While promoting her role in the upcoming film adaptation of the Broadway hit "Wicked," singer Ariana Grande made a podcast appearance that left many of her fans befuddled and concerned.
In the middle of the interview, the sound of her voice drastically changed, going from lower-pitched and slightly raspy to one that was much higher pitched, with a smooth, light texture to it.

Speculation ensued.

"THAT WAS SO SUDDEN HELP," one netizen exclaimed. "It's her alter ego Kitten programming," quipped another fan. Others wondered whether Grande was getting stuck in the voice of Glinda, the character she plays in "Wicked," who speaks with a softer intensity and higher pitch. (After Austin Butler played Elvis Presley in the 2022 musical "Elvis," the young actor continued speaking like the King of Rock and Roll long after the film's premiere.)

Grande eventually responded to the confusion, explaining that she routinely and intentionally changes her "vocal placement" to preserve her vocal health.

For those unfamiliar with the science of voice production, Grande's explanation may have prompted more—rather than less—confusion. But as a speech-language pathologist who specializes in voice disorders, I know how effective these techniques can be.

Singers and actors who routinely strain their vocal cords can damage them through what's known as "phonotrauma," or excessive and improper use of the voice.

The data shows that voice disorders can lead to loss of work for anyone, not just singers. But professional singers—whose livelihoods, like those of professional baseball pitchers, depend on a fully functional part of their body—are more likely to experience financial and emotional distress from a voice disorder.
Cords on a collision course

In order for you to speak or sing, your vocal cords—a delicate pair of thin, muscular strips shaped like a "v" in the throat—must come together and vibrate against one another as air from the lungs is pushed through.

When the tension and length of the vocal folds increase, they vibrate faster. This leads to pitch increases. Likewise, when the tension and length of the vocal folds decrease, they vibrate slower, which lowers the pitch.

The more a person uses their voice, the more times the vocal cords collide against each other. For instance, when Steven Tyler hits the high note at the end of "Dream On," his vocal cords vibrate over 800 times per second. In comparison, a hummingbird flaps its wings roughly 70 times per second.

Many big-name performers go on extended tour with shows taking place night after night, often with little time for vocal rest and recovery. So it's no wonder that many of them end up injuring their vocal cords. There are other habits and behaviors that can damage the delicate mechanism that creates a singer's unique sound: poor diet, lack of sleep, screaming, smoking and drinking alcohol.

Surgery comes with risks

Grande is no stranger to the pain of losing her voice.

In 2013, she sustained a vocal fold hemorrhage, which occurs when a blood vessel in the vocal cords ruptures because of phonotrauma. Doctors put her on strict voice rest so she could recover.
However, injuries to vocal cords don't always heal on their own. Surgery can be necessary, but this option often carries serious risks for singers.

Surgical interventions can lead to a loss of vocal range due to scarring. In 1997, Julie Andrews famously lost her crystal-clear singing voice, which once spanned four octaves, following a minor vocal cord procedure.

Thankfully, not all vocal cord surgeries end in disaster: Grammy-winner Adele went under the knife in 2011 to remove a vocal cord polyp. More than a decade later, she continues to top the charts. In fact, there are many singers, actors, news anchors and talk show hosts who have suffered various vocal cord injuries and ailments and have been able to successfully resume their careers.

But performers who don't change their habits and behaviors following an injury or successful surgery may end up right back where they started.

**Prevention is the best medicine**

With all this in mind, Grande's attempt to mitigate the risk of a vocal cord injury that could derail her professional success is wise.

But how, exactly, is she achieving this by changing the sound of her voice as she speaks?

In her response to the speculation on social media, she pointed to the importance of altering her "vocal placement" to preserve her vocal health.

What she's really talking about is the interaction between the vocal cords and the vocal tract, which includes the throat, nose and mouth. The vocal tract acts like a filter for the sound created by the vocal cords, causing some sound waves to be dampened while others are amplified. This
interaction creates a person's unique, recognizable voice.

When Grande focuses on lifting her voice higher up in her vocal tract—toward her nose—certain vibrations created by her vocal cords are amplified by the frontal air-filled cavities. This creates a brighter, higher sound that actually lessens the stress on the vocal cords themselves.

In the clip, Ariana's voice also sounds light and slightly breathy. She does this by decreasing the amount of force exerted on the vocal cords, so that they may not fully close while she speaks.

Creating a slight gap between the vocal cords keeps them from harshly colliding against one another, which, in turn, could prevent phonotrauma. This is not to be confused with whispering, which can also be harmful to the voice, since it can strain the vocal cords and throat muscles.

As with many health conditions, prevention is often the best medicine. Although behavioral change can be difficult, Grande seems to be embracing the challenge.

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