IADL, Routine, soc.particip.)	**Quality of Life** (Satisfact. w/occu. Px, roles, routine)
1. Chronic pain grade questionnaire 2. Brief pain inventory-short form (BPI Short form) 3. Leed's assessment of neuropathic signs and symptoms pain scale (LANNS-PS) 4. Short-form McGill Pain Questionnaire 5. Pain Rating Scales	• Couldn't access any of the assessments that were supported by research but general physical function is assessed in many of the other assessments.	1. Pain and functional performance assessment final version (PFPA-FV) 2. Patient Specific Functional and Pain Scales	1. WHOQOL Questionnaire (World Health Organization Quality of Life Questionnaire) 2. COPM 3. OPHI-II
Cognitive (LOC,Pain Beliefs,coping, CBT, prob. Solving, pain acceptance)	**Mood** (Depress., emotions, LOC/ coping?)	**Addiction & Dependency** (evidence for info from Steve?)	**Sensory** (function, modul./regul strategies)
1. Modified Somatic Perception Questionnaire 2. Pain Self-Efficacy Questionnaire 3. Fear-Avoidance Beliefs Questionnaire	1. BDI-I 2. BDI-II 3. Profile of Mood States 4. Hospital Anxiety and Depression Scale (HADS) 5. Kessler Psychological Distress Scale (KPDS)	1. Opioid Risk Tool	1. Sensory profile

Evidence Based Evaluation Tools
Annotated Bibliography

MOOD

Beck Depression Inventory

Beck, A.T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Arch Gen Psychiatry 4: 561-571.

Healey, A. K., Kneebone, I. I., Carroll, M., & Anderson, S. J. (2008). A preliminary investigation of the reliability and validity of the brief assessment schedule depression cards and the beck depression inventory-fast screen to screen for depression in older stroke survivors. *International Journal of Geriatric Psychiatry, 23*(5), 531-536.

This study assessed the reliability and validity of the Brief Assessment Schedule Depression Cards (BASDEC) and the Beck Depression Inventory-Fast Screen (BDI-FS) in screening for depression in older stroke survivors. Results were compared between these tests and the Hospital Anxiety and Depression Scale. The BASDEC and BDI-FS demonstrated acceptable internal consistency and test-retest reliability. The BASDEC demonstrated some advantage in criterion validity over the BDI-FS at the examined cut-offs.

Hesse, M. (2006). The beck depression inventory in patients undergoing opiate agonist maintenance treatment. *British Journal of Clinical Psychology, 45*(Pt 3), 417-425.

In this prospective, naturalistic study the BDI was administered to subjects receiving enhanced or standard psychosocial services along with opiate agonist maintenance treatment at 2 and 18 weeks post intake. Findings showed a high intra-class correlation between data from the different test periods. The results indicate that the BDI is both stable and has predictive validity in assessing depression among this population.

Lykke, J., Hesse, M., Austin, S. F., & Oestrich, I. (2008). Validity of the BPRS, the BDI and the BAI in dual diagnosis patients. *Addictive Behaviors, 33*(2), 292-300.

Researchers measured the differences in the psychometric properties of the Brief Psychiatric Rating Scale (BPRS), the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI) in their assessments of patients with psychiatric and substance use disorders. Of these, the BDI was able to discriminate between patients with and without mood disorders and schizoaffective disorders at intake to treatment. Conclusions of the study noted that dual diagnosis patients can be reliably assessed for symptoms using the BDI.

Turk, D., C., Burwinkle, T., M., (2005). Assessment of chronic pain in rehabilitation: outcomes measures in clinical trials and clinical practice. *Rehabilitation Psychology*, 50 (1), 56-64. Doi:10.1037/0090-5550.50.1.56

In this article researches provide evidence that chronic pain (or pain that lasts for several months or even years) is prevalent among patients in rehabilitation settings and treatment is costly. As new treatments become available and clinical trials are initiated, it is important to measure outcomes in an effort to determine the efficacy of treatment interventions. This article provides a review of the core domains of outcomes assessment among people with chronic pain, including recommendations for outcome measures to be used in clinical trials and clinical practice settings.

Beck Depression Inventory – II

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). Manual for the Beck Depression Inventory II (BDI-II). San Antonio, TX, Psychology Corporation.

Poole, H., Bramwell, R., & Murphy, P. (2006). Factor structure of the beck depression inventory-II in patients with chronic pain. *Clinical Journal of Pain, 22*(9), 790-798.

The administration of the BDI-II was examined by splitting data into exploratory and conformity factors in assessing patients with chronic pain. Objectives were to research the usefulness of this technique, as well as the reliability to these result with those of normative outpatient samples. Results of the study were consistent with those in samples, further validating the test's use in this field, while 2-factor scores were seen to possibly be of more clinical use than those of standard administration.

Segal, D. L., Coolidge, F. L., Cahill, B. S., & O'Riley, A. A. (2008). Psychometric properties of the beck depression inventory II (BDI-II) among community-dwelling older adults. *Behavior Modification, 32*(1), 3-20.

The psychometric properties of the Beck Depression Inventory-II (BDI-II) as a self-administered screening tool for depressive symptoms among a population of community dwelling adults. Scores showed good reliability and validity between reporting participants and between other administered measures. Through this the BDI shows strong psychometric consistency in screening depression among adults in the general population.

Hospital Anxiety and Depression Scale

Martin, C. R., Bonner, A., Brook, A., & Luscombe, C. (2006). Factor structure and use of the hospital anxiety and depression scale in the homeless and socially marginalized. *Psychology, Health & Medicine, 11*(2), 190-197. DOI: 10.1080/13548500500155883

This study sought to determine the psychometric properties of the widely used Hospital Anxiety and Depression Scale in the homeless. This investigation confirms contemporary research findings that the HADS comprises an underlying tri-dimensional factor structure. However, the internal consistency of the HADS anxiety (alpha = .81) and depression (alpha = .90) sub-scales was excellent. The findings of the current study suggest that the HADS is a suitable screening tool in this group.

McCue, P., Buchanan, T., & Martin, C. R. (2006). Screening for psychological distress using internet administration of the hospital anxiety and depression scale (HADS) in individuals with chronic fatigue syndrome. *British Journal of Clinical Psychology, 45*, 483-498. DOI: 10.1348/014466505X82379

Confirmatory factor analysis (CFA) and internal consistency analysis of the HADS was used to determine the psychometric characteristics of the instrument in individuals with CFS and a control group with data captured via an Internet data collection protocol. Researchers found that, while the HADS was suitable for screening individuals with CFS, use through internet administration inflated scores of users.

McCue, P., Martin, C. R., Buchanan, T., Rodgers, J., & Scholey, A. B. (2003, November). An investigation into the psychometric properties of the Hospital Anxiety and Depression Scale in individuals with chronic fatigue syndrome. *Psychology, Health & Medicine, 8*(4), 425-439. DOI: 10.1080/1354850310001604568

The effectiveness of the Hospital Anxiety and Depression Scale (HADS) was reviewed using exploratory and factor analyses. Findings showed that the clinical utility of the HADS in the assessment of anxiety and depression in CFS appeared to be fundamentally compromised by the presence of a three-dimensional underlying factor structure. Recommendations were made for revision to improve reliability.

Smith, A. B., Wright, E. P., Rush, R., Stark, D. P., Velikova, G., & Selby, P. J. (2006). Rasch analysis of the dimensional structure of the hospital anxiety and depression scale. *Psycho-Oncology, 15*(9), 817-827. DOI: 10.1002/pon.1015

A Rasch analysis of the HADS-T and subscales was used to explore the factor structure, dimensionality and screening efficacy. The results demonstrated that the structure of the HADS-T and subscales was unidimensional. Three items from the HADS-T, and one from each of the subscales demonstrated misfit. Removal of misfitting items had little impact on screening, demonstrating that items could potentially be omitted, if required, however, additional items have to be added if screening for moderate to mild distress is to be improved for cancer patients.

Kessler

Somers, k., G., Kumar, S., Vipond, N., Hall, G., (2009). Primary care assessment instruments for patients at risk of, or with, persistant pain: opportunistic findings from a systematic literature review. *International Journal of General Medicine*, 2: 121-128. Retrieved from http://www.dovepress.com/primary-care-assessment-instruments-for-patients-at-risk-of-or-with-pe-peer-reviewed-article-IJGM

This research paper reports on assessment instruments which may be appropriate in primary health care settings for early identification of patients with, or at-risk of developing persistent pain. From one hundred and sixteen potentially useful instruments, 16 were determined appropriate to primary health care settings because of simple wording, brief items, short administration time, and ease of scoring. No one assessment instrument captured all constructs of persistent pain, however together the 16 instruments provide a broad choice for primary care clinicians to assist with early identification of adults at risk of, or with persistent pain.

Profile of Mood States

Gibson, S.J. (1997). The measurement of mood states in older adults. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences,* 4, 167-174. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=1998075934&site=ehost-live

This study examined the reliability and validity of the Profile of Mood States (POMS) questionnaire when administered to 479 community-dwelling older adults. There was strong support for concurrent validity, and this instrument was able to discriminate between healthy adults and patients with known mood disturbance. Excellent internal consistency of POMS subscales and very good retest reliability were noted. A significant age-related decline in self-reported mood states emphasizes the need for age-specific norms. Although it is clear that normative values for this test vary considerably over the age spectrum, the POMS can be recommended as a reliable and valid measure of mood states in older adults.

Shin, Y., Colling, KB. (2000). Cultural verification and application of the Profile of Mood States (POMS) with Korean elders. *Western Journal of Nursing Research*, 22, 68-83. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2000029010&site=ehost-live

This study assessed the cultural verification of the Profile of Mood States *(*POMS*)* for Korean elderly and examined their mood states. Through item analysis, face validity, and factor analysis, the 65-item original POMS was revised and

reduced to a three factor, 34-item instrument specific to Korean elders. The revised test was administered to 319 Korean elders, older than 60 years. The revised POMS for Korean elders was shown to be a reliable and valid measure of mood states due to descriptive analysis which showed that older Korean people perceived relatively good mood states.

Turk, D., C., Burwinkle, T., M., (2005). Assessment of chronic pain in rehabilitation: outcomes measures in clinical trials and clinical practice. *Rehabilitation Psychology*, 50 (1), 56-64. Doi:10.1037/0090-5550.50.1.56

In this article researches provide evidence that chronic pain (or pain that lasts for several months or even years) is prevalent among patients in rehabilitation settings and treatment is costly. As new treatments become available and clinical trials are initiated, it is important to measure outcomes in an effort to determine the efficacy of treatment interventions. This article provides a review of the core domains of outcomes assessment among people with chronic pain, including recommendations for outcome measures to be used in clinical trials and clinical practice settings.

PAIN

Brief Pain Inventory (BPI)

Holen, J., C., Lydersen, S., Klepstad, P., Loge, J., H., Kaasa, S., (2008). The brief pain inventory: pain's interference with functions is different in cancer pain compared with noncancer chronic pain. *Clinical Journal of Pain*, 24(3). Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009816243&site=ehost-live

This research explored how patients responded to *pain interference* items by comparing responses from patients who had *cancer* with patients who had *noncancer chronic pain* (NCCP), and explored how *different* levels of health-related quality of life affect upon *pain's interference* with *functions*. Three hundred patients with *cancer* and 286 patients with NCCP were asked to complete the BPI and the European Organization for Research and Treatment of *Cancer's* Quality of Life Questionnaire (EORTC QLQ-C30). The results indicate that patients are unable to report isolated *pain's interference* using the BPI. When reporting *pain's interference* with physical functioning, the level of physical functioning *is* more important than the level of *pain*.

Mackintosh, C., Elson, S., (2008). Chronic pain: clinical features, assessment and treatment. *Nursing Standard*, 23(5), 48-56. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010073859&site=ehost-live

This article is meant to provide a brief overview of the key features affecting the nature, assessment, and management of patients with chronic pain. The researchers provide evidence supporting the importance of pain education, assessment and management amongst all healthcare professionals. A key focus of this research is the evidence supporting the importance of communication amongst the patient and all involved healthcare professionals. Additionally, the value of accurate assessments is also key in effective chronic pain management.

Turk, D., C., Burwinkle, T., M., (2005). Assessment of chronic pain in rehabilitation: outcomes measures in clinical trials and clinical practice. *Rehabilitation Psychology*, 50 (1), 56-64. Doi:10.1037/0090-5550.50.1.56

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Numerical Rating Scale

Kahl, C., Cleland, J., A., (2005). Visual analogue scale, numeric pain rating scale and the mcgill pain questionnaire: an overview of psychometric properties. *Physical Therapy Reviews*,10, 123-128. Doi:10.1179/108331905X5576

The purpose of this review is to describe the psychometric properties of three of the most commonly used outcome measures by physical therapists (the visual analogue scale, the numeric pain rating scale, and the McGill Pain Questionnaire). Physical therapists must use outcome measures that identify and measure a change in patient status; since pain is a multidimensional experience and is often difficult to measure this review aims to describe the reliability and responsiveness of these measures.

Somers, k., G., Kumar, S., Vipond, N., Hall, G., (2009). Primary care assessment instruments for patients at risk of, or with, persistant pain: opportunistic findings from a systematic literature review. *International Journal of General Medicine*, 2: 121-128. Retrieved from http://www.dovepress.com/primary-care-assessment-instruments-for-patients-at-risk-of-or-with-pe-peer-reviewed-article-IJGM

This research paper reports on assessment instruments which may be appropriate in primary health care settings for early identification of patients with, or at-risk of developing persistent pain. From one hundred and sixteen potentially useful instruments, 16 were determined appropriate to primary health care settings because of simple wording, brief items, short administration time, and ease of scoring. No one assessment instrument captured all constructs of persistent pain, however together the 16 instruments provide a broad choice for primary care clinicians to assist with early identification of adults at risk of, or with persistent pain.

Williamson, A., & Hoggart, B. (2005). Pain: A review of three commonly used pain rating scales. *Journal of Clinical Nursing, 14*(7), 798-804. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2009021372&site=ehost-live

This review aims to explore the research available relating to three commonly used pain rating scales, the Visual Analogue Scale, the Verbal Rating Scale and the Numerical Rating Scale. All three pain-rating scales are valid, reliable and appropriate for use in clinical practice. For general purposes the Numerical Rating Scale has good sensitivity and generates data that can be statistically analysed for audit purposes. Patients who seek a sensitive pain-rating scale would probably choose this one.

LANNS

Bennett, M., I., Smith, B., H., Torrance, N., Potter, J., (2005). The S-Lanss score for identifying pain of predominantly neuropathic origin: validation for use in clinical and postal research. The Journal of Pain, 6(3), 149-158. doi:10.1016/j.jpain.2004.11.007

This article describes the development and *validation* of the *S-LANSS score,* a self-report version of the Leeds Assessment of *Neuropathic* Symptoms and Signs *pain* scale. The *S-LANSS* aims to identify *pain* of *predominantly neuropathic origin,* as distinct from nociceptive *pain*, without the need for *clinical* examination. Two hundred patients with chronic *pain* were asked to complete the *S-LANSS* unaided. A researcher then administered the *S-LANSS* scale and the *Neuropathic Pain* Scale (NPS) in interview format. The findings support the *S-LANSS* scale as a valid and reliable self-report instrument for *identifying neuropathic pain* and it is also acceptable for *use* in *postal* survey *research.* Establishing valid measures of symptoms and signs in *neuropathic pain* will allow standardized comparisons with other investigational measures.

Kaki, A., M., El-Yaski, A., Z., Youseif, E., (2005). Identifying neuropathic pain among patients with chronic low-back pain: use of the leeds assessment of neuropathic symptoms and signs pain scale. Regional Anesthesia and Pain Medicine, 30(5), 422-428. Retrieved from

This study investigates the prevalence of neuropathic pain among a sample of chronic LBP patients in Saudi Arabia by use of the Leeds Assessment of Neuropathic Symptoms and Signs (LANSS) pain scale. A total of 1,169 patients from 117 centers agreed to participate in the study over a period of 6.5 months. The LANSS pain scale was applied to each patient in an interview format. The results suggest that the LANSS pain scale is a useful tool in distinguishing patients with neuropathic pain from those with nociceptive pain. Neuropathic pain is a major contributor to chronic LBP, and the research supports that the LANSS pain scale is a useful tool for distinguishing patients with neuropathic pain from those with nociceptive pain.

Mackintosh, C., Elson, S., (2008). Chronic pain: clinical features, assessment and treatment. *Nursing Standard*, 23(5), 48-56. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010073859&site=ehost-live

This article is meant to provide a brief overview of the key features affecting the nature, assessment, and management of patients with chronic pain. The researchers provide evidence supporting the importance of pain education, assessment and management amongst all healthcare professionals. A key focus of this research is the evidence supporting the importance of communication amongst the patient and all involved healthcare professionals. Additionally, the value of accurate assessments is also key in effective chronic pain management.

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McGill Pain Questionnaire (MPQ)

Fabbri, E., Villa, G., Mabrouk, M., Guerrini, M., Montanari, G., Paradisi, R., Venturoli, S., Seracchioli, R., (2009). McGill Pain Questionnaire: A multi-dimensional verbal scale assessing postoperative changes in pain symptoms associated with severe endometriosis. Japan Society of Obstetrics and Gynecology, 35(4). doi:10.1111/j.1447-0756.2008.00994.x

This research evaluated the McGill Pain Questionnaire (MPQ) as a multi-dimensional verbal scale in providing information about chronic pelvic pain associated with endometriosis, before and after laparoscopic surgery. Fifty-five women undergoing laparoscopy for severe endometriosis were asked to complete the MPQ before surgery and at the 6-month follow up. Overall pain intensity significantly decreased after laparoscopic treatment of endometriosis. MPQ appears to be useful as a multi-dimensional scale in describing patients' pain semiology and evaluating pain evolution after surgical treatment. However, due to the extreme variability of pain experience, MPQ results don't clarify the relationship between pain intensity and the severity of endometriosis.

Kahl, C., Cleland, J., A., (2005). Visual analogue scale, numeric pain rating scale and the mcgill pain questionnaire: an overview of psychometric properties. *Physical Therapy Reviews*,10, 123-128. Doi:10.1179/108331905X5576

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Fear Avoidance Beliefs Questionnaire

Waddell G Newton M et al. A Fear-Avoidance Beliefs Questionnaire (FABQ) and the role of fear-avoidance beliefs in chronic low back pain and disability. Pain. 1993; 52: 157-168.

George, S. Z., Fritz, J. M., & McNeil, D. W. (2006). Fear-avoidance beliefs as measured by the fear-avoidance beliefs questionnaire: Change in fear-avoidance beliefs questionnaire is predictive of change in self-report of disability and pain intensity for patients with acute low back pain. *Clinical Journal of Pain, 22*(2), 197-203.

Findings from the Fear-Avoidance Beliefs Questionnaire (FABQ) were correlated with concurrent measures of pain intensity and lumbar flexion to see if there was a positive relationship between them. Testing showed that pain levels were significantly correlated with fear and avoidance. The study supported the FABQ as an outcome measure for patients with acute low back pain

Meyer, K., Tschopp, A., Sprott, H., & Mannion, A. F. (2009a). Association between catastrophizing and self-rated pain and disability in patients with chronic low back pain. *Journal of Rehabilitation Medicine, 41*(8), 620-625.

Researchers in a multiple regression analysis used the Fear Avoidance Beliefs Questionnaire in conjunction with other assessment tools to measure differences in reports of pain. Results showed differences in catastrophizing and pain intensity and suggested that negative psychological attributes are associated with greater perceptions of pain and disability.

Somers, k., G., Kumar, S., Vipond, N., Hall, G., (2009). Primary care assessment instruments for patients at risk of, or with, persistant pain: opportunistic findings from a systematic literature review. *International Journal of General Medicine*, 2: 121-128. Retrieved from http://www.dovepress.com/primary-care-assessment-instruments-for-patients-at-risk-of-or-with-pe-peer-reviewed-article-IJGM

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Modified Somatic Perception Questionnaire

Main C. J. The Modified Somatic Perception Questionnaire (MSPQ). J Psychosomatic Research. 1983; 27: 503-514.

Koho, P., Aho, S., Watson, P., & Hurri, H. (2001). Assessment of chronic pain behaviour: Reliability of the method and its relationship with perceived disability, physical impairment and function. *Journal of Rehabilitation Medicine, 33*(3), 128-132.

The Modified Somatic Perception Questionnaire (MSPQ) was used to identify depression and somatic perception reported by participants and was used to compare to researchers perceptions of client pain as they related to pain behaviors. A strong correlation was seen between self reports and those of researchers. These findings indicate the results from the MSPQ may be a good indicator of pain behaviors.

Meyer, K., Tschopp, A., Sprott, H., & Mannion, A. F. (2009a). Association between catastrophizing and self-rated pain and disability in patients with chronic low back pain. *Journal of Rehabilitation Medicine, 41*(8), 620-625.

Researchers in a multiple regression analysis used the Modified Somatic Perception Questionnaire in conjunction with other assessment tools to measure differences in reports of pain. Results showed differences in catastrophizing and pain intensity and suggested that negative psychological attributes are associated with greater perceptions of pain and disability.

Okoro, T., & Sell, P. (2009). The prediction of outcome in somatised patients undergoing elective lumbar surgery. *Journal of Bone & Joint Surgery - British Volume, 91*(4), 517-521.

Research in this study used the modified somatic perception questionnaire (MSPQ) in conjunction with other tools to identify pre-operative factors that were associated with somatic pain after undergoing lumbar spine surgery. The MSPQ was not successful in recognizing contributing factors that were noted by other tests in this study, however, few factors were found in general by the involved assessment tools.

Somers, k., G., Kumar, S., Vipond, N., Hall, G., (2009). Primary care assessment instruments for patients at risk of, or with, persistant pain: opportunistic findings from a systematic literature review. *International Journal of General Medicine*, 2: 121-128. Retrieved from http://www.dovepress.com/primary-care-assessment-instruments-for-patients-at-risk-of-or-with-pe-peer-reviewed-article-IJGM

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Wand, B. M., Bird, C., McAuley, J. H., Dore, C. J., MacDowell, M., & De Souza, L. H. (2004). Early intervention for the management of acute low back pain: A single-blind randomized controlled trial of biopsychosocial education, manual therapy, and exercise. *Spine, 29*(21), 2350-2356.

This single blind randomized controlled trial compared two models of care for patients with acute simple low back pain using a gambit of tests, including the Modified Somatic Perception Questionnaire (MSPQ). The MSPQ showed a significant increase in mood after 6 weeks of treatment. The tool was effective in helping conclude that short-term intervention is more effective in lower back pain treatment than long term care.

<u>Pain Self Efficacy Questionnaire</u>

Sarda, J. Jr, Nicholas MK., Pimenta, CAM., Asghari, A. (2007). Pain-related self-efficacy beliefs in a brazilian chronic pain patient sample: a psychometric analysis. *Journal of the International Society for the Investigation of Stress*, 23, 185-190. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009657198&site=ehost-live

While the *Pain Self-Efficacy* Questionnaire (PSEQ) has been widely used to examine the role of self-efficacy in chronic pain patient populations, it has not been validated in Brazil. This study examined the reliability and validity of the PSEQ in a Brazilian chronic pain population. From a convenience sample of 348 chronic pain patients, the reliability of the PSEQ was found to be adequate (split-half correlation was 0.76 and internal consistency was 0.90), and factor analysis indicated the existence of only one factor. Discriminant and concurrent validity were also adequate. These results indicate that the PSEQ has good psychometric properties when used in this sample.

Somers, k., G., Kumar, S., Vipond, N., Hall, G., (2009). Primary care assessment instruments for patients at risk of, or with, persistant pain: opportunistic findings from a systematic literature review. *International Journal of General Medicine*, 2: 121-128. Retrieved from http://www.dovepress.com/primary-care-assessment-instruments-for-patients-at-risk-of-or-with-pe-peer-reviewed-article-IJGM

This research paper reports on assessment instruments which may be appropriate in primary health care settings for early identification of patients with, or at-risk of developing persistent pain. From one hundred and sixteen potentially useful instruments, 16 were determined appropriate to primary health care settings because of simple wording, brief items, short administration time, and ease of scoring. No one assessment instrument captured all constructs of persistent pain, however together the 16 instruments provide a broad choice for primary care clinicians to assist with early identification of adults at risk of, or with persistent pain.

Vong, S., Cheing, G., Chan, C., Chan, F., Leung, A. (2009). Measurement structure of the pain self efficacy questionnaire in a sample of Chinese patients with chronic pain. *Clinical Rehabilitation*, 23, 1034-1043. doi: 10.1177/0269215509337448

The authors, researchers from several Chinese Universities, examined the factorial structure of the Chinese translation of the Pain Self-Efficacy Questionnaire in a sample of 120 Chinese patients with chronic pain. Each participant was asked to complete 4 questionnaires (including the Chinese version of the Pain Self-Efficacy Questionnaire). A single-factor model confirmed the unidimensionality of the Chinese version of the Pain Self-Efficacy Questionnaire in a sample of Chinese patients with chronic pain. It demonstrated good internal consistency, reliability, and construct-related validity.

Van Huet, H., Williams, D. (2007). Self-beliefs about pain and occupational performance: a comparison of two measures used in a pain management program. *OTJR: Occupation, Participation & Health*, 27, 4-12. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009521532&site=ehost-live

This study evaluated the relationship between pain self-efficacy, occupational performance, and satisfaction with performance in clients who participated in a hospital-based pain management program for chronic pain. Data was collected from 64 clients before and after a 3-week pain management program, the Pain Self-Efficacy Questionnaire (Nicholas, 1988), and the Canadian Occupational Performance Measure (Law et al., 1998). Results of the study demonstrate a positive difference between pain self-efficacy and satisfaction, and pain self-efficacy and occupational performance. Additionally, this study reinforces the reliability and validity of the Pain Self-Efficacy Questionnaire and the Canadian Occupational Performance Measure as measures for those with chronic pain.

FUNCTIONAL PERFORMANCE

Pain and Functional Performance Assessment

Fisher, G., S., Cohen, C., B., Edwards, S., Howe, C., Smith, L., Sugrue, T., (2009). Developing and field testing the pain and functional performance assessment for individuals with chronic pain. *Journal of Musculoskeletal Pain*, 17(3). Doi:10.1080/10582450903088187

The purpose of this research was to develop an occupation-based assessment that measured and described the occupational performance of individuals with chronic pain. In order to determine the face and content validity of the Pain and Functional Performance Assessment (PFPA), it was administered to 25 chronic pain participants and follwed by a feedback questionnaire. The PFPA and feedback questionnaire was analyzed by an expert panel of 17 practicing occupational therapists via the Statistical Package for the Social Sciences and a content analysis of responses to open-eneded questions. The majority of participants felt the assessment addressed important areas of daily life, and the occupational therapy expert panel gave positive feedback. The researchers responded by revising the instrument and thus developing the PFPA-Final Version.

SENSORY

Adult Sensory Profile

Rieke, E.F., Anderson, D., (2009). Adolescent/adult sensory profile and obsessive-compulsive disorder. *American Journal of Occupational Therapy*, 63(2), 138-145. Retrieved from: http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010255887&site=ehost-live

This study describes how the sensory processing of adults with obsessive-compulsive disorder (OCD) differs from that of the general population within the context of Dunn's (19997) model of sensory processing and evaluates the discriminate validity of the Adolescent/Adult Sensory Profile (AASP). AASP mean results of 51 adults with OCD were compared with the means of the AASP standardization study's adult age group. The results provided a preliminary description of how the sensory processing of adults with OCD differs from that of the general population and preliminary support for the AASP's discriminate validity.

Chung, J.C.C., (2006). Measuring sensory processing patterns of older Chinese people: psychometric validation of the adult sensory profile. *Aging and Mental Health*, 10(6), 645-655. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2009346537&site=ehost-live

The Adult Sensory Profile (ASP) evaluates the sensory experiences of adults in the categories of auditory, visual, taste/smell, touch, movement, and activity level. This study examined ninety-six participants (with normal cognitive functioning), and 33 participants with dementia, using the psychometric properties of the Chinese version of ASP (ASP-CV) for older Hong Kong Chinese adults. All participants were involved in the investigation of internal consistency and construct validity. This study supports the ASP-CV as reliable and valid in measuring sensory processing functions of older Hong Kong Chinese people.

Brown, C., Tollefson, N., Dunn, W., Cromwell, R., Fillion, D. (2001). The adult sensory profile: measuring patterns of sensory processing. *American Journal of Occupational Therapy,* 55(1), 75-82. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2001050749&site=ehost-live

This article describes a series of studies designed to evaluate the reliability and validity of the Adult Sensory Profile. A subsample of 20 adults furnished skin conductance data and a heterogeneous group of 93 adults completed the revised Adult Sensory Profile. Results suggested reasonable item reliability for all subscales except for the Sensation Avoiding subscale. Skin conductance measures detected distinct patterns of physiological responses consistent with the four-quadrant model. Revision of the Adult Sensory Profile resulted in improved reliability of the Sensation Avoiding subscale. The series of studies provides evidence to support the four subscales of the Adult Sensory Profile as distinct constructs of sensory processing preferences.

Leek, K., Chiu, T.T.W., Lam, T., (2006), Psychometric properties of the Fear-Avoidance Beliefs Questionnaire in patients with neck pain. *Clinical Rehabilitation*, 20(10), 909-920. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2009336056&site=ehost-live

This study translated the Fear-Avoidance Beliefs Questionnaire and investigated the validity and reliability of the Chinese version of the questionnaire in patients with neck pain. DESIGN: Observational cross-sectional and prospective study. SETTING: Physiotherapy outpatient departments. SUBJECTS: Four samples with 476 consecutive adult patients with neck pain from four physiotherapy centers. METHODS: The original questionnaire was translated into Chinese by forward and backward translation and reviewed by a panel of experts. The subjects completed the Chinese version of the fear-avoidance questionnaire, Northwick Park Neck Pain Questionnaire, Medical Outcomes 36-Item Short-Form Health Survey and their pain intensity was measured using an 11-point pain numerical rating scale. They were observed and measured at the beginning of physiotherapy, at week 3 and at week 6 after treatment began. RESULTS: The questionnaire had very good content validity and test-retest reliability with an intraclass correlation coefficient of 0.81 and Cronbach's alpha coefficient of 0.90. Spearman's correlation coefficients between fear-avoidance and the neck pain questionnaire, the health survey (physical), health survey (mental) and pain scale were 0.56, 0.45, 0.36 and 0.34, respectively. The standard response mean and effect size at week 6 were 0.38 and 0.32, respectively. Factor analysis yielded three factors which accounted for 61.6% of the total variance of the questionnaire. CONCLUSION: The Fear-Avoidance Beliefs Questionnaire is a valid and reliable tool for patients with neck pain. It has been shown to demonstrate very good content validity, a high degree of test-retest reliability and internal consistency, good construct validity and medium responsiveness.

QUALITY OF LIFE

Canadian Occupational Performance Measure

Persson, E., Rivano-Fischer, M., & Eklund, M. (2004). Evaluation of changes in occupational performance among patients in a pain management program. *Journal of Rehabilitation Medicine, 36*(2), 85-91. DOI: 10.1080/16501970310019142

The aims of this study were to evaluate changes in occupational performance among chronic pain patients after a pain management program and to explore relationships between these changes and demographic and clinical factors, psychosocial functioning and psychological well-being. Changes were registered using the Canadian Occupational Performance Measure. Changes in occupational performance, psychological well-being and psychosocial functioning seem all to be of relevance in the evaluation of pain management programs. Psychosocial profiles and sickness compensation has relevance for directions on changes in occupational performance, whereas other demographic and clinical factors do not

Rochman, D. L., Ray, S. A., Kulich, R. J., Mehta, N. R., & Driscoll, S. (2008). Validity and utility of the canadian occupational performance measure as an outcome measure in a craniofacial pain center. *OTJR: Occupation, Participation & Health, 28*(1), 4-11. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2009798264&site=ehost-live

The validity and utility of the Canadian Occupational Performance Measure (COPM) as an outcome measure in an orofacial pain setting was assessed, including specific occupational performance problems reported by individuals with temporomandibular disorder, orofacial pain, or both. The COPM scores showed significant correlations with other measures. The COPM may have utility as an outcome measure for use in orofacial pain. It provides the treatment team with data related to occupational performance and patient satisfaction.

Van Huet, H., & Williams, D. (2007). Self-beliefs about pain and occupational performance: A comparison of two measures used in a pain management program. *OTJR: Occupation, Participation & Health, 27*(1), 4-12. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2009521532&site=ehost-live

This study evaluated the relationship between pain self-efficacy, occupational performance, and satisfaction with performance in clients who participated in a hospital-based pain management program for chronic pain. Data was collected from 64 clients before and after a 3-week pain management program, the Pain Self-Efficacy Questionnaire (Nicholas, 1988), and the Canadian Occupational Performance Measure (Law et al., 1998). Results of the study demonstrate a positive difference between pain self-efficacy and satisfaction, and pain self-efficacy and occupational performance. Additionally, this study reinforces the reliability and validity of the Pain Self-Efficacy Questionnaire and the Canadian Occupational Performance Measure as measures for those with chronic pain.

World Health Organisation Quality of Life Assessment

Mason, V. L., Skevington, S. M., & Osborn, M. (2008). The quality of life of people in chronic pain: Developing a pain and discomfort module for use with the WHOQOL. *Psychology & Health, 23*(2), 135-154. DOI: 10.1080/14768320601070746

This article reports the development of a pain and discomfort module (PDM) designed to assess the full impact of quality of life (QOL) relating to chronic pain, which could be used with the generic World Health Organization Quality of Life Assessment (WHOQOL). cognitive interviewing was completed with participants with chronic pain. Sixteen items within four facets of pain relief, anger and frustration, vulnerability/fear/worry, and uncertainty were retained, and demonstrated acceptable to good internal consistency reliability ([alpha] = 0.77-0.85). The PDM is a self-administered, multidimensional subjective assessment of pain-related QOL, with potential to evaluate pain-relieving interventions, identify sufferer's needs, and for survey use.

ADDICTION & DEPENDENCY

Opioid Risk Tool (ORT)

Webster, L. & Webster, R. (2005). Predicting Aberrant Behaviors in Opioid-Treated Patients: Preliminary Validation of Opioid Risk Tool. *Pain Medicine, 6*(6), 432-442.

The purpose of this research was to provide clinicians with a brief screening tool to predict accurately which individuals may develop aberrant behaviors when prescribed opioids for chronic pain. One hundred and eighty-five consecutive new patients treated in one pain clinic took the self-administered Opioid Risk Tool (ORT). The ORT measured the following risk factors associated in scientific literature with substance abuse: personal and family history of substance abuse; age; history of preadolescent sexual abuse; and certain psychological diseases. Patients receivedscores of 0–3 (low risk), 4–7 (moderate risk), or 8 (high risk), indicating the probability of their displaying opioid-related aberrant behaviors. All patients were monitored for aberrant behaviors for 12 months after their initial visits. These results indicate that patients with a risk category of low, 17 out of 18 (94.4%) did not display an aberrant behavior. For those patients with a risk category of high, 40 out of 44 (90.9%) did display an aberrant behavior. The authors used the statistic to validate the ORT, because it simultaneously assesses sensitivity and specificity. The ORT displayed excellent discrimination for both the male(0.82) and the female (0.85) prognostic models. Overall, this preliminary study, among patients prescribed opioids for chronic pain, the ORT exhibited a high degree of sensitivity and specificity for determining which individuals are at risk for opioid-related, aberrant behaviors. Further studies in a variety of pain and nonpain settings are needed to determine the ORT's universal applicability.

Old Town Clinic
Chronic Pain Evaluation

*April 22, 2010

Patient Name:_____ DOB: _____
Last First Middle Initial

Date:_____ Time:_____ Primary Care Provider:_____

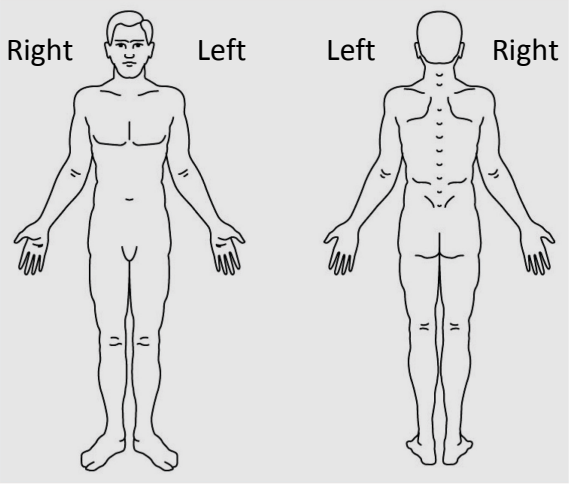
Pain Rating and location [1]

1. **Are you having any pain today? (circle)** Yes No

2. **How would you rate the intensity of your pain today on a scale of 0-10 (0 being no pain and 10 being worst pain imaginable)**

0	1	2	3	4	5	6	7	8	9	10
No Pain					Moderate pain					Worst pain imaginable

3. **Indicate with an X on the diagram where you feel pain the most**



4. **Rate your pain <u>at its worst</u> in the <u>past 24 hours</u>.**

0	1	2	3	4	5	6	7	8	9	10
No Pain					Moderate pain					Worst pain imaginable

<u>Comments</u>

5. **Rate your pain <u>at its least</u> in the <u>past 24 hours</u>.**

0	1	2	3	4	5	6	7	8	9	10
No Pain					Moderate pain					Worst pain imaginable

<u>Comments</u>

6. **Rate your pain <u>on average</u> in the <u>past 24 hours</u>**

0	1	2	3	4	5	6	7	8	9	10
No Pain					Moderate pain					Worst pain imaginable

<u>Comments</u>

7. **Can you describe the way your pain feels? (for example throbbing/aching or burning/sharp)**

8. **What time of day is your pain at its worst?**

11. How sensitive are to sensory stimuli in your environment? (Indicate with an X)

Sensory Category	Not sensitive	Somewhat sensitive	Very sensitive	Comments
Visual (lights, colors)				
Sounds (loud noises, background)				
Touch(textures, human touch)				
Tastes (spicy, salty, etc.)				
Smells (perfumes, foods)				

Treatment History

*Place an X to indicate current or past use and degree of helpfulness

Medications	Currently using	Used in Past	Helpful	Somewhat Helpful	Not Helpful
Prior Treatment Received (ex: chiropractor, acupuncture, etc.)	**Currently using**	**Used in Past**	**Helpful**	**Somewhat Helpful**	**Not Helpful**
Self-Care Strategies (ex: hot or cold pack, stretches, baths)	**Currently using**	**Used in Past**	**Helpful**	**Somewhat Helpful**	**Not Helpful**

Possible candidate for acupuncture? ☐ YES ☐ NO

Pain Beliefs[2]

- **Despite the pain** rate **how confident** you are about doing the following things.
- Circle a number between 0-6, 0 = not at all confident and 6 = completely confident.
- Remember, this questionnaire is **not** asking whether or not you have been doing these things, but rather **how confident you are that you can do them.**

1. I can enjoy things, despite the pain.

0	1	2	3	4	5	6
Not at all confident						Completely confident

2. I can cope with my pain in most situations.

0	1	2	3	4	5	6
Not at all confident						Completely confident

3. I can cope with my pain without medication.

0	1	2	3	4	5	6
Not at all confident						Completely confident

4. I can live a normal lifestyle, despite the pain.

0	1	2	3	4	5	6
Not at all confident						Completely confident

5. I can gradually become more active, despite the pain.

0	1	2	3	4	5	6
Not at all confident						Completely confident

Opioid Risk Tool (ORT) [3]

Explain to client: *Opioids may be an option for treatment but they are not appropriate for everyone. For some people opioids have serious risks and we want to assure your safety. I am going to ask some questions that give us some information about substance use history so we can determine the best course of treatment for you. Be as honest as you can.*

Item	Mark each box that applies	Item score if female	Item score if male
1. Family history of substance abuse: Alcohol	☐	1	3
Illegal drugs	☐	2	3
Prescription drugs	☐	4	4
2. Personal history of substance abuse: Alcohol	☐	3	3
Illegal drugs	☐	4	4
Prescription drugs	☐	5	5
3. Age (mark box if 16-45)	☐	1	1
4. History of preadolescent sexual abuse	☐	3	0
5. Psychological disorder, ADD, OCD Bipolar, Schizophrenia	☐	2	2
Depression	☐	1	1
Total ORT score 1-5			
Low risk (score 0-3) Moderate risk (score of 4-7) High risk (score of 8 and above)			

Life Satisfaction [4]

The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question and please choose the answer that appears **most appropriate for your life in the last four weeks.**

	Very poor	Poor	Fair	Good	Very good
How would you rate your quality of life?	1	2	3	4	5
How would you rate your satisfaction with your health?	1	2	3	4	5
How well are you able to move in your home and community?	1	2	3	4	5
	Not at all	A little	Moderate	Very Much	Extremely
How much do you enjoy your life?	1	2	3	4	5
To what extent do you feel your life to be meaningful?	1	2	3	4	5
How well are you able to concentrate?	1	2	3	4	5
How safe do you feel in your daily life?	1	2	3	4	5

Daily Function [5]

How often does your pain affect the following self-care activities?

Activities of Daily Living	Never	Sometimes	Always	Is this a Priority Area?	Comments
Bathing & Shower					
Toilet use					
Dressing					
Eating					
Hygiene & Grooming					
Personal device care					
Sexual activity					

How often does your pain affect the following activities?

Instrumental Activities of Daily Living	Never	Sometimes	Always	Is this a Priority Area?	Comment
Phone use					
Computer use					
Meal prep/clean-up					
housework					
Laundry					
Financial mgmt					

Exercise					
Yard work					
Care of others					
Pet care					
Shopping					
Community Mobility					
Medication mgmt					

How often does your pain affect the following life activities?

Other Relevant Areas of Occupation	Never	Sometimes	Always	Is this a Priority Area?	Comments
Rest/Sleep					
Leisure activities					
Educational pursuits					
Obtaining work and performing job demands					
Community participation					
Social participation with friends & family					
Religious/spiritual activities					

Client Profile[6]

1. How long has pain interfered with your daily life? (list in days, weeks, months or years)

2. Do you have a daily routine? (circle) YES NO

***If yes, give us a brief overview of your typical daily routine:**

Morning	
Afternoon	
Evening	

3. Living situation:

Alone or with others:_____

Type of housing:_____

Stairs (circle): YES NO

Is there elevator access? (circle): YES NO

Is your housing situation stable? (circle): YES NO

4. Do you have supportive people in your life? (Circle) YES NO

***If yes, describe those support systems:**_____

_____

5. Are you currently facing any significant life stressors? (death of a loved one, accident, divorce, etc.)

YES NO Comments:_____

_____

6. Are you employed? (Circle) YES NO

If yes, what are your job duties?: _____

How have these duties been affected by your pain?:_____

7. Do you observe or participate in a spiritual practice or religious observance?(Circle) YES NO

***If yes, is your spiritual practice or religious observance important to you? (Circle)** YES NO

8. List 5 leisure interests or hobbies that you enjoy currently, or enjoyed in the past:

1.	**2.**	**3.**
4.	**5.**	

9. What are 3-5 things that bring meaning to your life?

1.	**2.**	**3.**
4.	**5.**	

<u>Final Question:</u>

10. What is something you have always wanted to do or be in your lifetime?

Clinical Observations & Impressions[7]		
	Observations/Impressions	**Referral or Further Assessment**
Appearance / Physical Limitations(pain postures)		
Affect/Mood		
Cognitive: Orientation		
Cognitive: Executive Fx		
Cognitive: Attention		
Cognitive: Memory		
Cognitive: Sequencing		

Additional Comments/Recommendations:

Gonzales, J., & Theusch, J. (2010). *Chronic pain program development central city concern at old town clinic.* Unpublished Innovative Practice Project, Pacific University, Forest Grove, OR.

Chronic Pain Summary Report

Patient Name:_____ DOB: _____
Last First Middle Initial

Date:_____ Time:_____ Primary Care Provider:_____

Pain Rating & Location[1]

Average pain ____/10

Pain Descriptors:_____

_____

_____

Pain Regions & Patterns:

- ☐ Whole Body
- ☐ Head/Jaw
- ☐ Neck
- ☐ Spinal Column
- ☐ Low Back
- ☐ Pelvic Girdle
- ☐ Shoulder Girdle
- ☐ Lower Extremities
- ☐ Upper Extremities

Sensory Sensitivity:

- ☐ Visual
- ☐ Taste
- ☐ Sound
- ☐ Smell
- ☐ Touch

Treatment History

A)

Current Treatment strategies valued by client:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Pain Beliefs[2]

Total score___/30

- ☐ **High** level of readiness for intervention (*>20)*
- ☐ **Low** level of readiness for intervention (<10)

Opioid Risk Tool[3]

Total Score:_____

- ☐ **Low** Risk *(0-3)*
- ☐ **Moderate** Risk *(4-7)*
- ☐ **High** Risk *(8 and above)*

Life Satisfaction[4]

Total Score:___/35 = ___%

Notable responses:

_____

_____

_____

Client Profile[6]

Level of Stability
(questions 2-6 regarding routine, housing, supports, stressor, employment)

- ☐ **High** *(4-5 areas)*
- ☐ **Mod** *(2-3 areas)*
- ☐ **Low** *(0-1 area)*

Life Stressors

- _____
- _____
- _____
- _____

Primary Motivators
(questions 7-10)

- _____
- _____
- _____
- _____

Daily Function[5]

Priority areas always affected by Pain

Self-Care

- _____
- _____
- _____
- _____

Home/Life mgmt:

- _____
- _____
- _____
- _____

Other Life Areas:

- _____
- _____
- _____
- _____

Clinical Impressions[7]

- ☐ Observable **Physical Limitations**
- ☐ Observable **Mood Disorder** signs
- ☐ Observable **Cognitive Limitations**

Comments:_____

_____

Recommendations

- ☐ **PCP (MD, ND, NP, PA)**
- ☐ **Pharmacy**
- ☐ **Occupational Therapy**
- ☐ **Behavioral Health**
- ☐ **Acupuncture**
- ☐ **A&D**
- ☐ **Panel Manager**
- ☐ **Other: _____**

☐ **Occupational Therapy**
☐ Individual ☐ Group

☐ **A&D (Hot Sauce)**
☐ Individual ☐ Group

Interventions:

- ☐ Stress Mgmt/Coping
- ☐ Leisure Skills
- ☐ ADL Training
- ☐ Body Mechanics/Pacing
- ☐ Communication Skills
- ☐ Diet/Nutrition
- ☐ Movement/Exercise
- ☐ Back Care
- ☐ Posture
- ☐ Sleep
- ☐ Time Management
- ☐ Jt. Protection
- ☐ Modalities
- ☐ Goal Setting
- ☐ Assist.Devices
- ☐ Social Support
- ☐ CAMS

OTR Signature_____ **Date**_____ **Time** _____

Summary Impressions and Recommendations

Gonzales, J., & Theusch, J. (2010). *Chronic pain program development centeral city concern at old town clinic.* Unpublished Innovative Practice Project, Pacific University, Forest Grove, OR.

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Hoffman, B., Papas, R., Chatkoff, D., & Kerns, R., (2007). Meta-Analysis of psychological interventions for chronic low back pain. *Health Psychology.* 26(1).

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[6] American Occupational Therapy Association. (2008). Occupational therapy practice framework: Domain and process (2nd ed.) American Journal of Occupational Therapy, 62, 625–683.

Liggan, R., (1984). Occupational therapy for chronic pain. *Occupational Therapy in Mental Health.* 4(3).

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[7] American Occupational Therapy Association. (2008). Occupational therapy practice framework: Domain and process (2nd ed.) American Journal of Occupational Therapy, 62, 625–683.

Focus Group Overview

Two focus groups were conducted on March 5, 2010 to evaluate the chronic pain evaluation tool developed for Central City Concern's Old Town Clinic. Each focus group consisted of four third year masters level occupational therapy students. Each participating student signed a consent form and the groups were run using a protocol to ensure standardization between groups. The groups were asked to assess the evaluation tool as to content, flow, and value of information obtained. The students volunteered to participate in the focus groups after responding to a class wide e-mail. Participants in the groups were provided with pizza for lunch and thanked for their contributions. Results of the focus groups were compared and changes were made to the evaluation tool using feedback from focus group participants.

Focus Group Protocol

1.) Hand out consent form

2.)Describe IPP and Chronic Pain Program at OTC:
We are developing a chronic pain program for Central City Concern's Old Town Clinic. In case you are not familiar with Central City Concern's Old Town Clinic, it is a safety-net clinic serving primarily homeless adults in downtown Portland. A large majority of them have mental illnesses and/or addiction issues. In addition to the primary care and mental health services, the clinic has acupuncture. Clients are typically utilizing other Central City Concern programs as well for things related to drug and alcohol treatment or general issues faced by homeless and low-income folks.

To start off our programming we have done general research on program theories and practice models and have chosen to use a combination of CBT, MOHO, and the transtheoretical model of change (to address more discrete behaviors in group activities). We also did research on evaluation methods and evidence-based assessment tools. We chose to focus on the categories of Pain, Physical components, Daily function, Cognition, self-efficacy/focus of control, sensory, and some mood related components. Of the tools we identified for these categories, we were only able to access about 10 for review. We used these to help develop a comprehensive evaluation tool that will be administered to all chronic pain clients at the clinic. The primary method of treatment, in addition to the primary care and mental health services offered by the clinic, will be the occupational therapy groups.

3.) 5-10 minutes to read evaluation tool. Use your OT clinical reasoning skills to note:

- Content and wording of questions *Mark next to questions that are unclear
- Flow of sections, layout
- Value of client information obtained from administering this evaluation

4.) 5 minute discussion about content and wording

5.) 5 minute discussion about flow of sections, layout

6.) 5 minute discussion about value of content obtained

7.) Participant questions, additional feedback.

Informed Consent Form

Focus Groups for Review of Chronic Pain Evaluation Tool

Principal Investigators: [*Jessica Gonzales & Jennifer Theusch*]

Co-Investigator: [*Central City Concern, Old Town Clinic*]

INTRODUCTION

You have been invited to participate in a focus group. This consent form informs you about the purpose, procedures, possible risks and discomforts, and benefits of participation. You are free to choose whether or not you would like to participate. If you decide to participate after reading this form, please sign and date at the bottom of this form.

PURPOSE

The purpose of the focus group is to provide feedback from an OT student clinician perspective regarding the content, layout and value of a chronic pain evaluation tool.

PROCEDURE

If you agree to participate, you will first receive a brief overview of the chronic pain program under development at Central City Concern's Old Town Clinic. Second, you will be asked to silently read the evaluation form, paying particular attention to content, layout, and value of information obtained. Following review of the evaluation tool document, you will be asked to participate in a group discussion. Five minutes will be allotted to discuss each of the following areas: content and wording of questions, layout of sections, and value of information obtained. The discussion will last approximately 15 min. The focus group facilitator will take notes during participant discussion time and notes will be reviewed by the researchers to gain a full understanding of your clinical opinions.

RISKS AND DISCOMFORTS

There are no known risks associated with participating in this study, although participation may add additional stress by taking away time from your lunch break at a time when you have a high volume of academic commitments and pressures. Please feel free to share your questions or concerns with the group moderator before, during, or after the focus group discussion.

BENEFITS

You will not receive any direct benefit from participating in this study, however what is learned from these discussions may help other people in the future who are administered this evaluation tool.

Participant Signature: _____

Print Name: _____Date: _____

Evaluation Tool Piloting Overview

The fourth draft of the chronic pain evaluation tool was piloted with two clients from Old Town Clinic. The clients were referred for occupational therapy services to address their chronic pain needs. Both clients met with a third year occupational therapy student for a one hour evaluation. The first pilot administration was conducted by Jessica Gonzales on March 18, 2010. The second pilot administration was conducted by Jennifer Theusch on March 25, 2010. The students developed a protocol for piloting the evaluation tool to ensure standardization of administration. Anonymous client information obtained from the two pilot administrations was presented to faculty advisor Sandra Pelham-Foster. Jennifer, Jessica, and Sandra analyzed findings to determine final changes for the evaluation tool and an appropriate method for summarizing and presenting client responses.

Evaluation Tool Piloting Protocol

1.) Introduction

IPP students explain to client that they are OT students piloting a new chronic pain evaluation tool. Clients are informed that they are the first to be administered this chronic pain evaluation tool and that any feedback they may wish to provide is welcomed. The clients are also informed that other than the evaluation tool used, the rest of their care will follow standard occupational therapy service protocol.

2.) Administration:

- Administration will stay within a one hour timeframe.
- All portions of the evaluation tool will be administered by IPP student, disregarding prior decision to have client fill-out first 3 pages independently in the waiting room.
- Questions will be verbally stated by IPP student using exact wording from the evaluation tool and in the exact order listed (no skipping around).
- Client will be appropriately redirected if they address tangential or irrelevant personal information
- Upon completion of the assessment client feedback about the evaluation tool is solicited and documented on separate paper.
- Client is escorted to clinic lobby after evaluation is completed

3. Documentation & Analysis

- IPP student fills out clinical observations and impressions section and discusses with level II fieldwork student.
- A Photocopy will be made of the evaluation tool.
    - The official evaluation document is given to the level II OT fieldwork students for progress note documentation.
    - A black permanent marker is used to remove all personally identifiable client information from the photocopied document.
    - Anonymous client responses from the two evaluations will be compared and analyzed by the IPP students and their faculty advisor, Sandra Pelham-Foster. The analysis will determine final changes for the evaluation tool and an appropriate method for summarizing and presenting client responses.

In-Service Training Overview

On April 22, 2010 the IPP students met with occupational therapy fieldwork students to provide training regarding administration and scoring of the evaluation tool. The training was completed in three hours and consisted of an overview of the tool development, tool layout, and a role-play activity to allow for practice administration. Additionally the evaluation tool was discussed at an Old Town Clinic team meeting which consisted of primary care providers, panel mangers, acupuncturists, and pharmacists. At this time the IPP students discussed the process of evaluation tool development as well as administration and scoring.

In-Service Training Protocol

Administration:

- Administration will stay within a one hour timeframe.
- All portions of the evaluation tool will be administered by the OT.
- Questions will be verbally stated using exact wording from the evaluation tool and in the exact order listed (no skipping around).
- Client will be appropriately redirected if they address tangential or irrelevant personal information.
- Evaluation concludes and client escorted out.

Documentation & Analysis

- OT fills out clinical observations and impressions section
- Summary template is immediately filled out
- SOAP note written
- The end.

Group Treatment Recommendations

The IPP students collaborated with level II fieldwork students at Old Town Clinic and developed a list of approximately 20 topics for chronic pain intervention. The list was primarily developed based on treatment topics the students had observed being addressed at two local chronic pain programs. A few additional categories were added based on information obtained at a pain management seminar attended by the IPP students.

The IPP students then established a mentor/mentee partnership with two first year occupational therapy students, and the four of them together did a literature search of the 20 topics. The goal was to determine which treatment categories were supported by evidence. The students conducted database searches using CINAHL (EBSCOhost), MEDLINE-ovid, and PsychINFO. They also used member searches on the American Occupational Therapy Association's research database. The met on Monday, March 29, 2010 and combined their findings into a comprehensive annotated bibliography.

The following list includes recommended topics for chronic pain group treatment sessions:

1. Sleep
2. Time Management
3. Leisure
4. Communication Skills (general communication, in close relationships and with health care providers)
5. Diet/Nutrition
6. Body Mechanics
7. Energy Conservation
8. Reconditioning, specific stabilization
9. Back care
10. Joint Protection
11. Ergonomics
12. Posture re-education
13. Modalities (ice, heat packs)
14. Goal setting and assertiveness training
15. Pacing
16. Use of Assistive Devices
17. Social supports
18. Complementary Alternative Medicine (CAM): music therapy, yoga/laughter yoga, self-massage, prayer/mediation, bodytalk, tai-chi, horticultural therapy

Group Treatment Recommendations
Annotated Bibliography

Body Mechanics

Lieber, S., Rudy, T., & Boston, J., (1997). Effects of body mechanics training on performance of repetitive lifting. *The American Journal of Occupational Therapy.* 54 (2) 166-175.

The objective of this study was to measure the efficacy of body mechanics instruction (BMI) in patients with low back pain. The effect of BMI was measured in four participants with back injuries using a standardized lifting protocol. Static strength, weight lifted, number of lifts completed, and motion analysis data to describe the body mechanics were measured before and after work hardening to evaluate treatment effects. The participants' performances were compared with 52 controls from an earlier study. The study found intensive instruction in body mechanics provided during the work-hardening treatment produced major changes in lifting styles, in terms of both starting postures and dynamic aspects of repetitive lifting. The computerized measurement procedures used in this study permitted more careful and detailed analyses of body mechanics, particularly dynamic aspects, than is possible with observational methods. This study demonstrated some of the inherent intricacies in isodynamic lifting and suggests additional areas of performance that may be important to address in BMI.

McCauley, M., (1990). The effect of body mechanics instruction on work performance among young workers. *American Journal of Occupational Therapy.* 44 (5) 402-407.

Thirty young workers (aged 14 to 19 years) employed as groundskeepers and custodians were randomly assigned to two groups; one group received body mechanics instruction and the other did not. The instruction focused on proper spinal alignment in the work environment. Instruction on low back pain began with one classroom session before the subjects' first day of work and continued during employment with two on-site sessions. The effect of instruction was evaluated through the observation of body mechanics during actual work performance. The results of the study indicate that the group that received instruction performed significantly better than the control group. This paper also discusses the role of the occupational therapist when providing job-specific body mechanics instruction in the work environment as a primary method of preventing low back pain.

Shirado, O., Ito, T., Kikumoto, T., Takeda, N., Minami, A., & Strax, T., (2005). A novel back school using a multidisciplinary team approach featuring quantitative functional evaluation and therapeutic exercises for patients with chronic low back pain: The Japanese experience in the general setting. *Spine.*30 (10)1219-1225.

Although back school is one of the treatment methods for patients with chronic low back pain (CLBP), its efficacy and appropriate style remain controversial. No studies have been published regarding the combined program of back school with a multidisciplinary team approach. All patients were enrolled in the back school using a multidisciplinary team approach featuring quantitative functional evaluation and therapeutic exercises. Outcome measures were evaluated at the baseline, and 6 and 12 months after the enrollment. The current study demonstrated that the program could provide a satisfactory result for the treatment of patients with CLBP. The quantitative functional evaluation was a worthwhile outcome measure when evaluating the efficacy of the treatment program. *Teaching body mechanics* and performing the therapeutic exercises through the multidisciplinary team approach are essential to managing CLBP in a general setting.

Energy Conservation

Dreiling, D. (2009). Energy conservation. *Home Health Care Management & Practice*, *22*(1), 26-33.

Managing fatigue can be supported by incorporating *energy conservation* and work simplification strategies into daily routines. Fatigue is a common symptom experienced by people with various chronic diseases, such as, but not exclusively, arthritis, cancer, diabetes, multiple sclerosis, or fibromyalgia. This type fatigue is not linked to activity level or rest patterns. It can have an effect on a person's ability to complete the various daily tasks to maintain their lifestyle. This article addresses approaches and tips for integrating *energy conservation* and work simplification into daily activities.

Ip, W., Woo, J., Yue, S., Kwan, M., Sum, S., Kwok, T., et al. (2006). Evaluation of the effect of energy conservation techniques in the performance of activity of daily living tasks. *Clinical Rehabilitation*, *20*(3), 254-261.

The objective of this study was to determine whether *energy conservation* techniques during common activity of daily living tasks actually result in lower *energy* expenditure, and to document subjective comments regarding any differences in the perceived level of effort. This is a descriptive study comparing *energy* expenditure in three tasks with and without *energy conservation* techniques, taking into account the effect of age. The study was done in a occupational therapy department of a rehabilitation hospital in Hong Kong. The results indicated a reduction in *energy* expenditure using *energy conservation* techniques for shopping and hanging laundry was documented in younger subjects only, although the older subjects experienced less perceived exertion with the *energy conservation* techniques. For washing clothes, no reduction in *energy* expenditure was observed in either age group. In conclusion measurable benefits were observed with use of labor-saving equipment and avoidance of overhead reaching in younger subjects only.

Moran, M. (2001). Osteoarthritis and occupational therapy intervention. *Physical Medicine & Rehabilitation*, *15*(1), 65-81.

The overall goals of occupational therapy treatment are to improve the patient's ability to complete tasks in the occupational performance areas of self-care, work, and leisure activities. In the case of osteoarthritis, it is also desirable for patients to achieve these goals while reducing pain and preserving joints. Through the use of patient education, joint protection, energy conservation, pain modalities, therapeutic exercise, custom splinting, and adaptive equipment, the patient is taught to manage this chronic disease and maintain functional independence. The team of health care providers should be involved early in the disease process to minimize joint destruction and preserve joints. After surgery, occupational therapy can ensure maximum function and return to former activities.

Pacing

Birkholtz, M., Aylwin, L., & Harman, R. (2004). Activity pacing in chronic pain management: one aim, but which method? Part one: introduction and literature review. *British Journal of Occupational Therapy*, *67*(10), 447-452.

People with *chronic pain* often adopt activity patterns that can exacerbate their *pain* and undermine their quality of life. Activity *pacing* is considered an essential component of occupational therapy in *pain* management and other clinical areas to counteract the overactivity-underactivity cycle. Part one of this paper provides an introduction and literature review on the subject of activity *pacing* in *chronic pain* management. Based on case histories, the psychosocial issues arising from underactivity or overactivity, or a combination of the two, are explained. It is demonstrated that activity *pacing* is ill-defined and subject to discrepancies in practice. In particular, guidance regarding quota-based practice to prevent *pain*-contingency remains unresolved. Part one concludes that research is needed to clarify both the theory and

the practice of activity *pacing*. Part two of this paper will present the outcomes of a national occupational therapy survey on activity *pacing*.

Birkholtz, M., Aylwin, L., & Harman, R. (2004). Activity pacing in chronic pain management: one aim, but which method? Part two: national activity pacing survey. *British Journal of Occupational Therapy*, *67*(11), 481-487.

Part one of this paper suggested that, in order to attain activity goals, it is important to replace activity contingent on pain with activity contingent on quota, such as time or number. This is one aspect of activity *pacing*, which can help to break the detrimental overactivity-underactivity cycle. However, there are few established guidelines regarding activity *pacing*. Part two reports a study which sought to answer two questions: what are the main principles underlying activity *pacing* and how are activity *pacing* principles taught? Nine behaviors contributing to activity *pacing*, including planning activities, breaking activities into manageable parts, increasing activity amounts gradually and alternating tasks. The *occupational* therapists used varied methods to teach these behaviors and only half of them used time as the unit of increase. The importance of time-contingency in activity *pacing*, and related teaching methods, is contentious. No alternatives were suggested to time-contingency to break the pattern of pain-contingency in activities. Studies are urgently needed concerning the efficacy of time-contingency, the efficacy of any alternatives and their acceptability to patients.

Gill, J., & Brown, C. (2009). A structured review of the evidence for pacing as a chronic pain intervention. *European Journal of Pain*, *13*(2), 214-216.

Pacing as an intervention appears with great regularity in the *chronic pain* management literature and yet what service providers actually mean by *pacing* is unclear and poorly defined. This short communication reports the findings of a structured review of the literature which examined the strength of the evidence for *pacing* as an intervention for people with *chronic pain*. The McMaster critical review guidelines were followed and the relevant electronic databases were searched. Findings revealed a paucity of outcome studies specific to *pacing* as an intervention. Although background literature demonstrates that *pacing* is often one part of a multidisciplinary intervention program, the research conducted on these programs presents *pacing* itself as an ill- or undefined construct. It is evident from this review that "*pacing*," while a widely employed term, lacks consensus of definition and a demonstrable evidence-base.

Mead, K., Theadom, A., Byron, K., & Dupont, S. (2007). Pilot study of a 4-week Pain Coping Strategies (PCS) programme for the chronic pain patient. *Disability & Rehabilitation*, *29*(3), 199-203.

A 4-week Pain Coping Strategies (PCS) program has been developed for chronic pain patients who may still be undergoing medical interventions but who would benefit from learning pain management skills. The long-term negative behaviors associated with chronic pain may be prevented by introducing pain management strategies at an earlier stage. The PCS program combines all the fundamental aspects of the traditional Pain Management Program including exercise, relaxation, *pacing*, medication review, pain pathways, posture and challenging negative thoughts. The study compared 31 patients' mood, functional status and physical ability pre and 6 weeks post the program using the Hospital Anxiety and Depression Scale (HAD), Canadian *Occupational* Performance Measure (COPM) and a series of physical tests. A paired samples t-test showed a significant improvement in levels of depression and anxiety, functional status and physical ability. The results reveal that an early intervention program may be effective for chronic pain patients by promoting self-management and teaching positive coping strategies. The current study has found promising results for a brief early intervention for chronic pain, regardless of completion of medical interventions.

Modalities

Allen, R. (2006). Physical agents used in the management of chronic pain by physical therapists. *Physical Medicine & Rehabilitation Clinics of North America*, *17*(2), 315-345.

Evidence supporting the use of specific physical agents in the management of ***chronic pain*** conditions is not definitive; it is largely incomplete and sometimes contradictory. However, the use of agents in *chronic pain* management programs is common. Within the broad use of physical agents, they are rarely the sole modality of treatment. Physical agents may serve as useful adjunctive *modalities* of *pain* relief or to enhance the effectiveness of other elements in therapy geared toward resolution of movement impairments and restoration of physical function. Given that a conclusive aggregate of findings is unlikely to exist for all permutations of patient conditions, combined with interacting therapeutic *modalities*, an evidence-based approach to *pain* management is not always possible or beneficial to the patient. In the face of inconclusive evidence, a theory-based approach may help determine if the therapeutic effect of a given physical agent has the possibility of being a useful clinical tool in the context of treating a particular patient's mechanism of *pain* generation. Until controlled efficacy findings are definitive, careful individual patient response monitoring of thoughtful theoretical application of adjunctive physical agents may be a prudent approach to the management of *chronic pain*.

Flanagan, C. (2004). Creative arts therapy in the rehabilitation of chronic pain; movement and metaphor -- reflections by clients and therapist: an experiential study. *Nordisk Fysioterapi*, *8*(3), 120-131.

The purpose of this paper is to present experiences from a 3-year project using creative arts therapy *modalities* in the medical rehabilitation of *chronic pain*. The method of Form and Freedom, was used on 153 clients at a *pain* clinic, it is based on the theoretical foundation of psychosomatic physiotherapy and dance/movement therapy in a combination using movement and art. Form and Freedom is discussed as an alternate rehabilitation program for body/mind integration, where the metaphors originating from the body became the main tool for intervention. Based on the more than 500 metaphors explored through movement, drawings and words of the clients, the material was structured according to themes. The material suggests that the clients suffering from *chronic pain* initially expressed themselves in metaphors away from the body, as "being up in the air", "somewhere else", "not present", etc. After several months of using the method the clients started to access their bodies nearer to self through metaphors related to "standing one's ground", "feeling the earth", etc. The study suggested that as ego functions became more readily available, the clients were able to take more charge of their lives despite the *pain* onset.

Hollisaz, M. (2007). Use of electroacupuncture for treatment of chronic sciatic pain. *Internet Journal of Pain, Symptom Control & Palliative Care*, *5*(1).

Chronic sciatic *pain* is one of the most common complaints of patients referring to orthopaedic, neurosurgery, and physiatric clinics. In most cases, common treatment *modalities* may be employed. However, in many, the results are not be consistent. Electroacupuncture (EA) has been recommended as an appropriate alternative in such cases. This study aims to assess the effect of EA on *chronic* refractory sciatic *pain*, a single-blind clinical trial compared to physiotherapy and a placebo. EA was more effective than PT in ameliorating buttock *pain*, lower limb paresthesia, gastrosoleus muscle *pain*, lateral calf *pain*, cold feet, increased lordosis and gait disturbance. EA is a semi-invasive and effective method in controlling *chronic* sciatic *pain* and complications and may thus be used as a good treatment alternative in indicated cases.

Lane, E., & Latham, T. (2009). Managing pain using heat and cold therapy. *Paediatric Nursing*, *21*(6), 14- 18.

Evidence supports the use of superficial heating and cooling of tissues to provide *pain* relief in low to moderate levels of acute and *chronic pain* in adults, but there are no standards or guidelines in children's centers across the UK for administering these *modalities* in children, so a project was undertaken to develop these locally. Evidence from the literature was used to identify best practice in relation to equipment, safety and infection control. Implementation was supported by educational input and a detailed protocol for assessment and application of the devices. Three years after their introduction a review of the guidelines and an audit demonstrated that these *modalities* have been beneficial, providing cost-effective, holistic care for children experiencing *pain* in hospital.

Rakel, B., & Barr, J. (2003). Physical modalities in chronic pain management. *Nursing Clinics of North America*, *38*(3), 477-494.

According to the Clinical Practice Guidelines published by the American Geriatrics Society on the Management of Persistent *Pain* in Older Persons, nonpharmacologic approaches, used alone or in combination with appropriate pharmacologic strategies, should be an integral part of the care of most *chronic pain* patients. Physical *modalities*, such as exercise, heat, cold, massage, transcutaneous electrical nerve stimulation, and assistive devices or orthotics, are all used in the management of *chronic pain.* This article describes key physical *modalities* for managing *chronic pain*, discusses the evidence underlying their use in adults and older persons, and provides suggestions for applying these *modalities* in older adults.

Stanos, S., McLean, J., & Rader, L. (2007). Physical medicine rehabilitation approach to pain. *Medical Clinics of North America*, *91*(1), 57-95.

A physical medicine and rehabilitation approach to acute and *chronic pain* syndromes includes a wide spectrum of treatment focus. Whether assessing or treating acute or *chronic pain* syndromes, management should include a biopsychosocial approach. Assessment may include a focused joint and functional examination including more global areas of impairment (ie, gait, balance, and endurance) and disability. More complicated multidimensional *chronic pain* conditions may require the use of a more collaborative continuum of multidisciplinary and interdisciplinary treatment approaches. Regardless of the scope of care that each individual patient requires, treatment options may include active physical therapy, rational polypharmacy, CBT, and the use of passive *modalities*. Treatment goals generally emphasize achieving analgesia, improving psychosocial functioning, and reintegration of recreational or leisure pursuits (ie, community activities and sports). Progress in all therapies necessitates close monitoring by the health care provider and necessitates ongoing communication between members of the treatment team. Although this article focuses on diagnoses related to acute and *chronic* low back *pain*, OA, and musculoskeletal disorders, assessment and treatment recommendations may be generalized to most other *pain* conditions.

Swenson, R. (2003). Therapeutic modalities in the management of nonspecific neck pain. *Physical Medicine & Rehabilitation Clinics of North America*, *14*(3), 605-627.

This article has surveyed several therapeutic *modalities*, including physical *modalities*, thermal *modalities*, electrical *modalities*, exercise therapy, behavioral therapy, education, and laser therapy. Of these, exercise, mobilization, and manipulation have the greatest support in the literature, whereas thermal treatments (including therapeutic ultrasound), and electrical therapies (including TENS) have little evidence of effectiveness and no evidence for more than a transient benefit. There is a need for well-controlled studies of educational programs and behavioral interventions specifically for patients with *chronic* neck *pain*, particularly because these interventions are often employed as part of a multimodal treatment program. Low-power laser treatment and magnetic therapy require some well-controlled studies before they can be recommended to neck *pain* patients or discarded as worthless interventions. Cervical traction and soft collars seem to be generally ineffective for nonspecific neck *pain*.

Topuz, O., Özfidan, E., Ozgen, M., & Ardic, F. (2004). Efficacy of transcutaneous electrical nerve stimulation and percutaneous neuromodulation therapy in chronic low back pain. *Journal of Back & Musculoskeletal Rehabilitation*, *17*(3-4), 127-133.

The study was designed to compare the efficacy of two different *modalities* of transcutaneous electrical nerve stimulation (conventional and low-frequency TENS) (C-TENS and Low-TENS) and percutaneous neuromodulation therapy (PNT) in the treatment of *chronic* low back *pain*. Sixty patients with *chronic* low back *pain* were randomly divided into four groups as placebo-TENS, C-TENS, Low-TENS, and PNT. Therapeutic *modalities* were administered for 2 weeks. The pre-treatment and post-treatment assessments were done by using the Visual Analog Scale for *pain*; Low Back *Pain* Outcome Scale and Oswestry Disability Index for functional disability; and Health Status Survey Short Form (SF-36) for

quality of life. In placebo-TENS group only emotional role limitation score of SF-36 significantly decreased after the treatment. All measurements except emotional role limitation score of SF-36 significantly improved in C-TENS group after the treatment. In both of Low-TENS and PNT groups, all parameters were significantly improved by the treatment. TENS *modalities* and PNT were significantly more effective than the placebo-TENS. No significant difference was found between C-TENS and Low-TENS. PNT was significantly more effective than TENS in providing relief of activity *pain* and in improving general health, vitality and emotional role limitation scores of health quality.

Use of assistive devices

Iwashyna, T., & Christie, J. (2007). Low use of durable medical equipment by chronically disabled elderly. *Journal of Pain & Symptom Management*, *33*(3), 324-330.

Assistive devices are a common effective approach to mitigating the effects of *chronic* disability. The Medicare *Durable Medical Equipment* (DME) benefit is intended to provide patients with *equipment* to meet the challenges of health-related disability; the penetrance of benefit among the disabled is unclear. A nationally representative cohort of 4,687 community-dwelling elderly enrolled in fee-for-service Medicare (part of the Medicare Current Beneficiary Survey in 1999 and 2000) assessed self-reported disability, and receipt of Medicare DME was assessed through linked claims. Fewer than half the chronically disabled, and less than one-quarter of the newly disabled, received any DME from Medicare. These data suggest underuse of the benefit by the disabled elderly.

Klinger, L., & Spaulding, S. (2001). Occupational therapy treatment of chronic pain and use of assistive devices in older adults. *Topics in Geriatric Rehabilitation*, *16*(3), 34-44.

Occupational therapy can enable older individuals with *chronic pain* to increase participation in everyday activity. Intervention requires knowledge of issues related to assessment and treatment of *chronic pain* in older adults. Prescription of *assistive devices* is an important aspect of such therapy. A small exploratory study was conducted with 30 older individuals with *chronic pain* from lower extremity osteoarthritis to determine what *assistive devices* they had and how these *devices* were obtained. Most *devices* had been obtained without the assistance of a professional. Early occupational therapy intervention to prescribe *assistive devices* and to provide strategies to remain active despite *pain* may be beneficial.

Social supports

Bates, M., Rankin-Hill, L., & Sanchez-Ayendez, M. (1997). The effects of the cultural context of health care on treatment of and response to chronic pain and illness. *Social Science & Medicine*, *45*(9), 1433-1447.

Qualitative data from two studies in Puerto Rico and New England are used to show how cultural values, standards and beliefs in different health care contexts affect (1) health care professionals' responses to patients' problems, (2) the *relationships* between providers and patients, and (3) the patients' responses to *chronic pain* and illness. Influencing elements in the care setting include the world view of the relationship of mind and body in illness processes, the dominant values and standards regarding *pain* and illness behaviors and the degree of cooperation between the providers and other agencies the patient depends on for compensation, rehabilitation and health insurance. In the New England study, the biomedical world view of mind-body dualism was shared by providers and most patients, but this shared belief often contributed to substantial patient stress and alienation. In contrast, in the Puerto Rican study providers and patients often shared a view of mind-body integration in illness and valued treatments which addressed

chronic pain as a biopsychosocial experience. In this setting, shared views and values contributed to more *supportive* patient-provider *relationships*, and patients thus experienced less treatment-related stress.

Dunn, K., & Horgas, A. (2004). Religious and nonreligious coping in older adults experiencing chronic pain. *Pain Management Nursing*, *5*(1), 19-28.

Chronic pain is a significant problem among older adults. Undertreated or poorly managed *pain* can affect the physical, psychological, *social*, emotional, and spiritual well-being of older people. Several researchers have found that individuals turn to a wide array of cognitive and behavioral coping strategies when experiencing high levels of *chronic pain*. In addition, there is a growing body of evidence that *supports* an association between health outcomes and the use of religious coping to manage *pain*. Thus, the purpose of this descriptive, cross-sectional study was to explore the use of religious and nonreligious coping in older people who were experiencing *chronic pain*. Specific aims were to (a) describe the *chronic pain* experiences of older people; (b) examine the frequency and type of religious and nonreligious coping strategies used by older people to manage *chronic pain*; and (c) determine if there were differences in the use of religious and nonreligious coping across gender and race. On average, study participants reported that their *pain* was of moderate intensity. Lower extremities were the most frequently reported painful body locations. Findings from this study support prior research that suggests older people report using a repertoire of pharmacologic and nonpharmacologic strategies to manage *chronic pain*. Older women and older people of minority racial background reported using religious coping strategies to manage their *pain* more often than did older Caucasian men. Older women also reported using diversion and exercise significantly more often than did older men.

Faucett, J. (1989). Influences of social relationships, illness characteristics, and personality on chronic pain and depression.

Subjects with myofascial *pain* disorders (n = 67) and arthritis (n = 84) were studied to examine the contribution of personality traits and social *relationships* to their complaints of *pain* and depression. Structured interviews using standardized questionnaires provided information about personality traits, *supportive* and conflicting aspects of social network and family *relationships*, *pain*-specific responses of the significant other, depression, and affective and sensory *pain*. Interpersonal conflict and *pain*-specific punishing responses of the significant other were found to contribute significantly to *pain* and depression. However, conflict and punishing responses were negatively related to outcomes in arthritis; while they were positively related to outcomes in myofascial disorders. Social network support and conflict had a significant main effect in the regression of depression. Personality traits explained significant proportions of the variance in sensory but not in affective *pain*. Traits of positive and negative affectivity independently explained large portions of the variance in depression. Subjects with myosfascial *pain* had significantly less social support, more conflict and punishing responses from others, and more severe *pain* and depression. The two *pain* groups did not differ on personality traits or solicitous responses from others. In paired t-tests, arthritis subjects presented their significant others in a more positive light than significant others' own self-reports. Myofascial *pain* subjects presented their partners in a more negative light than their partners' self-descriptions. The findings suggest that social *relationships* differ in the two types of disorder and that their contributions to *pain* and depression are influenced by characteristics of the disorders. These distinctions do not appear to be related to underlying differences between the two groups in demographics, personality traits, or the duration and predictability of *pain*; although they may be related to the presence or absence of underlying physical findings. These results emphasize the importance of psychosocial assessment in *chronic pain* syndromes and support investigation of varying interventions based on the etiology of the *pain*.

Monsivais, D. (2008). Understanding cultural constructions of chronic pain in Mexican-American women.

Non-malignant *chronic pain* is a national health problem. Cultural constructions of *chronic pain,* such as expression of symptoms and decision making, may interfere with treatment This article aims to describe the cultural constructions of *chronic pain* held by Mexican-American women. This qualitative, focused ethnographic study examined the shared

cultural experiences of women with non-malignant *chronic pain*. Field work and recruitment of participants took place in a *pain* management clinic and in a fibromyalgia support group over a 9 month period. In-depth, open-ended interviews lasting from 1-3 hours were held with participants. Data analysis was iterative, beginning with data collection and continuing throughout analysis. Data rigor was established through a clear audit trail and debriefing sessions with other qualitative researchers in Houston and El Paso. Fifteen Mexican-American women were interviewed. Themes were identified through qualitative thematic data analysis and categorized into 3 main areas: (1) delegitimizing experiences, (2) negotiating legitimacy for identity as a woman with *chronic pain*, and (3) finding legitimacy for identity as a woman with *chronic pain*. The main themes were viewed through Kleinman's popular and professional sectors of the local healthcare system. In the popular sector, women often felt delegitimized because they believed others would not recognize the *pain* as being a legitimate problem and might think they were "faking." Silence was their method of negotiating their identity as a truthful person capable of fulfilling expected roles. In the professional sector, participants openly expressed their painful symptoms, but were often unable to find effective treatment. When *pain* medication was prescribed, culturally-associated stigmas led women to under-use medications in order to control the negative associations with their own identity. *Supportive relationships* created legitimizing experiences in both the popular and professional sectors.
Conclusion. Cultural constructions of *chronic pain* reflect influences of the legitimacy of invisible illnesses, and stigmas related to *pain* medication. If these ideas are not explored and addressed with patients, they may interfere with treatment.

Muramatsu, N., Liang, J., & Sugisawa, H. (1997). Transitions in chronic low back pain in Japanese older adults: a sociomedical perspective. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *52B*(4), S222-34.

This study examines the patterns and determinants of *chronic* low back *pain* over a three-year period among older adults in Japan. We tested our model based on a sociomedical perspective, using a two-wave national probability sample survey of persons aged 60 and older (N = 2,200) conducted in 1987 and 1990 in Japan. At baseline, the prevalence of *chronic* low back *pain* was 18 percent. Among those who were free of back *pain* at baseline, the probabilities of onset, death, and nonresponse were 13 percent, 7 percent, and 10 percent. Among those who had back *pain* at baseline, the probabilities of recovery, death, and nonresponse were 43 percent, 8 percent, and 9 percent, respectively. Our multinomial logistic regression analysis *supports* our thesis that societal factors (age, gender, education, and *social* relationships) affect transitions in *chronic* back *pain* not only directly, but also indirectly through mediating health and health behavior factors. The results suggest that *social* relationships have both favorable and unfavorable effects on *chronic* low back *pain*.

Patrick, L., & D'Eon, J. (1996). Social support and functional status in chronic pain patients. *Canadian Journal of Rehabilitation*, *9*(4), 195-201.

This study investigated the *relationships* among social support, *pain* intensity, physical performance and general activity levels in *chronic pain* patients. Fifty patients and their spouses were recruited from the *Chronic Pain* Clinic of the Rehabilitation Centre in Ottawa. Each patient was asked to exercise on a stationary bicycle, with his/her spouse present. Spouses had been instructed to support and motivate their partners to facilitate their optimal physical performance. The interactions between patients and spouses were videotaped and the spouse's behavior was scored for the amount of both emotional and task-related support expressed. Patient reports of *pain* intensity, general activity level and depressive symptomatology were also recorded. Results indicated that patient physical performance was significantly related to spouse emotional support. Patients whose spouses were more emotionally *supportive* had higher physical performance scores. Patient physical performance was also negatively associated with *pain* intensity. General activity levels were unrelated to *pain* intensity and physical performance. Results are discussed in terms of the implications for rehabilitation.

Sleep

Ashworth, P. C., Davidson, K. M., & Espie, C. A. (2010). Cognitive-behavioral factors associated with sleep quality in chronic pain patients. *Behavioral Sleep Medicine, 8*(1), 28-39. Retrieved from: http://web.ebscohost.com/ehost/search?vid=1&hid=2&sid=ed618153-49c9-4954-9add-b9a38fa7d34f%40sessionmgr12

This body of research compares occurrences of sleep disturbance between people with chronic pain and without, as well as associated cognitive behavioral factors. General finding show correlation between pain and sleep disturbance, but also note that poor sleepers with pain were typically younger and reported more pain, pain-related disability, depression, pain-related anxiety, and dysfunctional beliefs about sleep. The findings are relevant to the development of models of sleep disturbance comorbid with chronic pain.

Castro, M. M., & Daltro, C. (2009). Sleep patterns and symptoms of anxiety and depression in patients with chronic pain. *Arquivos De Neuro-Psiquiatria, 67*(1), 25-28. Retrieved from: http://web.ebscohost.com/ehost/search?vid=1&hid=2&sid=ed618153-49c9-4954-9add-b9a38fa7d34f%40sessionmgr12

This study evaluates sleep patterns and the prevalence of symptoms of anxiety and depression in patients with chronic pain. Finding revealed a high prevalence of symptoms of depression and anxiety and alterations in sleep patterns in patients with chronic pain, justifying investigation into these disturbances in this group of patients.

Fishbain, D. A., Cole, B., Lewis, J. E., & Gao, J. (2010). What is the evidence for chronic pain being etiologically associated with the DSM-IV category of sleep disorder due to a general medical condition? A structured evidence-based review. *Pain Medicine, 11*(2), 158-179. Retrieved from: http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010546273&site=ehost- live

The results of this evidence-based structured review indicate that for the pain–sleep studies defined by the DSM-IV category of sleep disorder due to a general medical condition, chronic pain may be etiologically related to that sleep problem. However, these results do not preclude this relationship from being bidirectional.

Lunde, L. H., Pallesen, S., Krangnes, L., & Nordhus, I. H. (2010). Characteristics of sleep in older persons with chronic pain: A study based on actigraphy and self-reporting. *Clinical Journal of Pain, 26*(2), 132-137.

Authors of this study examined characteristics of sleep and sleep complaints in older persons with chronic pain, as compared to older persons with neither sleep complaints nor chronic pain, on the basis of objective and subjective sleep assessment. The sample with chronic pain demonstrated significantly poorer sleep quality and more symptoms of disruptive sleep and poorer daytime functioning on subjective sleep measures than the comparison group. They also had lower sleep efficiency than the participants without sleep complaints, based on both a sleep diary and actigraphic data. Sleep complaints such as disruptive sleep and problems initiating and maintaining sleep, and impairment in daytime functioning, are prevalent in older adults with chronic pain. Sleep and sleep complaints should be addressed to a much greater extent in this patient group.

Time Management

Aegler, B., & Satink, T. (2009). Performing occupations under pain: The experience of persons with chronic pain. *Scandinavian Journal of Occupational Therapy, 16*(1), 49-56. DOI: 10.1080/11038120802512425

The aim of this study was to explore how persons with chronic pain experienced their occupational performance. Data were analyzed from interviews of persons suffering from chronic pain and three themes were identified: "Performing is an ongoing attraction", "Getting used to taking breaks is not easy", and "The challenge to finish performing". These themes were discussed with the focus on distraction and flow through experiences.

Beissner, K., Henderson, C. R.,Jr, Papaleontiou, M., Olkhovskaya, Y., Wigglesworth, J., & Reid, M. C. (2009). Physical therapists' use of cognitive-behavioral therapy for older adults with chronic pain: A nationwide survey. *Physical Therapy, 89*(5), 456-469. Retrieved from: http://web.ebscohost.com/ehost/search?vid=1&hid=2&sid=ed618153-49c9-4954-9add-b9a38fa7d34f%40sessionmgr12

Physical therapists in this study used CBT interventions included activity pacing and pleasurable activity scheduling in treating older patients with chronic pain to increase performance, ascertained their interest in and break down barriers to using CBT. Self reported finding showed that participant's interest in incorporating these techniques into practice is substantial.

Leisure

Björck-van Dijken, C., Fjellman-Wiklund, A., & Hildingsson, C. (2008). Low back pain, lifestyle factors and physical activity: A population based-study. *Journal of Rehabilitation Medicine, 40*(10), 864-869.

The prevalence of low back pain was assessed in relation to physical activity, for both work and leisure activities. Additionally, the associations between age, sex, level of education, lifestyle factors, demographic characteristics, and low back pain were evaluated. Chronic low back pain was the most frequent in the age group 55-64 and was associated with physically heavy workload at work and lower physical activity during leisure time. Associations were also made with smoking, having had higher body mass index, living in smaller communities, and being less educated than people.

Harreby, M., Hesselsoe, G., Kjer, J., & Neergaard, K. (1997). Low back pain and physical exercise in leisure time in 38-year-old men and women: A 25-year prospective cohort study of 640 school children. *European Spine Journal, 6*(3), 181-186. DOI: 10.1007/BF01301433

A cohort of 38-year-old men and women were studied for leisure time physical exercise in relation to low back pain (LBP), education, work, social class and smoking by a self-administered questionnaire. The 25 year study showed dramatic drops in physically activity leisure occupations for persons with LBP over time, especially after post high school attendance. Roles, levels of education, and socioeconomic factors were noted to have been possible contributors.

Liedberg, G. M., & Vrethem, M. (2009). Polyneuropathy, with and without neurogenic pain, and its impact on daily life activities--a descriptive study. *Disability & Rehabilitation, 31*(17), 1402-1408. Retrieved from: http://web.ebscohost.com/ehost/search?vid=1&hid=2&sid=ed618153-49c9-4954-9add-b9a38fa7d34f%40sessionmgr12

The aim was to investigate disability reported in daily activities and quality of life in patients with polyneuropathy, with and without neurogenic chronic pain. The neuropathy symptoms influenced occupational performance at work and leisure and in housework for 72% of the patients. Patients with additional neurogenic pain reported significantly greater performance problems in 55% of the daily activities compared with patients without pain. Quality of life was significantly lower for patients with pain concerning health and participation in active recreation.

Communication Skills

McDonald, D. D., & Fedo, J. (2009). Older adults' pain communication: The effect of interruption. *Pain Management Nursing, 10*(3), 149-153. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010399343&site=ehost-live

This study examines the effect of care providers interrupting older adults as they talk about their pain. Older adults in the uninterrupted group responded with significantly more pain information than the interrupted group. Broad differences were measured in given information about the source of pain, quality of pain, pain treatments, timing of pain, and pain intensity. The brief, innocuous interruption diminished the amount of important pain information communicated by the older adults. Deliberate interruptions by practitioners might further reduce communication of important pain information.

Schulz, P. J., Rubinelli, S., Mariotti, G., & Keller, N. (2009). Meeting the ranging of informational needs of chronic low back pain sufferers: Conceptual design and rationale of the interactive website ONESELF. *Disability & Rehabilitation, 31*(25), 2118-2124. Retrieved from: http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010472108&site=ehost-live

The study illustrates the design and implementation of the website ONESELF - run by the Institute of Communication and Health of the University of Lugano - which has been created to meet the ranging of informational needs of chronic low back pain sufferers. Online interactional tools such as ONESELF are a promising source of health communication, provided that the content manager of the website and the health professionals collaborate in a rigorously structured manner. ONESELF can benefit traditional medical consultations in helping screen requests from patients that do not need to see a doctor, and in acting as a repository of background information that saves consultation time for more urgent matters.

Sloots, M., Scheppers, E. F., Bartels, E., Dekker, J., Geertzen, J., & Dekker, J. (2009). First rehabilitation consultation in patients of non-native origin: Factors that lead to tension in the patient-physician interaction. *Disability & Rehabilitation, 31*(22), 1853-1861. Retrieved from: http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010572693&site=ehost-live

This study explored factors that lead to tension in the patient-physician interaction in the first consultation by rehabilitation physicians of patients with chronic non-specific low back pain of Turkish and Moroccan origin. Factors that lead to tension in the patient-physician interaction were as follows: differences in expectations regarding the aim of treatment, symptom presentation, views on responsibilities with regard to rehabilitation treatment, lack of trust, contradicting views of physicians from patients' country of origin with regard to the cause and treatment of pain and communication problems.

Wilson, D., Williams, M., & Butler, D. (2009). Language and the pain experience. *Physiotherapy Research International, 14*(1), 56-65. Retrieved from: http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010213919&site=ehost-live

People in persistent pain have been reported to pay increased attention to specific words or descriptors of pain. The amount of attention paid to pain or cues for pain (such as pain descriptors), has been shown to be a major factor in the modulation of persistent pain. This relationship suggests the possibility that language may have a role both in understanding and managing the persistent pain experience. In examining both techniques, researchers concluded that personalized pain descriptors may communicate the pain experience more appropriately than questionnaires such as the MPQ. Personalized pain descriptions may also contribute to an increased sensitivity of cortical pain processing areas

by capturing increased attention for that individual. The language used as part of communication between therapists and people with persistent pain may provide an, as yet, unexplored adjunct strategy in management.

Eating/Nutrition

Seaman, D. R. (2002). The diet-induced proinflammatory state: A cause of chronic pain and other degenerative diseases? *Journal of Manipulative & Physiological Therapeutics, 25*(3), 168-179. Retrieved from: http://web.ebscohost.com/ehost/search?vid=1&hid=2&sid=ed618153- 49c9-4954-9add-b9a38fa7d34f%40sessionmgr12

The author of the article aimed to demonstrate that chronic pain and other degenerative conditions encountered in clinical practice have similar biochemical etiologies, such as a diet-induced proinflammatory state. In addition the article outlines a basic nutritional program that can be used by all practitioners. The author examines the relationship between a typical unbalanced American diet and numerous adverse biochemical effects, all of which create a proinflammatory state and predispose the body to degenerative diseases. The author notes that nearly all degenerative diseases have the same underlying biochemical etiology, that is, a diet-induced proinflammatory state. Although specific diseases may require specific treatments, the treatment program should also include nutritional protocols to reduce the proinflammatory state.

Ergonomics

Buckle, P., Stubbs, D., (1989). The contribution of ergonomics to the rehabilitation of back pain patients. *Journal of the Society of Occupational Medicine,* 39(2), 56-60. Retrieved from http://ovidsp.tx.ovid.com.proxy.lib.pacificu.edu:2048/sp-2.3.1/ovidweb.cgi?&S=LAOFFPPPCPDDPELENCELNFMJBCNKAA00&Complete+Reference=S.sh.14|1|1

The role of ergonomics in existing rehabilitation programs is considered through a review of studies undertaken both in the United Kingdom and elsewhere. In general, little consideration has been paid to what the rehabilitees are undertaking in their work or to how intervention at the workplace might be implemented. This occurs despite the evidence that ergonomic advice has been shown to be beneficial. Current approaches to rehabilitation stress the need for the patient to resume normal activities as soon as possible. A number of examples have been presented which illustrate how ergonomics can help, and the dangers of inappropriate or delayed interventions. The occupational physician is considered to be a key individual in initiating ergonomic interventions.

Fabrizio, P., (2009). Ergonomic intervention in the treatment of a patient with upper extremity and neck pain. *Physical Therapy*, 89(4), 351-360. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010242590&site=ehost-live

Work-related musculoskeletal disorders are widespread among computer users and costly to the health care system. Workstation setup and worker postures contribute to upper-extremity and neck symptoms among computer users. Ergonomic interventions such as work risk analysis and workstation modifications can improve workers' symptoms. This case report demonstrates the importance of examining the work habits and work-related postures of a patient who complains of upper-extremity and neck pain that is exacerbated by work. Providing an ergonomic intervention in concert with traditional physical therapy may be the most beneficial course of treatment.

Yoga

Groessl, E., Weingart, K., Aschbacher, K., Pada, L., Baxi, S., (2008). Yoga for veterans with chronic low-back pain. *Journal of Alternative & Complementary Medicine*, 14(9), 1123-1129. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010122855&site=ehost-live

The purpose of this study was to examine the benefits of a yoga intervention for Veterans Administration (VA) patients. VA patients with chronic back pain were referred by their primary care providers to a yoga program as part of clinical care. The research study consisted of completing a short battery of questionnaires at baseline and again 10 weeks later. Significant improvements were found for pain, depression, energy/fatigue, and the Short Form-12 Mental Health Scale. The number of yoga sessions attended and the frequency of home practice were associated with improved outcomes. Preliminary data suggest that a yoga intervention for VA patients with chronic back pain may improve the health of veterans. However, the limitations of a pre-post study design make conclusions tentative. A larger randomized, controlled trial of the yoga program is planned.

Williams, K., Abildso, C., Steinberg, L., Doyle, E., Epstein, B., Smith, D., Hobbs, G., Gross, R., Kelley, G., Cooper, L., (2009). Evaluation of the effectiveness and efficacy of Iyengar yoga therapy on chronic low back pain. *SPINE*, 34(19), 2066-2076. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010532709&site=ehost-live

This study aimed to evaluate Iyengar yoga therapy on chronic low back pain. Yoga subjects were hypothesized to report greater reductions in functional disability, pain intensity, depression, and pain medication usage than controls. Yoga subjects participated in 24 weeks of biweekly yoga classes designed for CLBP. Outcomes were assessed at 12 (midway), 24 (immediately after), and 48 weeks (6-month follow-up) after the start of the intervention using the Oswestry Disability Questionnaire, a Visual Analog Scale, the Beck Depression Inventory, and a pain medication-usage questionnaire. Yoga improves functional disability, decreases pain intensity, and decreases depression in adults with CLBP. There was also a clinically important trend for the yoga group to reduce their pain medication usage compared to the control group.

Yoga/Laughter

Perry, A., (2005). Learning the yoga way of laughter. Time, 165(3). Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009197485&site=ehost-live

Six in the morning is way too early for the kind of raucous guffaws that are echoing around a sports ground in central Bombay. Walkers and joggers are frowning at a group of 40 people hooting and slapping their thighs, eyeing them with the jealous disapproval that hardworking commuters reserve for all-night partyers on weekdays. But this is no carousers' dawn chorus. There are no drinks and very little talking, and most of the group will shortly be on their merry way to work. What there is, nonstop for 45 minutes, is hysterical, weeping laughter. So what's the big joke?

Actually, there's none. Dr. Madan Kataria, 45, explains that when he started his first laughter club in 1995 after reading about the medical benefits of a good giggle, he ran out of funny stories in a week. So, throwing in a few yoga stretches, he tried encouraging people to laugh for no reason. His formula for laughing yoga clubs proved infectious. There are 1,800 such clubs in India alone, and an additional 700 around the world from Finland to the Philippines. Every year on a Kataria-inspired holiday called World Laughter Day, celebrated on the first Sunday in May, 10,000 Danes gather in Copenhagen for the world's biggest mass chortle. One of the world's funniest men, British actor John Cleese, was so

overwhelmed by the good humor he felt for his fellow man after a session at Kataria's club in Bombay, he called it a "force for democracy."

The physical and psychological benefits of laughter are the subject of serious scientific study, but Dr. Kataria, who practiced general medicine before taking up his laughter mission, prefers intuitive explanations: "We don't need doctors to tell us it's good for us. We know it is."

One of Kataria's students, Alka Bhatia, who volunteers her time to teach at his clubs, says laughter pulled her out of depression. "There's a lot of pressure in my job," says Bhatia, 35, a middle manager at an import-export firm. "But now if I get stressed, I just have a little laugh at my desk and forget everything."

What if you just don't feel like laughing? Kataria says there's no problem with faking it: "Your body doesn't know the difference." At his clubs, which charge no fees, instructors get the yuks rolling with a "Ho, ho, ha-ha-ha" chant or perhaps the "lion laugh," which involves sticking out your tongue and flapping your hands by your ears. "Laughter can't solve your problems," says the laughing yogi. "But it can dissolve them." It's not that great a pun. But Kataria, like a man without a care in the world, nearly laughs his big, smiley head off.

Massage

Field, T., Delage, J., Hernandez-Reif, M., (2003). Movement and massage therapy reduce fibromyalgia pain. *Journal of Bodywork & Movement Therapies*, 7(1), 49-52. Retrieved from

In this study, forty patients with fibromyalgia were randomly assigned to a movement/massage therapy group or a relaxation control group. The movement/massage therapy group attended a 50-min session twice per week for 3 weeks and the relaxation group simply relaxed in a lying down position on the same schedule. The movement/massage therapy group in contrast to the relaxation control group showed decreases in depressed mood, state anxiety and regional pain immediately after the first and last sessions of the study and a decrease in depressed mood, state anxiety and regional pain at baseline from the first to the last session. Both the movement and the massage portions of the session involved self-administered stimulation of pressure receptors. The positive effects on pain relief in particular suggest that self-administered pressure stimulation may reduce pain

Picciuto, L., (2009). More than a luxury: the lifelong value of massage therapy. *Massage & Bodywork*, 6-7, 9. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010420013&site=ehost-live

One of the most frequently asked questions' regarding massage therapy is if it's worth the expense? Massage is not just a simple back rub, nor is it just a "luxury" or occasional "treat." Research tells us that massage therapy is a valuable component of a well-rounded healthcare regimen, combating everything from chronic pain to the negative effects of stress.

Music

Leao, E., da Silva, M., (2005). The relationship between music and musculoskeletal chronic pain. Online Brazilian Journal of Nursing, 4(1). Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2005121160&site=ehost-live

The purpose of this study was to examine the effect of music on the intensity of musculoskeletal chronic pain among women with musculoskeletal chronic pain, and identify symbolic themes similarities and aesthetic reactions caused by

mental images after listening to three music pieces (Bolero, Lohengrin, and Mix). Data were collected from 90 women suffering from specific chronic musculoskeletal pain (fibromyalgia, repetitive strains injuries, and spinal column diseases) using the Numerical Rating Scale.
Results of t-tests indicated that women in the three groups had less pain after listening to the music pieces ($p < 0.001$). These findings indicate that music is an effective nursing intervention that can be used to relieve musculoskeletal chronic pain.

Siedlecki, S., (2005). The effect of music on power, pain, depression, and disability: a clinical trial. *Case Western Reserve University*, (173p). Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009025092&site=ehost-live

The experience of chronic non-malignant pain (CNMP) is one of the most frequently encountered problems affecting both men and women during their working years, and is frequently associated with physical, emotional, and behavioral manifestations that affect all aspects of an individual's life.

The addition of complementary modalities, such as music, may enhance the effects of analgesics, decrease emotional and behavioral manifestations, such as pain, depression, and disability, promote beliefs of personal power, and thus result in improved quality of life for individuals who suffer from CNMP. This randomized controlled trial was designed to test the effect of listening to music on levels of power, pain, depression, and disability. A second aim was to compare the effects of researcher-provided relaxing music choices with subject-preferred music, selected daily based on self-assessment. The direct effect of music posited in the research model was supported. In addition, these findings also supported the indirect effect; music increased power, and power predicted posttest levels of pain, depression, and disability

Horticultural Therapy

Abbott, G., Cochran, V., Clair, A., (1997). Innovations in intergenerational programs for persons who are elderly: the role of horticultural therapy in a multidisciplinary approach. Activities, Adaptation & Aging, 22(1/2), 27-37. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=1998007091&site=ehost-live

This article describes an innovative model program at the Colmery-O'Neil Veterans Affairs Medical Center in Topeka, KS, incorporating patients who are middle-aged with those who are elderly in multidisciplinary, therapeutic applications designed to facilitate treatment objectives for all. This article articulates the conceptual framework for integrating these patients, who range in age from 35 to 100 plus years, into horticultural and recreational therapy interventions. Therapeutic goals for all patients include sensory stimulation; social interaction and integration; feelings that they are essential members of a group; engagements with others in relationships; opportunities for self-esteem and self-worth; and positive, enjoyable experiences.

Fetherman, D., (2004). An exploration of the meaning and effects of horticultural therapy on human health and well-being. Maywood University, (156p). Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009020387&site=ehost-live

The purpose of this study was to explore the essence of people-plant interactions during horticultural therapy and to discover the effects of horticultural therapy on human health and well-being. The present study was an exploratory, instrumental, collective case study based in a qualitative design.
The major themes revealed across all cases and information sources were: (a) engagement with life in the moment, and (b) level of participation. The present study suggested horticultural therapy allows residents and clients to engage with life. Through participation in horticultural therapy, in that moment, their life satisfaction and well-being are enhanced; they are not limited by their disease, disability or inability to behave in functional or meaningful ways. This study also added credibility to the claim that horticultural therapy provides common interests and shared experiences to clients and residents.

Tai-Chi

Hall, A., Maher, C., Latimer, J., Ferreira, M., (2009). The effectiveness of Tai Chi for chronic musculoskeletal pain conditions: A systematic review and meta-analysis. Arthritis & Rheum, 61(6), 717-724. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2010327895&site=ehost-live

This research explored whether Tai Chi improves pain, disability, physical performance, and/or health-related quality of life (HRQOL) in people with chronic musculoskeletal pain. Eight databases were searched for randomized controlled trials (RCTs). Two independent reviewers rated trial quality and extracted trial data. The available data on the effect of Tai Chi are sparse and derived principally from low-quality studies. These data suggest that Tai Chi has a small positive effect on pain and disability in people with arthritis. The extent to which it benefits other forms of musculoskeletal pain is unclear.

Shen, C., James, C., Chyu, M., Bixby, W., Brismee, J., Zumwalt, M., Poklikuha, G., (2008). Effects of tai chi on gait kinematics, physical function, and pain in elderly with knee osteoarthritis - a pilot study. *American Journal of Chinese Medicine*, 36(2), 219-232. Retrieved from http://search.ebscohost.com.proxy.lib.pacificu.edu:2048/login.aspx?direct=true&db=cin20&AN=2009933012&site=ehost-live

This study examined the effects of Tai Chi exercise on gait kinematics, physical function, pain, and pain self-efficacy in elderly with knee osteoarthritis.

In this prospective, pretest-posttest clinical trial, 40 men and women (64.4 +/- 8.3 years) diagnosed with knee osteoarthritis participated in 6 weeks of instructed Tai Chi training, 1 hour/session, 2 sessions/week. After 6 weeks of Tai Chi exercise, stride length, stride frequency, and consequently gait speed increased in the participants. Physical function was significantly improved and knee pain was significantly decreased, while no change was observed in pain self-efficacy. These findings support that Tai Chi is beneficial for gait kinematics in elderly with knee osteoarthritis, and a longer term application is needed to substantiate the effect of Tai Chi as an alternative exercise in management of knee osteoarthritis.

Physical Reconditioning/ Specific Stabilization

Smeets, R., Wade, D., Hidding, A., Van Leeuwen, P., Vlaeyen, J., & Knottnerus, J. (2006). The association of physical deconditioning and chronic low back pain: a hypothesis-oriented systematic review. *Disability & Rehabilitation*,*28*(11), 673-693.

The purpose of this study was to examine whether physical deconditioning (loss of cardiovascular capacity and strength/endurance of paraspinal muscles) exists in patients with chronic low back pain (CLBP) and whether treatments specifically aimed to reduce these signs are effective. A Systematic literature search was conducted using PUBMED, MEDLINE, EMBASE and PsycINFO to identify observational studies regarding deconditioning signs and high quality RCTs regarding the effectiveness of cardiovascular and/or muscle strengthening exercises. Internal validity of the RCTs was assessed by using a checklist of nine methodology criteria in accordance with the Cochrane Collaboration. The literature search conclusively found that there is conflicting evidence that cardiovascular deconditioning is present in CLBP and limited evidence for wasting of the multifidus muscle. No study examined the effectiveness of cardiovascular training specifically. General and lumbar muscle strengthening are equally effective as other active treatments. Only moderate evidence is available for the effectiveness of intensive low back extensor muscle strengthening compared to less intensive strengthening.
Probably reactivation caused by active treatment and not the reconditioning itself is the important factor in the reduction of disability. Further prospective and evaluative research into the role of physical deconditioning is necessary. It seems more promising to further explore the interplay between biological, social and psychological factors.

(2007). Physical deconditioning not an essential component of chronic back pain. *Back Letter*, *22*(6), 63.

The authors could find no evidence of physical deconditioning among those with chronic back pain. This study may have some practical implications. Increasing physical fitness per se may not be a primary goal for a substantial segment of patients in the early stages of chronic back
pain. However, this does not mean that exercise itself might not have benefits for these patients, since it can also lead to changes in attitudes and beliefs about pain and activity.

Chiu, T., Lam, T., & Hedley, A. (2005). A randomized controlled trial on the efficacy of exercise for patients with chronic neck pain. *Spine*, *30*(1), E1-7.

A randomized controlled trial with single-blind outcome assessments was used to evaluate the efficacy of a neck exercise program in patients with chronic neck pain. The effect of exercise for patients with chronic neck pain has been investigated in a number of studies. The efficacy is, however, questionable. A total of 145 patients were randomly allocated into an exercise (n _ 67) and a nonexercise (control) group (n _ 78). Patients in the control group were given infrared irradiation and neck care advice. In addition to infrared irradiation and advice, patients in the exercise group had undergone an exercise program with activation of the deep neck muscles and dynamic strengthening of the neck muscles for 6 weeks. Subjective pain and disability and isometric neck muscle strength were measured at baseline, 6 weeks, and 6 months. Analysis was by intention-to-treat.
At week 6, the exercise group had a significantly better improvement in disability score (*P* _ 0.03), subjective report of pain (*P* _ 0.01), and in isometric neck muscle strength (*P* _ 0.57–0.00) in most of the directions than the control group. However, significant differences between the two groups were found only in the subjective report of pain and patient satisfaction at the 6-month follow-up. At week 6, patients with chronic neck pain can benefit from the neck exercise program with significant improvement in disability, pain, and isometric neck muscle strength in different directions. However, the effect of exercise was less favorable at 6 months.

Altan, L., Korkmaz, N., Bingol, Ü., & Gunay, B. (2009). Effect of Pilates training on people with fibromyalgia syndrome: a pilot study. *Archives of Physical Medicine & Rehabilitation*, *90*(12), 1983-1988.

The purpose of this study was to investigate the effects of Pilates on pain, functional status, and quality of life in fibromyalgia, which is known to be a chronic musculoskeletal disorder.
The design was a randomized, prospective, controlled, and single blind trial. The setting was a Physical medicine and rehabilitation department, Participants included Women (N_50) who had a diagnosis of fibromyalgia syndrome (FMS)

according to the American College of Rheumatology criteria. The intervention consisted of having the participants randomly assigned into 2 groups. In group 1, a Pilates exercise program of 1 hour was given by a certified trainer to 25 participants 3 times a week for 12 weeks. In group 2, which was designed as the control group, 25 participants were given a home exercise (relaxation/stretching) program. In both groups, pre- (week 0) and posttreatment (week 12 and week 24) evaluation was performed by one of the authors, who was blind to the group allocation. The primary outcome measures were pain (visual analog scale) and Fibromyalgia Impact Questionnaire (FIQ). Exploratory outcome measures were number of tender points, algometric score, chair test, and Nottingham Health Profile. Results of the study were as follows: Twenty-five Pilates exercise and 24 relaxation/ stretching exercise participants completed the study. In group 1, significant improvement was observed in both pain and FIQ at week 12 but only in FIQ at 24 weeks. In group 2, no significant improvement was obtained in pain and FIQ at week 12 and week 24. Comparison of the 2 groups showed significantly superior improvement in pain and FIQ in group 1 at week 12 but no difference between the 2 groups at week 24. This study suggests that Pilates is as an effective and safe method for people with FMS. The study is the first clinical study designed to investigate the role of the Pilates method in FMS treatment. It is believed that further research with more participants and longer follow-up periods could help assess the therapeutic value of this popular physical exercise method.

Kumar, S., Sharma, V., & Negi, M. (2009). Efficacy of dynamic muscular stabilization techniques (DMST) over conventional techniques in rehabilitation of chronic low back pain. *Journal of Strength & Conditioning Research (Allen Press Publishing Services Inc.)*, *23*(9), 2651-2659.

Low back *pain* (LBP) is a common health problems. Although it is multifactorial, its treatment varies considerably, including medication, physical therapy modalities, and *exercise* therapy, and each have several interventions. Despite their effectiveness, their head-to-head comparisons are limited. This study was aimed at 1 such comparison. A total of 30 hockey players, 18 to 28 years of age, with subacute or *chronic* LBP were randomly assigned equally in 2 groups. One group was treated with conventional treatment--a combination of 2 electrotherapies (ultrasound and short-wave diathermy) and 1 *exercise* therapy (lumbar strengthening exercises)--and the other group was treated with dynamic muscular stabilization techniques (DMST), an active approach of stabilizing training. The results showed that both the treatments are effective in the management of LBP, but DMST was found to be more effective than conventional treatment. The walking, stand ups, climbing, and *pain*improved 4.7, 2.0, 1.4, and 2.1 times, respectively, more with DMST than with conventional treatment. With time (days), walking, stand ups, climbing, and *pain* improved (correlation) significantly ($p < 0.01$) higher in DMST ($r = 0.83$ to 0.92) than in conventional treatment ($r = 0.40$ to 0.75), and their rate of improvement (regression beta coefficients) were also significantly ($p < 0.01$) higher in DMST (beta = -0.16 to 0.73) than in conventional treatment (beta = -0.07 to 0.15). Subjects matching were perfect ($p < 0.01$) and test-retest reliability of all dependent variables was significantly ($p < 0.01$) high (intraclass correlation coefficient approximately 1). No major adverse effects were recorded in any of the patients in either group. This study concluded that for early recovery, DMST is more suitable than conventional treatment.

Griffiths, C., Dziedzic, K., Waterfield, J., & Sim, J. (2009). Effectiveness of specific neck stabilization exercises or a general neck exercise program for chronic neck disorders: a randomized controlled trial. *Journal of Rheumatology*, *36*(2), 390-397.

A study was conducted using a cohort of primary care patients with *chronic* neck *pain*, to determine whether specific neck *stabilization* exercises, in addition to general neck advice and exercise, provide better clinical outcome at 6 weeks than general neck advice and exercise alone. This was a multicenter randomized controlled trial in 4 physical therapy departments. Seventy-four participants (mean age 51.3 yrs) were randomized to specific neck *stabilization* exercises with a general neck advice and exercise program ($n = 37$) or a general neck advice and exercise program alone ($n = 37$). They attended a 1-hour clinical examination, followed by a maximum of 4 treatment sessions. Assessments were undertaken at baseline, 6 weeks, and 6 months. The primary outcome was the Neck *Pain* and Disability Scale (NPDS).

Analysis was by intention to treat. Findings indicated the following: Seventy-one (96%) participants received their allocated *intervention*. There was 91% follow-up at 6 weeks and 92% followup at 6 months. The mean (SD) 6-week improvement (reduction) in NPDS score was 10.6 (20.2) for the specific exercise program and 9.3 (15.7) for the general exercise program. There were no significant between-group differences in the NPDS at either 6 weeks or 6 months. For secondary outcomes, participants in the specific exercise group were less likely to be taking *pain* medication at 6-week followup (p = 0.02). There were no other significant between-group differences. This study concludes that adding specific neck *stabilization* exercises to a general neck advice and exercise program did not provide better clinical outcome overall in the physical therapy treatment of *chronic* neck *pain*.

Back Care

Strong, J. 1998. "Incorporating cognitive-behavioral therapy with occupational therapy: a comparative study with patients with low back pain." *Journal of Occupational Rehabilitation* 8, no. 1: 61-71.

This paper reports on the implementation of a psychoeducational program utilizing cognitive-behavioral principles. The efficacy of this psychoeducational treatment program in modifying dysfunctional attitudes in patients with *chronic low back pain* was examined using a two-group pretest posttest design with a follow-up at 3 months. Thirty patients (average age = 44.37, SD = 13.71) participated in the study, with 15 in the psychoeducational treatment group and 15 in the placebo control group. These two conditions were added on to an existing eclectic inpatient *pain* management program. After assessment on the IPAM (The Integrated Psychosocial Assessment Model), scores were reduced to multivariate composite scores on the factors of "illness behavior," "depressed and negative cognitions," and "acute *pain* strategies." Results of a group x time repeated measures analysis of variance for the three *pain* factors revealed a significant main effect for group ($F(23,1) = 5.00$, $p < .04$), tempered by a significant interaction between group and time on the 'depressed and negative' *pain* factor ($F(23,1) = 4.77$, $p < .04$). Patients in the treatment group improved significantly over time and significantly more than the placebo control group patients at posttreatment. Results provide support for the program in increasing patients' feelings of control over their *pain* and the use of positive coping strategies, while reducing perceived helplessness, depression, disability, and *pain* intensity.

Payne, W., Riddell, R., & Timms, A. (2008). Alexander technique endorsed for management of back pain. *Occupational Health*, *60*(10), 26.

First developed in the 1890s by Frederick Matthias Alexander, an Australian actor, the Alexander Technique normally employs one-to-one teaching to change poor posture and to improve balance and co-ordination. AT lessons involve assessment of individual patterns of musculoskeletal use, with the focus on the relationship between the head, neck and spine. The AT is primarily an educational method which shows how simple, everyday movements -- such as sitting, walking, bending, reaching and standing up -- can be accomplished with minimum effort and strain. The technique aims to reduce back pain and other musculoskeletal problems by enabling patients to recognise, understand and avoid the habits that adversely affect postural tone and neuromuscular co-ordination. The AT has traditionally been grounded in the performing arts, and is often taught in drama and music colleges. More recently, the AT has been moving into the business world, with anecdotal reports suggesting it is becoming a popular option for those with work-related musculoskeletal disorders, in particular those whose work involves sitting at a desk all day. A randomized controlled study was conducted to assess the effectiveness of different interventions for chronic back pain has demonstrated for the first time that the Alexander technique (AT) offers significant long-term benefits when compared with other approaches, notably massage and exercise. A key finding, however, was that six AT lessons combined with prescribed exercise provided nearly as much long-term benefit as 24 AT lessons without exercise.

Mohr, B., Krohn-Grimberghe, B., Gräf, T., Schulze, J., Petermann, F., & Hampel, P. (2009). Patients with chronic low back pain: the impact of psychosocial features. *Rehabilitation, 48*(5), 288-297.

A study was initiated to explore whether cognitive-behavioral depression *management* training in patients with CLBP and depressive symptoms improves the inpatient orthopedic rehabilitation success depending on the stage of chronicity. The study examined the effects of the new program on psychological well-being (ADS depressive symptoms, HADS anxiety, SCL somatization and mental health of the SF-12). 75 patients with first and second stage of chronicity immediately after, six months after and 24 months after rehabilitation and were compared to standard rehabilitation without *management* of depressive symptoms. Results showed that all patients benefited from both treatments immediately after rehabilitation. However, six months after rehabilitation only patients of the intervention group showed significant beneficial effects with regard to depressive symptoms and mental health. The lowered depressive symptoms remained stable up to the 24-month follow-up assessment. Anxiety in the second stage of chronicity was reduced up to the 6-month follow-up and in the first stage up to the 24-month follow-up. Overall, this study revealed that the new program with a cognitive-behavioral depression *management* training revealed beneficial effects on mental health in the mid-term and on depressive symptoms in the long-term. However, the effects need to be further improved by after-care programs.

Posture

Brinton, M. (1999). Effects of posture-specific therapeutic exercise on chronic back pain and disability. Doctoral Dissertation.

Sixty-four people with *chronic* back or neck *pain* (>3 months) were randomly assigned to three groups to evaluate the effectiveness of the Pneu-Back protocol and therapeutic exercise in reducing *pain*, reducing disability and changing *posture*. Subjects in group one (chair group) received the Pneu-Back TM treatment protocol, which included back extension exercise on the Pneu-BackTM chair, and instruction and supervision in back and neck exercises and *posture* modification. Subjects in group two (exercise group) received instruction and supervision in back and neck exercises and *posture* modification. Subjects in groups one and two were seen for treatment twice a week for the 6 weeks. Group three (control) received no *intervention* of any kind. *Pain*, disability and *posture* were measured pre, mid, and post *intervention*. The data were analyzed using random coefficient growth curves. Subjects in the two treatment groups improved in *pain* and disability scores compared to the control group, but there was no difference in improvement between treatment groups. The inclusion of the Pneu-BackTM chair exercises had no additional effect on treatment outcomes. There were no consistent trends in *posture* changes between the groups.

Bullock, M., Foster, N., & Wright, C. (2005). Shoulder impingement: the effect of sitting posture on shoulder pain and range of motion. *Manual Therapy*, *10*(1), 28-37.

The *re-education* of spinal *posture* is an integral part of shoulder impingement *management* yet supporting evidence is limited. The purpose of this study was to evaluate the effect of slouched versus erect sitting *posture* on shoulder *pain* intensity and range of motion (ROM) in subjects with impingement. A same-subject repeated-measures design was utilized. Maximum active shoulder flexion and associated *pain*intensity were measured in 28 subjects in slouched and erect sitting postures, using video-analysis and visual analogue scales, respectively. An intra-tester reliability study of the video-analysis system was completed and intra-class correlation coefficients calculated. Shoulder flexion differences between slouched and erect sitting *posture* were analysed using a repeated-measures analysis of variance (ANOVA). The intra-tester reliability of the video-analysis method was found to be 'excellent' (ICC = 0.99). Flexion ROM was significantly greater in the erect sitting*posture* ($F = 100.3$, $P < 0.0001$); the mean ROM difference between postures was 17.67 degrees (+/- 9.17 degrees). There was no significant difference in *pain* intensity between

postures (F = 1.9, P = 0.179). An erect sitting *posture* appeared to increase active shoulder flexion in subjects with shoulder impingement, although there were no differences in reported *pain* intensity. Further research is required to investigate the long-term effects of postural *re-education*.

Silva, A., Punt, T., Sharples, P., Vilas-Boas, J., & Johnson, M. (2009). Head posture assessment for patients with neck pain: is it useful? *International Journal of Therapy & Rehabilitation, 16*(1), 43-53.

This article critically appraises the role of head *posture* assessment for patients with neck *pain*. The rationale for a relationship between head *posture* and neck *pain* is discussed; clinical assessment of head *posture*--including issues around surrogate measures, validity and reliability--is explored, and studies comparing patients with neck *pain* and asymptomatic individuals are examined. Finally, studies investigating techniques to correct head *posture* are appraised. Findings reveal that it is unclear whether the assessment of head *posture* through observation is valid and/or reliable and whether therapeutic interventions to improve head *posture* result in gains for the patient. There is a need for further research exploring the links between these factors, and practitioners should be encouraged to *re*-appraise the value of assessing head *posture* for patients with neck *pain*.

Goal Setting & Assertiveness Training

Babson, L. (2007). Effectiveness of self-monitoring of negative self-statements with chronic pain patients.

This study examined the use of a self-monitoring intervention on the frequency of negative self statements of *chronic pain* patients within the therapeutic *setting*. Three subjects who have secondary psychiatric claims through the Bureau of Workers' compensation and who have *chronic pain* participated in this study. The subjects chosen for this study were of interest due to the complex *pain* issues and their pervasive negativistic thinking styles which surround their *chronic pain* and workers compensation status. The investigator conducted therapy sessions as per a typical session. The investigator did not use any behavior management during baseline observation and recording. Self monitoring activities were not utilized during baseline phases. Prior to the intervention phases, each participant was trained to monitor his or her behavior according to the procedures developed. The investigator introduced the self monitoring procedures and instructions on how to track their own behavior. A list of examples of negative statements was used to demonstrate which statements needed to be documented.
Each of the three participants demonstrated the ability to lower the amount of both *pain* related and non-*pain* related negative self statements. Though the number of negative self statements made per therapy session decreased on average for each patient through each successive intervention, some of the return to baseline levels were not as elevated. This suggests possible occurrence of treatment effects, which suggest the patients began to internalize the treatment intervention during the second baseline phases.
Making therapy more effective and efficacious for patients is a likely *goal* for many clinicians. Therefore, the question of patient satisfaction of the self monitoring procedures is merited in the context of this study. The very nature of self monitoring emphasizes self efficacy and self regulation. Self-monitoring has been an effective tool utilized in educational and clinical settings. Self-monitoring can act as a motivating device by encouraging people to set goals of progressive improvement for themselves, even though they have not been explicitly asked to do so. In the case with *chronic pain* patients, increased levels of self regulation and self esteem may decrease negativistic thinking which may then lead to more predictable and improved outcomes

Filoramo, M. (2007). Improving goal setting and goal attainment in patients with chronic noncancer pain. *Pain Management Nursing*, *8*(2), 96-101.

Chronic noncancer *pain* (CNCP) is a major problem in health care today. Management of patients who have CNCP often poses a challenge for health care providers because their goals are nonspecific and as a group they are prone to frustration and depression. This article evaluates the characteristics of therapeutic *goal setting*, barriers to *goal setting*, and potential solutions to this problem. If the patients with CNCP can be assisted to set realistic goals, both patient care and its outcomes will improve.

Cowan, P., & Lovasik, D. (1990). American Chronic Pain Association: strategies for surviving chronic pain. *Orthopaedic Nursing*, *9*(4), 47-49.

The American *Chronic Pain* Association (ACPA) is a nonprofit, self-help organization designed to help individuals suffering with *chronic* nonmalignant *pain*. The program is directed toward educating the individual about a multidimensional view of *pain*, identifying *pain*-eliciting and *pain*-aggravating situations and behaviors, and teaching various coping skills. The techniques that are used include exercise, relaxation instruction, goal selection, priority setting, self-awareness sensitization, and *assertiveness training*.

Spence, S. (1998). Cognitive-behavior therapy in the management of upper extremity cumulative trauma disorder. *Journal of Occupational Rehabilitation*, *8*(1), 27-45.

Cognitive-behavioral techniques have a great deal to offer in the prevention and remediation of upper extremity cumulative trauma disorder (CTD) in the workplace. In relation to prevention, cognitive-behavioral methods offer promise as adjuncts to educational programs and ergonomic practices that aim to increase workers' use of safe work postures, movements, and procedures. Cognitive-behavior therapy (CBT) is also an important component of the rehabilitation process for the minority of workers who proceed to a *chronic pain* condition. However, CBT forms just one aspect of the rehabilitation process, along with multidisciplinary interventions that tackle physical fitness, ergonomic factors, and work practices. CBT techniques, such as goal setting, problem solving, cognitive restructuring, attention diversion, communication skills, and *assertiveness training*, aim to enhance coping skills and reduce psychopathology and disability. As each patient presents with a different pattern of cognitive and behavioral strengths and weaknesses, an individualized assessment is important.

central city concern

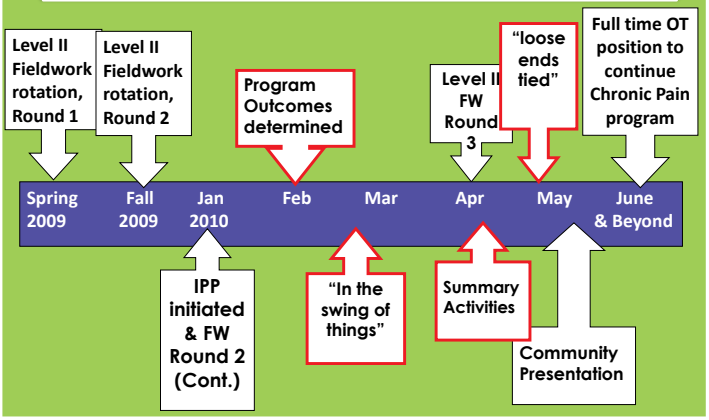
Developing a Chronic Pain Evaluation Tool for Old Town Clinic, Central City Concern

Jessica Gonzales and Jennifer Theusch
Pacific University, Occupational Therapy
Innovative Practice Project 2010

Old Town Clinic

- Mission
  - "Providing pathways to self sufficiency through active intervention in poverty and homelessness."
- Population
  - Low-income and homeless individuals in downtown Portland with a variety of health needs
- Services
  - Traditional: preventive exams & minor procedures
  - Alternative: naturopathic care & acupuncture
  - In-house referrals: chemical dependency, mental health providers

Project Timeline



Needs Assessment

- Conducted Spring 2009
- Revised January 2010

Mission & Values | Resources & Services Provided | Old Town Clinic Goals

Tools, Environment, & Processes | Knowledge & skills

Identified needs & Outlined Occupational Therapy Potential

Definitions of Pain

- "An unpleasant sensory and emotional experience associated with actual or potential tissue [or nerve] damage" (International Association for the Study of Pain, 1979)
- Acute Pain
  - Eudynia: "Good" pain that warns of bodily damage from an identifiable cause and does not overwhelm the body (Lippe, 2003; Traines, 2010)
  - Affects 25 million in U.S. (National Pain Survey, 1999)
- Chronic Pain:
  - Maldynia: "Bad" pain that persists beyond recovery from disease, disorder, or accidental injury and no longer serves a purpose (Lippe, 2003)
  - Affects 50 million, 1 in 4, Americans (National Pain Survey, 1999)

Chronic Pain Pop Quiz!

1) How many Americans indicate that pain affects their participation in life activities? (Gallup Organization, 2000)
2) How many chronic pain clients have coexisting depressive symptoms? (National Pain Survey, 1999)
3) How many individuals saw a physician for chronic pain? (Market data Enterprises, 1999)

A. 58%
B. 83 million
C. 4.9 million

Project Outcomes

1. Research (Annotated Bibliographies)
   - Program Models
   - Assessment Tools
   - Group Interventions
2. Evaluation Tool (with summary template)
3. In-service Training on tool administration
4. Group Treatment recommendations

Evidence Based Trends

Multidisciplinary Team Approach	Cognitive Behavioral Approach	Active Self-Management
• Physicians • Psychologists • Occupational Therapists • Physical Therapists • Acupuncturists • A&D specialists • Behavioral Health Specialist	• Emphasis on cognitive coping and behavioral strategies to improve self-efficacy so clients can regain a sense of control and functional ability	• Gain knowledge about condition • Learn and implement strategies to improve function • actively participate in health related decisions

(ACPA, 2003; Flor, Fydrich, & Turk,1992; Guzman, Esmail, Karjalainen, Malmivaara, Irvin, & Bombardier, 2006; Law, 2002; Moore,Von Korff, Cherkin, Saunders, & Lorig, 2000; Morley, Eccleston & Williams, 1999; Rochman & Kennedy -Spain, 2007;Sanders, Harden, Benson, Vicente, 1999; Turk, 1996)

Evaluation Tool Research

Determined appropriate categories for evaluation:
- Pain
- Physical
- Performance/function
- Quality of life
- Cognitive
- Mood
- Addiction & dependence
- sensory

15 Assessments reviewed and 6 chosen
- Brief Pain Inventory (short form)
- Short-Form McGill Pain Questionnaire
- Pain Intensity Scales
- Pain Self Efficacy Questionnaire
- WHOQOL-BREF
- Opioid Risk Tool

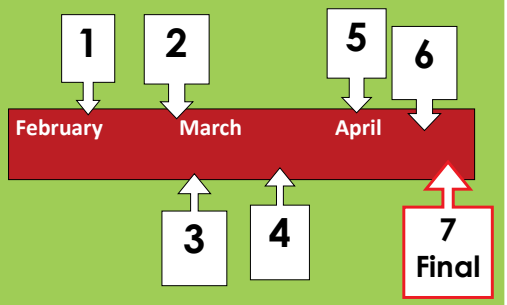
Evaluation Tool Foundations

Content
- 1.Cognitive Behavioral Therapy
- 2. The Recovery Model
- 3. The Model of Human Occupation

Structure
- 1. The Occupational Therapy Practice Framework, 2nd Edition

Evaluation Tool Development

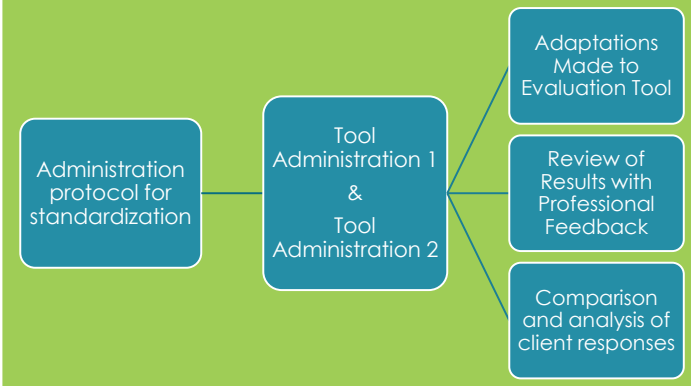
- PRA site visit
- Assessment Tool Research
- OTC Meeting
- Faculty Advisor editing
- Pain Mgmt Workshop
- OTC Meeting
- Focus Groups
- Pilot Project
- OTC Medical Director meeting
- Faculty Advisor editing
- Created summary template
- OTC training



Piloting Focus Groups

- 8 participants from MOT3 cohort
- 2 focus groups, 4 participants in each
- Protocol for standardization
  - Written consent
  - Program description
  - Participants read and marked comments regarding: content validity, semantics, & flow
  - Discussion & Feedback
- Feedback comparison

Evaluation Tool Piloting



Summary Template

- Highlights critical components of the evaluation tool
- Recommendations for treatment, referral, and additional assessment

OT completes in 30 min or less → Reviewed by PCP → Collaborate on Plan of Care

Group Recommendations

- Sleep
- Time Management
- Leisure
- Communication Skills (general communication, assertiveness training, close relationships and with health care providers)
- Diet/Nutrition
- Body Mechanics, Posture re-education
- Energy Conservation, Pacing
- Reconditioning, specific stabilization
- Back care
- Joint Protection, Ergonomics
- Modalities (ice, heat packs)
- Goal setting and assertiveness training
- Use of Assistive Devices
- Social supports
- Complementary Alternative Medicine (CAM)

Looking to the Future

- Implementation of tool use for all chronic pain clients at Old Town Clinic
- Project documents used to gather outcome data
- Continued relationship between Pacific University and Old Town Clinic

The documents created for the innovated practice project were submitted in a grant proposal with the intention to fund an occupational therapy position at the Old Town Clinic beginning July 1st of 2010.

Special Thanks

- Sandra Pelham Foster
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- David Huffman & Wesley Grout
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Questions?