



How To Do Digital Set-Ups

An AAO TechSelect Guide

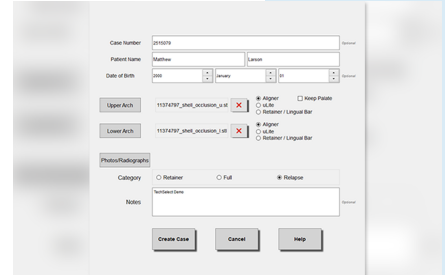


1 Prepare the digital model

- In order to do a digital set-up, you must first “prepare” an STL file for each arch. This may be done in a common 3D editing software or it may be part of your Digital Set-Up software.
- Open the files made with your scanner in the chosen program.
- Preparing includes trimming away unneeded portions, creating a base, removing any holes to “close the model”, and smoothing or removing any artifacts. It may even mean virtually removing brackets or other attachments from teeth.
- Identify the model so it is oriented properly (front, sides, top, bottom).
- Save to individual STL files – one for the maxilla and one for the mandible.

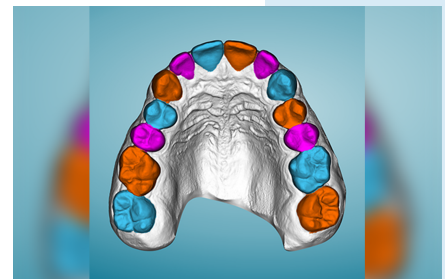
2 Open the models in your Digital Set-Up software (if it was not prepared there)

- Be sure the software recognizes the orientation of the models. If not, orient appropriately.



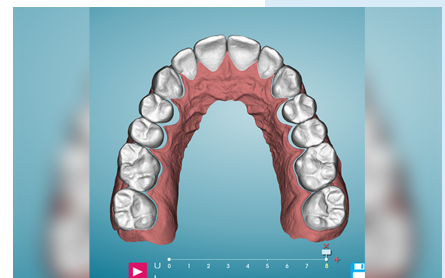
3 Segment Teeth

- Identifies visible boundaries of each tooth from each other and from the gingiva.
- Identify the contact points and long axis of each tooth.
- Smooth interproximal surfaces.
- In many programs, this is at least partially automated.



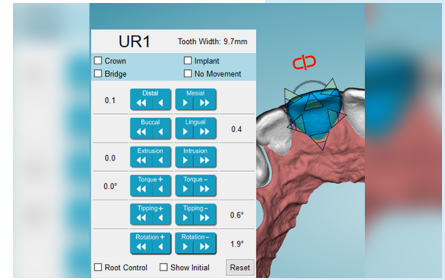
4 Establish the arch form for each arch

- This is more necessary for complex cases.
- It can be skipped for minor alignment cases.



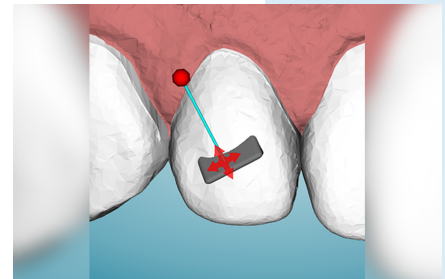
5 Move teeth

- Using software tools, move the teeth as needed. This includes rotating, tipping, torquing, and bodily movement. This is all accomplished with mouse movements and notated by fractions of a millimeter or degrees.
- This is easiest to visualize if you are able to make the gingival tissue transparent.



6 Place attachments where needed

- Place attachments on selected teeth to provide retention for your aligners and make challenging movements more predictable and efficient.
- Change the shape, size, location, and orientation of attachments as needed.
- In some programs, this is automated, but you can still verify and edit attachments made by the software.



7 Stage your aligners

- Tell the software how many stages you would like or let the program calculate it for you based on movement limits you allow (ex. translations of .2mm or rotations of 2 degrees).
- Edit the staging as needed (ex. concentrate expansion early in the case).
- Designate stages at which you need to perform any necessary IPR.



8 Export to STL Files

- Export a model for each stage of movement in each arch.
- Export models for making attachment templates and retainers, if needed.
- Be sure to also export/save reports of movements and IPR.
- Store in a folder with unique patient identifier for access by available 3D printer program.

