

## **Floatation Therapy for chronic back pain**

**A case study demonstrating the value of floatation therapy for chronic back pain**

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### **Objective**

Chronic low back pain is affecting the population in epidemic proportions. Current medical methods of treating chronic pain have led to an opioid crisis. This crisis has forced pain management professionals to consider alternative methods to manage or co-manage mental and body implications of chronic pain. The objective of this case study is to demonstrate positive effects of floatation therapy upon specific physical, emotional, neurological and psychological aspects related to an individual using opiates under medical management for long-term severe back pain not improved from multiple back surgeries. As such, part of the objective is to provide a relevant example and common ground for both float center operators, health care professionals, and the people who use both services.

### **Background**

The participant in this single subject case study is a 38 year-old female, single mother and business executive who is under medical supervision by a nurse practitioner and medical pain specialist. This individual has been caught in a downward spiral of physical and emotional decline, medicating for her pain without any other purposeful “therapy” to provide meaningful functional gains. The subject has chronic pain involving her mid and low back, with intermittent radiation into the left buttock and posterior thigh to the knee. She does not have any numbness, tingling, weakness, nor any bowel or bladder dysfunction. She has had multiple failed spinal surgeries over recent years and over the past 6 months she has become symptomatically worse. She uses a 25 mg fentanyl (opiate ) patch every 72 hours, cyclobenzaprine (muscle relaxer) 10 mg twice daily, and 5mg oxycodone ( opiate pain pill) 3 times daily. She is not on any purposeful exercise therapy program or following any special dietary considerations at present. She is not receiving any other medical or complementary medical interventions other than the medications described above.

## **Method**

This floatation therapy and chronic pain case study involves a single subject “floating” in a 9’ long x 5’ wide fiberglass tank with a hinged lid, shaped like a large egg, filled with a salty solution. The tank, or pod, is filled with 10” of water (approximately 170 gallons) and maintained at skin temperature, approximately 94 degrees Fahrenheit. The water is saturated with 1000 pounds of medical grade Epsom salt, or magnesium sulfate: MgSO<sub>4</sub>.

The float tank is located inside a private room with a shower. To “float” the individual disrobes, showers, inserts silicone earplugs, turns off the overhead room light, then and climbs inside the tank which has an internal light and music controls. When inside, the individual closes the float tank lid and then transitions from kneeling or seated onto the back, face up. Once situated in a supine (face up) position and floating effortlessly, the subject has button controls to turn off the tank light and float in darkness, or to leave the light on. The subject also has the option to listen to ambient music or to be in silence. In this case, each float was done in darkness and silence for 60 minutes.

This case study lasted 8 weeks in duration, where the subject floated for 60 minutes, twice weekly for the duration of the study, for a total of 16 floats. A functional disability outcomes questionnaire with 18 categories was the primary method for capturing data related to mind and body dysfunction. This questionnaire was used for daily subjective recording, using a numeric scale on a 0-10 continuum where “0” indicates pre-injury status/no pain or dysfunction, “1-3” represents minor or mild issues, “4-6” is a moderate amount of pain and dysfunction, “7-9” is severe, and “10” is the worst, excruciating pain ever.

There was a separate section on the daily tracking form for non-structured, subjective, journal entries regarding comments, perceptions and experiences. Any journal entries are included.

There are no other disclosures.

## Results

The results of this case study clearly suggest that floating twice weekly for 8 weeks promotes significant functional improvements in multiple physical, emotional and behavioral categories related to chronic low back pain.

These categories include general body pain, localized lower back pain, referred and collateral pain, pain at rest, pain with walking, guarded movement from pain, ability to stand more than 30 minutes, ability to sit more than 30 min, affect on daily living, quality of sleep and feeling rested, ability to fall asleep due to pain, ability to stay asleep due to pain, fatigue associated with pain, affect on social life, affect on car travel, affect on work focus and productivity, depression, anxiety.

No negative effects were observed.

Improvements were calculated by using individual category averages of week 1 compared to week 8. The numeric results and associated graphical representations are clearly indicative of rapid and sustained improvement, with the most impressive change seen within the first month - or within the first 8 floats, at a twice/week frequency. Month two, with the same float frequency, continued to reflect incremental improvement and add to the overall gains, but with less magnitude.

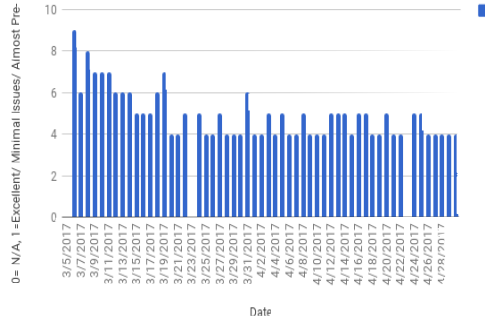
From a numeric scale perspective, with “0” = no pain or problem and “10” being the worst pain ever, the overall average score from Week 1 was 6.9/10 (moderate to severe pain and dysfunction). The overall average score from Week 8 was 4.1/10 (mild to moderate). This is a reduction of 2.8 points on a 0-10 measurement scale, which translates into over a 35% positive gain. This result is consistent with the improvements seen in all the individual categories.

The following data shows tracked single category percentage **improvements** for selected categories (*see representative graphs below*) indicating gains over the course of the case study.

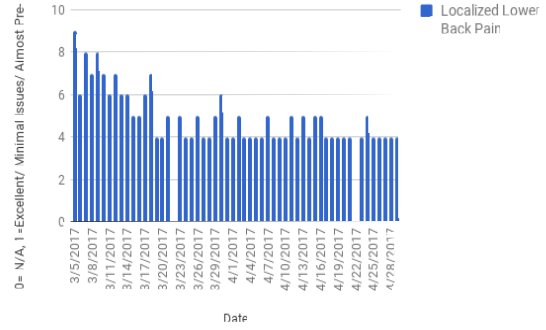
General body pain: 41%  
Localized lower back pain: 43%  
Pain at rest: 30%  
Ability to stay asleep due to pain: 33%  
Depression: 44%.  
Anxiety: 44%.

# Representative Graphs (others available upon request)

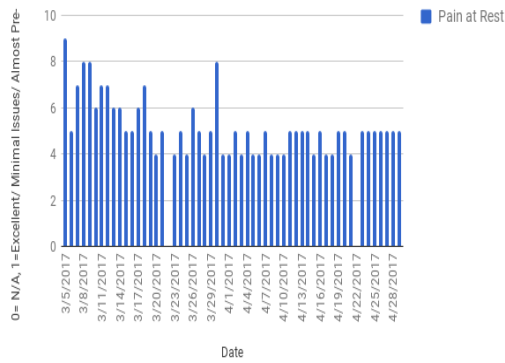
**General Body Pain**



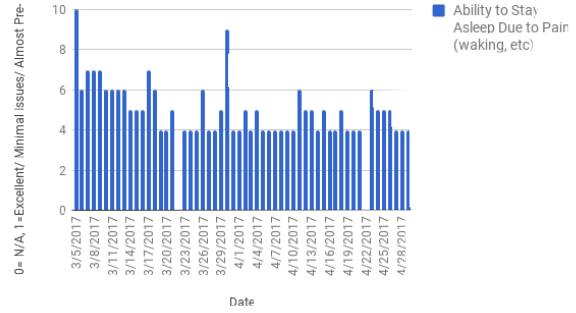
**Localized lower back pain**



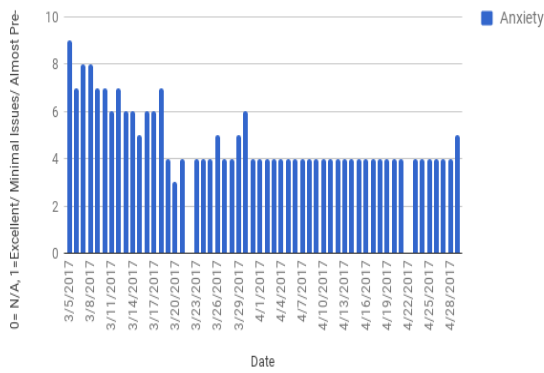
**Pain at rest**



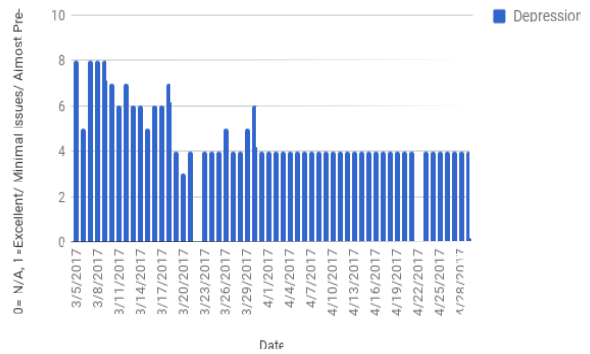
**Pain affecting sleep**



**Emotional State: Anxiety**



**Emotional state: Depression**



## **Conclusion**

Floatation therapy has a direct and positive effect on multiple categories of functional, emotional, behavioral and physical qualities of life for chronic, opioid managed, post-operative back pain.

This case study also establishes a precedent for positive results with a twice weekly float frequency for up to 8 weeks. Future case studies hope to examine longer periods of study, variations in float frequency, larger sample size and longitudinal considerations.

Patients, medical professionals and alternative health care providers should consider floatation therapy as an option both by itself and in tandem with other mind/body approaches to decrease pain, improve mobility and activity, as well as to improve emotional state and general quality of life.

## **Discussion**

In order to fully appreciate the results of this study, the subjective journaling, as seen in the addendum, is helpful to make better sense of the graphs and numbers. In this case, the subject was clearly in a lot of pain and dysfunction at the beginning. Needless to say, pain and pain triggers are very subjective from person to person, as well as medication tolerances and their effects. What is very common is that reduction of body and mind dysfunction often enables an increase or overuse of activity, often to the point of injury or setbacks.

This case study is a good example this and one can see that where there were spikes in the graphs later in the study, it was reflective of physical overuse, such as a workout at the gym, due to an improvement: feeling good. During the second month, the subject increased her activity multi-fold and began to sit, stand, drive longer, and lowered her dose of pain medication. Further, the subjective journal entries indicate that floating mitigated considerable work stress which was present throughout.

The graphical data reveals some random peaks. These can possibly be explained by incidental stress or overuse as seen in the journaling. Additionally, another way to observe the random fluctuations in light of improvement, is that in most of these instances, there is a reduction of symptoms within 1-2 days after a float.

## **Addendum: Subjective Journal**

The following is from subjective comments as part of the daily data tracking. Most entries were made during the first month.

3/6/17: I never get to sleep because it hurts no matter what sleep position. After my first float I was able to go home and get a good nights sleep. I haven't done that in years. I normally have to take some sleeping pills.

3/7/17: After my second float I can say it was the best I have felt in a long time. I was able to go longer today before having to take my meds. I also slept completely through the night without waking. I woke up with no pain. I was able to go out with my son and spend the day together walking. It was a great day.

3/8/17: My sleeping is getting better. I'm able to sleep through the night without waking up. I normally am up at 1 or 2 AM because of pain but I was able to go down last night before 9 PM. So this morning I had better start my day. I can say for the first time that something is working.

3/9/17: I feel that the overall effect is getting better. Able to work longer without as much pain. I'm not having the pain in my left butt in a way as I've have been for months. The pain in my lower back is still there but I think it's better.  
“setback”: tripped at work causing me to hurt myself.

3/10/17: I'm starting to get my energy back. I was able to go to sleep without sleeping pills. So it is getting better daily. All I want to do, is be able to do things with my son without pain. My son and I were able to go to work out at the gym for over an hour. As of right now still in pain but it is so much better than when I started. I'm still taking my meds, but before the pain was uncontrollable and now I'm slowly feeling the changes.

3/11/17: Still been able to not use sleeping pills at night. I'm able to feel rested when I wake. I'm not in pain. I been able to work out again and not be in pain whole time. I have a lot of energy and feel stress-free. My goal is to lose weight and even to be pain-free or at least not need meds. I'm feeling a little sore from the work out and feeling sharp pains in lower back and butt area.

3/12/17: Again, I really believe the first time in over five years and feeling energized. I want nothing more than being pain-free. I want my life back. I'm able to space at the time in between my medications. I'm not pain-free yet but I feel better.

3/13/17: I'm feeling better as the week goes on. I've been working out daily. I've never been able to do over 20 minutes and now doing over an hour daily.

3/14/17: My work days are longer now of which I haven't had a full day in almost 2 years. I've gotten a better chair at work as well. So my outlook on life is so much better.

3/15/17 I was able to go eight hours without medication. That has been the longest in years.

3/16/17 my ability to rest and stay that way is getting better daily. I did go longer without my meds but just not as long yesterday.

3/17/17: I had to travel for work and it's got me in a lot of pain. I'm starting to feel my butt pain again I guess it was from the car ride. The next day I took the kids to go to movies and by the time we were one hour and I was in so much pain.

3/18/17: I took the kids to the movies and by the time we were one hour in, I was in so much pain I wanted to go to sleep.

3/19: After my float today I was able to drive to Williamsburg ( hour drive ) without a major issue. I was able to walk around the outlets with no issues. I haven't been able to do that in years.

3/20/17: I went over 8 hours without taking my meds. I have never felt better. I really do feel a change in my life. I have more energy and able to have my social life back. I normally only want to go to work and home and this has changed my outlook on life. I was really at my lowest before I came to the float center. After having nine and surgeries in a year I was ready to just give up.

3/21/17: I had to take my old dose of pain meds today. I think I might have overdone it at work today. My back is hurting me more than normal. I have a float tomorrow.

3/25/17: Starting to get a pain in my butt again but I think it's because I haven't worked out in a few days.

3/28/17: I really do feel better. I can see a change in my family sees a change. My energy is much better. I'm not tired as much even if I don't get a lot of sleep. I think I would be a lot better if I didn't allow my job to stress me out as much. My anxiety is getting better.

3/29/17: I can tell when it's time to float as my body is starting to feel bad again. My muscles are sore and the sharp pains are back. It's harder to fall asleep or feel rested. I have to go out of town on business yesterday. I was driving for more than five hours total. Then was doing a lot of walking, bending, twisting for a big furniture delivery. I had to take more pills today and yesterday to help with sleep. I guess I might need to get a note to stop traveling so far. I need to find some way of helping with the pain related to travel.

3/31/17: stress free, relaxed

4/2/17: I really believe that my body is healing. It is helping in so many ways. It is helping with my very stressful job. Floating helps my body by taking the pressure off my muscles. They aren't so tight. My stress level is better. I'm relaxed and still able to do things with my son. I haven't done that in years.

4/3/17: I'm having the most issues when sitting in the car for long periods of time. I have the same issues at work. So I try and get up and move around as much as possible. I would say that my biggest issue is riding in the car and sitting at my desk.

4/11/17: exacerbation from walking in warehouse at work. lasted from 4/11-4/14, then overdid out shopping all day. Floating is helping me to relax. By being relaxed it is helping me to relieve my back pain I worked out really hard yesterday and the pain is really bad. It is mostly in my legs.