

# TiUnite® – proven to perform Science First

**TiUnite has set the standard in implant surface technology. Since its launch in 2000, successful use of TiUnite has been documented in over 270 clinical studies with over 13,000 patients, 45,000 implants and up to 12 years' follow-up. In total, more than 15 million implants with TiUnite surface have been used.**

## Enhanced osseointegration

The introduction of TiUnite implants significantly reduced early failure rates.<sup>1</sup> TiUnite's moderately rough titanium oxide layer with high crystallinity and a high phosphorus content results in high bone-to-implant contact and bone mineralization, as well as strong upregulation of molecular determinants of osseointegration.<sup>2</sup> This is particularly important in advanced indications such as immediate implant placement, immediate loading and implant placement in soft bone.

## Successful even in challenging indications

Implants with TiUnite surface demonstrate predictable outcomes even in challenging protocols such as Immediate Function in both healed and extraction sites.<sup>3-7</sup> Nobel Biocare implants achieve the high primary stability necessary in such protocols. This is thanks to the unique combination of implant design and drilling protocol. This stability is then maintained by TiUnite through fast, strong osseointegration.

## High survival rates

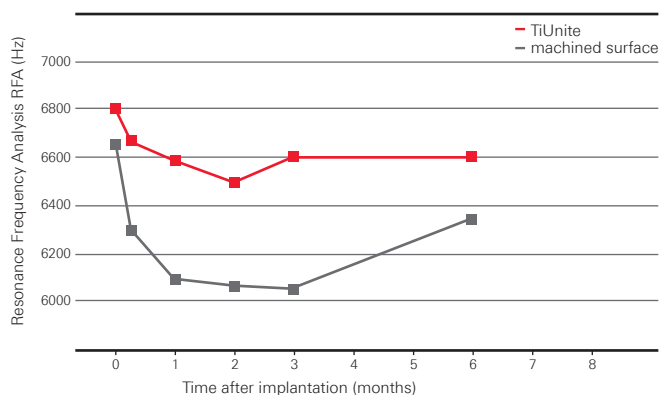
TiUnite implants show high cumulative survival rates (CSR) in long-term ( $\geq 10$  years) follow-up studies.

Study	Mean follow-up	CSR
Glauser 2015 <sup>3</sup>	11.2 years	97.1%
Mozzati et al. 2013 <sup>8</sup>	11 years	97.1%
Balshi et al. 2013 <sup>9</sup>	10 years	95.4%
Degidi et al. 2012 <sup>10</sup>	10 years	97.3%
Jungner et al. 2014 <sup>11</sup>	10 years	97.7%
Östman et al. 2012 <sup>12</sup>	10 years	99.2%
<b>Weighted mean from 16 studies<sup>3,7,12-21</sup></b>	<b>7–10 years</b>	<b>97.3%</b>

## Stable marginal bone levels

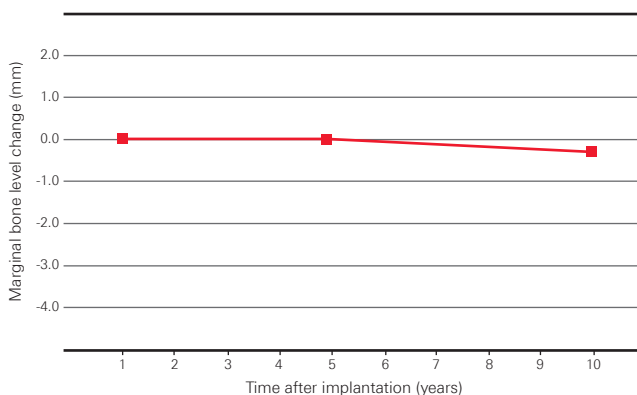
TiUnite maintains marginal bone levels after the initial bone remodeling phase. Studies with  $\geq 10$  years of follow-up report bone remodeling of 0.4–1.16 mm between implant insertion and 1-year follow-up, and stable bone levels over the long term.<sup>3,10,12</sup>

## High stability in the critical healing phase



Higher stability with immediately loaded implants with TiUnite surface than with the same implants with machined surface in the posterior maxilla.<sup>22</sup>

## Stable bone levels over the long term



Stable marginal bone levels after initial remodeling. Baseline adjusted to year 1 to allow comparisons with other publications. Mean marginal bone change between 1 and 5 years was 0.0 mm, rising only to 0.3 mm between 1 and 10 years.<sup>12</sup>

**15** TiUnite®  
15 years  
15 million  
implants

# Clinical evidence on TiUnite®

Clinical studies contain data with 45,000 TiUnite implants in more than 13,000 patients in various indications, using different types of protocols, and with follow-up times of up to 12 years.

## References

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