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DEATH VALLEY TRIP 8TH APRIL 2014 – 10TH APRIL 2014

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APPROACH/ GOALS

I wanted to test a trip to Death Valley to a pristine environment free of exposures as well as EMF etc. while also attempting to maximize the detoxification potential.

This was a relatively short trip of 2 days (around 54 hours total time from departure from San Diego, to return to San Diego) unfortunately due to my own time constraints.

This was a last minute trip planned before I was scheduled to leave the US. So was a bit haphazardly put together with less time and less control and data collection than is really useful. I've tried to put down as objective as possible notes on the trip, so that it hopefully provides

some ideas for others to look into further. It has certainly increased my interest in doing another similar trip. In fact I'm looking forward to it.

This is what I did:

1. Fasted except for doses of MCT oil every few hours throughout day – this would have kept me in ketosis, and kept me from getting hungry. The purpose was to limit use of stomach to allow the body to focus on detoxification during the trip.
 - a. Exceptions were some organic bananas eaten on evening of 8th and morning of 9th and some pistachios in afternoon.
2. Took the typical 4 doses of CSM (cholestyramine) / day to bind to mycotoxins (taking MCT oil around 30 minutes after these was also an attempt to target bile production to coincide with CSM intake).
3. Use of Coenzyme Q10, L-Carnitine and Creatine in early morning and after heavy exertion (mitochondrial supports, ammonia and lipoperoxidation supports).

DATA COLLECTED

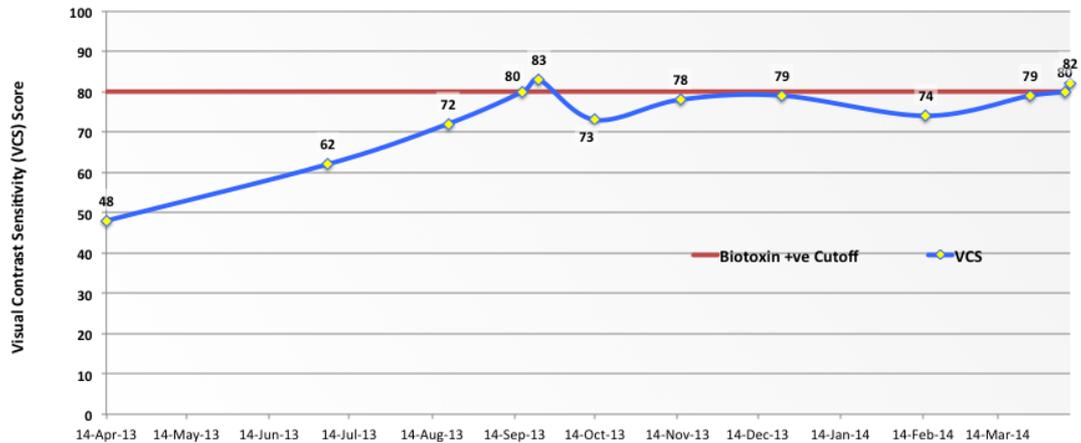
I planned the following tests to track some data for this exercise:

1. VCS (Visual Contrast Sensitivity) control immediately before departure and immediately after return from trip
2. Lumosity brain performance tracking immediately before departure and immediately after return from trip
3. Activity and sleep tracking via the MyBasis watch (can compare against data recorded since April 2013 – 1 year of data).
4. Stress testing: Pushing myself to exert more than I have been able to since onset of illness (exercise intolerance is now my largest issue).

DATA COLLECTION RESULTS

1. VCS increased from 80 to 82. This is a positive change and is the highest it has been since October (right eye best ever been,

left eye slightly better). It drops when I get re-exposed to WDBs. I have had two drops coinciding with exposures in apartments I've lived in since I started treatment via CSM (cholestyramine).



The Death Valley experiment is the last two data points on this chart crowded on top of each other due to time closeness (80 and 82).

2. Lumosity overall brain index increased from 806 to 841 and was maintained the following days. I've seen similar jumps in the past.

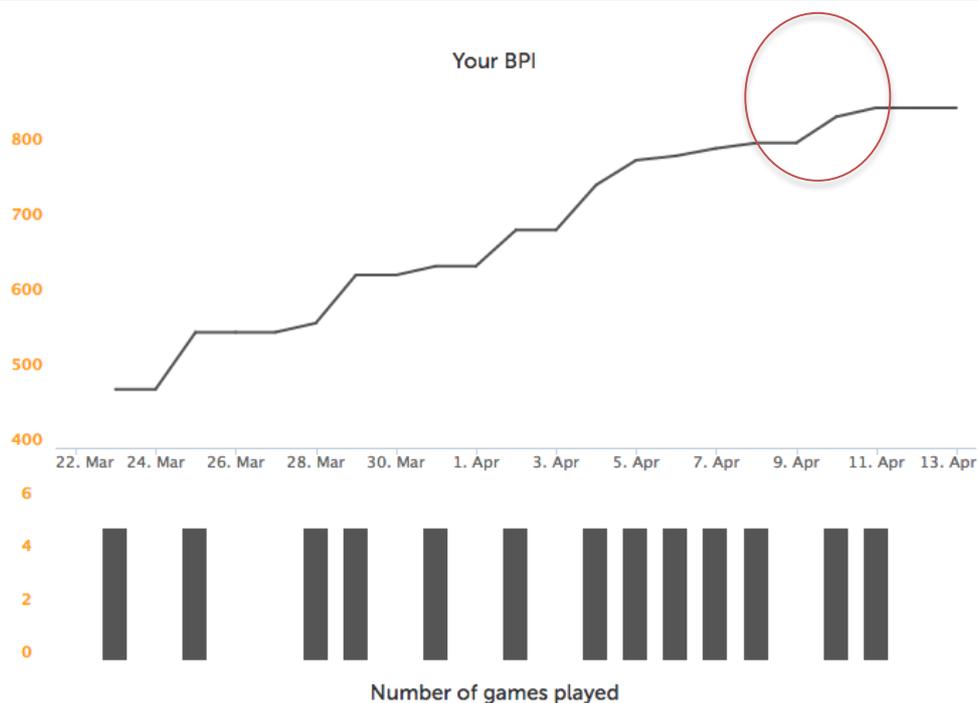
Training History - Details

SUMMARY DETAILS

LAST 4 WEEKS

ALL TIME

BPI Speed Memory Attention Flexibility Problem Solving



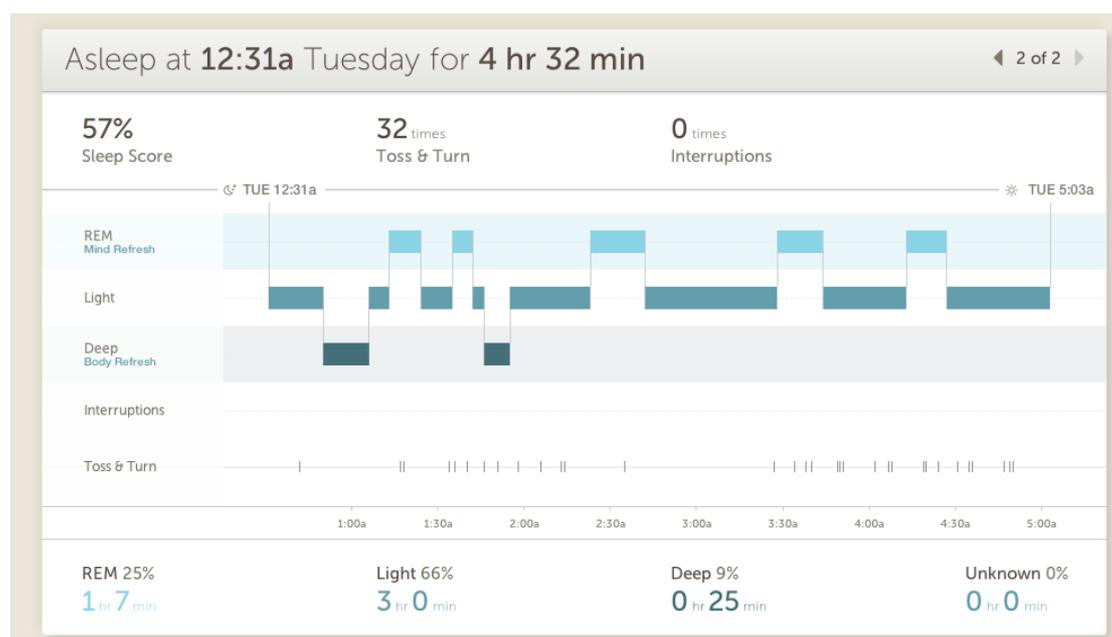
Possible confounders/ factors:

- Time away from stresses of work or brain recovery time from less exertion on Death Valley trip.
- Lumosity recommend to take the exercises daily to improve based on their data.
- For the last couple of weeks prior to the trip I was taking CILTEP and Piracetam (nootropic cognitive enhancers). I did not takes these for my tests since I returned from Death Valley. It's very possible that these enhance my scores as the overall effect, and not taking them should've seen a drop in score rather than increase – theoretically.

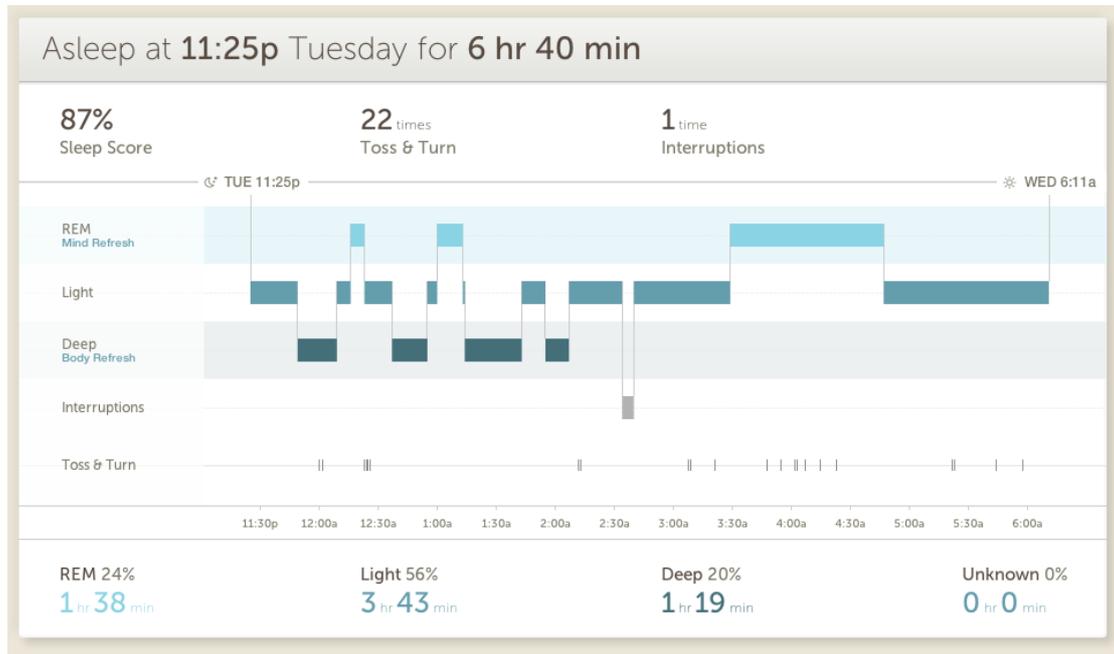
3. **Sleep tracking** says 87% and 90% sleep effectiveness both nights despite bad conditions (cramped car) and my not feeling that was the case (data from MyBasis watch).

I've included the pre and post sleep nights below for comparison from San Diego.

Night before departure to Death Valley (In San Diego) Comparison

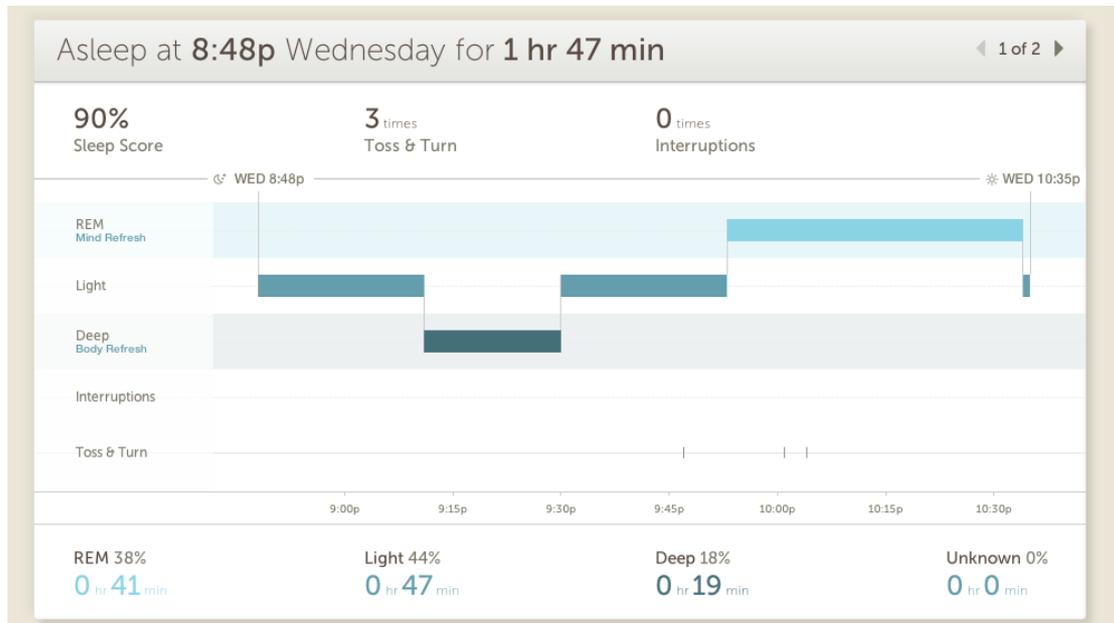


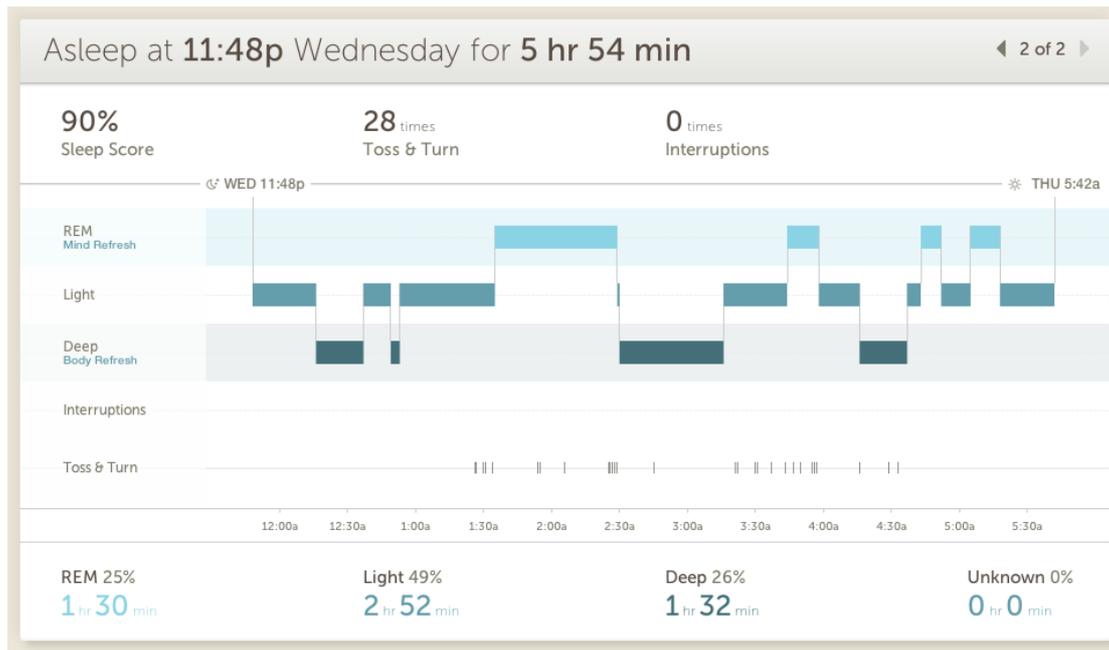
Death Valley Night 1



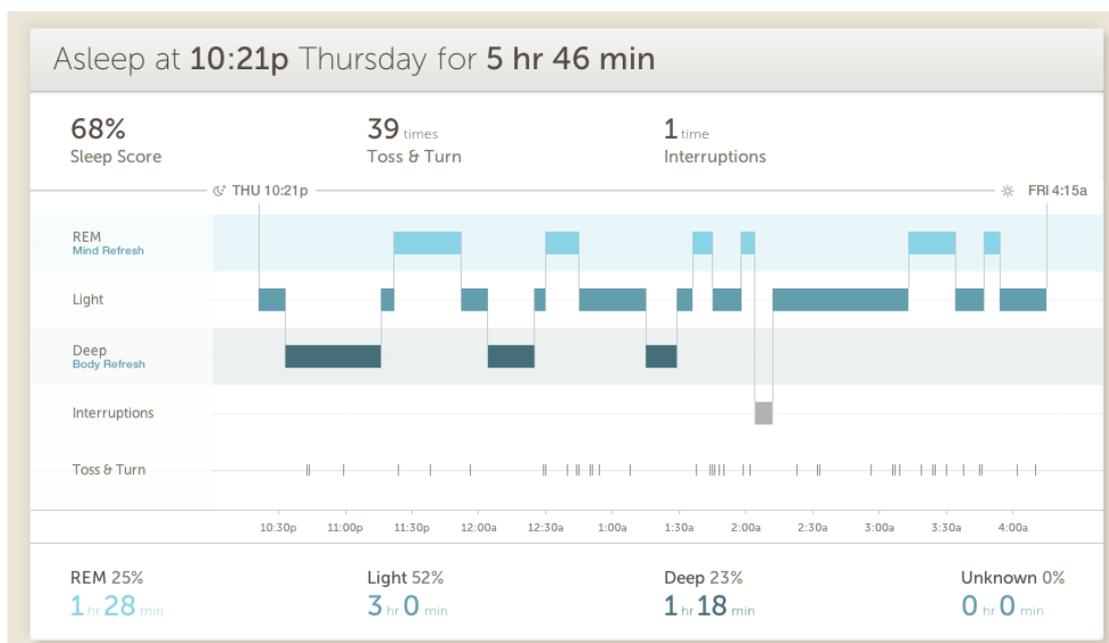
Death Valley Night 2

Got woken up by the noise of the wind in tent and moved to car, so there are two sleep sessions below. If you combine them it would be one of the best night's sleep I've had since I've been ill.





Night after return to San Diego from Death Valley (in San Diego - comparison)



- Anecdotal Feeling:** Have felt great since the 2nd day at Death Valley. It's not the evening of 11th and continue to feel great, full of life, happy and when talking to my friends they remarked on it.

5. Anecdotal Stress testing results

- a. **Exercise Intolerances:** Tested press ups, running up mountain at around and ~8000 feet (between the two top campsites -> no noticeable pain or energy impact)
 - i. Night before I did have pain in my left arm as if I had overdone it
 - ii. During night woke up with pains in legs also
- b. **Food intolerances:** Tested eating gluten and other typical food at Starbucks, slight stomach issue - but nothing really.

The bad news is that the progress gained through this experiment was quickly erased by a 16-hour stay in a hotel with mold issues a day later (11th to 12th April 2014). I'd pre-booked attendance at a medical conference (Methylation Summit) and was unlucky in their choice of hotel (little ventilation, obvious air conditioning and ceiling water damage issues).

POSSIBLE HYPOTHESES ON RESULTS

I feel that there has been a positive impact from the Death Valley trip, and some of the results tracked seem to support that.

There could be a number of possible mechanisms behind the benefits I felt from this trip – not all necessarily linked to ‘mold avoidance’ which originally prompted me to try out the trip. Perhaps they aggregated together to provide the overall benefits I’ve noted – impossible to know:

1. **Mold Exposure Avoidance Benefits:** As I understand it people who have tried ‘avoidance trips’ to Death Valley and similar places with the goal of ‘mold avoidance’ and attribute benefits to this. This is a possible explanation, given the 10% and lower humidity and the 100% open air environment throughout my stay I would imagine that there was literally no mold exposure throughout my stay. The only exposure may have come from a couple of cross-contaminated clothing items, although all clothes were relatively recent and I don't feel they could be significantly contaminated.

2. **Altitude Induced Benefits:** I stayed at over 2000 feet for my time in Death Valley with exception of 2 hours down to dunes. I spent 3 or so hours much higher up around the 6-8,000 feet range. Dr. Shoemaker and Erik Johnson have already noted the benefits of altitude / EPO and addressing 'low' blood volume.

3. **Heat Induced Benefits:** Heat stress (the 36 to 40oC heat I was exposed to) has been linked to a variety of benefits. This article does the topic far more justice than I could:

<http://www.fourhourworkweek.com/blog/2014/04/10/saunas-hyperthermic-conditioning/>

Note the perfusion, EPO and blood volume benefits which I believe could all be potentially linked to improvement of exercise tolerance and brain neurological symptoms.

4. **Other Environmental Toxin Avoidance Benefits:**

- a. *EMF/ RF:* There was no reception on my phone for the entire time I was in Death Valley. The radio was also dead most of the time with no channels being received.
- b. The air is obviously devoid of most pollution but are there issues related to the natural air quality effects of dust? Some deserts present similar air quality issues to cities due to particle size similarities (e.g. those faced by Beijing, South Korea).

NEXT STEPS

I would next like to see what a trip of 5 days or more does experimenting with the following:

1. Environment: Combining exposures to high temperature, high altitude, extremely low humidity and 100% open air would do. Death Valley seems like the ideal place for this as it combines all of these elements, but perhaps there are other places like the Atacama desert (chile/ peru), in Africa or elsewhere.

2. Stress Testing: More specific and far more extreme testing of exercise tolerance in particular. Would like to push this to a training level and attempt to gain muscle mass and track exercise performance progress during the trip. It should also test a lack of 'recovery' time (e.g. days rest between exercise push).

3. More Data: Better data needs to be collected prior to the trip and post trip, possibly including blood labs such as VEGF, TGF Beta 1, MMP9 and C4a. Need to research what kind of markers could differentiate between the differing hypotheses discussed in Potential Hypotheses. If effects are identified on specific biomarkers it would also be interesting to track these over the following days/ weeks post trip to see how temporary the effects are.

APPENDIX

DIARY

I've added a couple of days before the trip in the diary because they contain relevant exposure events.

My typical reaction to a mold exposure is to get a specific type of spark headache or brain symptoms and in worst cases also joint pain in hands and potentially knees (this happens less now, unless it's really bad) and neuromuscular coordination issues (requires more concentration to move and control limbs). This is not a big deal for me now and I can continue to function in most cases, what is bad is the follow up 2 days later where I get a headache that lasts around 1 and a half days and prevents me from working etc. This is always accompanied by a stuffy nose, which is the early warning sign.

So I have a roughly 2-day reaction lag to exposures which is why I've documented exposures in the days before the trip.

6TH APRIL 2014

Was in an apartment briefly where there was a stachybotrys issue previously. I definitely felt an exposure via head symptoms at the time, and difficulty walking (neuromuscular control) afterwards.

Later I was exposed in a sushi restaurant to another mold which caused joint pain.

Overall this was the worst exposures I've had to mold in a long time, so I expected to pay for it in 2 days time. Noticed some visible mold in air conditioning when I went to toilet.

7TH APRIL 2014

Had some minor symptoms in a café which was reasonably well ventilated. Was there approx. 30 minutes, didn't feel it was bad enough to merit leaving.

8TH APRIL 2014

I went to stores and bought 2 new tshirts for the trip. I took some recently bought undergarments and shorts also to wear. Reasoning that they hadn't been exposed to any moldy apartments. So it wasn't complete decontamination with a completely new set of clothes for this trip. I switched to the new tshirt as soon as I set off for the trip.

The tent was a cheap tent from Amazon and sleeping bag was made of mylar and from Amazon also. I hardly used either of these because of heat and conditions.

Departed for Death Valley from San Diego around 13:00, arriving at Emmigrant Camp site at 21:30.

It was a long trip and some of my symptoms played up in the early parts of the trip but later subsided. This was neuropathy (weakness of hand and feet muscles) as I haven't driven for so far since getting ill in 2012.

Around 17:00 I started feeling really good – started singing in the car, and had a feeling of well being – this lasted through to the arrival in Death Valley – although I was getting tired by the time I arrived. I had been up since 5:00 in morning and it had been a busy day.

When I arrived at Emmigrant Camp all the tent places were taken so I just slept in the car – which was uncomfortable.

I was surprised to see my sleep tracking later showed an above average night's sleep (90%).

9TH APRIL 2014

Woke up around 5:30am with dawn with a slight headache. This was followed by a slight stomach ache (which I don't get anymore, but used to be a symptom).

This is the first day without a coffee in morning (bulletproof upgraded) in a long time – feel a bit sleepy.

At 8am the humidity is at 15%.

The Emmigrant campsite is at around 2,000 feet elevation.

I go for a morning walk around and have some leg twitching afterwards (typical for me after exertion, one of my main remaining symptoms).

Drive down to 0 feet where the Mesquite dunes are and I hike up to the Star dune, the largest one right at the back and walk along the tops for a while. I get out of breath climbing up these (it's pretty demanding and normal people are out of breathe too). On the way back to the car I run down some of the dunes and across some of the dune valleys. More running than I've done since I can remember, somewhere near the outset of my illness.

All in I spent around 75 minutes hiking in the dunes.

I drive back to the campsite and read for the rest of the day, mostly in the car with the door/ windows open. It's too hot (36oC) to be out in the sun or in the tent I put up.

At 11am and for the rest of the day the humidity is down to 10% or less. I believe my meter isn't good at detecting lower than 10%, so it's probably lower.

I take CSM at 3 hour intervals throughout the day followed by MCT oil approx. 30 minutes later.

13:30 I have a headache and stuffy nose – typical symptoms that I get at a 2 day lag after mold exposure.

My urine is unusually dark at this point also, I am drinking water throughout day but perhaps I'm not keeping up with sweat.

I note this because I had dark urine virtually all the time before I cleared my MARCON infection a month ago (last test showed negative after treatment). Since then I've had normal color urine. So I noticed this.

17:45 it is 40oC.

I had to dig around my car which got stuck on some rocks, which was pretty heavy work and left my limbs completely drained without strength. In particular my left arm was lifeless for most of the evening. Later I leaned on it while reading a book for too long and it became excruciatingly painful – obviously I'd really pushed it. I also did some press ups to test my abilities there, just 3 slow ones. At this point my left arm was drained already.

The headache is by far the worst when standing up and moving, which is often the situation. However this time it is more pronounced. I can nearly not feel it/ notice it when reading, but when I get up it hits me hard.

I try to sleep at around 20:30 in the tent but the wind is strong and the noise is so loud from the tent flapping that I wake up and can't sleep. So I move into the car to sleep there. I wake up twice in night with pain in the legs, which seems to be due to lack of blood flow.

10TH APRIL 2014

I felt that the night's sleep was terrible, waking up several times with the pains in legs and eventually waking up just before dawn break around 5am.

I was surprised to see that sleep tracking showed 90% sleep efficiency for the night (above average and rare for me currently).

Woke up again with headache and feeling rough.

At this point I decided to go as near to Telescope Peak as possible. I pack up and drive up to around 7,000 feet (difficult to drive further in a normal car because of rocks) – and half ran, half walked up to around 8,000 feet from there – there was snow around and it didn't look far from the top. There is one more campsite left named XXX.

At this point I was feeling great, the headache had gone and I was astounded at how far I had been able to run and how hard. With the cold and the altitude my lungs were painful from breathing so hard, but it felt good/ normal given how long it has been since I've pushed it like that.

I stopped at one point because I felt a slight stomach queasiness which is one of the first symptoms I had at the start of my illness with exercise. So I decided this was the sign to turn back and go back down to the car.

I stopped at the car at the Charcoal kilns to read for a while, around 7000 feet. My headache came back slightly.

Now at 9:30 my leg muscles are a little sore. I'm feeling great however, so as I drive down the mountain I stop a lot and get out. At one point I want to test if I can sprint as I used to – so I do a short all out sprint for 20 meters. This was pretty scary for me to push it like that as it's been so long. I felt fine afterwards, no noticeable difference in symptoms.

From here I drive back to San Diego, via Rcreef. There I decide to do another test and walk into Starbucks and order some crap food – chocolate croissant and a sandwich with a large café mocha. I eat them all, typically I haven't been able to eat gluten in particular without stomach symptoms and head symptoms later. This time I had a slight spark of stomach pain for a few seconds about 30 minutes later – nothing else to remark.

The rest of the drive back in the burning heat I stopped at various places and had really high energy. I was feeling great and in a great mood.

When I got back I put my P100 mask on before going into my apartment so I could take a VCS and lumosity test minimizing any post-Death Valley exposure to mold.

Although my ERMI of my apartment is -2.85, it has a HERTSMI-2 of 4, and I have been feeling less good about sleeping in the bedroom lately and moved to sleep in the front room. I think this is because I've had my previous belongings from other apartments stored in the bedroom for over 2 months now and some spores may have spread from previously 'moldy apartments' from these belongings and suitcases.

11TH APRIL 2014

Woke up after ~6 hours sleep and felt great.

Before I got hill I had the unusual habit of running between places because I didn't like to waste time (side note: Tom Cruise is known to do this too, so I'm not insane). This includes running/ jumping down stairs 2 steps at a time.

Today I have been doing this naturally like I used to, although it has been 2 years since I've done this. I'm pretty much feeling completely normal today, no symptoms except my twitching muscles in my legs and that is lesser.

I have a busy day and go to an office to get neurooptimal treatment (neurofeedback) – the office feels moldy so I go and get my P100 and do the treatment with that on – no issues after the first alert sparks when I went to get my mask.

I do feel a little mentally disturbed afterwards, not as clean happy energy. Potential exposure despite P100, it is not cleared for 100% elimination of mycotoxin elimination. I find it works very well overall though.

Fly to Chicago from San Diego after and have to put on P100 mask due to mold in San Diego airport onwards. Get some neurological symptoms because I tried to do without for first 30 minutes in airport. Unfortunately the Westin Lombard where I was staying for the Methylation Summit had serious mold issues (when it's bad the

air appears blurry to me very quickly, and this was the case here while I was still in reception waiting to get room. I stayed there approx. 16 hours and eventually was forced to leave early from the conference by my worsening condition). This unfortunately also means it put a damper on seeing how long the positive effects of the desert trip would last.