Cracking The Case

Advanced bite analysis reveals cause of chipped teeth, jaw pain and hearing loss

BY ROY CUMMINGS
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Half of the dogs and cats running around Faye Pringle's home were rescued from difficult or abusive environments. Among the rescued is Max, a 3-year-old Chihuahua, who was just a puppy when Faye took him under her wing.

"He's a sweet little guy," Faye says of Max. "He came from an abusive home. I also have three cats that I rescued from outside because they were really sick. That's kind of my thing, I guess, rescuing animals."

Recently, Faye found herself in need of rescue from a horrifying dental problem.

"My front teeth were getting really thin and were starting to chip," she says. "I first noticed it while I was out working one day, but then, it was happening more and more by the day. It was really frightening. I mean, it was like my worst nightmare.

"My teeth were never aligned properly, and for the longest time, I was OK with that. But when they started chipping, well, I was literally pulling out pieces of my teeth from my mouth, and it was so bad that I was afraid to even eat."

The chipping was so bad that Faye had to adjust the way she ate. For example, instead of biting into a sandwich, she was forced to tear the sandwich apart with her hands and place the pieces into the back of her mouth so that her front teeth wouldn't break.

For several years, Faye also experienced jaw pain, numbness on the right side of her face and a mild hearing loss in her right ear. A doctor's visit failed to reveal the cause of those issues, but her visit to DeLand Implant Dentistry for a fix for her chipped teeth did.



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In addition to causing her teeth to break, a misaligned bite was also causing Faye pain and numbness on the right side of her face and hearing loss in her right ear.

Blame the Bite

DeLand Implant Dentistry is the practice of Jayraj Patel, DMD, FAGD, FAAID, DABOI. He first met with Faye a few years ago, and during his initial examination, he determined that the likely cause of all her discomfort, including her hearing loss, was *TMD/TMJ* issues due to a bad bite.

Referred to clinically as *occlusion*, a bite is the manner and force with which the teeth come together when a person closes their mouth or chews. Because Faye's bite was horribly out of line or unbalanced, it was causing her front teeth to chip and break.

Dr. Patel also found a few cavities during his examination, and to correct those and the other issues he found, he designed a comprehensive treatment plan that required routine dental care, advanced technology and a specialist outside his office.

Faye agreed to the plan, which began with Dr. Patel filling the cavities he found. This was done to ensure a healthy foundation for the remainder of the work that was required, the goal of which was to "balance" Faye's bite, Dr. Patel says.

To achieve that objective, Dr. Patel leaned on several technologically advanced diagnostic tools to determine where the imbalances in Faye's bite were and how to fix them. That process began with Dr. Patel performing a *Joint Vibration Analysis*, or *JVA*.

A JVA is a computerized tool that assesses *Temporomandibular Joint (TMJ)* disorders. It measures the force and frequency of jaw vibrations during movement and helps identify cartilage tears, disc displacement or bone-on-bone grinding.

In treating Faye, Dr. Patel also used Tekscan, a digital system that eliminates all guesswork in correcting a patient's bite by providing a 3D image and detailed bite measurements as well as a guide for repairing and balancing the bite.

Finally, Dr. Patel performed an electromyography, or EMG, which measures the way in which the muscles work when a person chews or clenches their teeth. This is used to diagnose jaw joint disorders, including jaw pain, *teeth grinding (bruxism)* and bite issues.

"In performing the bite adjustment, we started with her back teeth," says Dr. Patel, who adjusted the bite by either reshaping the back teeth or replacing crowns so that the back teeth came together in a normal manner.

"The reason I did only the back teeth or half of the bite balancing and did not finish it completely was simply to get her more comfortable. I wanted to reduce her pain and hearing issues, and we achieved that objective."

Dr. Patel took that approach with Faye because the next step in the process required the assistance of an orthodontist, who worked directly with Dr. Patel in designing a plan for straightening Faye's misaligned teeth.

"I explained to the orthodontist exactly what we were trying to achieve with this patient so that in the end, the teeth would be in the exact position I wanted them to be," Dr. Patel informs. "In cases like this, everything has to be coordinated to ensure the proper outcome."

Case Closed

Faye spent a year and a half in the care of the orthodontist. During that time, she also saw Dr. Patel for regular checkups to ensure the orthodontics were achieving the proper goals.

When the orthodontist's work was done, Dr. Patel returned to the task of balancing Faye's bite.

Focusing mainly on the chip/fractured six upper front teeth this time, Dr. Patel completed the process by reshaping the teeth and fitting them with crowns that are designed to prevent excessive forces that could be detrimental to the jaw joint and jaw muscles.

"There's a whole science behind it," concludes Dr. Patel. "And that is why I made use of all the diagnostic tools I have at my disposal to ensure we were making the right adjustments because the teeth all have to work in harmony to prevent breakage and things like that."

Dr. Patel's work was completed this past spring, and Faye is thrilled with the result. Not only did the work recreate her smile, it restored proper function, alleviated the forces that were causing her front teeth to chip and crack and eliminated the numbness, hearing loss and pain she had been suffering with.

"I was at a point where I was ready to accept that I was going to have to live with whatever was causing the numbness in my face and the hearing loss, but thankfully, Dr. Patel was able to fix everything." Faye enthuses.

"Not only is my face not numb anymore, but I can hear out of my right ear again, so I am very, very happy with all that Dr. Patel did for me.

"I followed his instructions very closely, showed up for every appointment, and the results are exactly what he said they'd be. He had a good regimen set up for me, and I would recommend anybody to his practice because he's just great. And I love that he never keeps you waiting for your appointment." ■

Meet the DOCTOR

Jayraj Patel, DMD, FAGD, FAAID, DABOI/ID



earned his dental degree from the University of Florida College of Dentistry. His goal is to deliver comprehensive and compassionate care to patients in a caring, comfortable and professional environment.
He takes time to understand each patient's unique needs and tailors a customized treatment plan to achieve each patient's desired result and aims to build long-term relationships with patients based on trust, respect and friendship. He utilizes the latest technologies and treatment modalities to achieve the best possible treatment outcomes for his patients in a stress-free environment. He is constantly pursuing advanced training through continuing education courses and has extensive training in implant, sedation, cosmetic facial aesthetics, TMD/TMJ pain management and laser dentistry. He is certified to perform IV sedation in the dental office. He is a diplomate of the American Board of Oral Implantology/ Implant Dentistry, a fellow of the American Academy of Implant Dentistry and Academy of General Dentistry.

To Learn MORE

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Dr. Jayraj Patel is known for his exceptional, caring attitude toward his patients and work. He is committed to delivering the most advanced, personalized dental care while offering patients a uniquely satisfying experience. Along with the staff of DeLand Implant Dentistry, he welcomes new patients and any questions concerning the services they offer. For an appointment, call or visit the office.

» **Where:** *Spring Oaks Prof. Center*
150 McGregor Rd., DeLand, FL
» **Phone:** (386) 738-2006
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