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Dear Tom,

In April, we began an amazing journey into hyperbaric oxygen treatments for our son, Joseph. The plan was to receive 40 treatments; 5 days a week for 8 weeks. We had no preconceived notions as to what the results would be, yet hoped his gross motor functions would improve.

As an overview of what Joseph's abilities as a 10 year old diagnosed on the Autistic Spectrum, please note the attached Occupational Therapy, Physical Therapy, and Speech Therapy reviews from his school district.

Joseph has received Speech Therapy privately at home for 9 years and 6 years from the school district. (Noting: Joseph was non verbal (Diagnosis: childhood Apraxia of Speech) until age 5 1/2 - vocabulary index was at 22 words; age level language with multiple articulation errors at age 7 )

Joseph has received Physical Therapy privately at home for 8 years and 4 years from the school district. This is one of our greatest areas of concern. Joseph was a late walker as an infant (mostly due to his head circumference, poor muscle tone and lack of coordination) and prior to starting these treatments was unable to do things like swing safely and effectively on a swing set, running more than a few feet without falling, ride any form of mechanical "bike", he could not jump with his feet together or apart to the sides or backwards, walk a heel to toe line, etc... the list went on and on. At his yearly review he was still listed at level 6 for overall skill set, meaning he could complete gross motor functions of a 6 year old however, this scale does not measure how well, how much effort, or amount of attempts taken to complete each task. His private PT has a Doctorate degree and the school based PT sessions/ evaluations are by a PT with a Bachelors degree and a Certified Physical Therapy Assistant with an Associate degree, to say the disagreement on evaluation of skill sets is an understatement.

Joseph has received Occupational Therapy inconsistently at home for 9 years and for 4 years from the school district. Our main focus at home therapy was to increase dexterity as Joseph used sign language to communicate. When OT was not proving effective, we decided to teach Joseph to read instead. At which point we discontinued private therapy and bought him a word exchange communication board so ALL words would be available to him to express wants and needs. ( As a side note Joseph was reading on a 3<sup>rd</sup> grade level in Pre-K) Joseph did not show any " Typical traits/character tics" of Autism at age 2. Apraxia has a heredity component on his maternal side, so the delay of speech caused us no concern, if anything we were prepared for that. The main focus at the school district was to promote cutting and coloring skills.

Joseph also receives private counseling as he has struggled to make friends, understand others reactions, his surroundings, has been a focus for bullying at school, and has been lost by the school district 7 times.

And then came the TREATMENTS!!!!!!!

As I said, we had no preconceived notions as to what the results would be. After the first few treatments Joseph showed an increase in activity, nothing crazy, just more active around the house. When we completed the first week his attention/focus seemed to show improvements. Then the explosion began around treatment 10-13.

These are in order of importance to us not chronically listed.

The use of his pedal go-cart was the most unbelievable thing. As Joseph was unable to use a two wheeled

bicycle with training wheels, we bought an adaptive 3 wheeled bicycle that didn't work either, so we went for a 4 wheeled go cart., unfortunately that didn't work out either. We had neglected to account for the fact Joseph was unable to do anything that required 2 or more gross motor functions in segregated sequence (example: steering and pedaling at the same time) While in the garage, Joseph saw his cart and asked his father to ride it. Within minutes he was in the driveway helmet on and easily got into it and asked for a push. With a very heavy heart I watched his father give him that push, minutes later he was steering and pedaling. After 20 minutes, he was riding up and down the road with speed and accuracy. By the time he was ready to come in he was steering one handed so he could wave and beep the horn all while pedaling!!!! The progress continued as his endurance increased. He is currently able to ride on any surface and for miles at a time.

His private counselor was not told of the treatments and after his 3<sup>rd</sup> weekly session into this journey, she asked us what changed our minds about medicating him and what medication had we started Joseph on. I of course denied use of medication as we have never believed in using them. She dropped the line of questioning until after the 5<sup>th</sup> session, when she was adamant there was no other explanation to the changes she was seeing. After a heated discussion, we told her of the treatments. We had hoped to keep her as an unbiased evaluator of his changes throughout the course of treatments.

Joseph by treatment 23 was evaluated and improved 2 tier levels in Physical Therapy. He is currently working on his level 8 skills as he masters them they are substituted with a level 9 skill. He has 4 out of 18 skills remaining in level 8. Joseph is up to a full hour session without fatigue.

Some examples of improvements are:

He not only runs without falling down but he can change from front facing running into backward facing jog.

Joseph has also mastered 4 types of balance beam walking.

He now is doing modified knee planks for 45 seconds in groups of 10. Huge change from 3 seconds.

He can jump sideways (feet apart and together) in series to 15 without difficulty. They have now added throwing at a ball back and forth while jumping!!!!

He is starting to jump backwards (feet together) with moderate success. ( I didn't know this was something children on the Spectrum typically never master)

He now can bounce to a standing position, skip, kick a ball rolled at him, swing unassisted, climb easy level rock walls at the park, teeter- toter... the list seems endless!!!!

Joseph was hand trained around age 6 or 7 to minimize hand flapping. Although, he would hand flap when unsure of his emotions, environment or when he was tired. We have not seen any hand flapping, we don't know when it stopped but he just doesn't do it anymore. He still will use a hand gesture that visually stimulates him to speak.

The improvements around 18-22 became overwhelming to me. Joseph had ALWAYS needed us, and that was OK. We love him and willing assist and support in anything and everything, we're parents that's what we do...right? But, I honestly was having a hard time seeing my child do THINGS! When he took the toaster out of the cabinet, plugged it in, went to get the bread, *untied the bread tie while walking towards the toaster*, putting the bread in, changing the settings, gathering a knife and jam while it was toasting, getting his napkin... I had to turn away. My child doesn't have that level of executive functioning! He needs me to give him step by step instructions! Well that was then and this is now, and my baby is on a roll. Buttons, zippers, shoe tying, answering the phone, using the dishwasher, washing machine and dryer, folding clothes, running a vacuum, pushing around a wheel barrel, playing/running with his dog...

As I list these improvements I know I'm forgetting so many, but the one thing that sticks out so prominently is the episode we discussed regarding his "Team Meeting". We had to remove Joseph from the school district to avoid abuse charges to provide him this opportunity yet we still required to attend review meetings, IEP meetings, and prove we were "NOT HARMING OUR CHILD with this treatment". So, when you put providers, educators and a parent with 20 years of medical experience around a table , there should be an exchange of information/ideas not a battle. (I enclosed the samples that Joseph's Private OT provided

for the meeting) No one could look at the handwriting from the last day of school, to the day 13 of treatments to the report done on day 34 of treatment and state there is "NO CHANGE NOTED" per his private OT and "NO IMPROVEMENTS NOTED" per his school OT and have them agree. On the first two samples Joseph is using a modified pencil with large spaced, raised blue colored lines, on the last sample the paper has been upgraded to a modified paper that will ease the transition to "regular" notebook paper. That in and of itself is a significant improvement.

At the rate of full disclosure, Joseph has food allergies with serve gastro-intestinal side effects. (Abdominal distention, constipation, inflamed bowels, and rectal prolapse.) There has been changes to his bowel habits and abilities. Not sure if it is from treatments or changes in activity... but worth mentioning.

Please share this with any parent considering Hyperbarics. Give them a look into the doors it has opened for our child. Let them see what Joseph has gained and the changes it has made. Maybe they won't see the same changes, but maybe they will.

You will be forever in our prayers of Thanksgiving,

The Hoffmans

