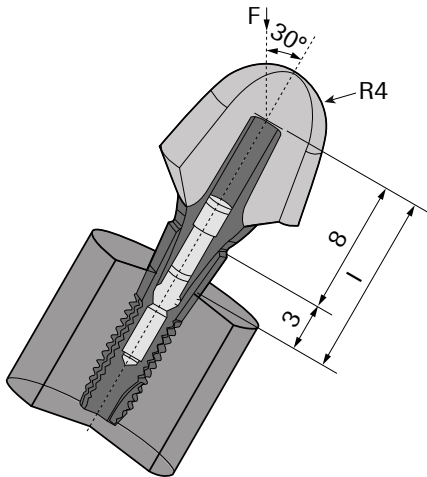


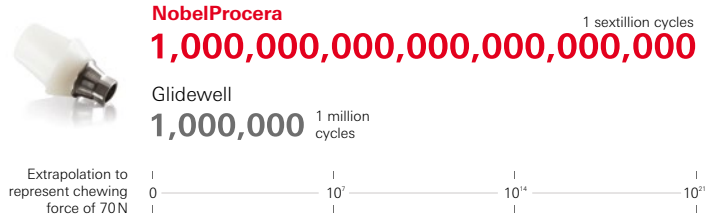
NobelProcera® Abutments

Strong NobelProcera Abutments due to quality of design and production method

Modified ISO 14801 fatigue test



Zirconia abutments with titanium base



Full zirconia abutments



Study findings under accelerated conditions

At 200N resistance to failure differed significantly between the four tested CAD/CAM zirconia abutments.

Zirconia abutments with titanium base:

No NobelProcera Abutment failed. All Glidewell abutments failed, with a run out of 15,000,000 cycles.

Full zirconia abutments: All Atlantis™ abutments failed. Straumann significantly outperformed Astra with 2,534,112 vs. 2,421 cycles to failure.

Clinical relevance

“Manufacturer matters”

The four abutments look very similar on clinical examination but differed in performance, indicating the impact of design and production method.

Clinically relevant failure modes: Distinctly different failure modes were found for both zirconia and titanium based abutments. Observed failure modes in this study are consistent with those observed clinically.

NobelProcera Abutments showed higher strength in fatigue tests compared to all the other abutments.



Fatigue tests conducted in accelerated conditions (150–300N). The results were extrapolated to represent a chewing force of 70 N



Abutments (n=12 each) from Atlantis™, Glidewell, Nobel Biocare and Straumann®; all tested on Straumann® Bone Level implants



In-vitro fatigue test of CAD/CAM abutments

Kelly JR, Rungruanant P. Fatigue Behavior of Computer-Aided Design/Computer-Assisted Manufacture Ceramic Abutments as a Function of Design and Ceramics Processing. Int J Oral Maxillofac Implants. 2016;31(3):601-9.

