STUDY RESTORATION

Shock absorption testing using COLTENE BRILLIANT Crios sample crowns

BRILLIANT Crios

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Study Report to COLTENE 08/2017

STUDY AIM

Shock absorbing capacity of BRILLIANT Crios compared to zirconia, silicate ceramic and metal.

EXPERIMENTAL SETUP

Four BRILLIANT Crios crowns were produced by COLTENE according the specifications of M. Menini. The experimental setup for testing the crowns was according "Int J Prosthodont 26, 549, Menini et al., Shock Absorption Capacity of Restorative Materials for Dental Implant Protheses: An In Vitro Study". The maximum force transmitted onto a simulated peri-implant bone was determined with following materials:

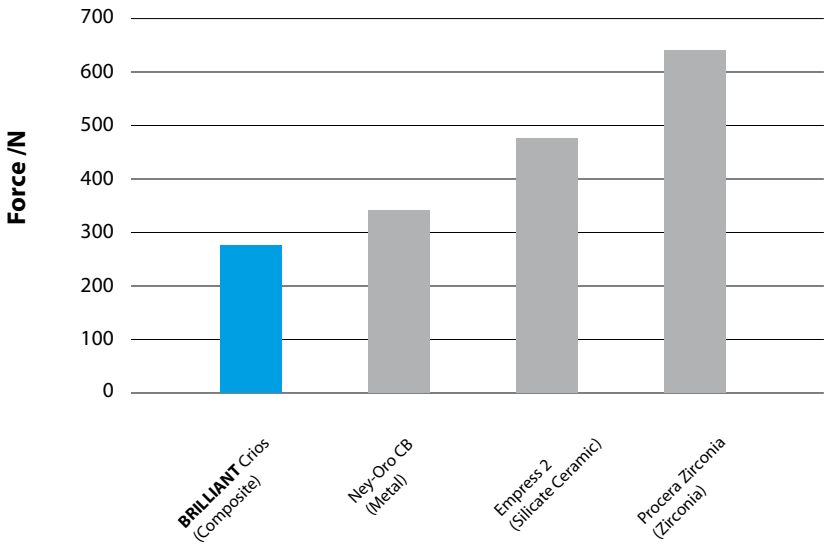
	BRILLIANT Crios	**Ney-Oro CB** [3]	**Empress 2** [3]	**Procera Zirconia** [3]
Manufacturer	COLTENE	Dentsply Sirona	Ivoclar Vivadent	Nobel Biocare
Material Class	Composite	Gold Alloy	Silicate Ceramic	Zirconia
E-Modulus /GPa	10.3 [2]	77 [1]	96 [1]	210 [1]

[1] Int J Prosthodont 26, 549, Menini et al., Shock Absorption Capacity of Restorative Materials for Dental Implant Protheses: An In Vitro Study
[2] Menini, report to COLTENE
[3] Not Trademarks of COLTENE

RESULT

No fractures of the samples occurred during the test. All BRILLIANT Crios crowns showed a shock-absorbing behavior similar to composite resin materials tested in previously published studies. BRILLIANT Crios showed up to 57% lower stress transmission compared to zirconia, around 43% less transmission than silicate ceramic and 19% less compared to metal alloys.

Maximum Force transmitted to peri-implant bone



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