



The Orthodontic Myth Busters

Episode 11: Dream or Reality - The Future of Orthodontics

Dr. Eliyahu Simcha Gherman

“Shiffy wake up! Today you are getting your braces!” yelled Mrs. Goldberg. “What a dream I had,” Shiffy said, as she rubbed her eyes. “I was dreaming about the future of orthodontics; I guess it’s because of that book Bill Gates wrote in 1995 called “The Road Ahead” where he imagines what the future will bring and, indeed, so much of what he wrote has been invented and is being used today.” He predicted smart phones, digital photos, social media, digital money, music and the combination of TV, internet and phones. He even mentioned artificial intelligence (AI) and self-driving cars. I just read an article that Elon Musk said due to the advancements in AI, his self-driving Tesla is nearly complete.

Ima, you probably remember when IBM developed their super computer “Deep Blue” that defeated the chess grand master and champion, Gary Kasparov using AI.

“I certainly do. Since then, the world has become even more technologically advanced. Doc mentioned that he was back from the latest international AAO meeting and he asked if you would be willing to try the newest nanobot braces,” said Mrs. Goldberg.

“Wow, so we are entering a new world of orthodontics, just like that book you gave me to read. I never imagined braces would change one day,” exclaimed Shiffy.

I guess that was just another myth to bust. Orthodontics has an exciting future ahead!

“I hope it’s okay but I said we would wait on the nanobot braces. But, yes, give it another thirty years, and who knows what an orthodontic office will look like?” (For all the teens reading this, take a minute and imagine what could be with the new technology that is starting to come out.)

Based on what I’ve read about new technologies, like AI, robotics, nanotechnology, tele-virtual surgeries, and true holographic images that can be studied in detail, it’s not too farfetched to say an orthodontic office of the future might look something like this:

At the first visit, you may be greeted by a humanoid like Sophia, developed by Hanson Robotics.

Sophia is one of the most sophisticated AI humanoid robots: able to read lips, determine if the person is feeling happy or down, demonstrates human-like expressions and even may show emotions. At this appointment, Sophia, who will have been programmed with all what is known of orthodontics, will create a plan. She will tell the patient, with certainty, how long they will be in braces, based on algorithms of thousands of similar cases, bone density, family history and the patient’s personality. Next would be a scan to create an interactive hologram that can be magnified disassembled etc. Many health-care workers use this augmented reality for learning purposes. Finally, a team of nanobots, would be placed in the patient’s mouth.

These dental nanobots would first clean the mouth by acting as a combination of toothbrush, floss and special rinse. Then, they attach to the teeth to start the orthodontic therapy, constantly updating Sophia or Doc with nano-sensors to monitor for any problems. The nanobots would be equipped with nanoelectromechanical systems (NEMS), an ultra-sound system that has been documented to shorten treatment time.

Some may say never, but to quote Albert Einstein: **“Logic will get you from point A to point B. Imagination will get you anywhere!”** Imagine...dream and never give up. *Don’t let those myths take you down!*

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