ALAMEDA COUNTY MEDICAL CENTER

Pain Management and Functional Restoration Clinic (PMFRC) Highland Campus

INTRODUCTORY REPORT

October 21, 2012

Maintaining & improving health in Alameda County

Pain Management and Functional Restoration Clinic
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The purpose of this report is to review and evaluate the work that the PMFRC team has done to serve their patients since opening in July, 2011.

Acknowledgements for the preparation of this report

Howard Kornfeld, M.D.
wishes to thank everyone who works with the
Pain Management and Functional Restoration Clinic

Particular thanks go to our volunteer, Tarik Afnoukh,
and our M.P.H Intern, Doan Hoang

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for their vision in establishing and supporting the
Pain Management and Functional Restoration Clinic

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INTRODUCTION

The Pain Management and Functional Restoration Clinic (PMFRC) of the Alameda County Medical Center (ACMC) opened in 2011 to provide clinical care and leadership to the medical center in the expanding and increasingly critical field of pain medicine.

As expressed in our name, we have focused on both pain reduction and functional improvement for our patients. We have brought expertise in pharmacologic management, addiction prevention and treatment, social work, physical therapy, and psychological stabilization to a varied and complex patient mix. We have operated three days a week and initially took on multiple new patients per day. We have accepted patients who have had chronic pain for at least six months in duration. Many or most of these patients had limitation of mobility, dependence on opioid medications, debilitating pain symptoms, and exhibited psycho-social instability and a history of alcohol and drug abuse, if not a currently dysfunctional use pattern of a psychoactive substance.

Based on the experience of our medical director, Howard Kornfeld, M.D., the PMFRC has developed a **buprenorphine** opioid based pharmacologic stabilization strategy. This strategy responds to the current concerns that prescription opioid dependence, diversion, and overdose have grown to unacceptable levels in recent years and that pain medicine and public health strategies need to be modified to reduce the amount of opiate medication in the community.

Buprenorphine has been adopted in the U.S. for the treatment of addiction and recently has been FDA approved in a low dose transdermal form for the treatment of pain. Buprenorphine is an opioid with a significantly enhanced safety profile that has shown increased effectiveness in the more difficult neuropathic pain syndromes that challenge pain practitioners. Buprenorphine is less euphoric to a drug seeker, protects an addict to a significant degree against overdose, is easier to taper, and is associated with less severe opiate withdrawal.

A number of pharmacologic, administrative, and economic barriers have prevented its wide adoption in pain medicine. At the PMFRC, we have taken clinically beneficial and cost effective steps to overcome these barriers.

In addition to the treatment of patients directly, we have taken steps to educate our referring colleagues by presenting a series of lectures, including Grand Rounds for the UCSF affiliated Department of Medicine and by providing Pain Rounds for the internal medicine residents and attendings, held every two weeks for the past seven months. In addition, internal medicine residents rotate through the pain clinic for elective days on a regular basis.

This report will include several initial sections which describe our work in **qualitative and narrative** terms. We were also fortunate to have been able to capture the status of our

patients, utilizing well known surveys, in **objective and quantitative** terms. These will be described in further sections of the report. The Appendix (page 16) displays our data graphically and demonstrates several preliminary but statistically significant improvements in our patients' clinical status.

Recommendations for future growth (page 14) are listed in the last section of this report. These recommendations are designed to both refine and expand the care being directly provided in our clinic, but also, and more fundamentally, to disseminate and translate what we are learning and achieving at the PMFRC to a much wider patient population at adult medicine clinics throughout both the ACMC and CHCN clinics of Alameda County.

The next section will outline a number of our success stories. Just a few weeks ago, however, we were able to apply our best practices to one of our most challenging patients. He had been referred to us by the palliative care service on very large doses of opioid medications and during the last year, he had been admitted to the hospital every four to six weeks for disabling symptom management. On October 19, 2012, he provided to us in his own handwriting the following testimonial:

> ***To Whom It May Concern****:*
> *I would like to personally recommend the buprenorphine treatment as a superior replacement for standard opiates. I was in desperate pain for many months and after transitioning to buprenorphine it was like I was given a new lease on life. No more ups and downs or nausea "from hell." I heartily recommend that Pain Management Clinic be given every resource available to further treat others who were/are in a similar miserable predicament. This has made a tremendous improvement in my quality of life, and probably my expected time to live has increased greatly. There are other benefits too numerous to list. You may, however, contact me personally at any time.*
> (See page 7 for a further description of this patient, Mr. C.X.)

PAIN MANAGEMENT SUCCESS STORIES

Since July of 2011, the Pain Management and Functional Restoration Clinic (PMFRC) has been working with a sample of the chronic pain patients in Alameda County. This has proven to be a complex and diverse cohort of the larger population of chronic pain patients that we know exists in our region. The diagnoses that bring our patients to the PMFRC are as diverse as the patients themselves. We have seen common low back pain, osteoarthritis and inflammatory arthritis, fibromyalgia, neuropathic pain, conversion disorder, somatization, abdominal pain, testicular pain, headaches, and rare disorders such as Fabry's disease and phantom limb pain. In each case, the patient presents with chronic, intractable pain. They have had this pain for at least six months but most have suffered for years. Chronic pain commonly causes or exacerbates depression, anxiety, and/or personality disorders. Most of our patients have been unable to maintain employment and are having difficulty with their interpersonal relationships as well. Compound these issues, often, with poverty, drug/alcohol addiction, poor support

systems and multiple co morbidities, and you can see that people are commonly feeling quite hopeless when they arrive at our door. Our multi-disciplinary approach to pain management offers patients unequaled access to medical providers, social work, physical therapy, psychology services, and psycho-educational tools. In our six month program, the patients are asked to work very hard. They are seen, quite commonly, every week by the medical provider; they attend a psycho-educational group once a week; they meet with the social worker twice a month; and can be referred for physical therapy and/or psychotherapy. We all work as a team, including the patient, to reach their physical, emotional and spiritual goals; to better manage their pain and improve their sense of well-being, even if they continue to live with pain.

Ms. O.C. is a perfect example of the type of success patients are experiencing in the Pain Management and Functional Restoration Clinic. She is a 58 year old woman who was referred to our clinic with chronic pain in her right lower extremity since a pedestrian vs. MVA more than a decade ago. She had tried and failed many different medicines, including high dose opiates. She had interventional treatments including surgeries and injections into the scar tissue. The impact the pain had on her life was devastating. She was unable to work and therefore was unable to afford housing. She was staying with an ex-partner when she arrived at the clinic. This was not healthy for her and she knew that one of her main goals was to obtain housing as well as a job. She transitioned from high dose opiates onto the Butrans patches and stabilized on sublingual buprenorphine at a relatively low dose of 2mg, three times per day. She reports that her pain is negligible at this time; she is working, and best of all she has found independent housing. She is actively involved in our alumni group and has volunteered to return to the weekly psycho-educational groups to talk about her experience in the Pain Management Program as well as the unique medicine she now uses for pain. She attributes her success as much to the psychological and psycho-educational parts of this program as she does to the medicine. She has worked exceptionally hard and now has success that she quite graciously is willing to share with others. She is an inspiration to us all.

Mr. L.A. is another example of hard work paying off. He is a gentleman in his early 60's and was sent to our clinic with chronic neck and back pain and progressive spondylolisthesis. He had some specific goals that he wanted to achieve while in the Pain Management and Functional Restoration Clinic. #1 – to be able to care for, play with and enjoy time with his grandchildren; and #2 – to be able to have an intimate relationship with his wife again. I am happy to announce that, through his hard work and the multidisciplinary approach of the PMFRC, he has achieved both of his goals. He was an active participant in the psycho-educational groups and has been active in the alumni group as well. He was reliable in attending his medical and physical therapy appointments and took full advantage of the resources at his disposal. He stabilized on a small dose of sublingual buprenorphine and has been able to continue his treatment with the help of his primary care provider, who has resumed care at this time.

Mr. C.A. has also thrived since joining the Pain Management and Functional Restoration Clinic. He is a 28 year old man with a long history of advanced martial arts and physical labor. He injured his back and was found to have degenerative disc disease that would prevent him from doing either of those activities. This was a big adjustment for someone so young and active. His goals were to get back to work or to find a new career that would accommodate his limitations. He actively engaged and participated in every aspect of our multidisciplinary program. He was a helpful participant in the psycho-educational groups, sharing tools of mindfulness and meditation he learned in his martial arts studies. He worked hard with physical therapy and with our individual psychotherapists as well. He transitioned from full agonist opiates to the Butrans patch, which has been adequate pain management for him for the past 6 months. He is working part-time and applying for school to become an arborist. This career will allow him to continue to work out of doors but will allow him to avoid the heavy lifting so often required of his previous positions.

Mr. C.X. is a current patient of the Pain Management and Functional Restoration Clinic. He has chronic, intractable abdominal pain due to severe peptic ulcer disease that required a surgical resection of part of his stomach. He has had severe chronic epigastric pain and bouts of intractable nausea, vomiting and severe hypertension that have required hospitalization every 6-8 weeks since the time of his surgery. He has been miserable and his pain medications had become extremely problematic and likely a large contributor to his multiple re-admissions. We had discussed, on multiple occasions, transitioning from his incredibly large doses of hydromorphone to buprenorphine for pain management. We believe it would be superior due to its efficacy in managing this type of pain as well as its long half life that would help to avoid recurrent withdrawal that was happening with some regularity on his old medicines. When he was admitted, again, for intractable pain, nausea and vomiting we worked with the in-patient team to transition him onto buprenorphine in the controlled setting of the hospital. He has since stabilized on sublingual buprenorphine, discontinued the hydromorphone and has not had any evidence of withdrawal or labile hypertension since. He reports that he is feeling better. His mood has improved and he is feeling much more hopeful. His pain is still a problem, but improving over time. This is a true success for the PMFRC; not only for the patient, but for the hospital as well. We are energized and hopeful that he will be able to move forward from the nightmare he has been living in; that he can again participate and contribute to his family and community and that he will have no further re-admissions.

Ms. C.L. is in her late 50's who experiences chronic pain in her back and knees due to scoliosis. During her time in the Pain Management and Functional Restoration Clinic, she has successfully reduced the amount of opioid medication she takes and has begun using buprenorphine. When she began therapy, she was very depressed and had times when she expressed not wanting to be alive. She would spend weeks in bed, neglecting her grooming, and missing appointments and groups. Now, she has successfully

completed the psycho-social training group and has not experienced an episode of major depression for 3½ months.

Mr. J.W. is in his mid-20's coping with chronic pain in his legs and hands. During his time in the PMFRC he has successfully transitioned to buprenorphine and the debilitating effects of his pain have been reduced. When he began psychotherapy he was not living on his own and rarely left the house. His appearance was disheveled and he was overweight. Emotionally, he was full of despair, very negative about life, and at times, expressed hostility toward others. Now he exercises multiple times a week, lives on his own, is physically fit and well groomed, and is attending school. He is off of Ambien and SSRI's, and he is feeling much better about his prospects in life.

These are just a few of the amazing stories of success our patients have experienced since the start of the Pain Management and Functional Restoration Clinic. We are proud of the work we have done and so proud of the work our patients have done. We look forward to continuing, expanding and enhancing the care we are able to give to this most desperate population of patients.

PATIENTS' THOUGHTS:

Our patients have recently shared their thoughts about their treatment in the Pain Management and Functional Restoration Clinic. The following is a collection of what they shared with us during a recent meeting of the psycho-educational group led by our social worker, Vitaline Briggs, MSW.

"I am very new to the pain clinic. I feel very supported by the staff since it has been so difficult to get treatment and/or attention for my prolonged pain. It looks very promising towards my personal goals."

"What's been helpful is the groups."

"Just keep sharing the info and keep the speakers coming." "It's all very helpful."

"Just started not that long ago." "But I feel that more info has been given to me and more tests then in 3 years at the 6th floor."

"My experience at the pain clinic has helped me open my mind to other ways of coping, addressing and adjusting my attitude toward my chronic pain."

"There's been a positive effect so far because it's nice to meet with others who are not judgmental. The class is helping me with seeing myself through others eyes. I'm learning alternative ways to handle my chronic pain through words and mental awareness."

"I feel for the time, that this class has helped as much as I want."

"New ideas to keep us on track, upbeat and to get us out of depression." "I like the way Vitaline (Vitaline Briggs, MSW) does things. " "Think different get mind strong."

"Physical therapy has been very beneficial for my back." "Given me ways to deal with my pain not known before." "Administrators have been helpful."

"What has been helpful to me in the pain clinic is to learn that I am not alone in my struggle. Here, my pain is not judged and I am able to receive important information that allows me to better cope with my chronic pain. It has been extremely beneficial even though I was strongly opposed to attending."

"Since I've been here I have experienced positive information on how to relieve a lot of pain that I have been experiencing for over 10 years."

GENERAL POLICIES AND DATA

Clinic Flow

The Pain Management and Functional Restoration Clinic requires a referral from the patient's physician to the PMFRC. The patient attends an orientation with our Social Worker, completes an intake and agrees to a Proposed Treatment Plan for their care. Dr. Kornfeld and Amy Smith, PA-C meet with patients regularly to discuss their general health, pain management and the transition from their present pain medications to buprenorphine. When appropriate, the patients will also see the PMFRC's psychiatrists, psychotherapists, and/or physical therapists. The patients also attend a bi-weekly psycho-educational group with the Social Worker. After completing the required 12 sessions, they are invited to join the Alumni group which has some very active and grateful members who want to encourage newcomers to the clinic.

Numerical Highlights

In July, 2012, an annual report was completed to evaluate the work that the Pain Management and Functional Restoration Clinic has done since it was established in July, 2011. A list of detailed patients' information was collected to analyze. Included were Demographics (age, gender, ethnicity), Education level, Referral sources, Social history, Toxicology history, Psychological, Medical and Surgical history, as well as, Clinic visits and Clinical surveys outcomes.

Within the past year, a total of 105 patients have been seen at the clinic. They were provided services that included medical management of their conditions, psychology, physical therapy, and psycho-educational support. Some highlights of the results at this beginning stage are:

- There have been 2,064 visits to our clinic (an average of 19 visits per patient) which includes visits to the medical team, social worker, physical therapist, psycho-therapists, and the psycho-education group
- An equal ratio of gender - 1 Female:1 Male
- 32% are below age 45
- 76% with history of drug use
- 50% with history of heavy alcohol use
- 43% have never taken a college class
- 59% with other medical condition (such as diabetes, hypertension, asthma, COPD, seizures, and HIV)
- 54% with emotional trauma (including sexual and physical abuse)
- 28% with suicidal ideation including 11% who have attempted suicide.

Psycho-educational Group Program

The 12 week pain management curriculum focuses on teaching patient's pain management skills. The goal is that patients will leave the clinic with a tool-kit filled with various types of pain management strategies.

The topics discussed included:

1. Activity Pacing
2. Attention Diversion and Behavioral Activation Techniques
3. Assertive Communication Skills
4. Relaxation Training
5. Cognitive Behavioral Therapy Concepts
6. Grief and Loss and Chronic Pain
7. Pain Medications: Pros and Cons and Risk of Addiction
8. Goal Setting
9. Relapse Prevention
10. Exercise and Sleep
11. Problem Solving
12. Vocational Rehabilitation

The groups are facilitated weekly by Vitaline Briggs, MSW. Regular guest speakers in the group have included: Vaughn Gibson, PT, Amy Smith, PA, Howard Kornfeld, MD., Theresa Woo, from The California State Department of Rehabilitation, and Dr. Alex Feng, a practitioner of traditional Chinese medicine. Groups are held three times a week in the pain clinic with the requirement that a patient attend at least once a week. We are gratified that 44 patients have successfully completed the psycho-educational group.

Psychological Therapy

The Pain Management and Functional Restoration Clinic provides behavioral support in an outpatient multidisciplinary clinic. Our service receives referrals from the PMFRC and each patient participates in a psycho-diagnostic clinical interview and an individualized mental health treatment plan is developed addressing symptom reduction and improvements in functional activities. There are objective pre- and post- treatment

measures utilized. Patients may participate in weekly psychotherapy as an adjunct to the psycho-educational groups and medical management. There are weekly staff behavioral meetings to discuss clinical issues for coordination and consistency in the approach with the patient.

Advanced pre-doctoral and post-doctoral psychology interns and fellows currently provide all mental health services to patients and multiply the investment that ACMC has made in a part-time, salaried licensed clinical psychologist by a factor of up to eight. All clinical work is supervised and co-signed by a licensed clinical psychologist. We are developing an evidence based short-term (12-16 session) weekly treatment model which is goal directed and will allow more patients to be seen in the PMFRC Psychology Service.

Areas for growth and development provided by our service include the following:

- Pain Psychology Support Group (focus on relaxation, meditation, mindfulness - will begin 11/2/12)
- Women's Pain Group (patients with autoimmune disorders and trauma history - will begin 12/5/12)
- Opiate Dependence/Substance Abuse Group (in development and will be available with increased funding to the service)

Physical Therapy

Under the able leadership of Vaughn Gibson, physical therapy has been provided to a fortunate subset of our patients. Vaughn meets with our team on a weekly basis and supports the functional restoration goals of the department. Interventions include both diagnosis and therapy using hands-on modality and teaching of home exercises and conditioning strategies. Mr. Gibson's long experience in treating injured and disabled patients have contributed greatly to our clinic.

DATA COLLECTION

General Information

Several surveys as described below were completed on all the patients who entered the PMFRC. We also use the well known CAGE for alcohol and drugs. Of the 44 patients who completed the 12 week group, 10 completed all four of the follow-up surveys (this will be the Pilot Study), 25 completed the SF12, 21 completed the BPI, 34 completed the HADS, and 19 completed the TSK.

Our MPH intern, Doan Hoang and our volunteer, Tarik Afnoukh, along with our social worker, Vitaline Briggs MSW and our psychology staff are endeavoring to complete the missing surveys in the near future.

Surveys

The following is a description of the surveys we have used:

SF12 –Short Form Health Survey Clinical Care

The SF12 is a Short Form Health Survey Clinical Care – A generic, dual scale (mental and physical health) measure of quality of life. It is weighted and scored to provide easily interpretable scales for physical and mental health.

BPI – Brief Pain Inventory

Brief Pain Inventory, known as the Wisconsin Brief Pain Questionnaire is considered a standard test used by the pain community to provide information about the intensity of pain and its impact to the patient's psychosocial life It contains nine questions with numeric rating scales from 0 to 10. A picture of a human body is included to enable the patients mark the location of their pain.

HADS – Hospital Anxiety and Depression Scale

The Social Worker administers the HADS survey during a patient's visit to the clinic. This survey helps to determine the levels of anxiety and depression the patient is experiencing. The survey is scored from 0 – 21 points, divided into three different levels: a 0-7 score is within the normal range, 8-10 scores as borderline abnormal, and 11-21 scores as abnormal.

TSK – Tampa Scale of Kinesiophobia

Tampa Scale of Kinesiophobia is used to measured pain-related fear of movement of low back pain. It was developed in 1990 and consists of 17 questions. This is a self-administered survey. If the patient's score is more than 37, it suggests that they have a high risk of Kinesiophobia. A score of less than 37 indicates a lower risk of Kinesiophobia. The SF12, BPI and TSK surveys are self-administered while the HADS survey must be completed by the Social Worker.

Emergency Department Visits

Emergency Department (ED) visits by PMFRC patients, due to all causes, were reviewed. The ED visits were collected using the OAS Gold program for the 44 patients who have completed the required classes. The ED visits were divided into two groups: 1) total of ED visits 1 year prior to the patient's admission to the clinic and 2) the ED visits after being treated by our team.

RESULTS

Pre- & Post- Data Analysis

Analysis of the BPI (Brief Pain Inventory) surveys showed that the pain level in more than 50% of patients with a severe level of pain had been reduced to either moderate or mild levels (**Appendix, Table 1**).

Based on the HADS (Hospital Anxiety and Depression) Scale results from the depression score show that 8 patients went from an abnormal level to a normal level with a statistically significant result (**Appendix, Table 2**).

The results of the TSK (Tampa Scale of Kinesiophobia) survey (**Appendix, Table 3**) and the SF-12 (Short Form Health Survey Clinical Care) (**Appendix, Table 4**) showed improved status of the patients. Four out of the 16 patients from the TSK survey had lower "fear of pain" scores after being treated at the clinic.

Pilot Study Pre- & Post- Data Analysis

The 10 patients who completed all of the four pre- & post- surveys and attended 12 sessions of the psycho-educational group show a significant level of improvement (p-value <0.05) in their anxiety, depression, and mental health status. **(Appendix, Table 5**)

Emergency Department Visits

A total of 127 ED visits were reported within the past 2 years from these 44 patients. The total ED visits prior to treatment at the PMFRC clinic was 82 (**Appendix, Table 6**). The number of ED visits had been reduced to 45 after the patients received treatment at the PMFRC, which was a 29% reduction. Even though this ED visit count was for all causes and not pain-caused exclusively, this still suggests that the clinic's medical treatment, psychotherapy, physical therapy, and psychosocial education played an important role in improving the patients' quality of life and, additionally, may have contributed to a reduction in the high cost of Emergency Department care.

RECOMMENDATION FOR FUTURE GROWTH

1) Expand physician and/or mid-level clinical hours with the addition of one or two additional part-time clinicians (one additional part-time physician is already recruited and credentialed to start by January, 2013).

2) To dedicate additional office and clinical space to accommodate and facilitate these recommendations for growth.

3) Formalize our mission in the teaching and training role of the PMFRC with the dissemination and translation of best practices in pain medicine to the adult medicine clinic at the Highland Campus of ACMC, to the free standing clinics of ACMC, to the rehabilitation and skilled nursing facilities of the Fairmont Campus, and to the CHCN clinics throughout Alameda County. This will require an expanded administrative capacity.

4) In conjunction with the above, to increase the days of our social worker from three days a week to full time and to increase the hours of our licensed clinical psychologist from five hours per week to between ten and twenty hours per week to both directly see clinic patients and to supervise the greater number of post-doctoral trainees now available and seeking experience in the PMFRC.

5) To achieve universal access of designated buprenorphine products in HPAC affiliated formularies utilized in the clinical settings listed above.

6) To encourage buprenorphine certification for the treatment of opiate addiction by physicians, so that every clinical site is always prepared to treat the cases of opiate addiction that unfortunately, but inevitably, arise in the context of opiate treatment of chronic pain.

7) To encourage the development of an interventional pain medicine program at ACMC. We envision that this will be an interdisciplinary endeavor that will involve multiple departments, including but not limited to radiology, neurosurgery, orthopedics, and anesthesiology.

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APPENDIX

DATA ANALYSIS

Table 1: Brief Pain Inventory (BPI): n (%) = 21 patients total completed

BPI *Pain Severity:*	Mild Pain N (%)	Moderate Pain	Severe Pain	T-Test Significant level*
Average Pain – Pre	6 (28.6%)	5 (28.8%)	10 (47.6%)	0.017
Average Pain – Post	9 (42.9%)	7 (33.3%)	5 (23.8%)	
Mean – Pre	3 (14.3%)	7 (33.3%)	11 (52.4%)	0.004
Mean – Post	6 (28.6%)	11 (52.4%)	4 (19%)	

* Comparison test is significant at the 0.05 level (2-tailed)

Figure 1: BPI Pre & Post:

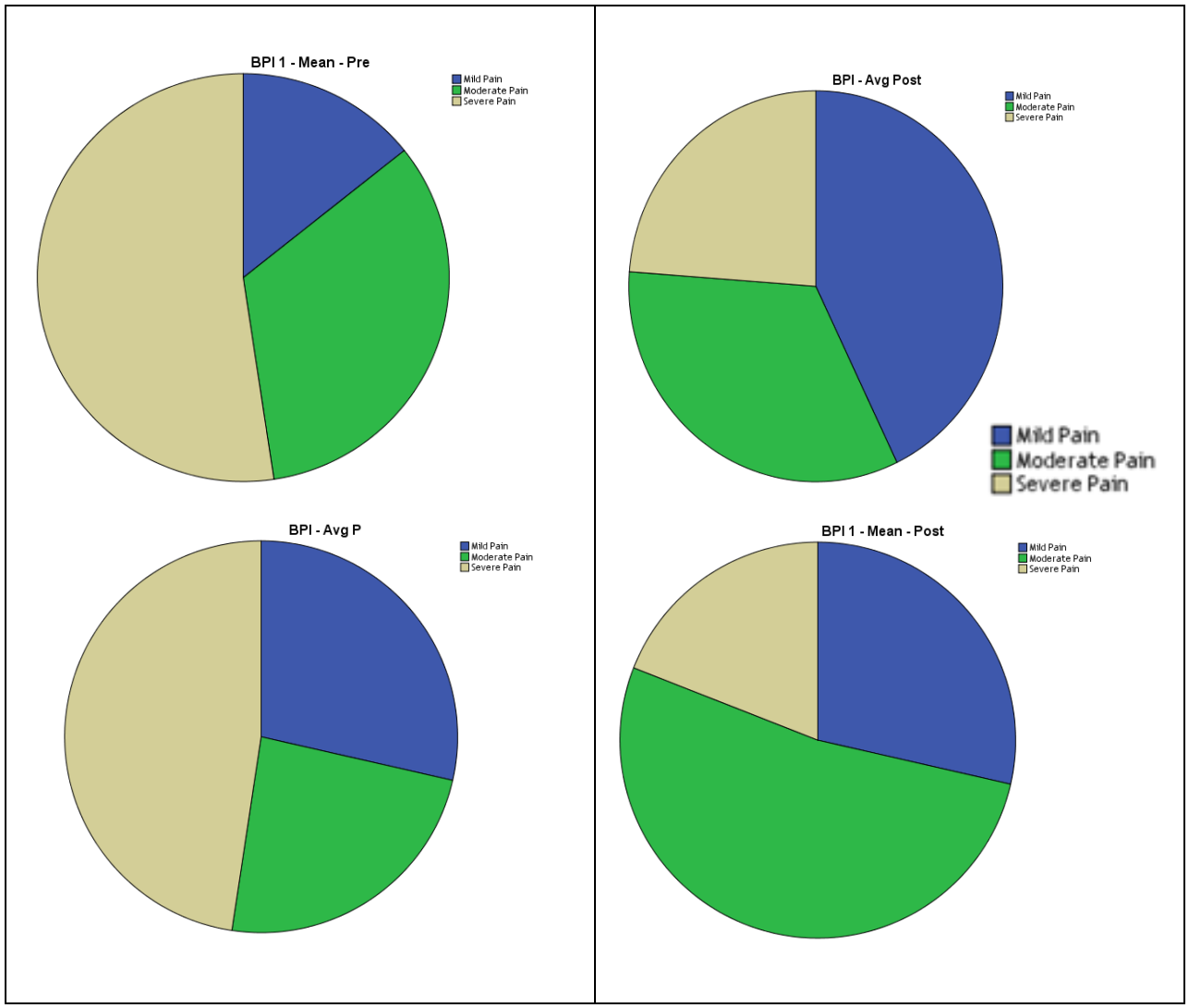


Table 2: HADS Report: (n) %=34 patients total completed

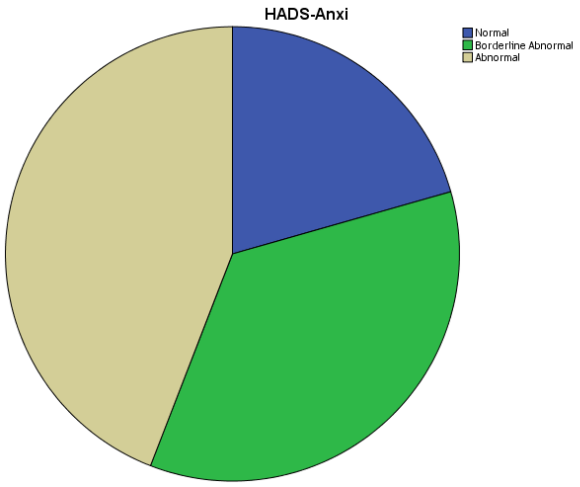
HADS	Normal	Borderline	Abnormal	T-Test Significant level*
Anxiety score – Pre	7 (20.6%)	12 (35.3%)	15 (44.6%)	0.325
Anxiety score – Post	11 (32.4%)	9 (26.5%)	14 (41.2%)	
Depression score – Pre	10 (29.4%)	8 (23.5%)	16 (47.1%)	0.014
Depression score - Post	16 (47.1%)	10 (29.4%)	8 (23.5%)	

* Comparison test is significant at the 0.05 level (2-tailed)

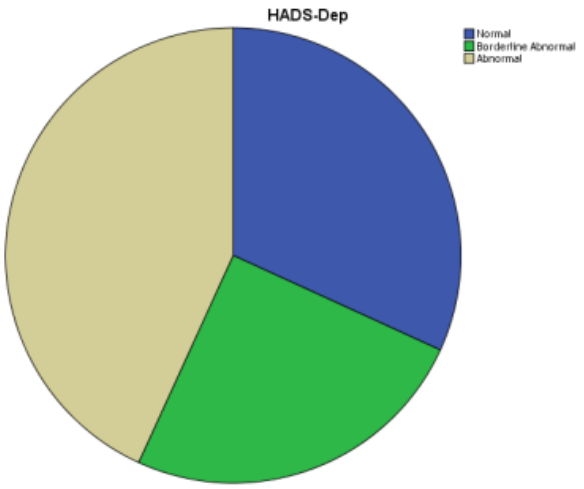
Figure 2: HADS Score in %:

HADS - PRE-Treatment

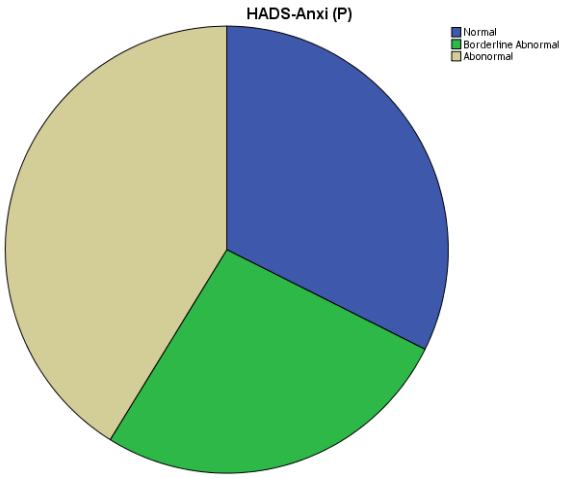
Anxiety Score:

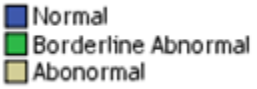


Depression Score



HADS - POST-Treatment





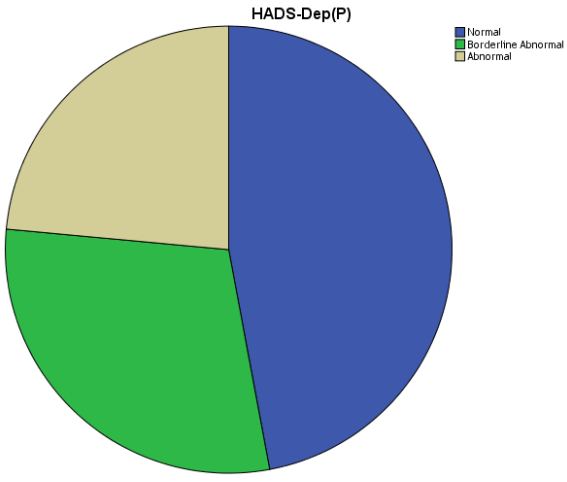


Table 3: TSK - Tampa Scale of Kinesiophobia n (%) = 19 patients total completed

Scoring definition:

- Score < 37 = Lower risk of Kinesiophobia
- Score > 37 = High risk of Kinesiophobia

TSK	Lower Risk N (%)	High Risk
Pre	3 (15.8%)	16 (84.2%)
Post	7 (36.8%)	12 (63.2%)

Figure 3: TSK Score

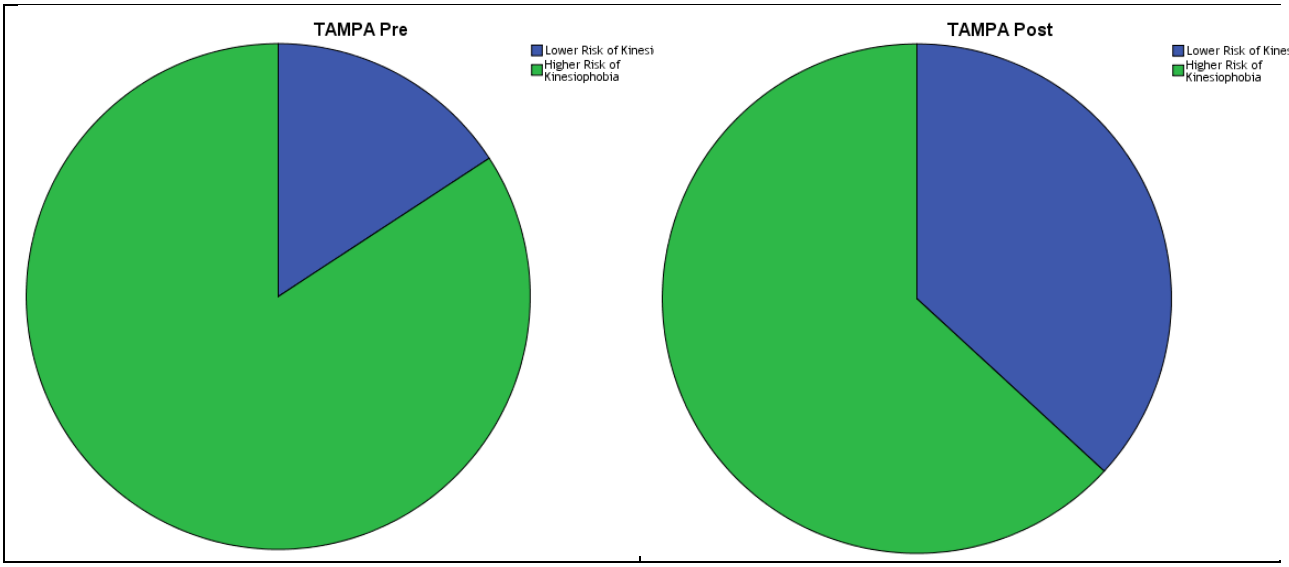


Table 4: SF-12 - Short Form Health Survey Clinical Care n (%) = 25 patients total completed

Scoring definition: If individual's mean score < 45 = Below the Average range compared with the general population.

- SF12 – PCS: Physical Component Summary
- SF12 – MCS: Mental Component Summary

SF12	Below Avg N (%)	Above Avg
PCS – Pre	25 (100%)	0
PCS – Post	24 (96%)	1 (4%)
MCS – Pre	19 (76%)	6 (24%)
MCS – Post	18 (72%)	7 (28%)

Table 5: Pilot Study Pre- & Post- Data- Results of the 10 patients who have completed all the surveys:

Paired Samples T-test to see if the patients' conditions have improved after being treated at the Pain Management and Functional Restoration Clinic:

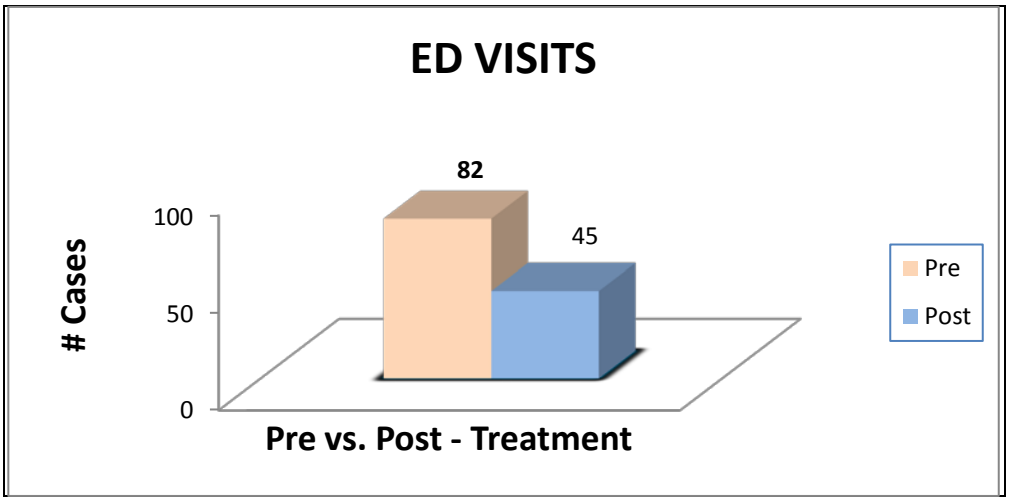
Survey	Significant Level*	Definition
HADS - Anx Pre & Post	0.051	➔ Yes, significant
HADS – Dep Pre & Post	0.010	➔ Yes, significant
TSK - Pre & Post	0.604	➔ Need further research
SF12 – PCS – Pre & Post	0.333	➔ Need further research
SF12 – MCS – Pre & Post	0.014	➔ Yes, significant

* Comparison test is significant at the 0.05 level (2-tailed)

- Please refer to Table 1 for BPI results.

Table 6: ED Visits due to all causes: n = 44

ED Visits	# Cases
1 year prior to PMFRC Clinic	82
1 year after PMFRC Clinic	45



Clinic treats pain with “addiction drug”

Posted By Heather On July 12, 2012 (12:00 am) In California Health Report

Olivia Destandau, in the hospital outside the pain clinic.
Photo: Julia Landau/California Health Report

By Julia Landau
California Health Report

Olivia Destandau was a graphic designer working in San Francisco when a car running a stop sign crushed her body against the left side of her scooter, tearing the major tendons along the outside of her leg. Thanks to immediate surgery she was soon walking, but the impact left her with severe nerve damage. The ache in her leg nagged upward, punctuated by erratic twinges in her shoulder and neck, and never stopped.

That was 1995. Destandau, now 62, learned to mute the pain with high dose opiates. She was prescribed Vicodin or Oxycontin, depending on her doctor’s inclination. The pain kept pace, though, as if it learned to outmaneuver the drugs. But last year, a different doctor disrupted Destandau’s unhappy pharmaceutical routine.

Uninsured and anxious about her dwindling Vicodin supply, she went to the emergency room of Highland Hospital, the go-to hospital for Oakland’s low-income residents. They had launched a new clinic that embraced a sort of maverick program, including a different medication for chronic pain, called buprenorphine.

Commonly known as an “addiction drug,” buprenorphine is rarely used for chronic pain in the U.S. Destandau stumbled into one of a few clinics in the country that would offer buprenorphine to her, a patient with no history of substance abuse.

After years of strategizing, Highland administrators departed from convention with the Pain Management and Functional Restoration Clinic. Both chronic pain and opiate addiction are endemic in the low-income communities that make up their patient base. They wanted to address the first problem adequately, without adding to the second.

Fatal prescription drug overdoses have more than tripled since 1999. Emergency room admissions involving prescription narcotics now outnumber those from all illicit drugs combined.

Howard Kornfeld, the Highland pain clinic's flagship physician, persuaded hospital administrators to adopt buprenorphine as the core pharmaceutical option. It could kill two birds with one stone, he said: effective for pain but far less habit-forming than other opiates.

"Buprenorphine has been, next to methadone, the sort of light at the end of the tunnel," says Kornfeld. "Maybe this can help us solve the addiction problem."

About half of the clinic's 85 patients are taking or transitioning to buprenorphine—and results have been heartening.

Like many people with chronic pain, Destandau wanted to break her dependence of heavy dose opiates. They felt like a shackle. She found that buprenorphine, a partial opiate, doesn't reproduce the roller coaster of pain and reprieve typical of full opiates.

The FDA approved buprenorphine in 2002—not for the treatment of pain, but rather for opiate addiction. Buprenorphine, which scientists refer to as a "partial opioid-agonist," has proven effective in curbing cravings and reducing relapse to heroin. The drug is pharmacologically unique: it can ease pain while muting the euphoric blast produced by full opiates.

But buprenorphine is branded in the U.S. as an addiction medicine, and its possibilities for pain are often overlooked.

When it was discovered in the 1970s, some christened buprenorphine the Holy Grail of opiate pharmacology. It fastens to the brain's opiate receptors tightly, inhibiting dopamine from flooding the bloodstream. Scientists label this the "ceiling effect." Taking more buprenorphine won't heighten opiatic sensations. The reduced euphoria lowers its potential for abuse or overdose. This has led many researchers to identify buprenorphine, ideally combined with cognitive therapy and social support, as a key to resolving a major medical controversy.

"In medical school, doctors are taught to treat acute pain with opioids. But when pain becomes chronic, you start having problems," says Dr. Steven Grinstead, a psychologist who trains professionals in the treatment of chronic pain and addictive disorders.

Full opiates like Vicodin and Oxycontin are medically useful. The surge of optimism produces swift, albeit temporary, relief for patients—useful for doctors in a pinch.

But Grinstead says his experience with chronic pain patients has demonstrated the limits of opioids long-term.

“Buprenorphine might work better for many people than OxyContin or oxycodone or even methadone,” says Grinstead.

Kornfeld agrees, saying opiates often become not only insufficient, but harmful. Some patients develop hyperalgesia, a condition wherein pain is actually exacerbated from opiates. Full opiates effect miraculous relief in the short term, he says, but tend to bring diminishing returns for persistent pain.

“[Chronic pain] patients don’t always do well on opiates,” he says. “They develop tolerance, so the benefits don’t last long enough. They become more disabled over time,” rather than more functional.

Kornfeld specializes in both addiction and pain. His rare medical niche shows him victims from both sides of the opiate war. As an addiction doctor in wealthy Marin, he treats teenagers who’ve become severely addicted to Vicodin or Oxycontin, which they acquire from friends or classmates, or appropriate from medicine cabinets with surplus prescriptions.

But while some doctors are too liberal with painkillers, others are overcautious. Kornfeld sees pain patients, abruptly cut off from opiates by their doctors, after months of high doses. This causes a downslide with potentially dangerous side effects like acute depression; plus the added stress of being treated like a criminal.

Destandau says opiates gave her fleeting relief. Her pain subsided for an hour or two before symptoms sprouted up. On bad days, she dwelled in a cycle of dread and anticipation of the next dose.

“Opiates are a masking effect,” Destandau says. “Then I’d start noticing that my attention is being drawn away. I’m adjusting my seat, my spine is burning, my knee starts to throb.”

And the daily drugs depressed her, and deadened her senses. She tried methadone, which was longer-acting, but she found herself steadily needing higher doses.

“Ultimately our goal is to get them off everything,” says Kornfeld. “Once they are stable on buprenorphine, they can start lowering it incrementally, whereas patients on morphine or Vicodin, or methadone—they very rarely lower the dose.”

Destandau says buprenorphine now works as well as the old regime. And, she says, “I have mental clarity.”

Buprenorphine, though permitted for off-label use by the FDA, is tightly regulated by law enforcement. In order to prescribe buprenorphine for opiate addiction, doctors need a special license from the Drug Enforcement Agency. Once certified, they can maintain a maximum of 30 patients with buprenorphine at a time.

When prescribed for pain, there are no such restrictions. But doctors who don’t have specific curiosity about buprenorphine are unlikely to become acquainted with it, says Grinstead.

“Because buprenorphine hasn’t been marketed for chronic pain, everyone says ‘it’s for addicts,” he says.

Since its inception in the 1960s, methadone wasn’t used for pain. Only in the last ten years or so, as worries about opiates rose, has it become a standard for use in chronic pain.

“Eventually, the word catches on,” says Grinstead.

Contrary to popular perception, studies show the majority of people who are prescribed opiates for medical reasons do not become addicted. Addiction implies continued, nonmedical use despite harmful effects. Opiate-related accidents and overdoses mostly happen when drugs are diverted—sold, given away, or stolen from people who had prescriptions. One large study of patients entering treatment for OxyContin addiction showed that most had never received a legitimate prescription for the drug.

Buprenorphine is much more difficult to abuse—it actually diminishes the effect of other opiates—and so less frequently diverted.

The Highland clinic does not rely solely on pain medication. Patients see psychiatrists for depression, and meet with counselors; they examine the psychosocial issues that arise with long-term pain, like employment and housing instability.

“I’ve noticed certain triggers for pain,” said Destandau. “Behaviors and attitudes that make it worse.”

Destandau never thought she’d be cured of pain—she says she doesn’t entertain miracles. But the clinic has helped to change her perspective.

“It gave me a break from this opiate-induced life I was having,” she says, “It presented another idea. I thought, ‘Hey, if I can stabilize some other things, maybe I won’t need so much medication.’ I can actually see living without the opiates. I would never have imagined that before.”

Note: This story has been updated. An earlier version of this story stated incorrectly that Howard Kornfeld is board certified in psychology.

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