Short implants

Implant placement in the posterior regions sometime faces anatomical challenges with limited vertical bone leading to proximity to the inferior alveolar nerve or with limited bone height as a result from expansion of the maxillary sinus. Additionally, implants placed in posterior regions are generally exposed to greater loads than when placed anteriorly. To allow for implant placement in situations like these Dentsply Sirona Implants has developed short implants for the Astra Tech Implant System, OsseoSpeed, 6 mm*, and for the Ankylos implant system, Ankylos 6.6 mm, which were launched in 2008 and 2013 respectively.

Historically, clinical studies have reported on lower survival rates for short implants (≤10 mm). However, these studies describe implants with machined surfaces, mostly placed in posterior regions with higher loads and softer bone compared with more anterior regions \cite{1–11}. More recent clinical studies on short implants with rougher surfaces report clinical outcomes similar to implants in general \cite{12}.

Results from clinical studies show high survival rates (96 to 100%) for the 6 mm OsseoSpeed implant in all \cite{13–25} but one study \cite{26}. Additionally, well maintained marginal bone levels with up to 2 years of follow-up have also been demonstrated \cite{14–18,20,23,25}. In fact prospective, randomized, controlled clinical studies comparing OsseoSpeed implants with a length of 6 mm to that of 11 mm long implants in the posterior region indicated that treatment with short implants have equally good results on survival rate and maintenance of marginal bone levels compared to standard length implants \cite{14,15,21,23,25}. More favorable results for 6 mm implants compared with 11 mm OsseoSpeed implants regarding short term patient morbidity from surgical interventions, treatment time and cost have also been described \cite{21}. Additionally high patient satisfaction scores have been reported for patients treated with 6 mm OsseoSpeed implants \cite{15–17,20}.

Clinical studies on Ankylos 6.6 mm implants are currently ongoing.

* Immediate loading is not indicated in single tooth situations on implants shorter than 8 mm or in soft bone (type IV) where implant stability may be difficult to obtain and immediate loading may not be appropriate.


