Visionary scientist Albert Einstein, born as winter melted into spring, said, “There are only two ways to live your life: one is as though nothing is a miracle and the other is as though everything is a miracle.” We’re viewing life through a miraculous lens at Joseph S. Cohen D.D.S., Family and Cosmetic Dentistry. One of the many miracles we’re focusing on is the birth of the Cohens’ first grandchild, Parker Samuel Phillips.

We hope this Smile Zone inspires you as it recounts recent miracles of all kinds. We also share news about dental technologies here in our office that bring one of life’s small miracles to our valued patients: a beautiful, healthy smile for a lifetime.

“A miracle is when the whole is greater than the sum of its parts. A miracle is when one and one equals a thousand.”
—Frederick Buechner

It’s a Miracle!

A velvety monkey, a curious rover phoning home from the red planet, a vanishingly tiny particle that anchors our vast universe – the past year crackled with momentous discoveries. We heard about miracles of our world, our cosmos, our future and ourselves. We also celebrated recent advances in dentistry that may transform oral health and dental care. We hope you enjoy reading about a few of the many miracles of all sizes and types unfolding around us.

New animals populate Earth’s distant reaches
Biologists discovered eight new mammals, including a tawny night monkey, in northern Peru’s Tabaconas Namballe National Sanctuary. The scientific team dubbed the pristine area “a new heaven of unknown biodiversity.” Another intrepid group filmed a previously unknown crab species swarming near hot hydrothermal vents in oceans near Antarctica.

New particle grounds our universe
Scientists at the Large Hadron Collider in Switzerland confirmed the existence of the Higgs-Boson particle. The long elusive and previously theoretical particle – also dubbed the God particle – gives mass to all other subatomic elements such as protons and electrons.

New information beams in from out of this world
Curiosity, NASA’s latest Mars rover, landed in August, 2012, and immediately began sending pictures and data home about the red planet’s rocks, terrain and atmosphere. In other cosmic news, gleeful astronomers alerted us that the newly discovered Comet ISON – likely visible to the naked eye during daytime if it survives its hot trip past the sun – will blast by Earth in November, 2013.

New information emerges from inside this world
Archaeologists unearthed the Mayan Temple of the Night Sun from the Guatemalan jungle, a vermillion-red landmark that was visible for miles 1,600 years ago and decorated with fantastical images of the Mayan sun god. Discoveries at the site refute the Mayan calendar prediction that the world would end in 2012: murals refer to dates thousands of years in the future.

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Neuroscience researchers discovered “mirror neurons” in the brain, which help us deeply share the emotions and experiences of others. These amazing cells fire when we perform a certain action ourselves – and fire equally when we observe another person performing the same action. Medical researchers at the University of Washington celebrated their own miraculous milestone: sequencing an entire fetal genome using just a few bits of DNA circulating in the mother’s blood.

MIT researchers discovered an affordable way to desalinate water using a one-atom-thick sheet of pure carbon. The method could solve the world’s serious problems with water supply and access as well as providing safe, drinkable water for millions. Meanwhile in India, a miracle continued to unfold: registering all 1.2 billion Indian citizens by scanning irises and fingerprints into a database. Registration means poor citizens can open a bank account, get a cellphone or receive government benefits for the very first time.

Dental researchers at the University of Maryland are testing a promising nano-technology tooth-colored resin for filling cavities that appears to kill harmful bacteria and rebuild decayed tooth structure. Meanwhile, the University of Louisiana School of Dentistry reported that blocking a key enzyme helps prevent inflammation and bone loss from periodontal disease. The enzyme is so common in our bodies that blocking its action may also halt damaging inflammation from diabetes, cancer and Alzheimer’s disease.

Glued-on brackets, glinting silver wires, uncomfortable eating – patients experience all these discomforts and more during traditional orthodontic treatment with braces. Today there is a clear alternative: Invisalign®.

Dr. Cohen is a certified Invisalign provider who has invested many hours honing his Invisalign skills and knowledge. With Invisalign, he has created beautiful, straight smiles for dozens of our patients. Even our own team has benefited from this revolutionary technology – see the before and after results for Joanne, our appointment coordinator!

Invisalign uses a custom-made series of smooth, comfortable, removable aligners that fit over teeth to gently reposition them over a series of months. Most patients are thrilled with the advantages of Invisalign instead of braces:

- The computerized system previews the final results before beginning treatment.
- Teeth are exactly positioned through computerized plotting.
- Brushing, flossing and eating are easy because aligners are removable.
- Aligners are clear and nearly invisible, allowing discreet treatment that’s perfect for adults or those in the public eye. Ask Nancy, our financial coordinator, how her Invisalign experience is progressing. She received her aligners in March and is very excited to show off her beautiful new smile.
- There is no discomfort or irritation from fixed brackets and wires.

“One of the biggest benefits is completing treatment here at a familiar office without visiting an orthodontist,” Dr. Cohen adds. “Patients know and trust our staff, and our in-depth knowledge of their dental history helps achieve excellent results.” Dr. Cohen can treat a variety of dental alignment problems with Invisalign: gapped teeth, overbite (also known as “overjet”), underbite, open bite, crowding and crossbite. If Invisalign isn’t an option for you after initial evaluation, Dr. Cohen can review other options for achieving the cosmetic looks and dental function you need.
The Science of Cosmetic Tooth Brightening

Are you considering brightening your smile?

Dr. Cohen answers the questions he hears most frequently when patients are considering this affordable, safe and effective cosmetic option:

Q: What determines the color of teeth?

When we talk about tooth color, we’re really talking about three different aspects of how our eye perceives color: hue, value and chroma. The hue is the natural color of your teeth – you may have teeth that are naturally gray or yellow. The value is the level of brightness of the color. The chroma is the depth of color. Everybody’s tooth color differs, just as we each have different skin tone.

Q: Why does tooth color change in appearance?

The appearance of tooth color can change for many reasons: aging, the amount of wear, medication, smoking or drinking strongly-colored liquids like red wine and coffee. Some of the change comes from a film on the tooth surface, which we remove with brushing and professional hygiene measures. Some of the change comes from staining that gets into the porous enamel where we can’t remove it mechanically. Though it appears smooth and shiny, enamel is actually a honey-combed structure made of hydroxyapatite crystals.

Q: How does the brightening process work?

Professional grade hydrogen peroxide or carbamide peroxide gels create a gentle chemical reaction that washes the staining out of the enamel. Interestingly, the basic tooth hue doesn’t change all that much. The process changes the value, or the level of brightness, so we perceive our teeth as whiter. The peroxide reaction also dries out teeth a little bit, making them appear brighter. The dental profession has done lots of studies about the safety of tooth brightening materials: they’re safe for healthy teeth and gums when used as directed.

Q: How do I know if tooth brightening will give me the results I want?

First, we evaluate if you are a good candidate for this process. For instance, age may have thinned the enamel layer too much and brightening isn’t effective on the dentin layer below. These patients may consider other cosmetic options like veneers to achieve their goals. Second, we make sure that patients know what to expect. The gel can’t brighten very dark teeth to a very bright appearance. The gel will not change the color of crowns or silver fillings but may brighten tooth-colored, resin composite fillings. The newly brightened resin fillings may not exactly match, but we can replace just the surface of old restorations without numbing to make the color match.

Q: How do I keep my teeth looking bright and beautiful?

Most of us keep the habits that changed our tooth appearance in the first place, so nearly everyone has to touch up brightened teeth periodically. We offer “Brightening for Life” at our office, so each brightening patient receives a free tube of gel at each regular hygiene visit.

Call the office today or visit our website to get more information or schedule an appointment for a brighter smile!
How to Make a Great Impression!

If you’ve had dental impressions made to help fit a crown or bridge, you know how uncomfortable it can be. The trays are uncomfortably large. The putty tastes bad, oozes unpleasantly and can even cause gagging. As part of our continuing effort to make dental visits comfortable, we recently replaced this unpleasant process with a faster, more accurate system that doesn’t use putty and trays.

Called the iTero® Digital Impression System, this computerized method uses a small, handheld wand that gently touches your teeth and gums as it creates a precise three-dimensional model of your mouth on a computer screen. The iTero System has a number of great benefits for our patients:

- Faster: taking just three to five minutes to complete.
- Reduces anxiety: the scanning process can stop and start as many times as necessary, and you never have to dread a mouthful of goop!
- More accurate: the system creates an exact replica of what is in your mouth, resulting in better-fitting crowns, bridges, veneers and Invisalign aligners. Further, you never have to worry that bubbles or gaps – which sometimes happen when filling conventional impression trays with putty – will ruin an impression and require a re-do.
- It’s fun to watch: both you and Dr. Cohen can watch the model as the system builds it on the computer screen.

Visit our website or call our office to learn more about the iTero Digital Impression System.