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Abstract

Objectives:

The deviation and spread of values measured by tensile strength tests should be significantly reduced by optimized axially pull-off-device.

Material and methods:

Factors like geometry, roughness, surface texture and fit of the specimens, the luting procedure (mixing ratio, compacting pressure) were standardized and the precision of the axially load transmission during the tensile force application optimized. Copings of CoCr-alloy were luted using a provisional zinc-oxide eugenol and a glass-ionomer cement (n=20 per group each) on 4°, respectively 8° titanium implant abutment analogs. 24h after luting the copings were pulled off with the improved (IPD) and the previous non improved device (NIPD). Means, std. dev. and t-tests were calculated.

Results:

The stress- strain curves produced by the IPD showed a clear and linear relationship between stress and strain. The curves of the NIPD were ragged and chaotic. For both luting agents the means of the retentive force were considerable higher ($p>0.000$) with IPD. However, the standard deviation was

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