

Narrow implants

The possibility of placing implants can sometimes be limited due to physical conditions, e.g. where the horizontal space is limited by adjacent teeth and roots, or in situations with a narrow anterior alveolar ridge. By using a narrow implant the need for bone augmentation or orthodontic tooth movement can be avoided. In situations with limited horizontal space a narrow diameter implant may be the only option.

Several studies evaluating the clinical outcome of narrow implants (<3.5 mm in diameter) in general, placed in different indications, are available. Narrow implants supporting single tooth replacements have shown favorable clinical results¹⁻⁹ in the long-term perspective^{4, 5, 7-9}. Moreover, studies evaluating fixed partial dentures have shown good clinical results both after short-¹⁰ and long-term follow-up periods^{7-9, 11}, even when using an immediate loading protocol¹². Narrow implants have also been used to support full arch reconstructions, and satisfactory results have been shown for fixed bridges⁹ and overdentures in the mandible^{9, 13, 14} and in the maxilla^{9, 15}. In general, no difference in the clinical outcome between standard diameter implants and narrow implants has been observed^{1, 3, 7, 16-19}. In an extensive review, Renouard and Nisand concluded that survival rates for narrow implants are comparable with that of standard diameter implants when used in appropriate indications. They also reported that no relationship was found between marginal bone loss and implant diameter²⁰.

Results from a study specifically evaluating Astra Tech implants with a diameter of 3.5 mm, placed in the atrophic maxilla, show high survival rates and a mean marginal bone level reduction of 0.3 mm after one year²¹.

The most narrow implant developed by Astra Tech, OsseoSpeed™ 3.0 S, has a diameter of 3.0 mm and the same features as the regular OsseoSpeed™ implant. OsseoSpeed™ 3.0 S is indicated for different surgical techniques and loading protocols when replacing maxillary lateral incisors and mandibular lateral and central incisors.

The early results from a clinical study evaluating OsseoSpeed™ 3.0 S implants indicate that this is a safe and predictable treatment in sites with limited physical space in anterior regions²².

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