

## New materials for better, stronger and cheaper dental implants

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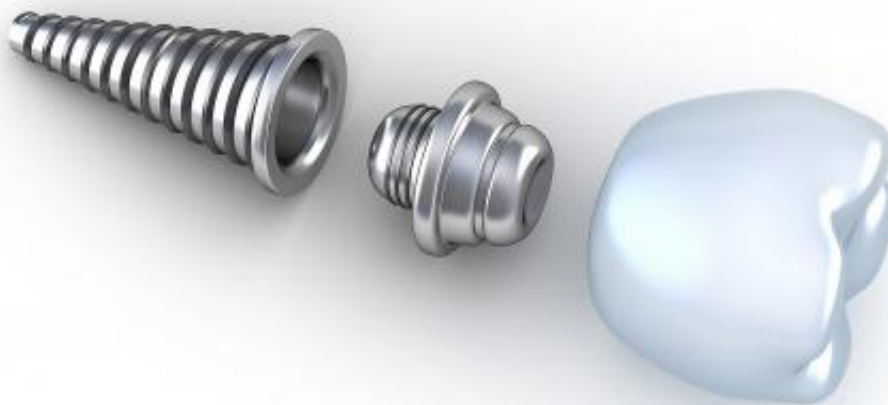


Experts have developed next-generation dental implants from mixtures of polymers with ceramic and a light consistency. So far, the experts at University of Baja California have optimized the performance of those dental tools as they simulated the repetitive force of mastication to ensure that the impact of stress is absorbed by the piece and not by the bone structure.

They have proposed some formulations that allow those teeth to be resistant to the effort of chewing and corrosion as [titanium implants](#) (which are often used by dentists), but at a more affordable cost. "By optimizing the geometry and consistency of the [implants](#) we can ensure that they remain in place longer, but with a lower cost than the titanium implant," said Mauricio Paz González, project collaborator in charge of industrial design.

Through mathematical simulations, UABC experts seek to reduce stress levels in patients before the introduction of these auxiliary pieces. Traditional implants are placed with the same dynamics as a screw, and bone structure functions as a base for holding those dental tools.

Meanwhile, Juan Antonio Paz González, head of the manufacturing processes of the pieces, commented that a goal is to have the implants coated with vitamin D, because that chemical stimulates production of [bone tissue](#) around the piece. This, he said, adds support; he added that once pilot tests were through, they will be compared to traditional implant performance.



Luis Villarreal Jesus Gomez, head of research, said that the manufacture of these implants will not only improve the oral health of patients, but also benefit their economy. "Most people who require implants are older adults, who often find it impossible for a transaction of this nature to be affordable," he said.

So far, the specialist has proposed several possible formulations for achieving the implant. "Additionally we seek to include vitamin D in the composition of [dental implants](#), to achieve a better integration of the piece with the [bone structure](#) of the patient," commented the scientist at UABC.



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