

## Zircon Medical Management

# The two-piece zirconia implant with long-term studies

Patent™ has eliminated the drawbacks of conventional two-piece zirconia implants. Its innovative prosthetic concept perfectly complements the material properties of zirconia: the cemented glass fibre post, having a dentine-like modulus of elasticity, is able to attenuate masticatory forces and transfer them to the implant in favourable way, ensuring reliable long-term function. Additionally, the patented production process, in which all surface-machining steps are completed before sintering, creates a high endosteal surface roughness ( $R_a$  5,7  $\mu\text{m}$ ) that is essential for fast and predictable osseointegration. During the subsequent sintering, any process-induced microcracks are eliminated, maximising fracture resistance. The success of the Patent™ Concept has been proven by science: in the first long-term study on two-piece zirconia implants, integrated Patent™ Implants showed no fractures, healthy soft tissues, stable bone levels, and no signs of peri-implantitis after almost a decade.<sup>1</sup> In a preclinical study they demonstrated bone-to-implant contact (BIC) of over 70% after just four weeks of healing, outperforming all implants investigated in similar studies thus far in terms of osseointegration speed.<sup>2</sup>



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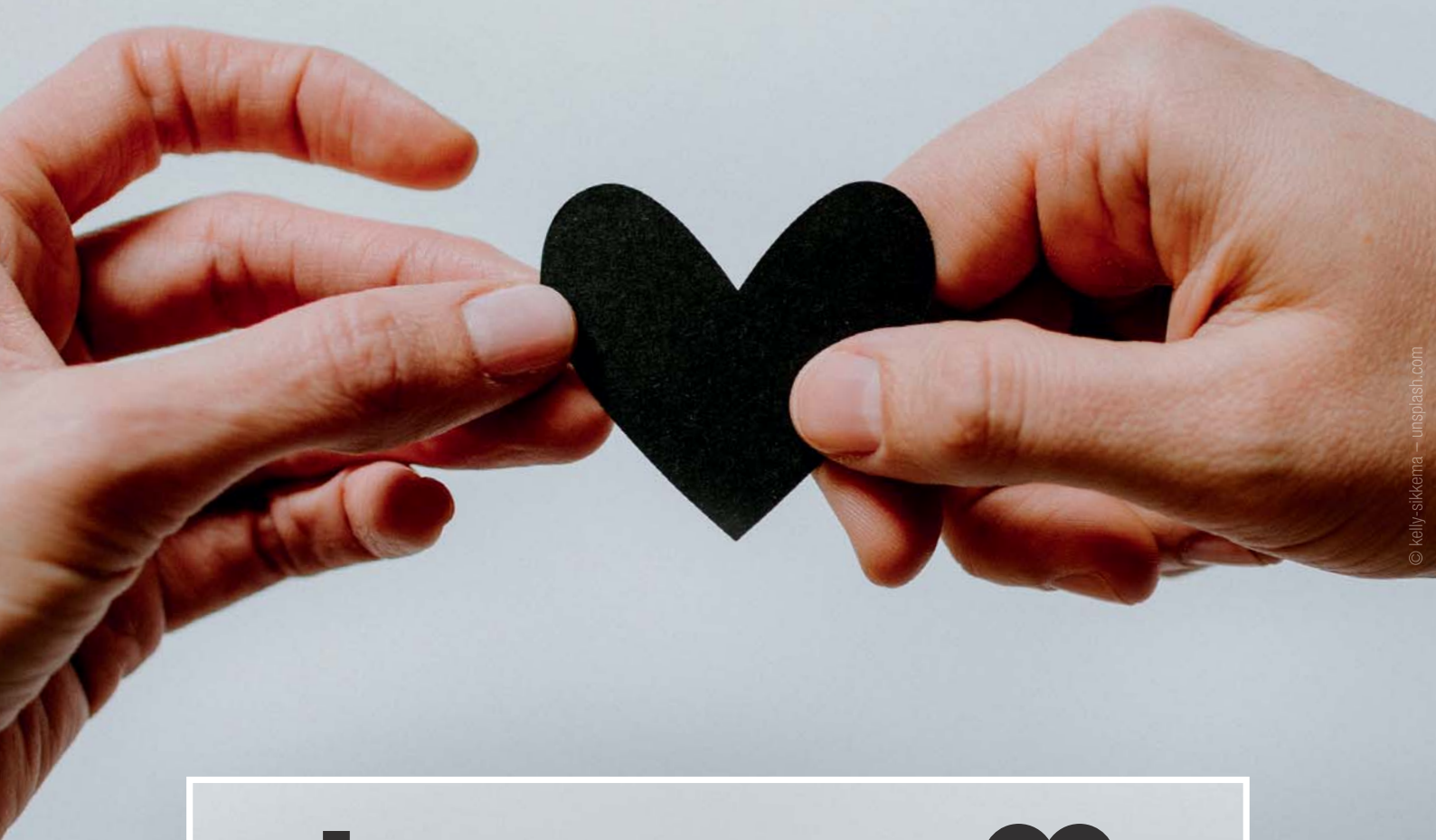
#### Literature

- <sup>1</sup> Brunello G, Rauch N, Becker K, Hakimi AR, Schwarz F, Becker J. Two-piece zirconia implants in the posterior mandible and maxilla: A cohort study with a follow-up period of 9years. *Clin Oral Implants Res*. Dec 2022; 33(12):1233-1244. doi: 10.1111/clr.14005. Epub 31 Oct 2022. PMID: 36184914.
- <sup>2</sup> Glauser R, Schubach P. Early bone formation around immediately placed two-piece tissue-level zirconia implants with a modified surface: an experimental study in the miniature pig mandible. *Int J Implant Dent*. 14 Sep 2022; 8(1):37. doi: 10.1186/s40729-022-00437-z. PMID: 36103094; PMCID: PMC9474793.



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