

# Mechanical Integrity of All-on-Four Dental Implant Systems: Finite Element Simulation of Material Properties of Zirconia, Titanium, and PEEK



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Received: May 10, 2024

Revised: June 07, 2024

Accepted: June 07, 2024

Published: June 21, 2024



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Cite as: Chang C, Karmakar R, Mukundan A, Lu S, Choomjinda U, Chen M, Chen Y, Wang H. Mechanical Integrity of All-on-Four Dental Implant Systems: Finite Element Simulation of Material Properties of Zirconia, Titanium, and PEEK. Open Dent J, 2024; 18: e18742106325708. <http://dx.doi.org/10.2174/0118742106325708240614044708>

## S1. PEEK



## Deform\_100N\_35degreet\_PEEK.mp4

**Video. (S1).** Total deformation of PEEK at a perpendicular force of 100 N.



## Deform\_100N\_Straight\_PEEK.mp4

**Video. (S2).** Total deformation of PEEK at an angular force of 100 N.



## Strain\_35\_PEEK.mp4

**Video. (S3).** Equivalent elastic strain of PEEK at a perpendicular force of 100 N.



## Strain\_100N\_Straight\_PEEK.mp4

**Video. (S4).** Equivalent elastic strain of PEEK at a angular force of 100 N.



## Stress\_100N\_Straight\_PEEK.mp4

**Video. (S5).** Equivalent elastic stress of PEEK at a perpendicular force of 100 N.



## Stress\_35\_PEEK.mp4

**Video. (S6).** Equivalent elastic stress of PEEK at a angular force of 100 N.

S2. Zirconia



Deform\_100N\_Straight\_Zirc.mp4

**Video. (S7).** Total deformation of zirconia at a perpendicular force of 100 N.



Deform\_100N\_35degreet\_Zirconia.mp4

**Video. (S8).** Total deformation of zirconia at an angular force of 100 N.



Strain\_100N\_Straight\_Zirc.mp4

**Video. (S9).** Equivalent elastic strain of zirconia at a perpendicular force of 100 N.



Strain\_35\_Zirconia.mp4

**Video. (S10).** Equivalent elastic strain of zirconia at an angular force of 100 N.



Stress\_35\_Zirconia.mp4

**Video. (S11).** Equivalent elastic stress of zirconia at a perpendicular force of 100 N.



### Stress\_100N\_Straight\_Zirc.mp4

**Video. (S12).** Equivalent elastic stress of titanium at an angular force of 100 N.

### S3. Titanium



### Deform\_100N\_Straight.mp4

**Video. (S13).** Total deformation of titanium at a perpendicular force of 100 N.



### Deform\_35\_tit.mp4

**Video. (S14).** Total deformation of titanium at an angular force of 100 N.



### Strain\_100N\_Straight.mp4

**Video. (S15).** Equivalent elastic strain of titanium at a perpendicular force of 100 N.



### Strain\_35\_tit.mp4

**Video. (S16).** Equivalent elastic strain of titanium at an angular force of 100 N.



### Stress\_100N\_Straight.mp4

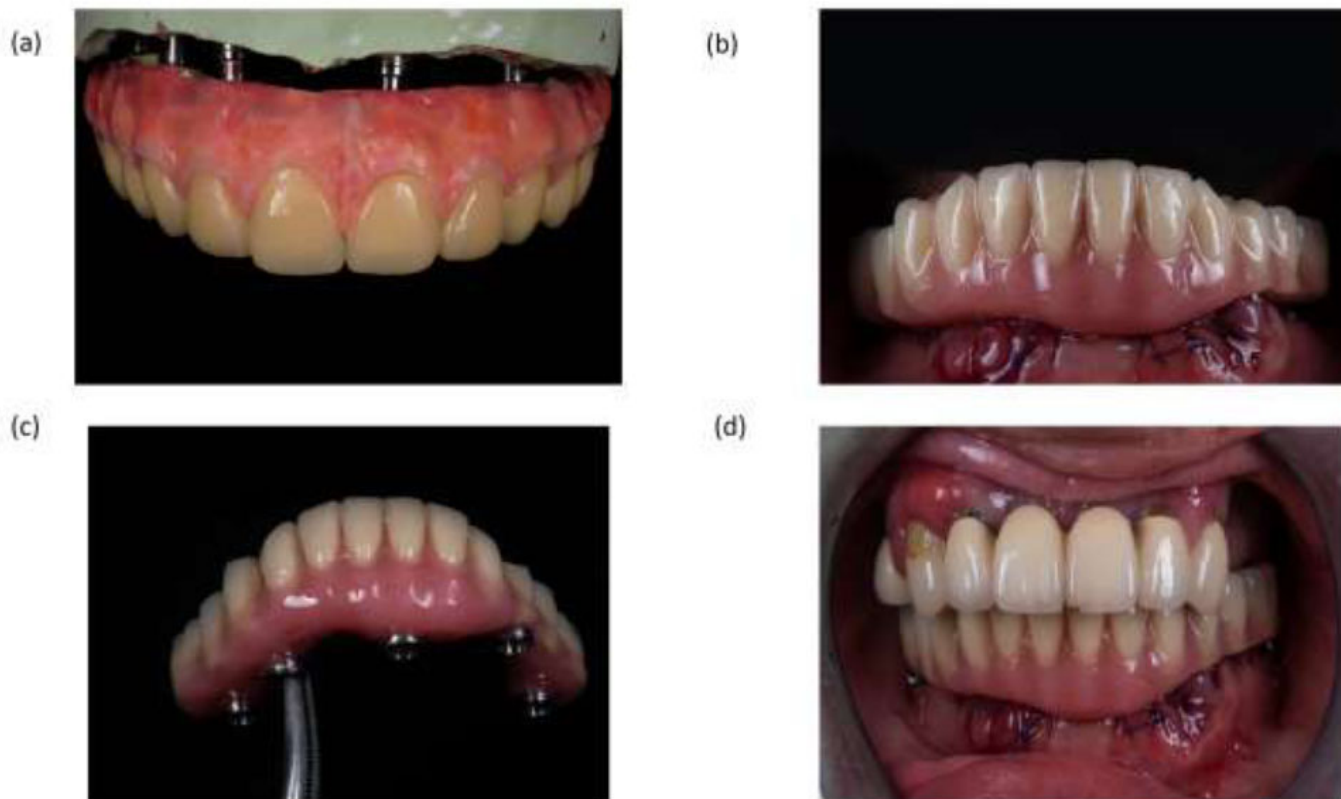
**Video. (S17).** Equivalent elastic stress of titanium at a perpendicular force of 100 N.



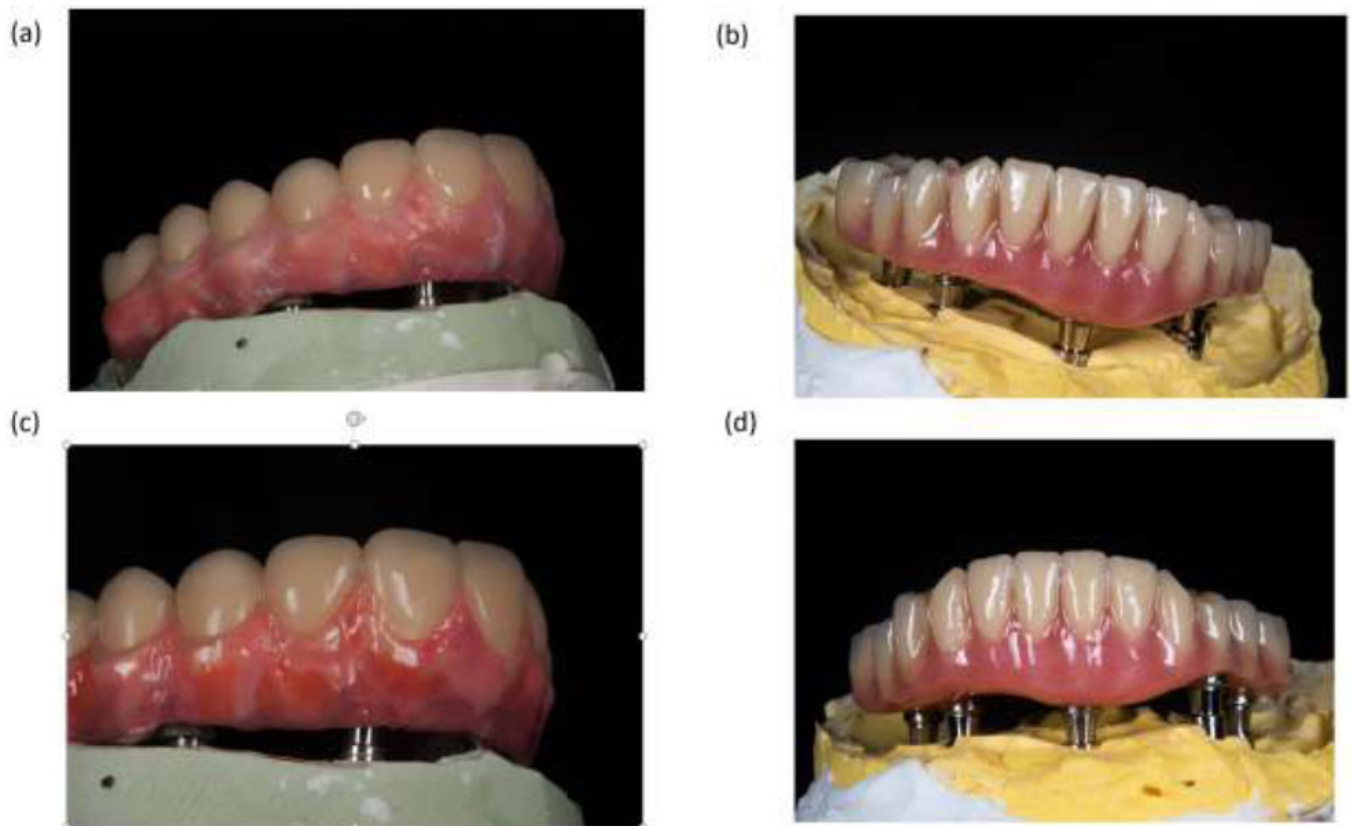
### Stress\_35\_tit.mp4

**Video. (S18).** Equivalent elastic stress of titanium at an angular force of 100 N.

### S3. Dental Implant



**Fig. (S1).** Different views of the dental implant.



**Fig. (S2).** Different views of the dental implant.

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