

- When a connection is necessary, treat the tooth as a cantilever from the implant and design the prosthesis accordingly. There should be a sufficient number of implants and adequate positioning to support the prosthesis.
- Ensure that uncementation of the prosthesis on natural teeth can be easily detected so that caries can be avoided. Remember that any uncementation forces the clinician to remove the entire restoration unless precision attachments are utilized (Figure 1).

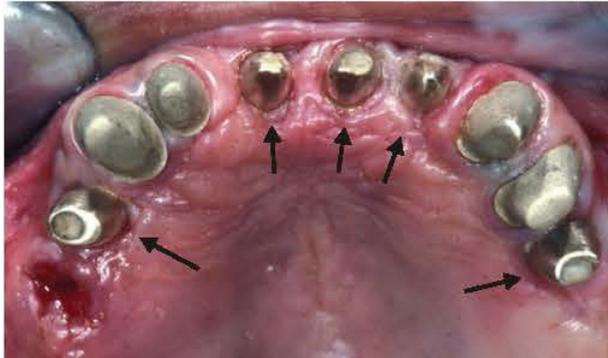


FIGURE 1. Case study of connection to natural teeth. Here, custom abutments on implants and telescopes on teeth are delivered prior to cementing a bridge that connects all elements. This is possible because teeth are stable and implants are spread around the arch. Implants and teeth do not rely on each other for the overall stability of the reconstruction (arrows indicate implants). (Surgeries: Dr. C. Hescheles)

### Cantilever vs No Cantilever

- Cantilever restorations should be avoided whenever possible because off-center forces are detrimental to implant integrity.
- Cantilever restorations should be limited to short spans.
- When restoring edentulous cases with a fixed prosthesis, a distal cantilever is not recommended further than 1.5 distal to the A-P spread. The A-P spread is defined as the mesiodistal distance between the most forward and the most posterior implant (Figure 2).
- The distal cantilever should be evaluated early on as it might affect the number of posterior teeth that can be positioned. For example, a short A-P spread might limit the prosthesis to the first or second premolar.
- When a sufficient spread of implants cannot be achieved in an edentulous case because of a narrow arch shape, a fixed cantilever prosthesis is not possible, and a removable appliance should be utilized.

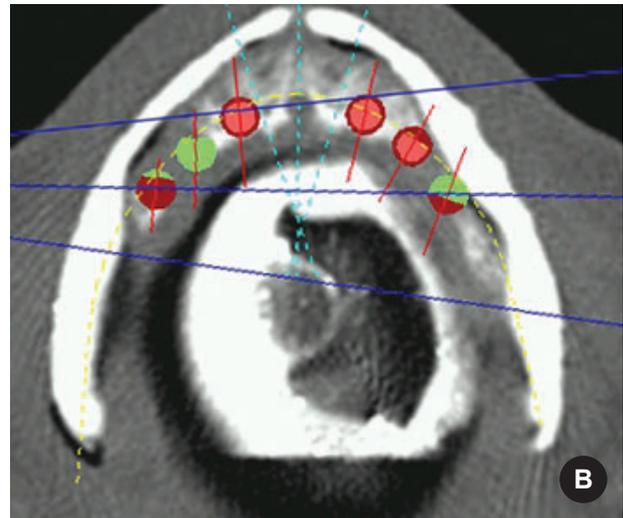
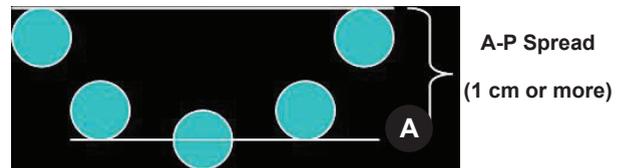


FIGURE 2. For edentulous cases, a distal cantilever should not exceed 1.5 the A-P spread (A). (B) Software can assist in identifying the most distal implant position. (C,D) The distal extension is taken into consideration in the prosthetic design.

### Inter- and Intra-arch Space

- It is critical to evaluate inter- and intra-arch space in order to foresee whether the implant components and prosthesis will fit.
- The amount of inter- and intra-arch space and the height of the future prosthesis must be reconciled during the treatment planning stage.