

Academy's 9th Annual Medical Imaging Technology Showcase

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One day in September 2012, I promised my 10-year-old son, Tanner, I would take him to the toy store. As we stood in the aisle, he turned to me and said the strangest thing... *"Something is wrong with my brain. It's too hard to think."*

The next day Tanner wasn't feeling well. This lasted several more days and after a few visits to the pediatrician (blood was taken, and all came back normal), we were sent to the emergency room. The first thing they did was a "routine CAT scan." And that's how it started. It was like in the movies, where the doctor comes in, shuts the door and tells you to sit down (and you know when they tell you to sit down, it's not good news). The CAT scan showed a brain tumor and that was it...our lives would never be the same again.

Emergency brain surgery. Waiting on tumor pathology. Grade 4 Glioblastoma. The worst of the worst of the worst. Chemo was started and all we could do was hope and pray that Tanner would beat it. In the meantime, a pediatric neuro-oncologist suggested we had him tested for a hereditary cancer gene – the mutant p53 - also known as Li-Fraumeni Syndrome. Hereditary cancer gene? Our family? The only cancer we had had was my ex-husband, Greg's, mom, had breast cancer at 32 and died at 49. That was it. A month later, it was confirmed Tanner had the mutant gene. Greg and I were both tested, and Greg was the carrier. Of course, our next step was to test our daughter, Casey, who was 14 at the time. So we did and found out, she too, carried the hereditary mutant p53 gene.

And, in that moment, our lives changed once again. We were in a losing battle with Tanner's GBM and now Casey had the same gene he did. We were told Casey had an over **90% chance of getting cancer**. Think about that. Over 90%. What were we going to do and how are we going to keep her healthy? You can't change the way it is, *it is what it is*, but we can monitor her to make sure she is healthy and stays that way. And most of that monitoring is through imaging.

First and foremost, we needed baseline scans to show us that Casey was healthy. Whole body MRI, brain MRI, ultrasounds...she did it all and all of the scans showed she was okay. We were able to breath a sigh of relief, but we also knew we had only just begun. These would be the first of many scans she would continue to have, and we just hoped the outcome would always be the same with healthy results.

After Tanner's death in May 2013, we launched the Tanner Project Foundation and worked with the brilliant Dr. Craig Venter and his team at his Institute. Thanks to them, they showed us the way, with an N-of-1 project monitoring Casey and going above and beyond the typical protocol with imaging, extensive assays and research.

Today, Casey is 19 years old and a very happy and thriving college freshman at UC San Diego. She continues with her MRI screenings twice a year. In fact, just a few weeks ago, she had her brain and body scan. She spent a little over an hour in the machine, listening to her favorite music, while she closed her eyes as the MRI did its job. Fortunately, we were able to sit down with the radiologist and get the results right away (all was good!). As we were leaving, Casey turned to me and said, "Mommy (yes, she still calls me Mommy), I'm so happy I can go into finals knowing I am okay. I am healthy!" I stopped and looked at my beautiful girl, who has lived a lifetime already, and just smiled and took in the moment...so thankful that today all is good.

I am a parent who lost one child and I will not lose another. It is imaging, which on day one, showed us Casey was healthy. It is imaging which continues to show that she is okay and safe and disease free. It is imaging which is imperative in the monitoring of Casey, her Dad and others with mutant cancer genes. It is imaging which can track any changes or developments that might occur, so we can act as soon as possible. It is imaging

that gives us hope for very early detection of disease...when it can be cured. It is imaging which gives Casey peace of mind, so she can be a typical college student with no health worries. It is imaging which helps this Mama sleep better at night knowing her daughter is healthy.

This is our journey...the road we must travel...and imaging is an essential part of our story. It's something Casey will have to do for the rest of her life, and the importance of research and funding and making sure imaging is ever evolving, is crucial. It was too late to save Tanner...imaging showed us cancer, growth and demise. But it's not too late with Casey...with her, imaging shows us health, hope and life.

Thank you.

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