Temporaries

Version 1.1

September 2022

Medit Temporaries

Version 1.1 (September 2022)

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Getting Started

Medit Temporaries Overview

Medit Temporaries enables users to create temporary crowns and bridges in just a few easy steps. With its user-friendly interface, the app can be seamlessly incorporated into your everyday workflow, even if you have no prior CAD experience.

The app supports workflow for any data available to the user: prepared only, pre-op only, or both prepared + pre-op.

The designed restorations can also be easily optimized for 3D printing and milling using the wide variety of provided tools and settings.

You can run Medit Temporaries from both clinic and lab accounts in Medit Link.

System Requirements

Windows

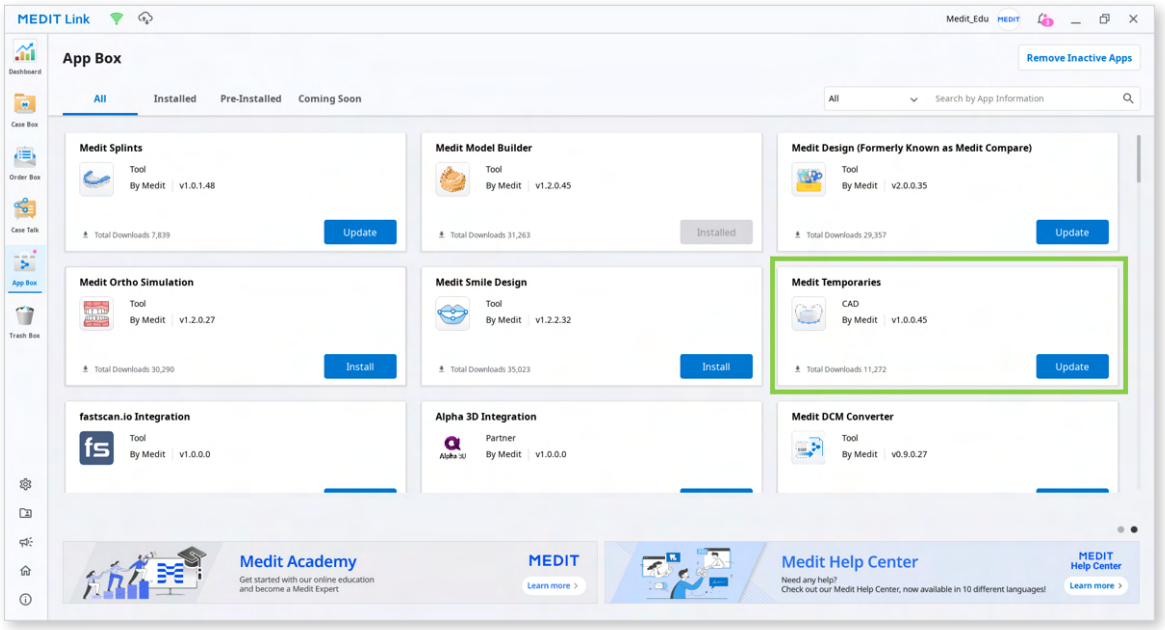
CPU	Intel Core i5. 2.6 GHz or higher
RAM	16GB or higher
Graphic Card	NVIDIA GeForce GTX 1060 (2GB) or higher
OS	Windows 10 64-bit, Windows 11 64-bit

macOS

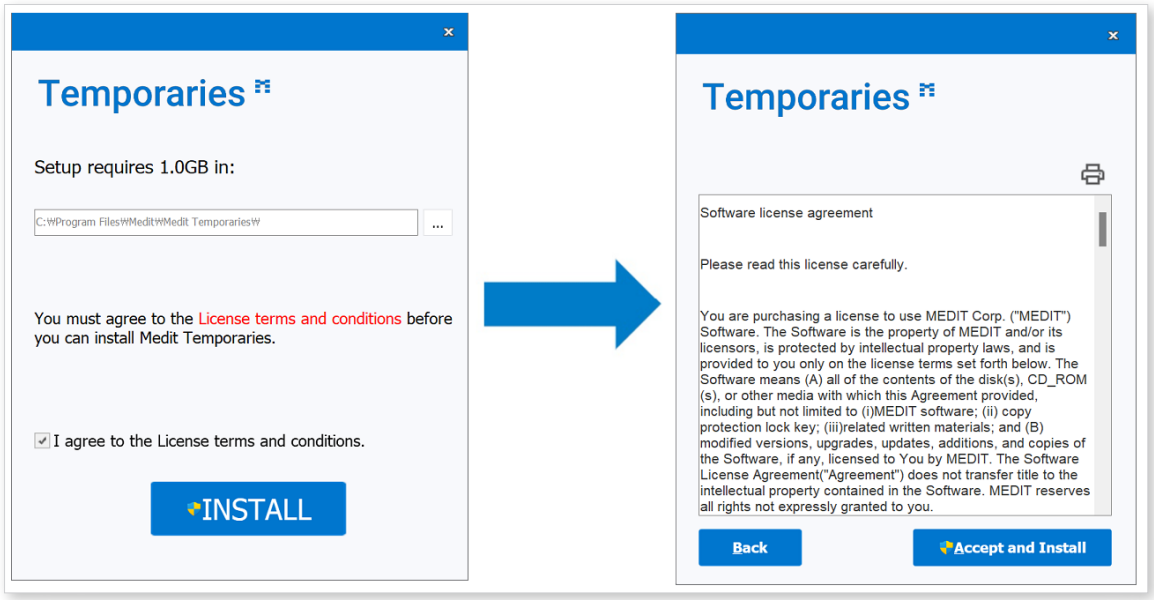
Chip	M1/M2 or higher
CPU	8-core or higher
RAM	16GB or higher
OS	Monterey 12

Installation Guide

1. Log in to your Medit Link account and go to the App Box.
2. Find the Medit Temporaries app and click “Install.



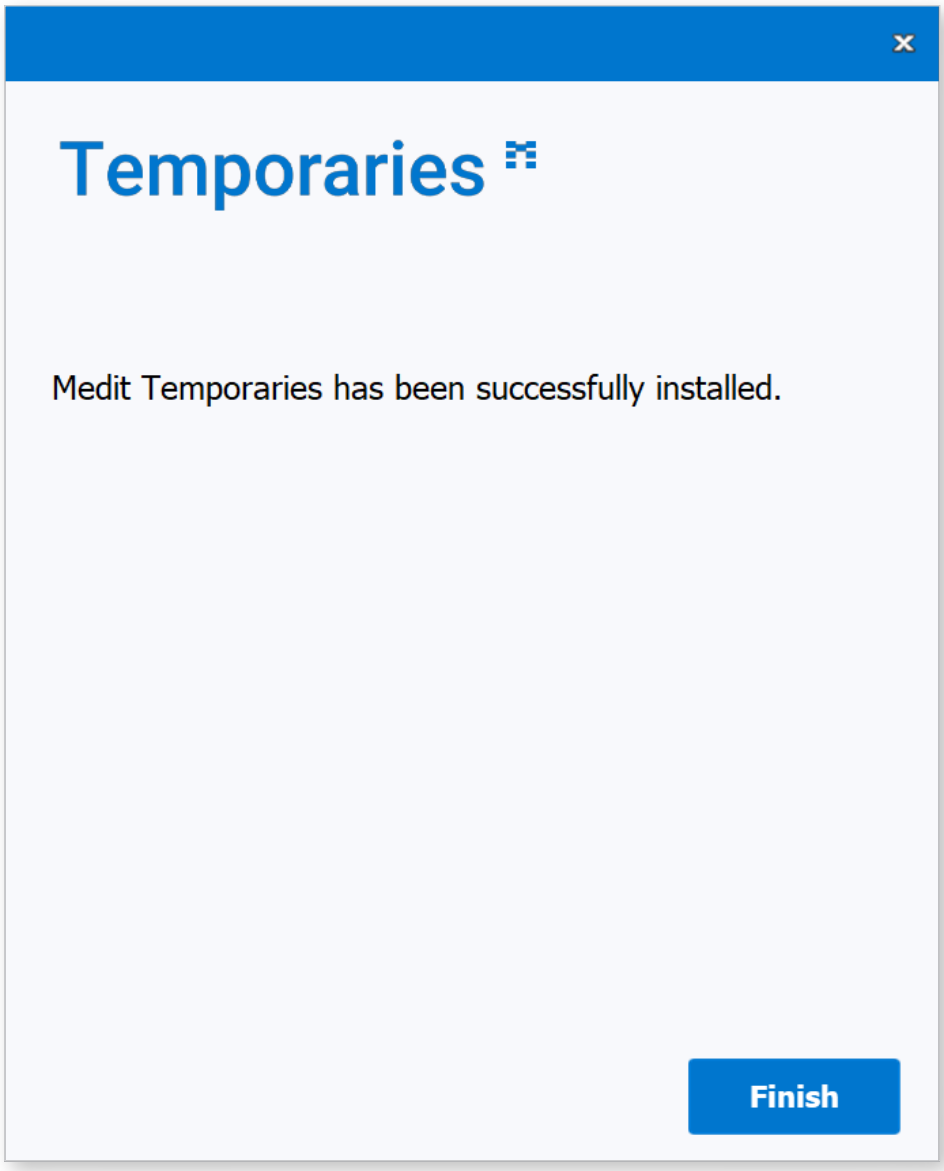
3. Once the download is complete, the app installer will run automatically.
4. Read and agree to the License Terms and Conditions to continue.



5. It may take several minutes to complete the installation process.

> ⚠ Do not turn off the PC until the installation is complete.

6. Click “Finish” to complete the process.



Running Medit Temporaries from Medit Link

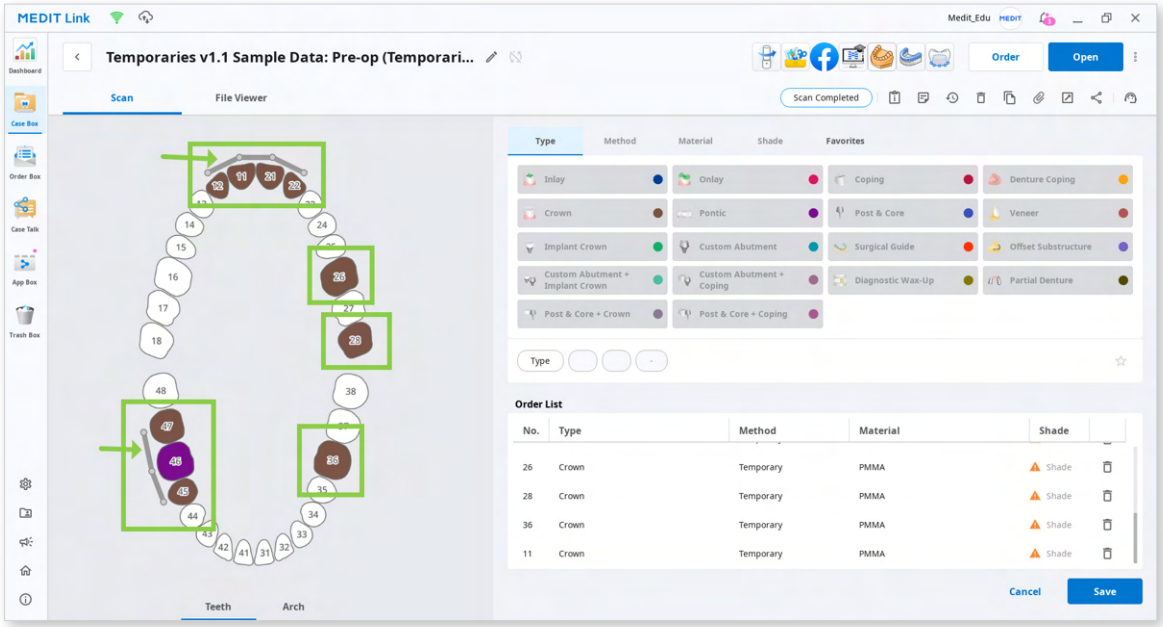
Follow these steps to run Medit Temporaries from Medit Link.

1. Go to the Case Box (Clinic Account) or Work Box (Lab Account) and select the case you would like to open in Medit Temporaries. Check the form information.

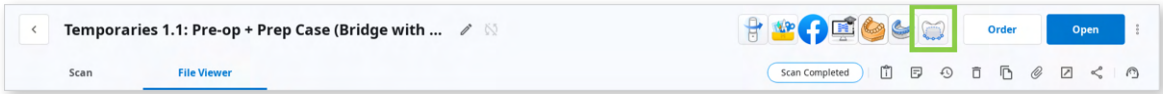
> The case must have 3D data scanned or attached to it.

> When registering a bridge in the form, ensure the crowns are connected as in the picture below. Bridges can only include crowns and pontics.

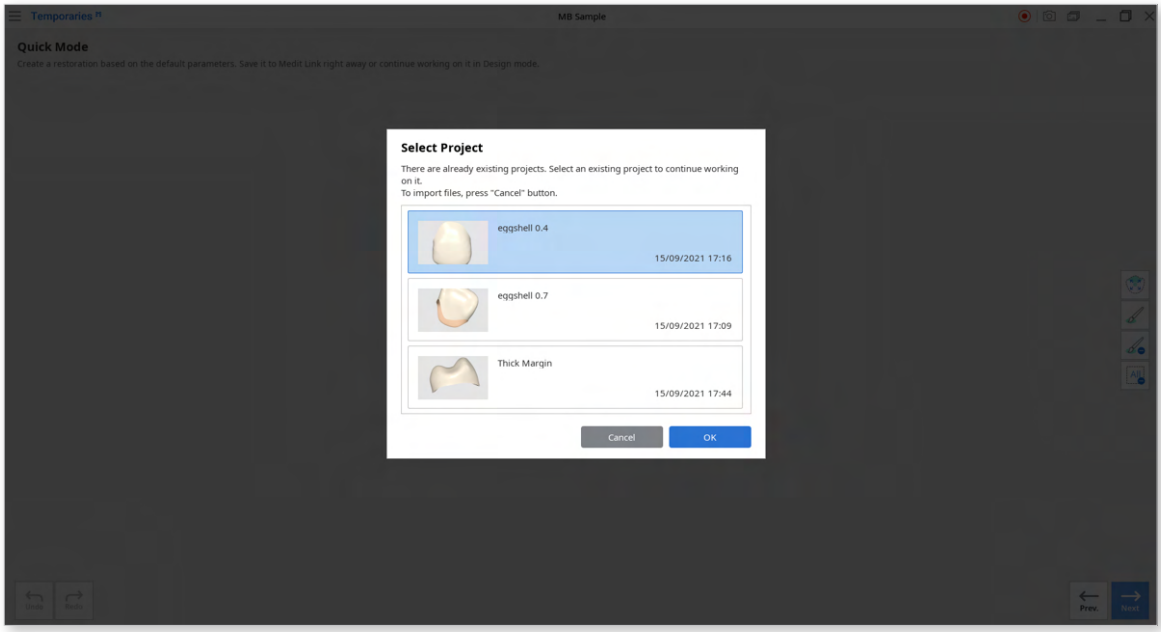
> Medit Temporaries v1.1 allows simultaneously designing multiple crowns and bridges from the same case.
>
> Note that information on product types other than crowns and pontics will not be considered when running the app.



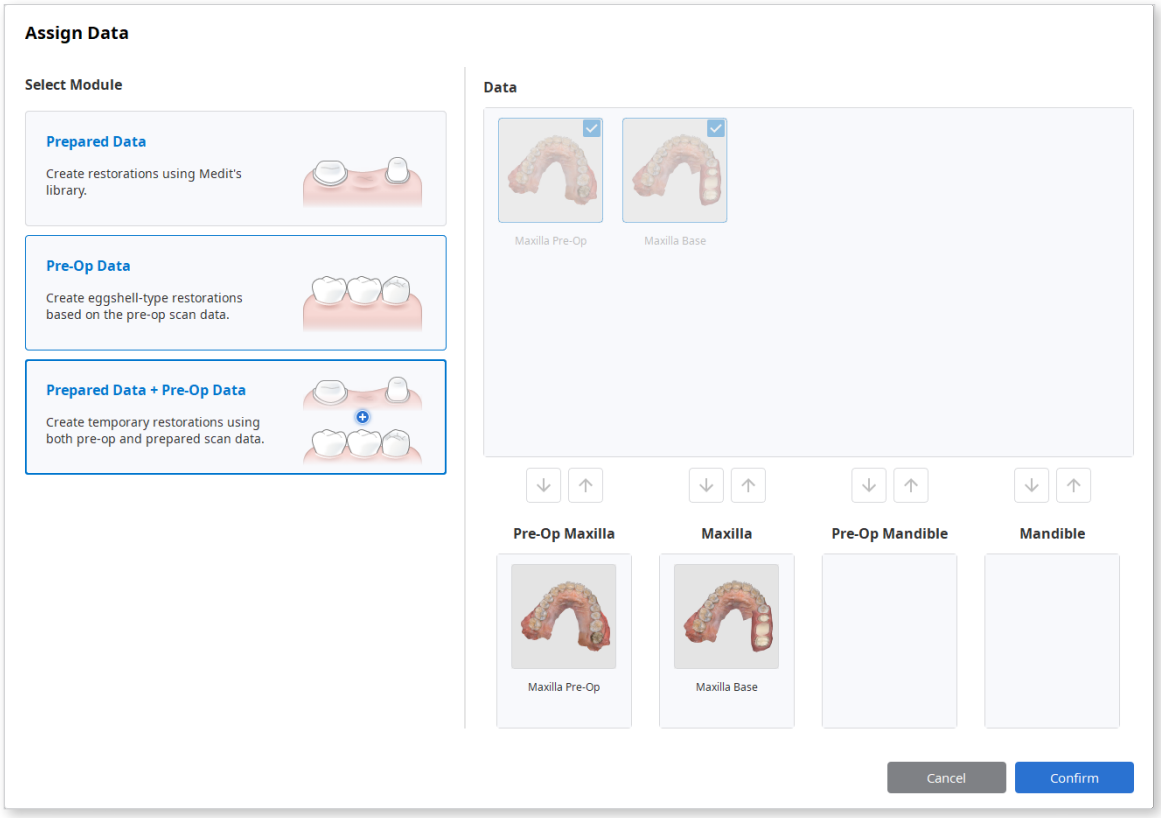
2. Click the “Medit Temporaries” icon in the top right corner of the Case Detail window. The icon will automatically appear once you have installed the app.



3. If you run the program from a case with a saved project, you will be asked whether you want to continue working on it.



4. Select the module accordingly to the available 3D scans and assign the data once the app has opened.



Data Management

Acquiring 3D Data

There are two ways to acquire 3D data to use in Medit Temporaries:

1. Acquire scan data in Medit Scan for Clinics or Labs
   Create a new case and complete the necessary scans in Medit Scan for Clinics or Labs. Scan data will automatically be saved in the patient's case in Medit Link.

Use the "Solid" option when scanning data in Medit Scan for Labs.

Make sure that the data of the tooth you are making a crown for has no major holes. Use the "Fill Hole" function when completing scanning in scan acquisition programs.

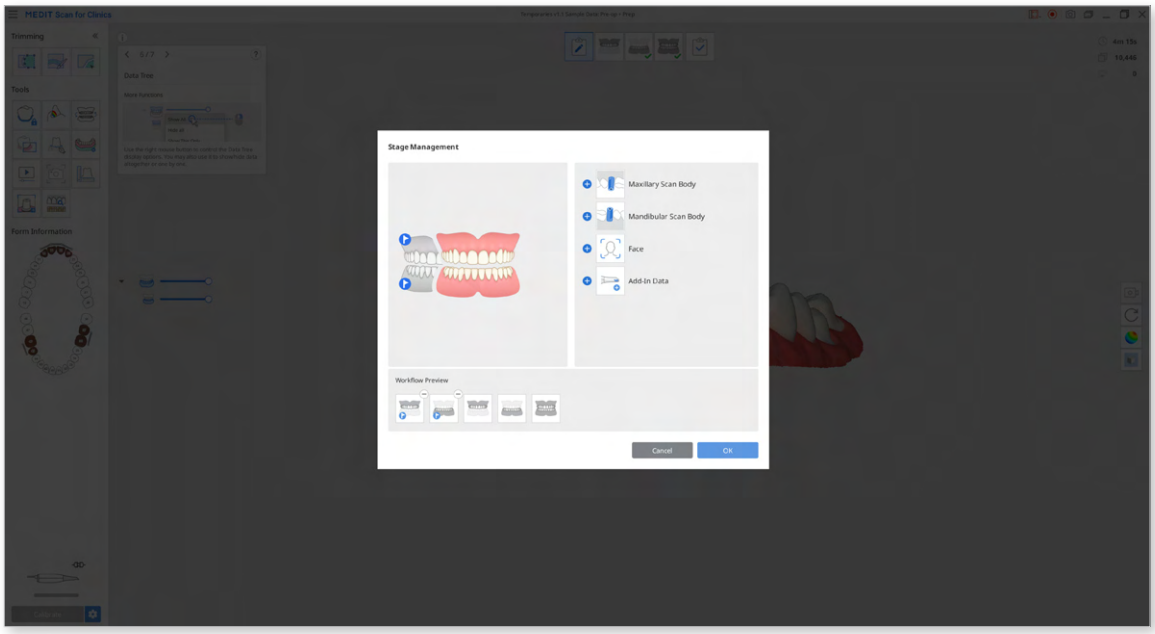
2. Import local files through Medit Link
   Before running the app, you can import data from local files and attach it to a Medit Link case in the Case Detail window.

NB! In Medit Temporaries, you can create restorations based on prepared data only, pre-op data only, or both prepared+pre-op data.
You will be working in a different module based on your scan data.

Find more information on the modules in the **"Major Functionality"** chapter.

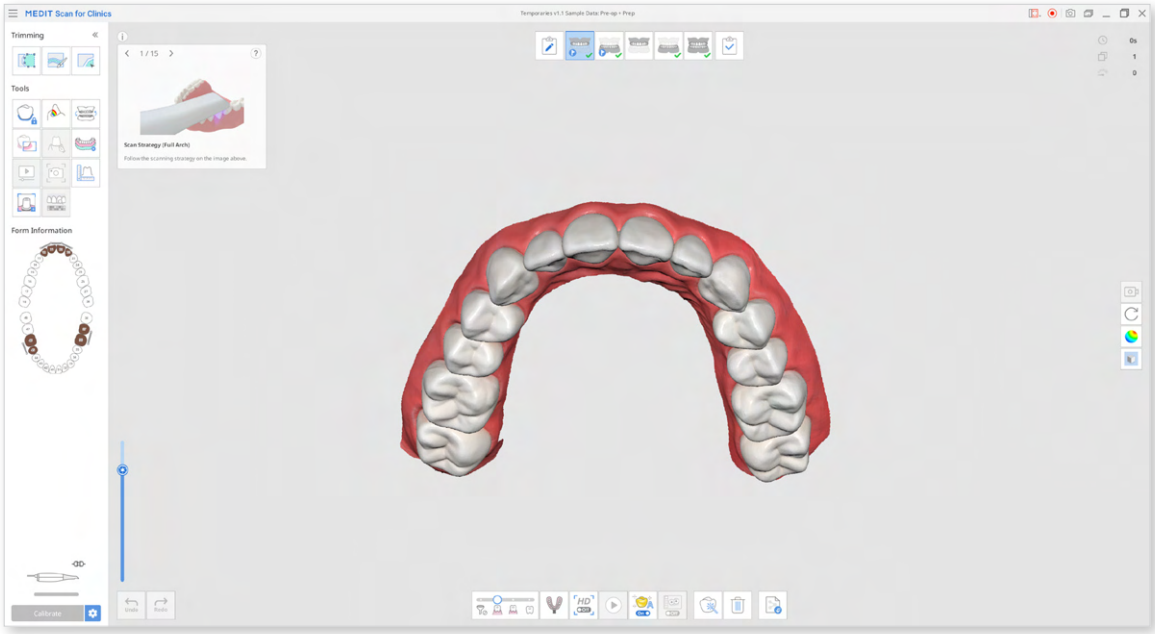
You will need the pre-op data for two of the modules available in the app (pre-op and pre-op + prepared).

To acquire this data, add “Pre-Op for Maxilla” or “Pre-Op for Mandible” to your scanning workflow in Medit Scan for Clinics via Stage Management.



<Medit Scan for Clinics>

Once added, the icons for these stages will appear at the top of the Medit Scan for Clinics.



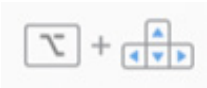
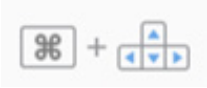
NB! If your case has separate scans for the maxilla or mandible and the abutment data, the two will be automatically combined. After running the app, you will find the combined data in the Assign Data window. The new file will have either of the titles: Maxilla with Abutment or Mandible with Abutment.

3D Data Control

3D Data Control Using a Mouse:

Button	Action	Use	Image
Wheel	Drag	Move the data in the view screen.	
Wheel	Scroll	Zoom in and out the data in the view screen.	
Right	Drag	Rotate data in the view screen.	

3D Data Control Using Mouse and Keyboard Buttons:

Button	Action	Use	Windows	macOS
Shift	Left-click and drag	Zoom in and out.		
Shift	Up and down keys	Zoom in and out.		
Alt/Opt	Left-click and drag	Rotate		
Alt/Opt	Up, down, left and right keys	Rotate		
Ctrl/Cmd	Left-click and drag	Move		
Ctrl/Cmd	Up, down, left and right keys	Move		

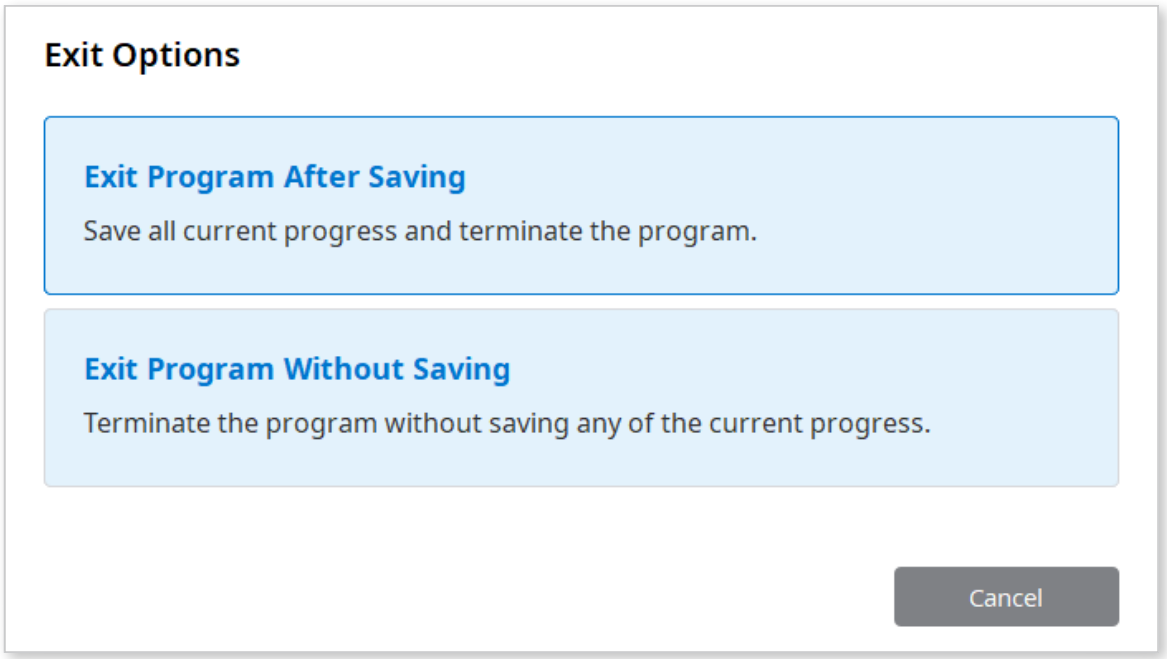
Saving 3D Data

There are two ways to save the completed project:

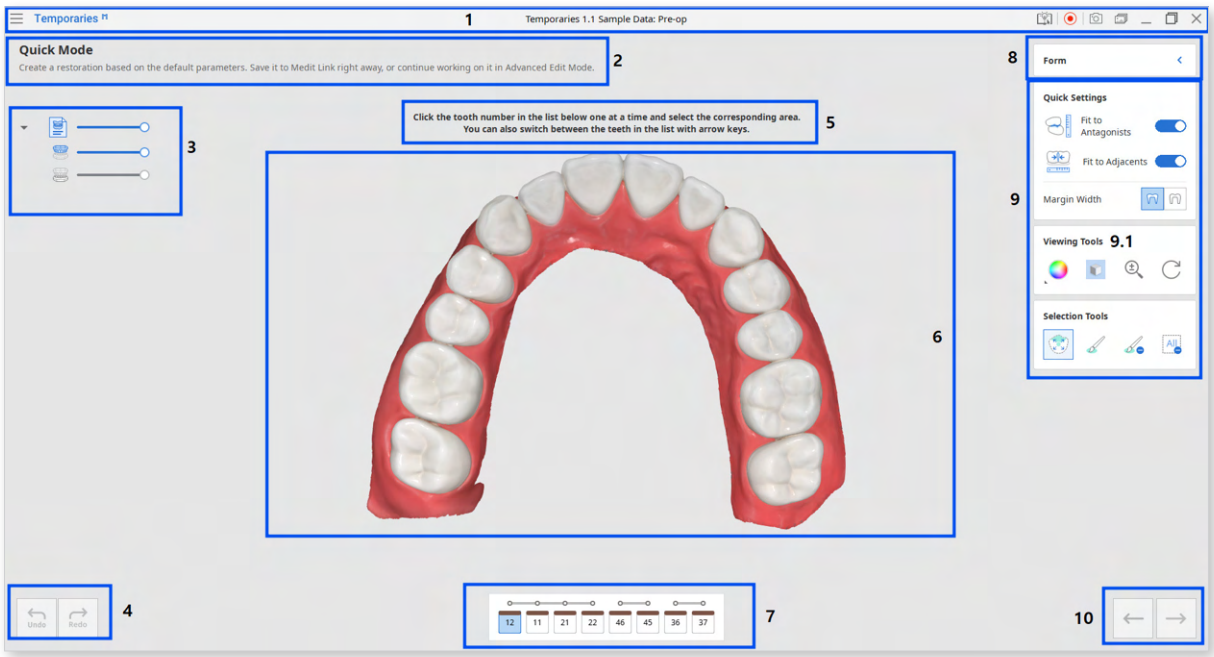
1. Click “Complete” at the last step to finish working on the project and save it to Medit Link.

2. Click “Menu” in the top left corner and select Save As.

You will still have save options if you close the program by clicking “Exit.”



User Interface



1. Title Bar
2. Mode Description
3. Data Tree
4. Undo/Redo
5. Guide Message
6. 3D Data
7. Target Teeth List
8. Form
9. Tool/Settings
9.1 Viewing Tools
10. Previous/Next

Title Bar

The Title Bar includes the following options:

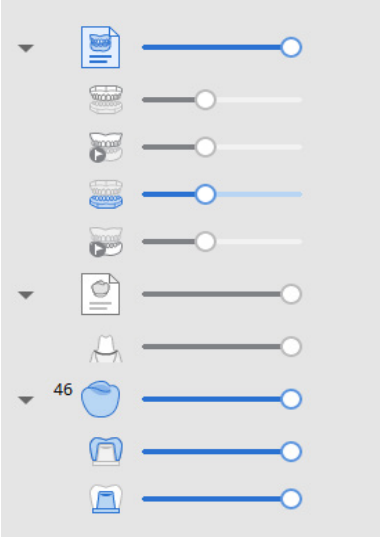
Menu	Check the details of the application, use provided assistance resources, and adjust settings.
Help Center	Go to the Medit Help Center page.
Start Video Recording	Start the video capture.
Screenshot	Capture the screen. You can select the area automatically or manually. The automatic select area captures either the program area or the main 3D area.
Screen Capture Image Manager	Manage screen capture images.
Minimize	Minimize the application window.
Maximize or Restore	Maximize or restore the application window.
Exit	Close the application.

Data Tree

The Data Tree is located on the left side of the screen and displays the list of data you are using in groups. Easily control data by hiding, showing, or changing its transparency one by one or as a group.

Elements in the Data Tree may vary depending on what module or what step of the process you're in. Images below present a general overview of the Data Tree for crown and bridge cases.

Crown Case



<General Overview>

Scan Data Group

- Maxilla
- Mandible
- Virtual extraction for mandible

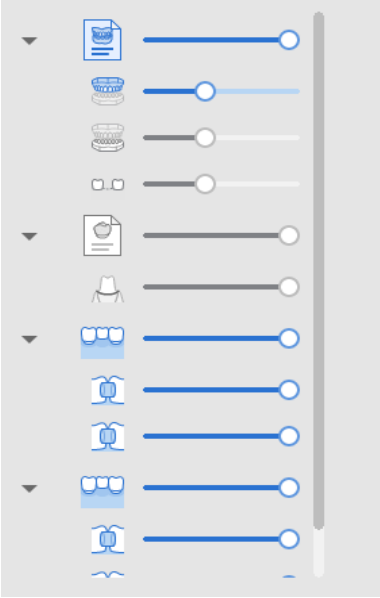
Reference Data Group

- Margin line

Crown #46

- Outer surface
- Inner surface

Bridge Case



<General Overview>

Scan Data Group

- Maxilla
- Mandible
- Virtual extraction for mandible

Reference Data Group

- Margin line

Bridge #11-22

- Connector #11-21
- Connector #21-22

Bridge #45-43

- Connector #45-44
- Connector #44-43

Tools/Settings

Throughout the design process, tools and settings available on the right will change accordingly to the purpose of the current step. Some tools may be found only in specific modules.

For more details on the provided tools, please refer to the **“How to”** chapters.

Here is a general overview of all tools or settings that you will find on the right side of the screen:

Viewing Tools	A set of tools for data display, control, and data analysis.
Quick Settings	Options for adjustment of the future restorations.
Selection Tools	A set of tools for teeth data selection and deselection.
Margin Line Tools	A set of tools for margin line drawing.
Sculpting Tools	A set of tools for editing the outer surface.
Connector Editor	Options for connector editing.
Positioning Tools	A set of tools for library teeth positioning.
Editing Tools	Advanced editing options for the inner and outer surfaces of the restoration.

Editing Tools are only accessible in the Advanced Edit Mode.

Viewing Tools are provided across all design process.

Viewing Tools

Viewing Tools contains useful tools for displaying, viewing, and working with the data. These tools are provided across all steps of the restoration design process.

Data Display

	Change Data Display Mode	Change the data display mode.
	Grid Settings (mm)	Show or hide the grid. Control grid position in relation to the model. (overlay on/off)

Touch Screen/Mouse Options

	Zoom	Left-click and drag to zoom.
	Rotate	Left-click and drag to rotate the data.

Contact/Thickness Analysis

	Show/Hide Contact Areas with Antagonists	When on, this function shows overlapping areas of the restoration and the antagonists. Turn on when sculpting the outer surface of the restoration to check the occlusion.
	Show/Hide Contact Areas with Adjacents	Turn on to show overlapping areas between restoration and adjacents. Use while sculpting the outer surface of the restoration to add or remove material to ensure optimal fitting.
	Show/Hide Minimum Thickness	Turn on to see thin areas on the restoration. Use while sculpting to make sure that the restoration is not too thin to print/mill.

Action Control

There are four buttons that provide action control within each step. They can be found in the bottom corners of the window.

Icon	Tool	Description
	Undo	Undo the previous action.
	Redo	Redo the previous action.
	Previous	Go back to the previous step.
	Next	Apply the changes and move to the next step.

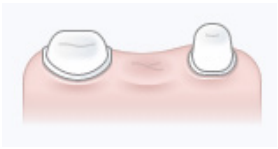
Action control is also possible using the keyboard.

Key	Use
Space Bar	Apply the changes and move to the next step.
Arrow Keys	Switch between the teeth numbers in the list at the bottom of the screen.

Major Functionality

Modules in Medit Temporaries

Medit Temporaries includes three modules. Each module requires you to have specific scan data to work in it. Select a module corresponding to the scan data available in your case and assign scans accordingly on the right side of the dialog window. Then, click “Confirm.”

Module	Required Data	Description
Prepared Data 	Prepared Data Only	Create restorations using the Meditsupplied teeth library.
Pre-Op Data 	Pre-Operation Data Only	Create eggshell-type restorations based on the pre-op scan data.
Prepared Data + Pre-Op Data 	Pre-Operation Data and Prepared Data	Create temporary restorations using both pre-op and prepared scan data.

Modes in Medit Temporaries

Work in each module consists of two modes: Quick Mode and Advanced Edit Mode. Creating a restoration in Quick Mode alone is sufficient in most cases because it includes all essential design steps and uses pre-set parameters. All default parameters are adjustable in program settings.

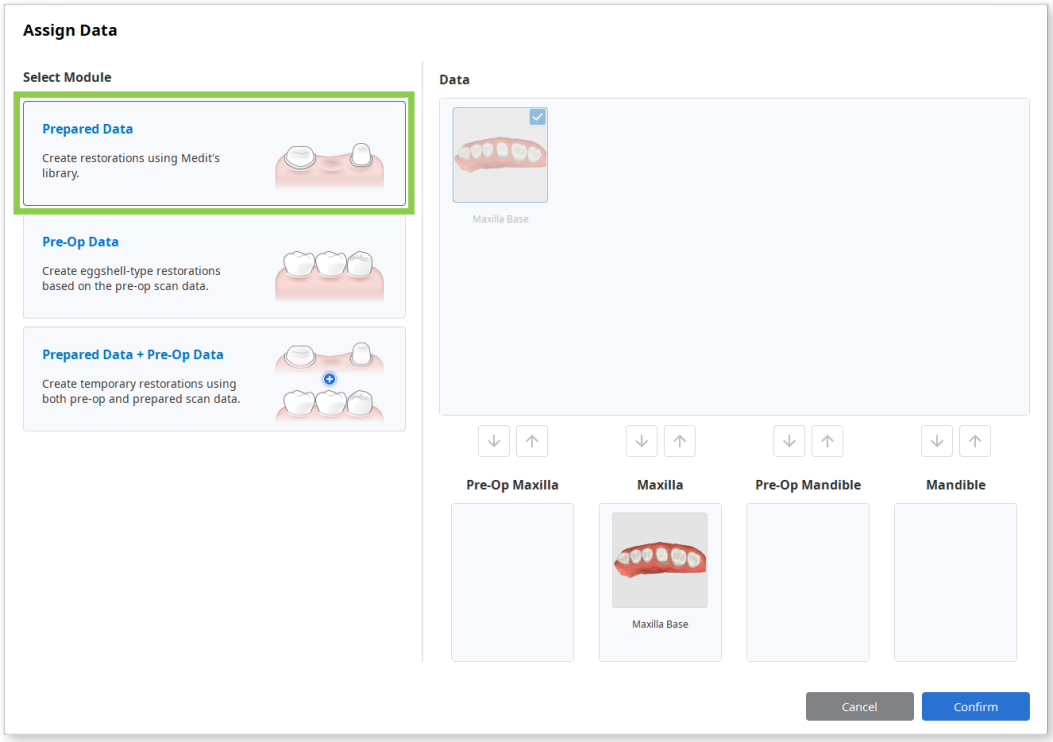
Quick Mode	This mode includes essential steps for quick designing of a restoration. Follow the instructions above the 3D data to complete the design process. The process may differ depending on the selected module and the type of restoration. A general workflow is to select the teeth data, draw margin lines, and sculpt the outer surface. When designing a bridge, you may need to edit the pontic and connectors.
Advanced Edit Mode	This mode provides tools and settings for more advanced editing of the inner and outer surfaces of the restoration. More parameters will be available for adaptation and adjustment if you choose to work in this mode. Inner surface adjustment is only available in this mode.

 Working in Advanced Edit Mode is optional.

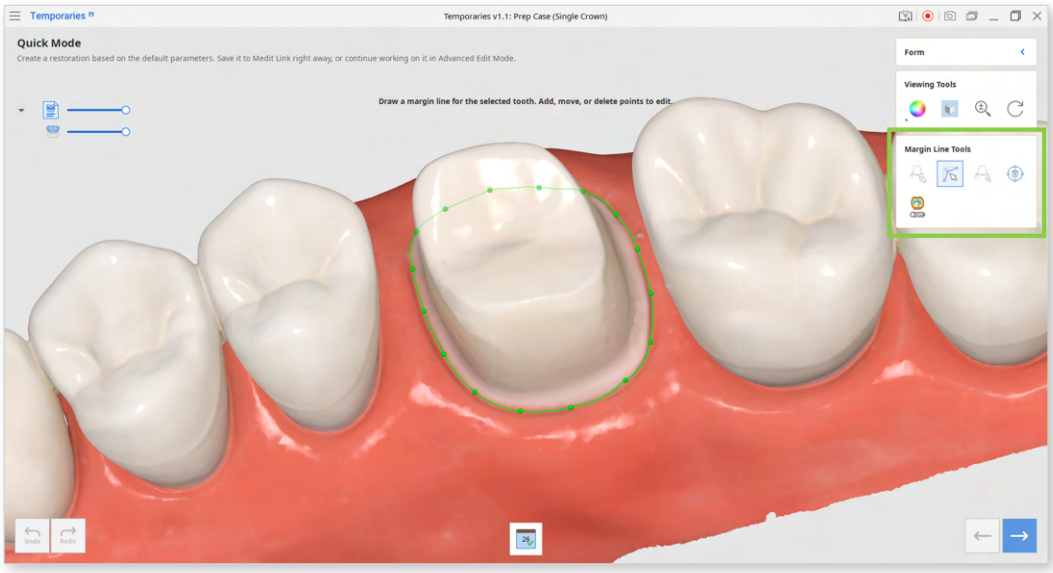
How to Design Restorations Using Prepared Data

Crowns

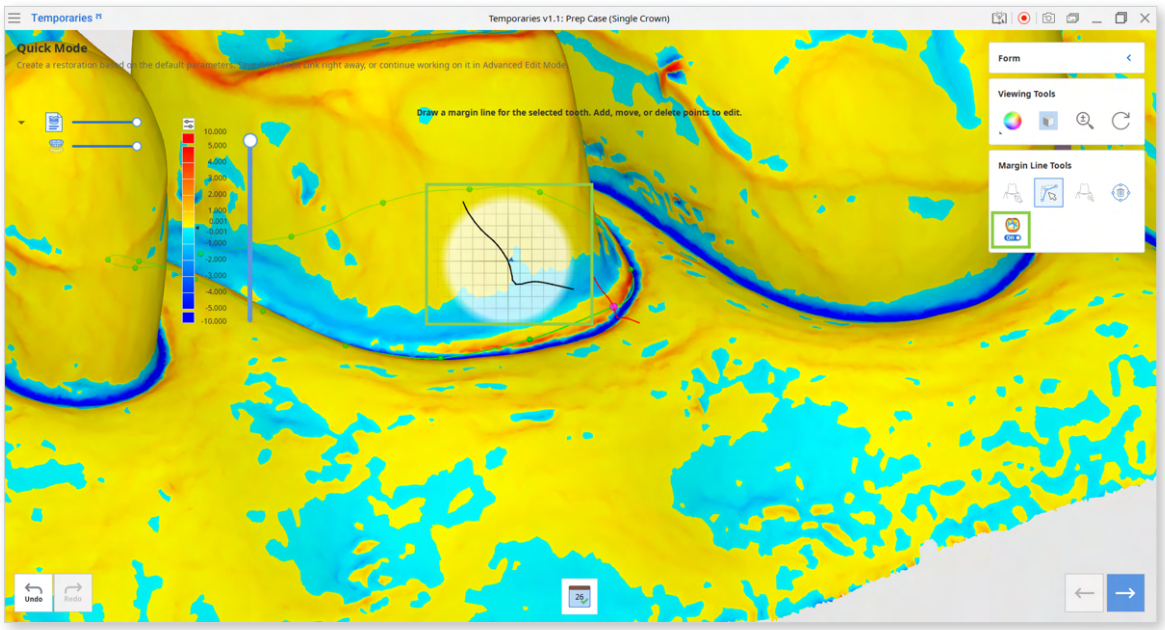
1. Register a crown in the form and run Medit Temporaries. After the app has opened, select the prepared data module and assign your scan data.



2. Use the Margin Line Tools to draw a margin line for the prepared tooth. The app supports both manual and automatic margin line creation.



To create a more precise margin, you can turn on Curvature Display Mode and refer to the cross-sectional display that appears when you hover the mouse over the data.



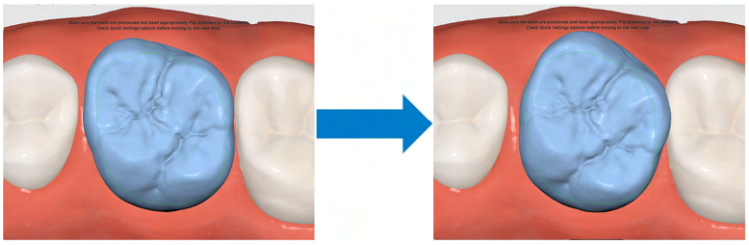
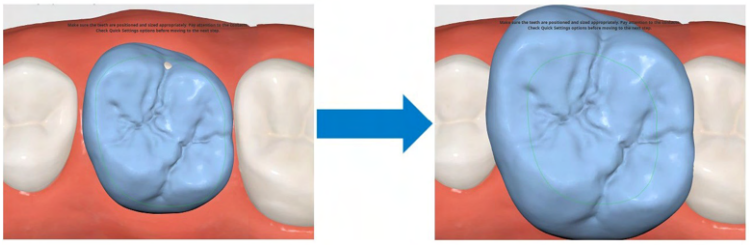
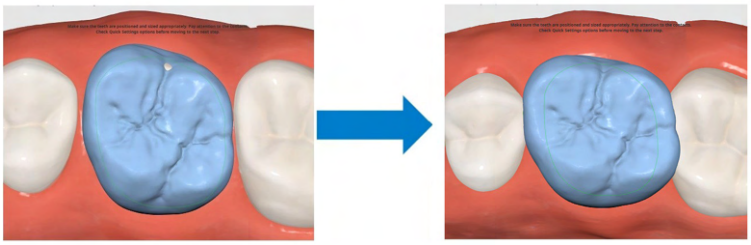
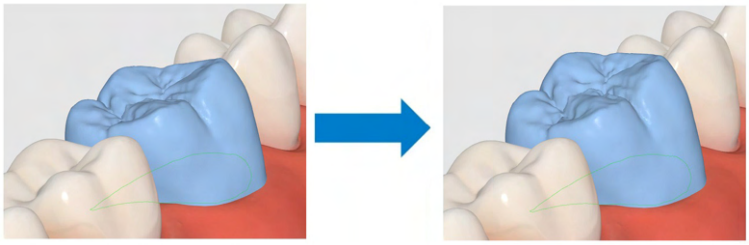
When done, click “Next” or press the space bar.

Margin Line Tools		
	Manual Creation	Manually create a margin line based on the selected points.
	Edit	Edit the margin line. Add, move and delete the control points.
	Auto Creation	Automatically create a closed margin line based on the selected point.
	Delete	Delete the margin line.
	Curvature Display Mode	See curvature of the data through Color Map.

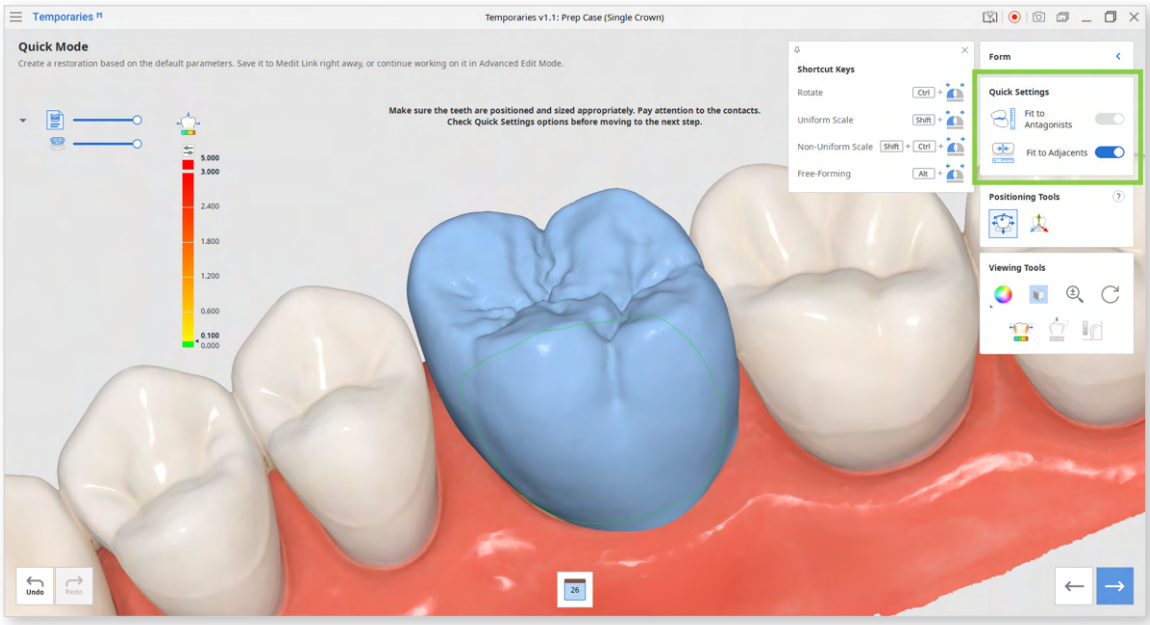
3. A library tooth will appear in this step. Use the provided Positioning Tools to adjust its position, size, and shape.

   Utilize the contact features in Viewing Tools to ensure proper positioning of the library data on the prepared tooth. These features will show how the restoration fits in with its adjacents and antagonists through the Color Map.

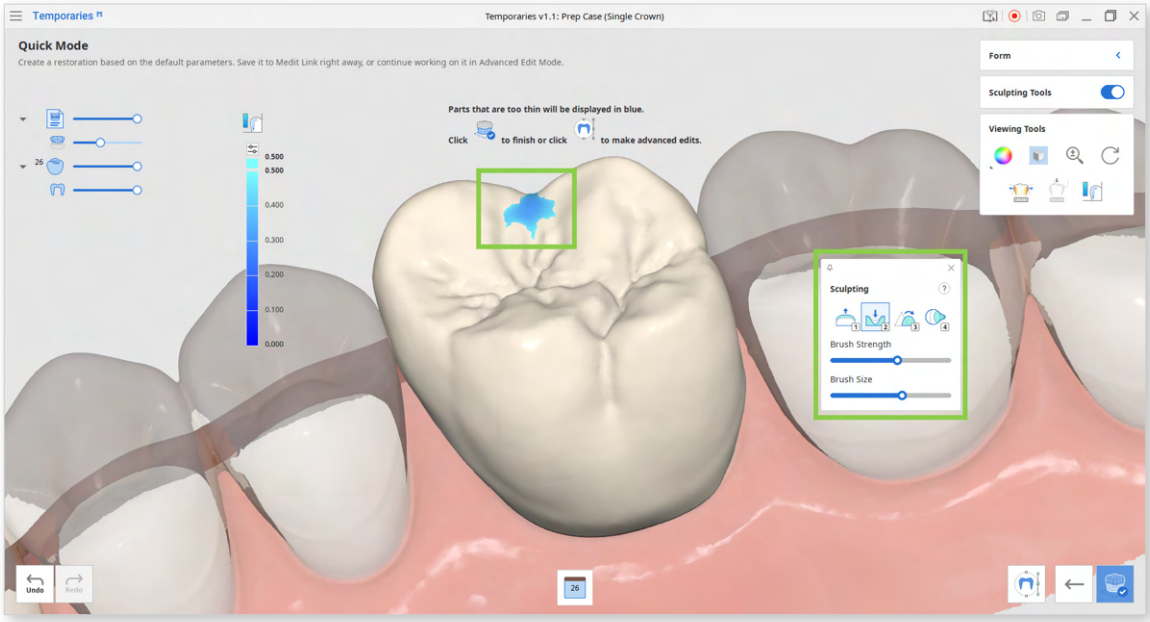
Positioning Tools		
	Free Move/Scale	Move the tooth freely without any constraints. Use shortcut keys to rotate and scale it.
	3D Manipulator	Scale, move, or rotate the tooth.

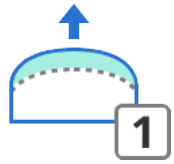
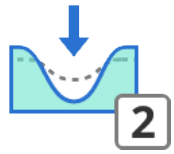
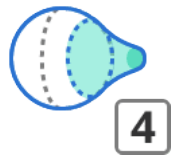
Shortcut Keys (for library data)	
Rotate Rotate the tooth in any direction. (Ctr/Cmd + click and drag)	
Uniform Scale Enlarge or shrink the tooth equally in all directions. (Shift + click and drag)	
Non-Uniform Scale Enlarge or shrink the tooth along one axis. (Shift + Ctr/Cmd + click and drag)	
Free-Forming Move parts of the tooth to change its form. (Alt/Opt + click and drag)	

4. Check options provided in the Quick Settings before moving to the next step.



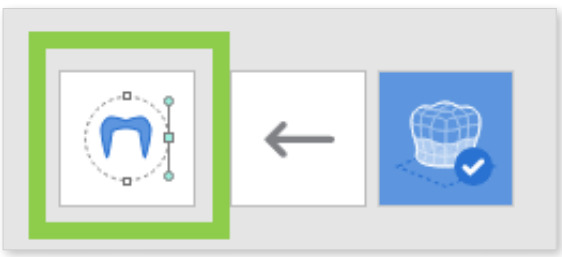
5. Review the created crown. If parts of the restoration are too thin, they will be displayed in blue. Sculpt them before finishing.



Sculpting Tools (Check more hotkeys for sculpting by clicking the question mark; provided hotkeys help save time when sculpting.)		
	Add	Add material to the restoration. Hotkey: 1
	Remove	Remove material from the restoration. Hotkey: 2
	Smooth	Smooth parts of the restoration. Hotkey: 3
	Morph	Morph the material on the restoration by dragging it with your mouse. Hotkey: 4

6. If satisfied with the result, save the crown to Medit Link by clicking “Complete” in the bottom right corner.

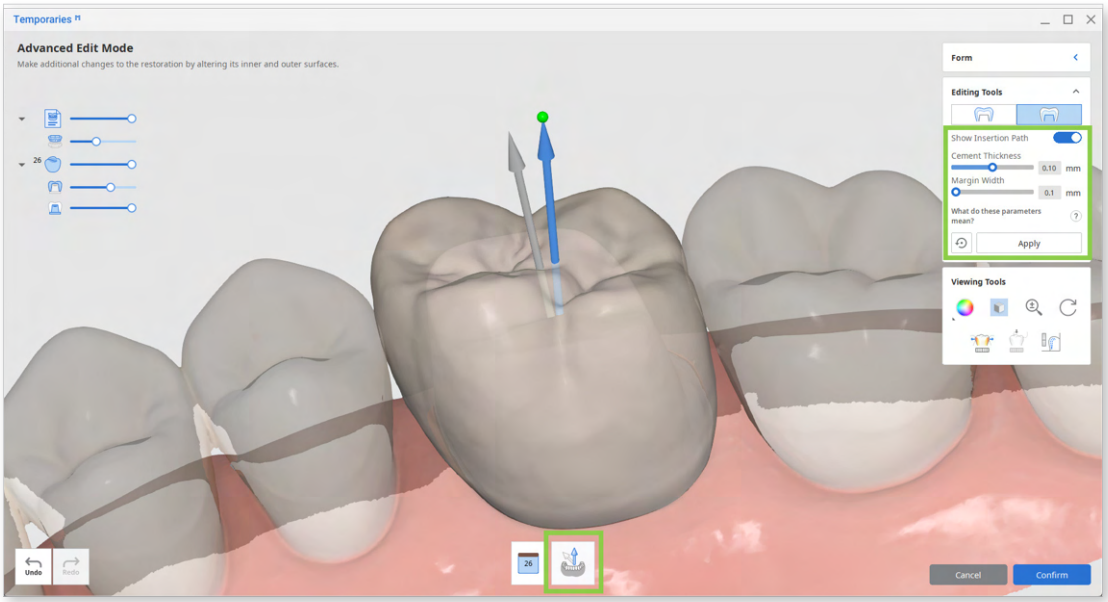
7. If you want to make additional changes to both the outer and inner surfaces of the crown, click “Advanced Edit Mode.”



A) Edit the outer surface by performing the adaptation with tools provided in the outer surface tab of the Editing Tools.

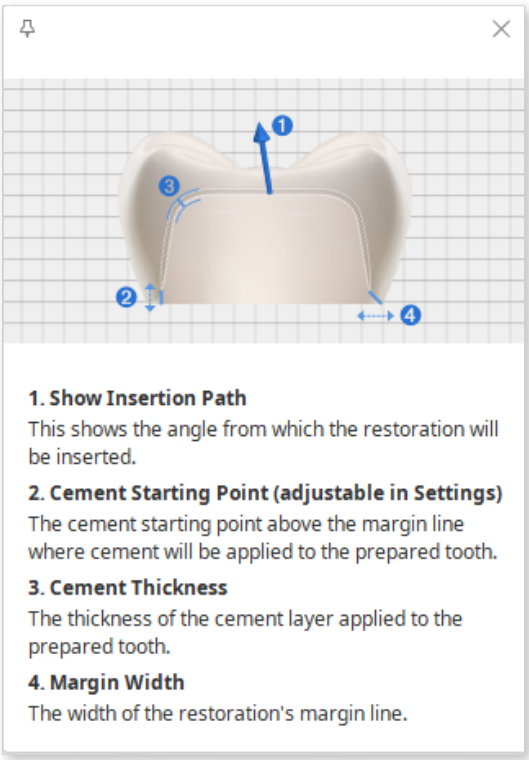
Editing Tools (Outer Surface)		
	Adapt to Adjacents	Adapt the restoration to adjacents.
	Adapt to Antagonists	Adapt the restoration to antagonists.
	Smart Adaptation	Adapt the restoration to the antagonists and adjacents simultaneously based on our recommended parameters.

B) Edit the inner surface by adjusting the insertion path arrow and changing values for the parameters provided in the inner surface tab of the Editing Tools. Adjust the insertion path by moving the arrow or try using the Set Arrow to Your Viewpoint to quickly set the insertion direction to your viewpoint.



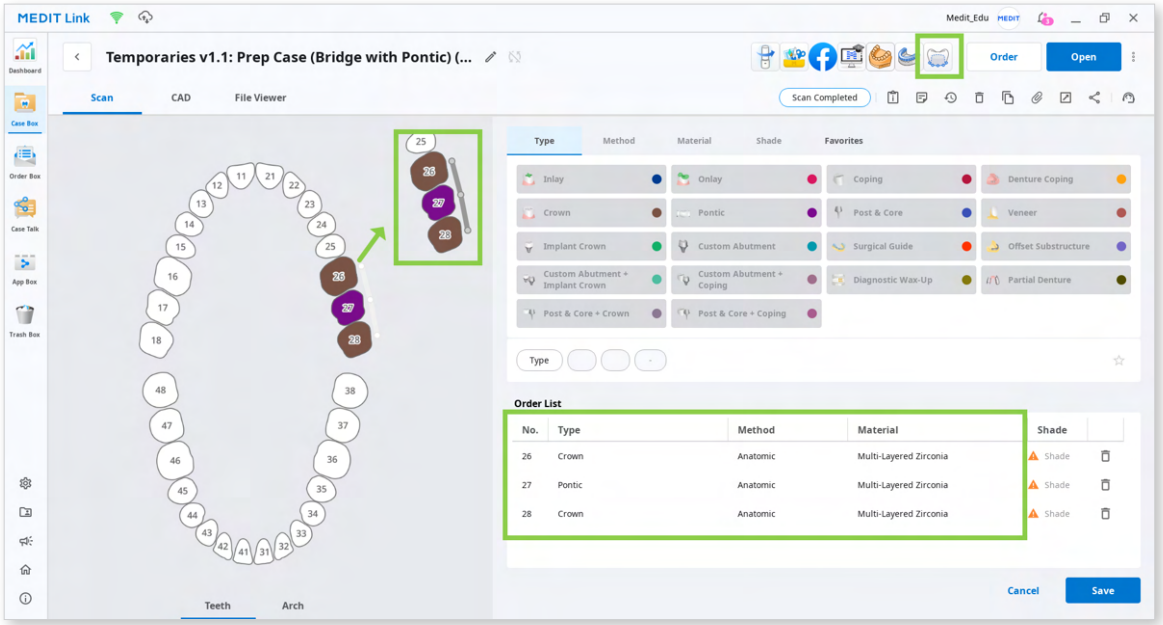
Remember to click “Apply” after setting new parameter values.

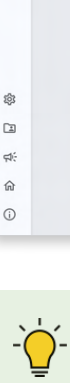
In the prepared data module, you can adjust following parameters for the inner surface of the crown.



Bridges

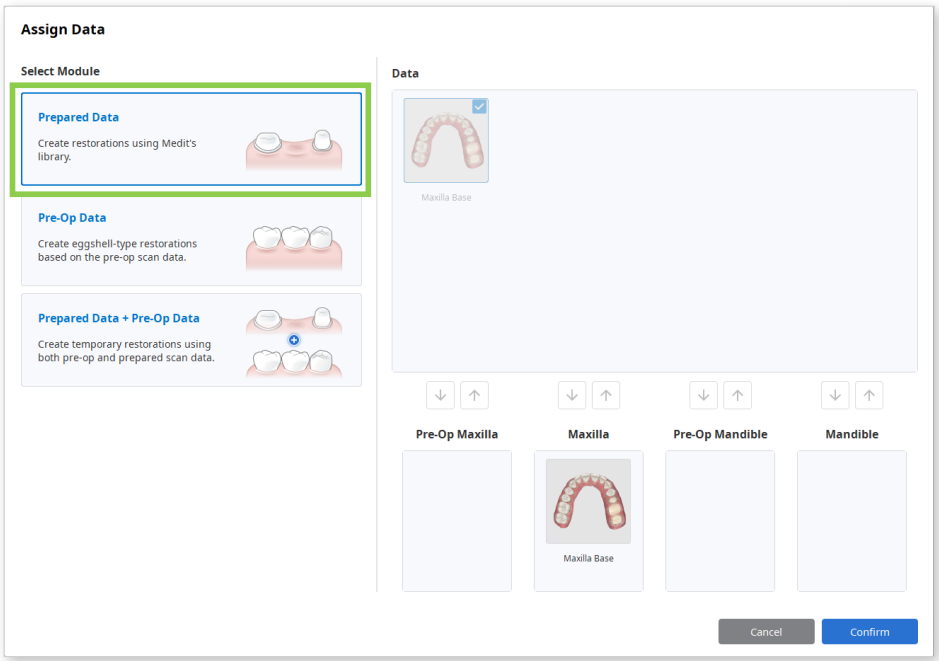
1. Register several crowns or crowns and pontics in the form, connect them, and run Medit Temporaries.



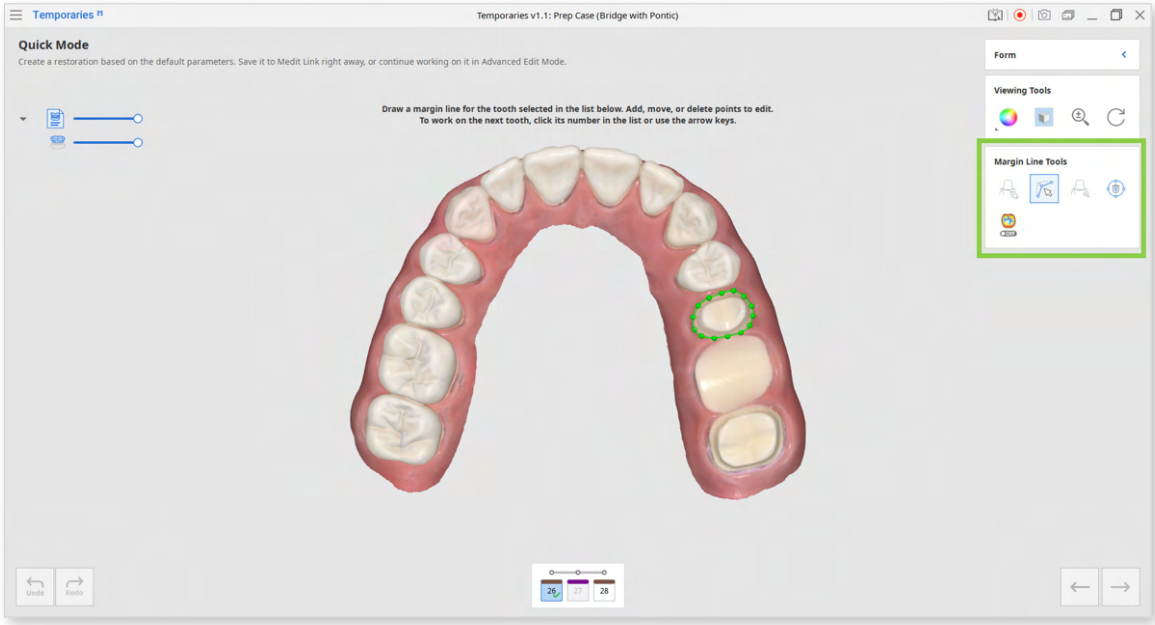


Note that to design a bridge, crowns and pontics must be connected, as shown in the image above. Otherwise, the program will consider them as multiple single crowns. All crowns and pontics of the bridge must be registered with the same ‘method’ and ‘material.’

2. After the app has opened, select the prepared data module and assign your scan data.

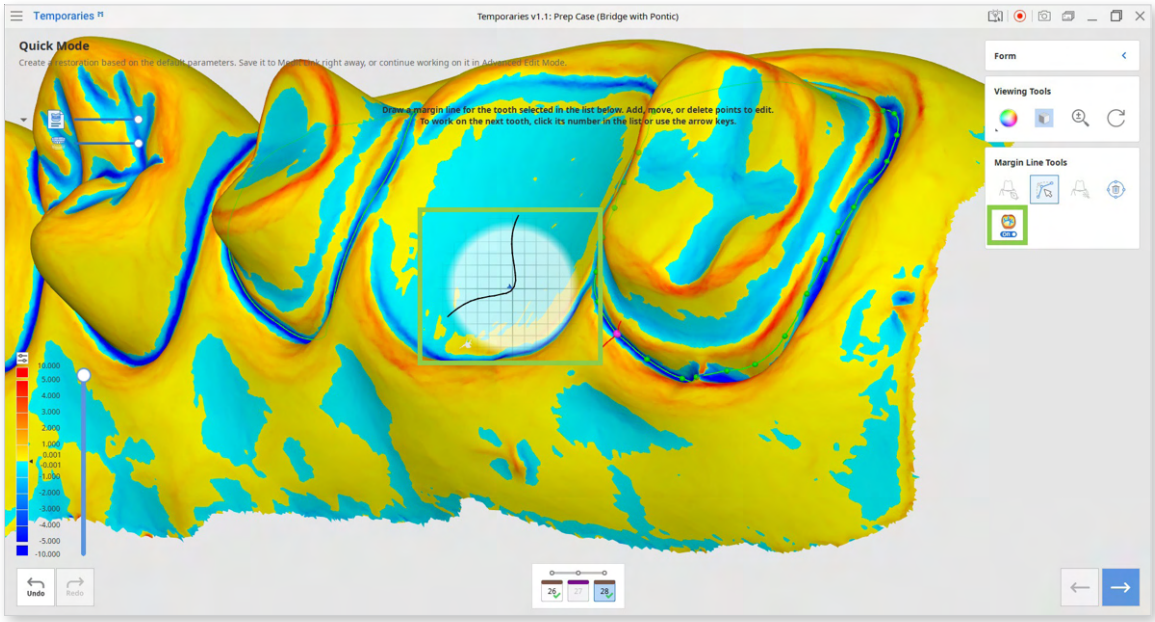


3. Use the Margin Line Tools to draw margins for the prepared teeth. To work on the next tooth, click its number in the list below the 3D data or use the arrow keys.



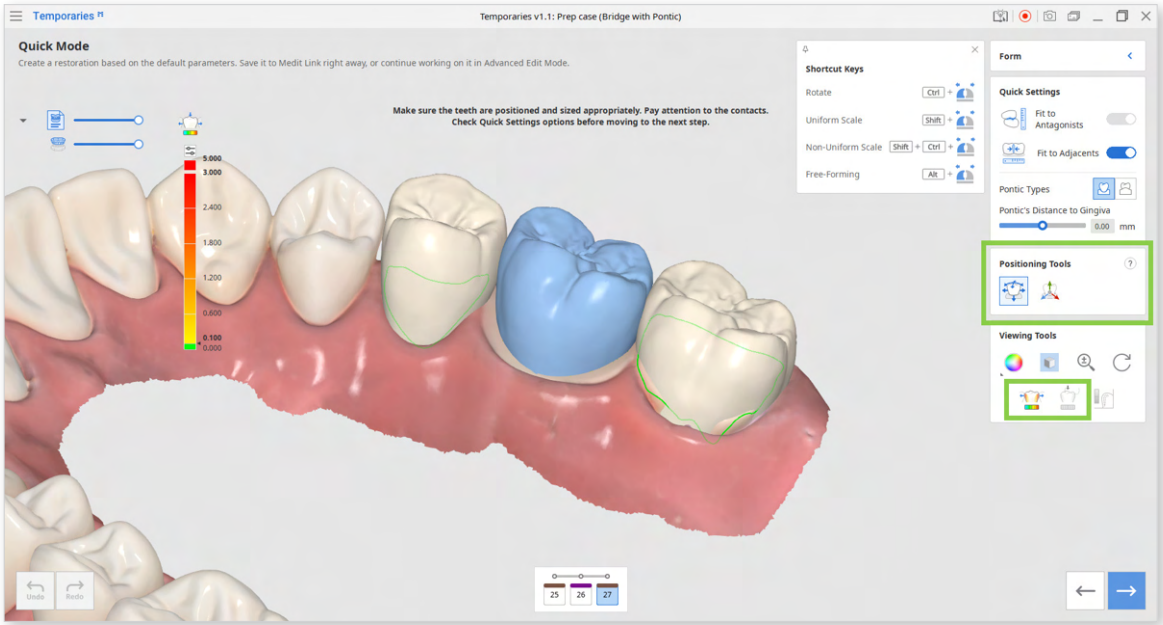
To create a more precise margin, you can turn on Curvature Display Mode and refer to the cross-sectional display that appears when you hover the mouse over the data.

When done, click “Next” or press the space key.

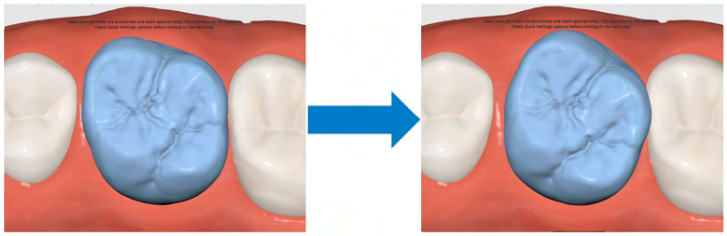
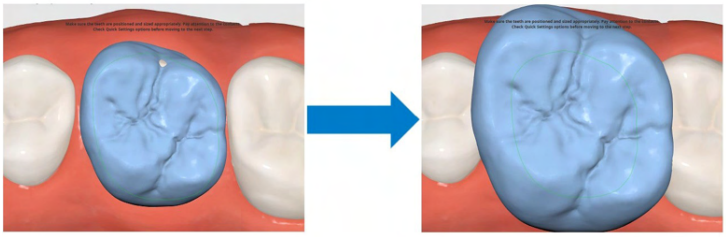
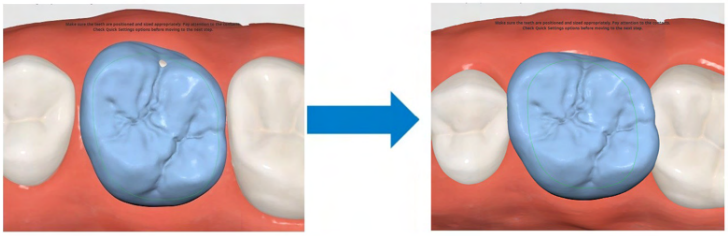
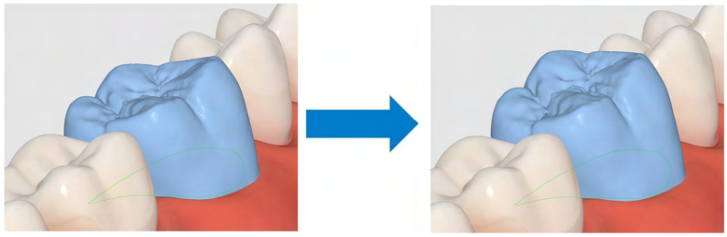


Margin Line Tools		
	Manual Creation	Manually create a margin line based on the selected points.
	Edit	Edit the margin line. Add, move and delete the control points.
	Auto Creation	Automatically create a closed margin line based on the selected point.
	Delete	Delete the margin line.
	Curvature Display Mode	See curvature of the data through Color Map.

4. Library teeth will appear in this step. Use the provided Positioning Tools to adjust the teeth's position, size, and shape one by one. Utilize the contact features in Viewing Tools to ensure proper positioning of the library data on the prepared tooth. These features will show how the restoration fits in with its adjacents and antagonists through the Color Map.

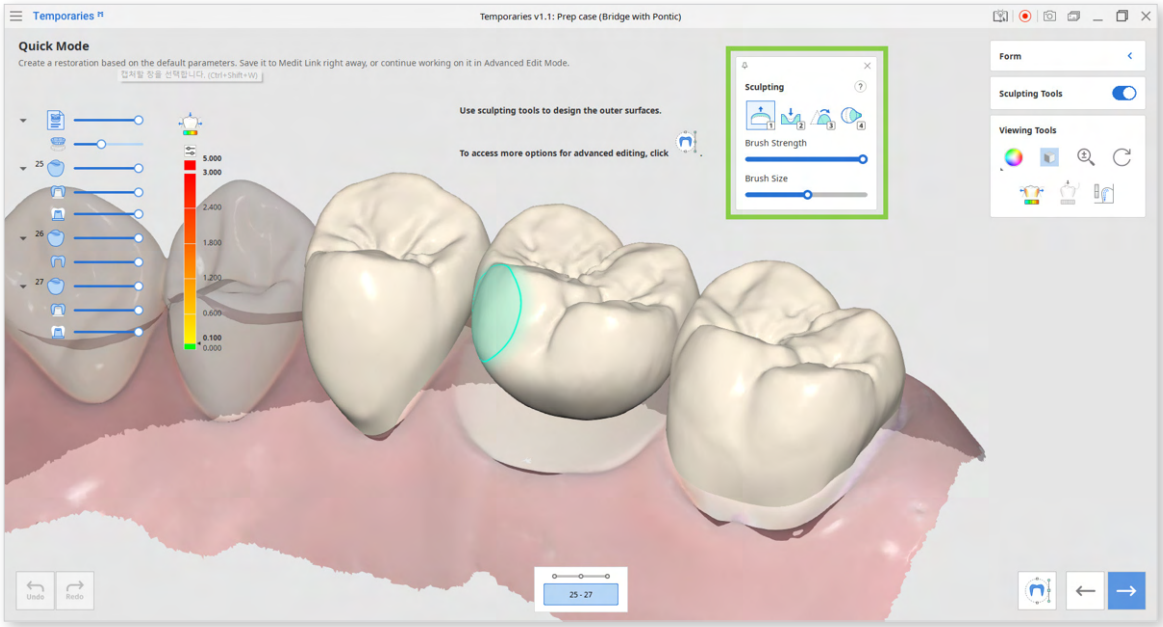


Positioning Tools		
	Free Move/Scale	Move the tooth freely without any constraints. Use shortcut keys to rotate and scale it.
	3D Manipulator	Scale, move, or rotate the tooth.

Shortcut Keys (for library data)	
Rotate Rotate the tooth in any direction. (Ctr/Cmd + click and drag)	
Uniform Scale Enlarge or shrink the tooth equally in all directions. (Shift + click and drag)	
Non-Uniform Scale Enlarge or shrink the tooth along one axis. (Shift + Ctr/Cmd + click and drag)	
Free-Forming Move parts of the tooth to change its form. (Alt/Opt + click and drag)	

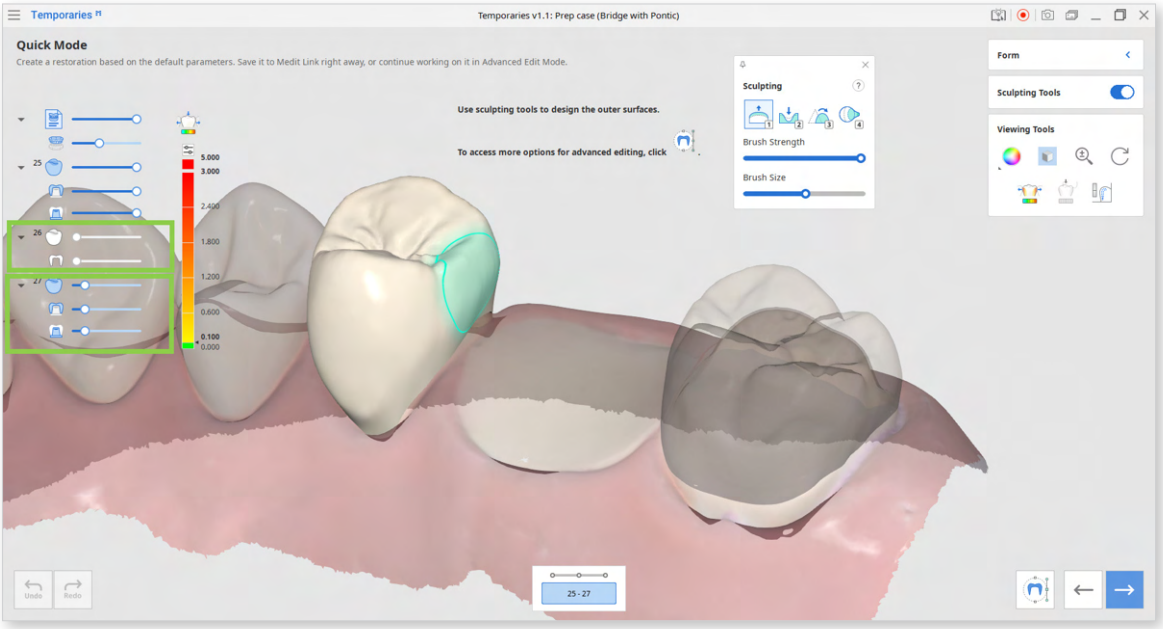
5. Check the adjustment options provided in the Quick Settings before moving to the next step.
   If your bridge includes pontic, choose between ovate or saddle type in this step and adjust its distance to the gingiva.

6. In the next step, use Sculpting Tools to design the outer surfaces of each restoration if needed.



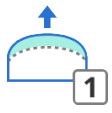
When sculpting, adjust the transparency slider of each crown in Data Tree or click them to completely hide the restoration.

This will improve the visibility and access when designing the mesial and distal sides.

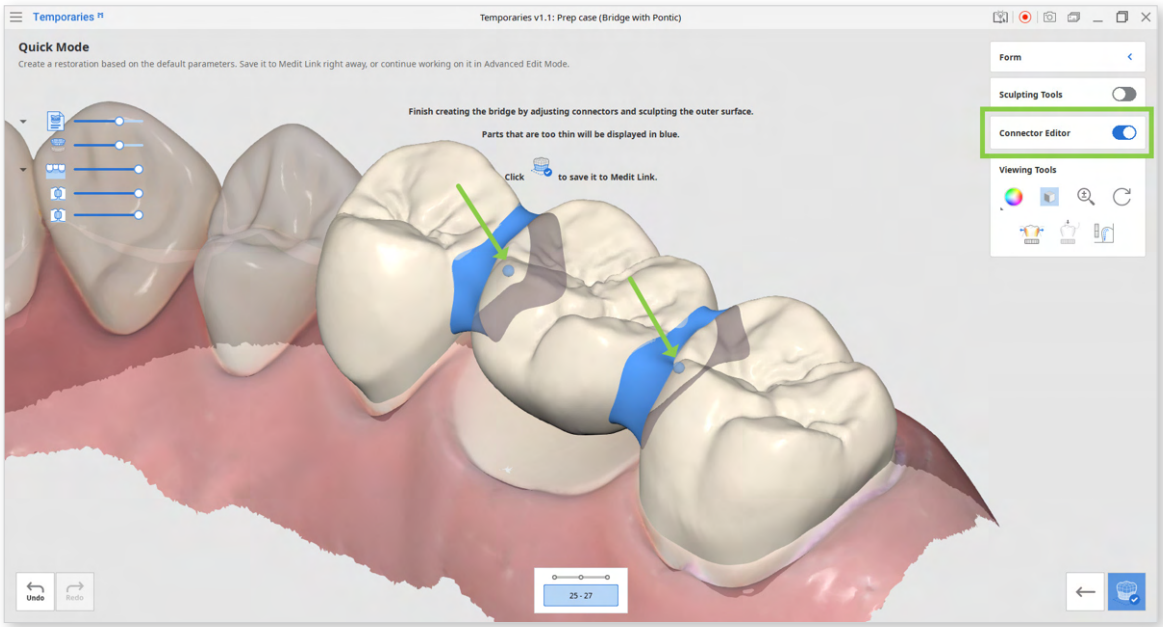


<Tooth #26 is hidden and tooth #27 is transparent.>

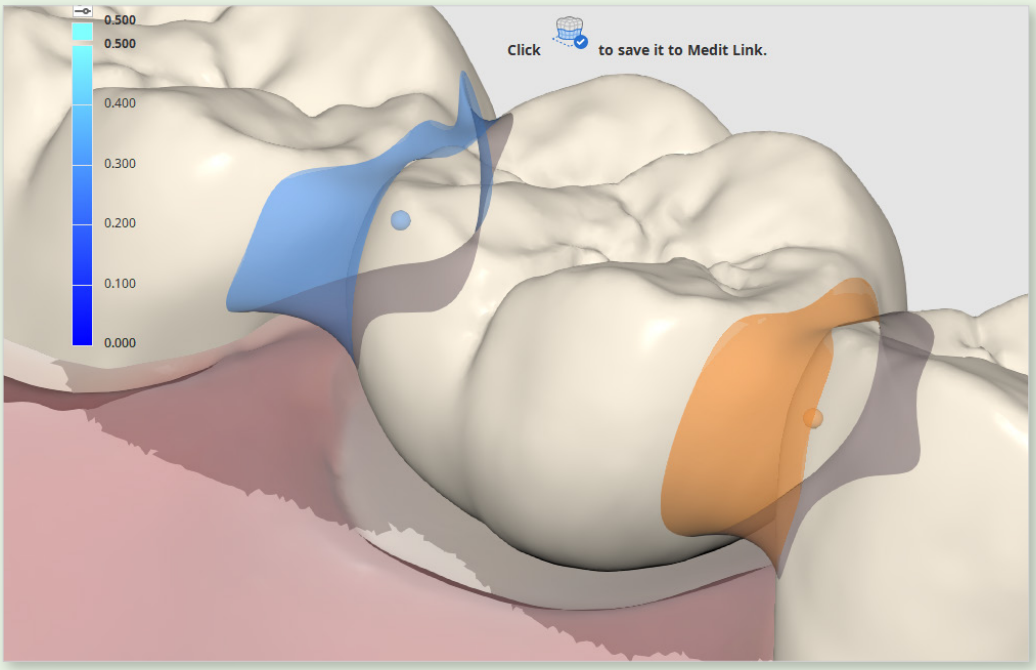
After sculpting, you can make more changes to the outer and inner surfaces of the restoration in Advanced Edit Mode. This step is optional. See more on Advanced Edit Mode at the end of this chapter.

Sculpting Tools (Check more hotkeys for sculpting by clicking the question mark; provided hotkeys help to save up time when sculpting.)		
	Add	Add material to the restoration. Hotkey: 1
	Remove	Remove material from the restoration. Hotkey: 2
	Smooth	Smooth parts of the restoration. Hotkey: 3
	Morph	Morph the material on the restoration by dragging it with your mouse. Hotkey: 4

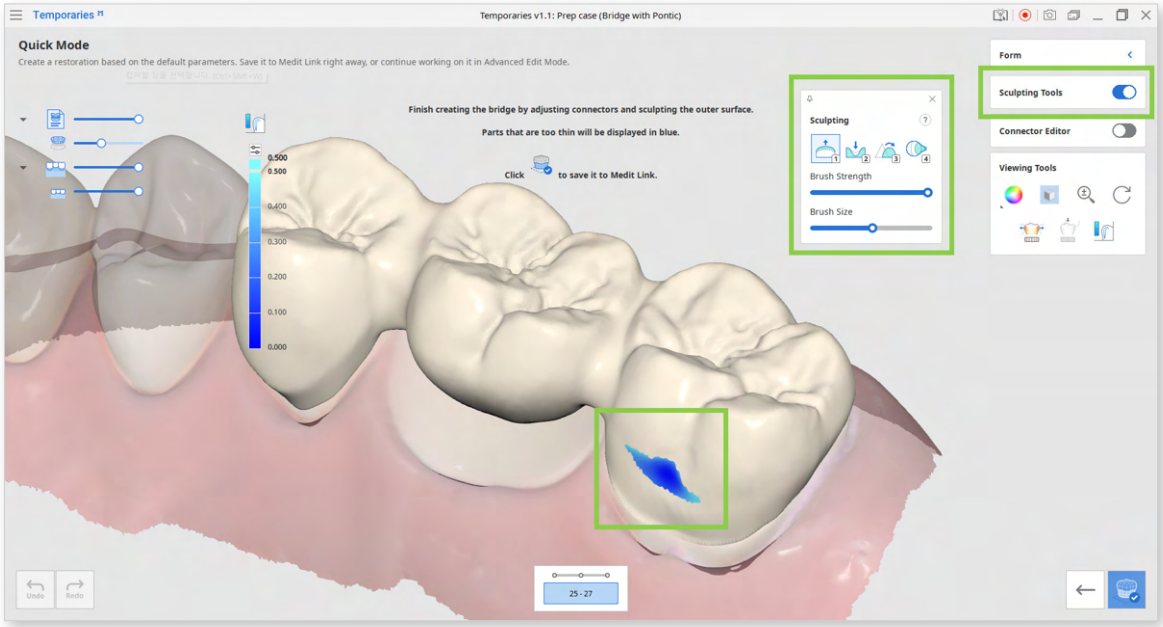
7. Finish creating the bridge by adjusting connectors. Turn on the Connector Editor on the right and drag the center point of each connector to change its position. The minimum cross-sectional area for connectors can be set in program settings. The default value is 9 mm² for anterior teeth and 14 mm² for posterior teeth.



If the connector is displayed in orange, its position is not optimal; adjust until it is blue again.

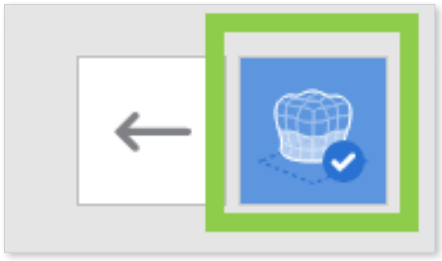


If there are parts of the restoration that are too thin, they will be displayed in blue. Turn on Sculpting Tools and edit them before finishing.

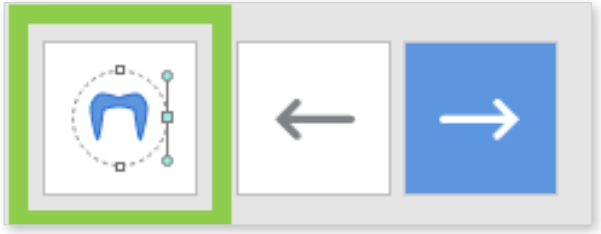


> ⚠ It is recommended first to adjust the connectors and only then to perform sculpting. If you turn on Connector Editor after sculpting, your sculpting results will be lost.

8. If satisfied with the result, save the bridge to Medit Link by clicking “Complete” in the bottom right corner.

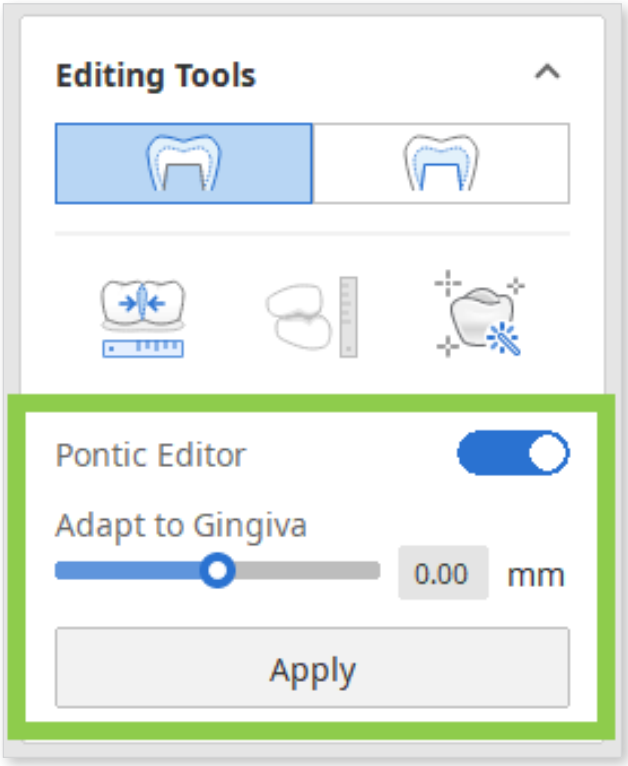


9. If you want to make more advanced edits to the restoration’s inner and outer surfaces, click “Advanced Edit Mode” in the bottom right corner of step 6.



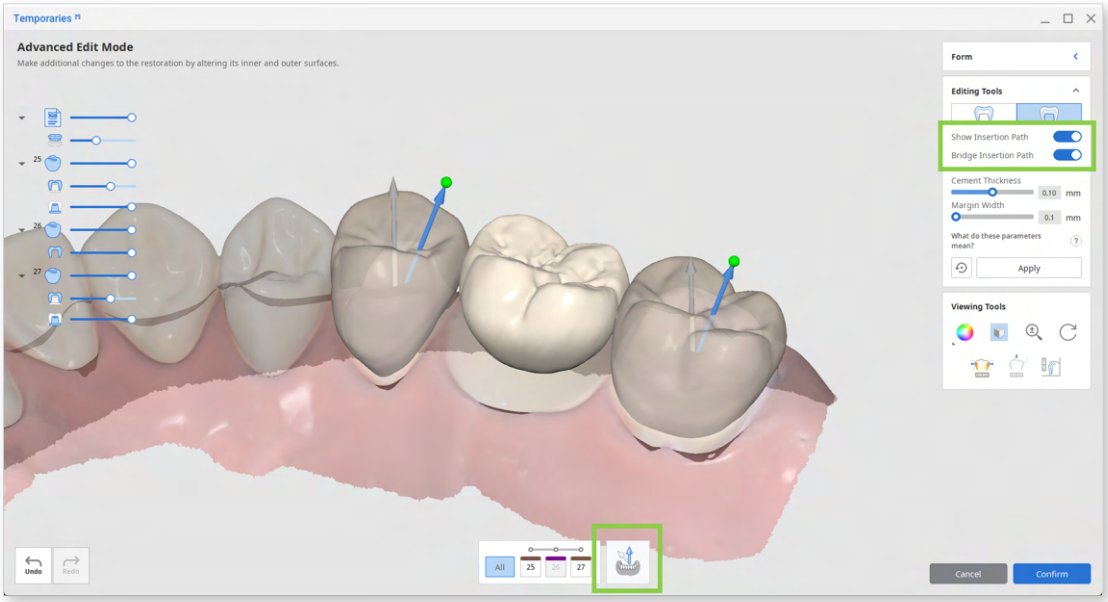
A) Edit the outer surface of each crown separately by performing the adaptation with tools provided in the outer surface tab of the Editing Tools.

To edit the pontic, turn on Pontic Editor and adjust it to the gingiva.



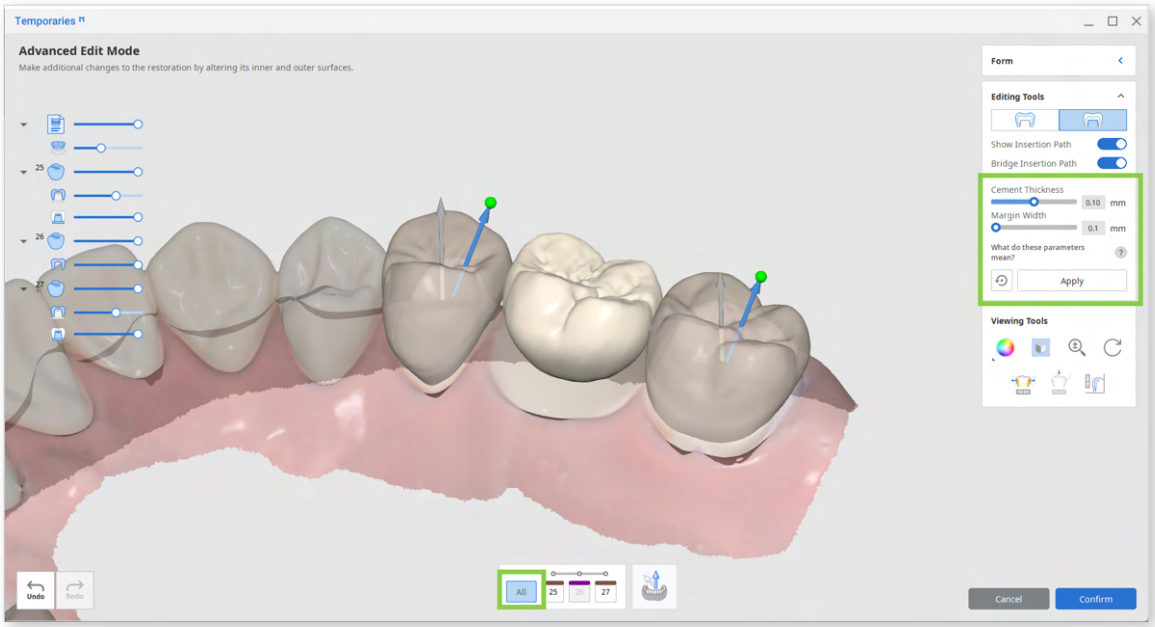
Editing Tools (Outer Surface)		
	Adapt to Adjacents	Adapt the restoration to adjacents.
	Adapt to Antagonists	Adapt the restoration to antagonists.
	Smart Adaptation	Adapt the restoration to the antagonists and adjacents simultaneously based on our recommended parameters.

B) Edit the inner surfaces by adjusting the insertion path arrows and values for the parameters provided in the inner surface tab of the Editing Tools.
Adjust the insertion path by moving the arrow for each crown separately, or turn on Bridge Insertion Path so the arrows would move as one. You can also use Set Arrow to Your Viewpoint to quickly set the insertion direction to your viewpoint.



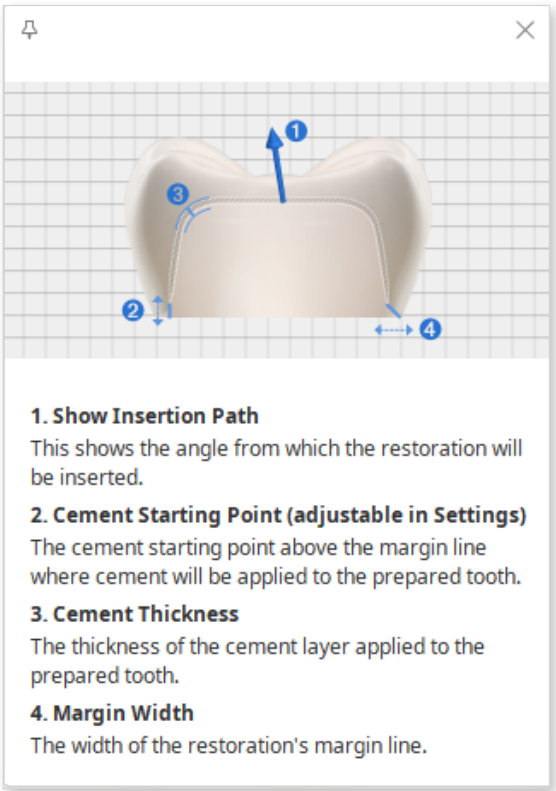
<The gray arrow indicates the automatically set insertion direction; the blue arrow is the newly set insertion direction.>

To adjust inner surface parameters for all teeth at once, click “All” in the list below the 3D data.



Remember to click “Apply” after setting new parameter values.

In the prepared data module, you can adjust the following parameters for the inner surface of the crowns.



Settings in Prepared Module

Medit Temporaries creates restorations quickly and easily using pre-set parameters. To change any of the default values, go to settings in the program menu in the top left corner.

Here is a list of available settings in the prepared data module.

General

Settings	Description	Default	Range
Send Anonymous Usage Statistics	Set whether to send anonymous usage statistics to Medit.	On	
Advanced Rendering	Displays the 3D model in a more vivid and realistic way.	On	

Outer Surface – Default settings

Parameter	Description	Default	Range
Distance to Antagonists	The distance from the restoration to its antagonists. All overlapping areas will be removed.	0.2 mm	0 mm - 0.5 mm
Distance to Adjacents	The distance from the restoration to its antagonists. All overlapping areas will be removed.	0 mm	-0.5 mm - 0 mm
Min. Cross-Section Area of the Connectors **(bridges only)**	Set the minimal value for the cross-sectional area of the connectors. Values are set separately for bridges with anterior and posterior teeth.		
Anterior		9 mm^2	6 mm^2 - 15 mm^2
Posterior		14 mm^2	10 mm^2 - 30 mm^2

Inner Surface - Default Settings

Parameter	Description	Default	Range
Minimum Thickness	Set the minimum thickness of the restoration.	0.5 mm	0.3 mm - 0.7 mm
Cement Thickness	The thickness of the cement layer over the prepared tooth.	0.1 mm	0 mm - 0.2 mm
Cement Starting Point	The point, counted from the margin line, from which cement will be applied to the prepared tooth.	2	1 - 5
Smoothing	Choose how smooth you would like the inner surface to be. 💡 Note that generally, this depends on your 3D printer or milling machine. We recommend making the surface smoother by default, especially when using milling machines.	1	1 - 5
Remove Undercuts	Automatically removed undercuts.	On	

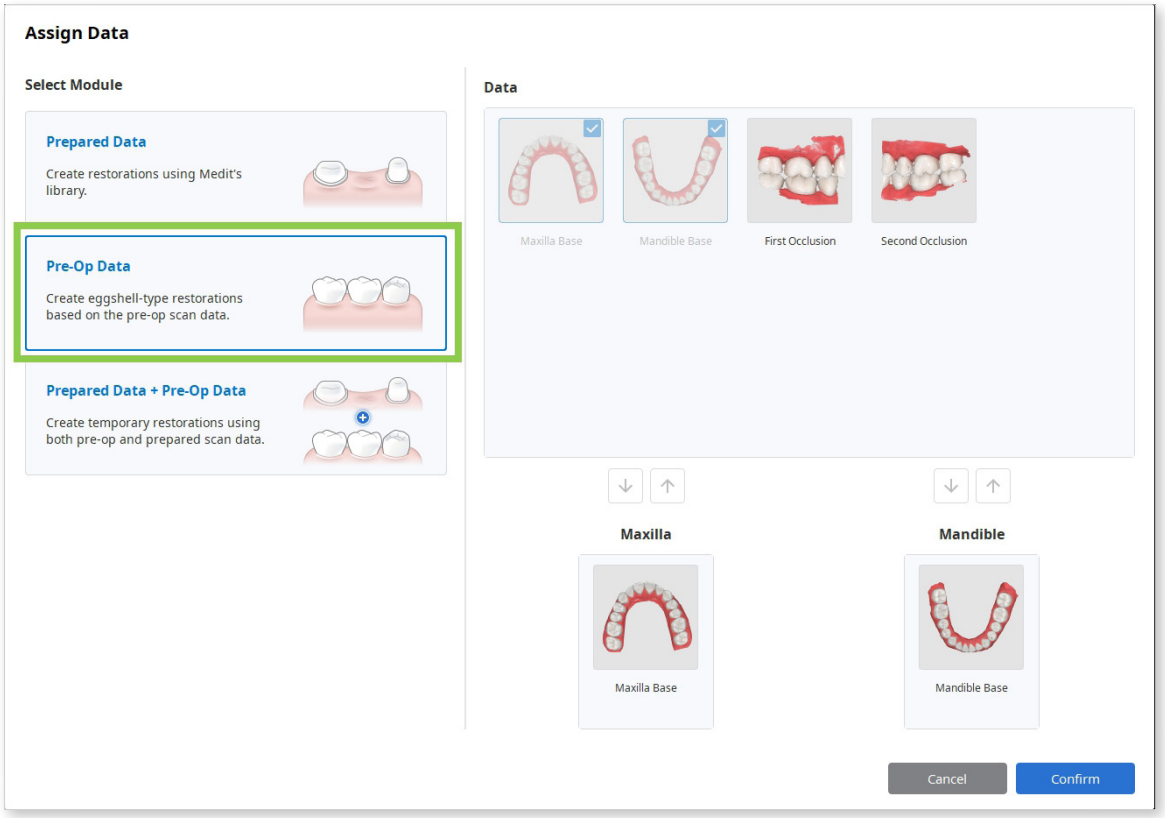
How to Design Restorations Using Pre-Op Data (Eggshell)

Crowns

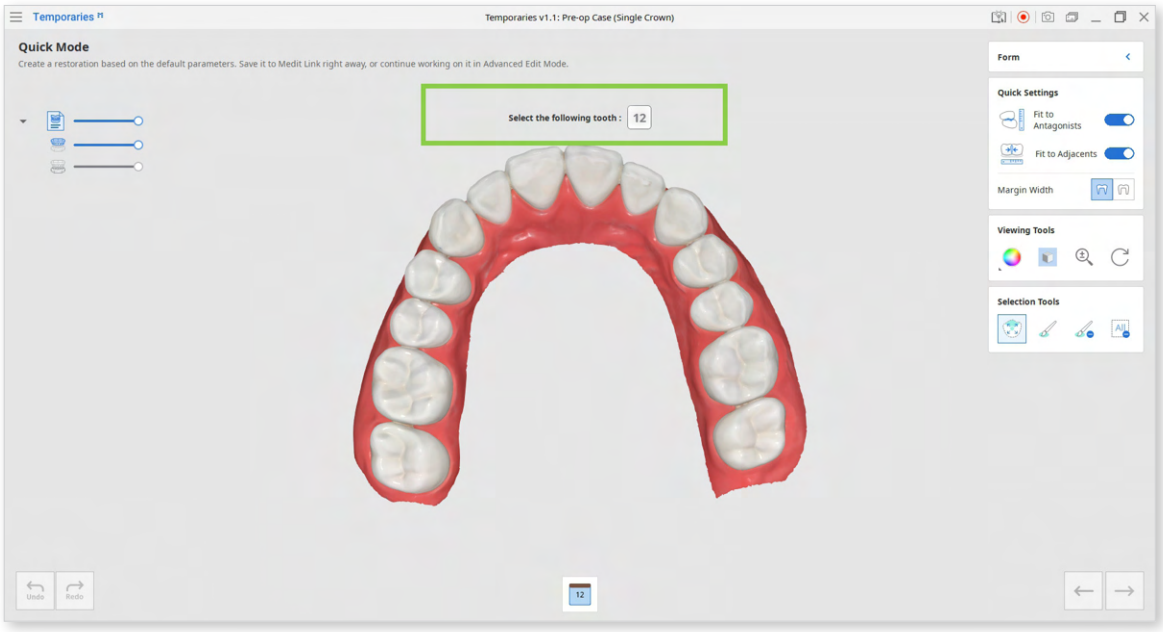
Medit Temporaries allows you to create an eggshell-type crown based on the preoperational data alone.

1. Register a crown in the form and run Medit Temporaries.

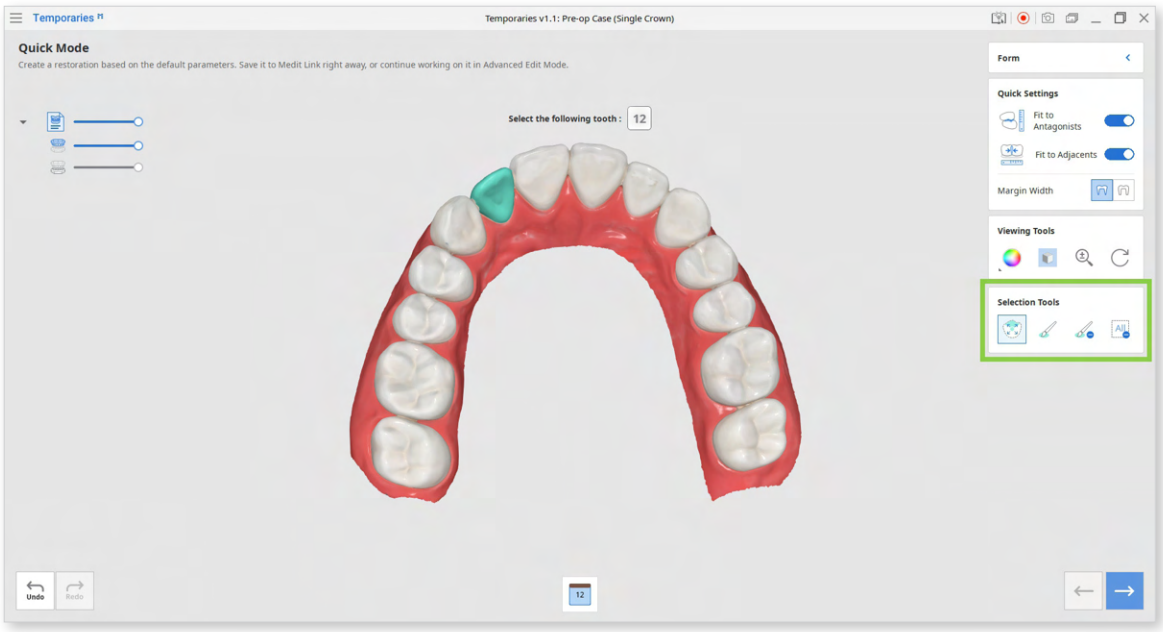
2. After the app has opened, select the pre-op data module and assign your scan data. Then, click “Confirm.”



3. Once data has appeared on the screen, follow the instructions in Guide Message.



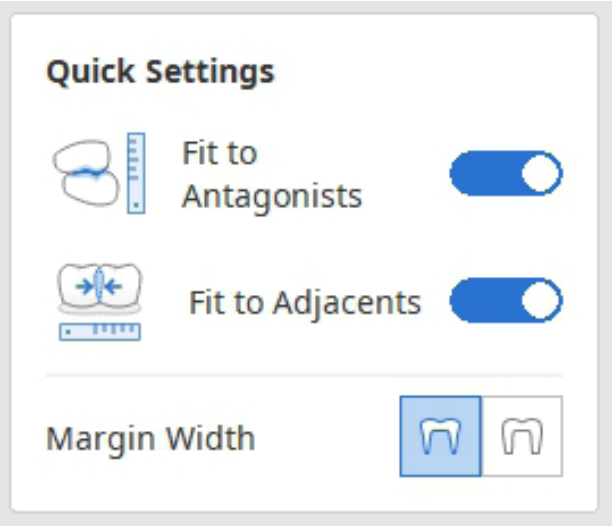
4. Utilize Selection Tools to select the tooth you want to create a crown for. Smart Single Tooth Selection is automatically enabled once you enter this step. Click and drag on the tooth to select; the selected tooth data will be green.



Selection Tools		
	Smart Single Tooth Selection	Automatically select the area of a single tooth, leaving out gingiva parts. Click and drag the mouse on the tooth.
	Brush Selection	Use a brush to select all entities on a freehand drawn path on the screen.
	Brush Deselection	Use a brush to deselect all entities on a freehand drawn path on the screen.
	Clear All Selection	Clear all selected areas.

5. Check the Quick Settings located at the top right corner of the screen before moving to the next step.

   Using Quick Settings helps shorten the time spent on manually editing the restoration.



	Fit to Antagonists	Use this option to cut all intersections of the restoration with its antagonist. The default value for this parameter is 0.2 mm. You can make more precise adjustments later in the Advanced Edit Mode by entering a different value.
	Fit to Adjacents	Use this option to fit the outer surface to the adjacents. This will help to expand the restoration so that the space between the crown and adjacents is minimized.
	Margin Width	**Thin Margin:** Choose this option to create a restoration with a thin margin line (0.2 mm). Go to Advanced Edit Mode to access more inner surface parameters. **Thick Margin:** Choose this option to create a restoration with a thick margin line (0.5 mm). Go to Advanced Edit Mode to access more inner surface parameters.

The restoration will be created based on the default parameters unless you change them in Settings or further on in Advanced Edit Mode.

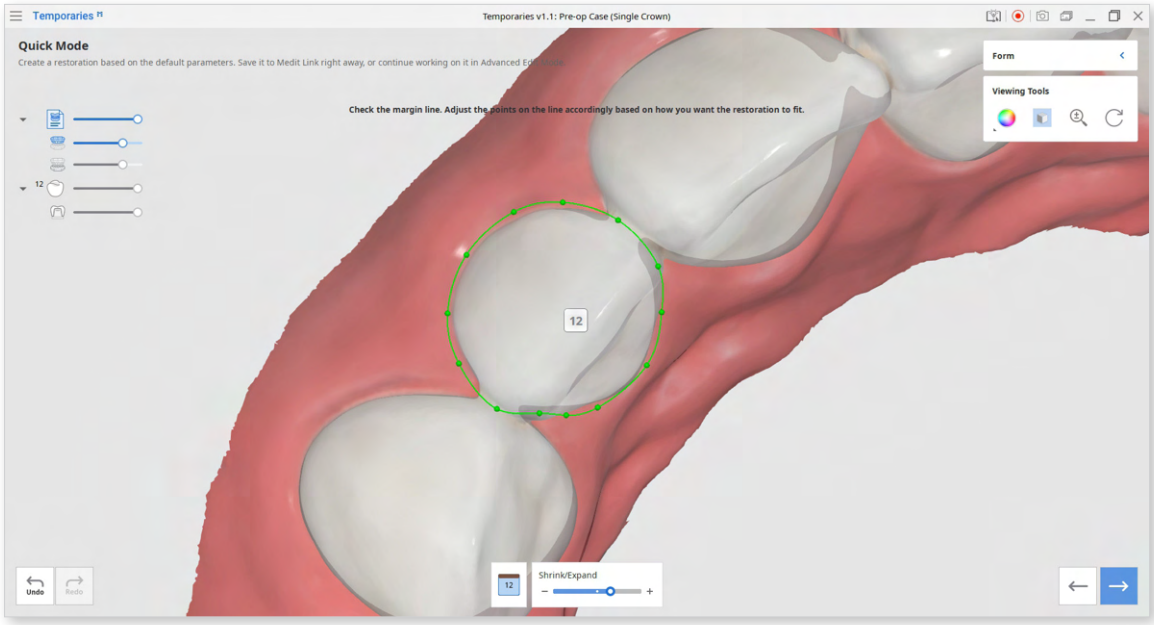
To better understand the difference between using a thin or thick option of the Margin Width, compare the two images below.

Thin Margin

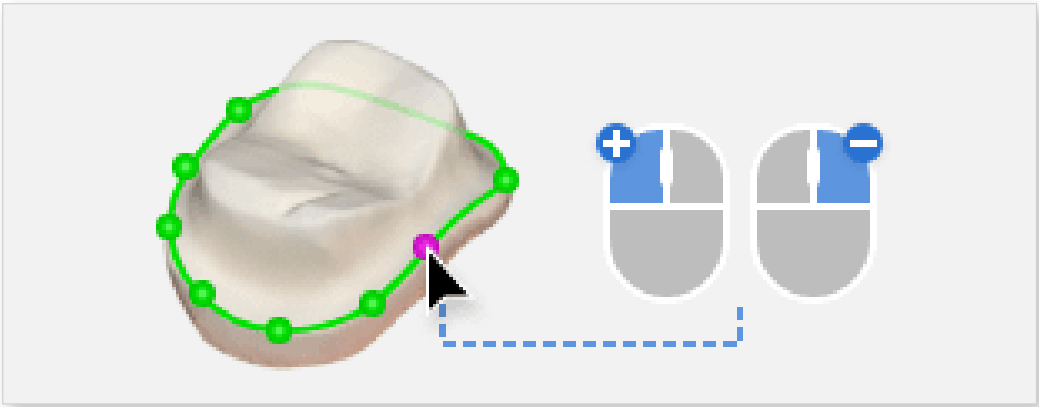
Thick Margin

6. Click “Next” or press the space bar when done to continue.

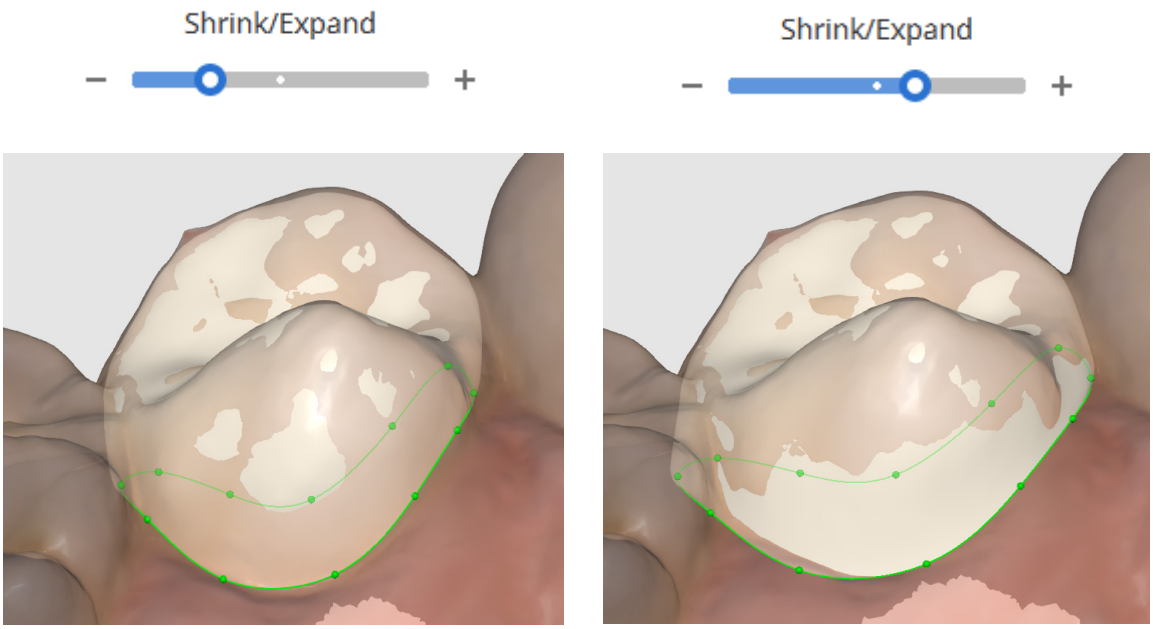
7. In the next step, a margin line will be automatically created for your target tooth. Examine the margin and, if needed, edit it.



8. Add, move, or delete control points to edit the margin. Left-click to add points, right-click to delete, and click and drag to move.



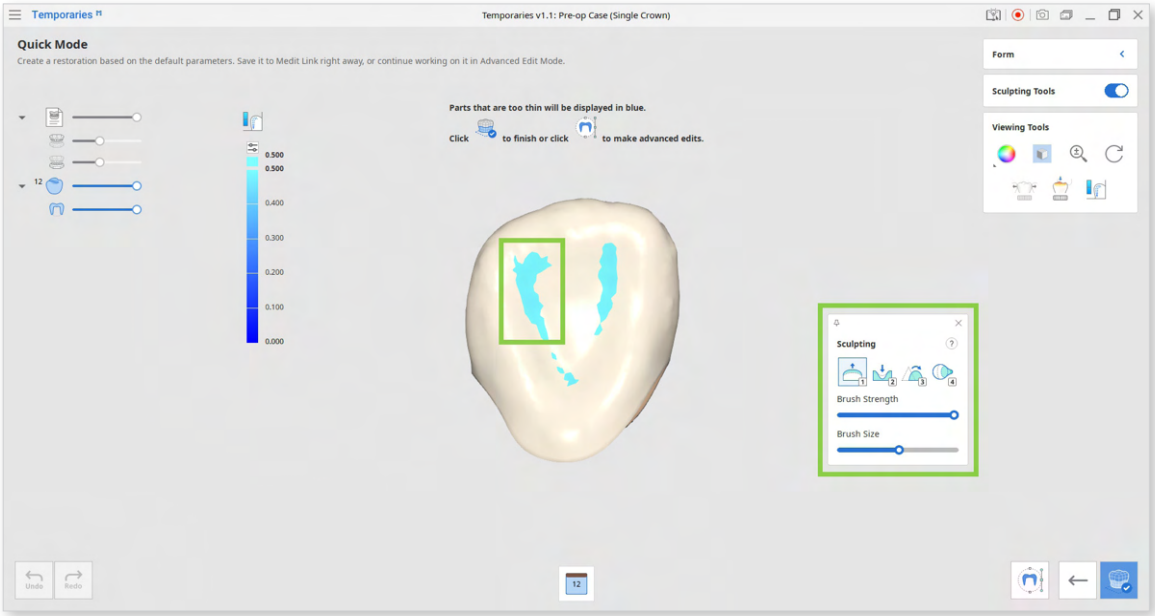
9. Use the slider at the bottom of the screen to quickly expand or shrink the margin evenly in all directions. Note that by default, the program will create a slightly bigger margin line.

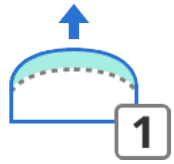
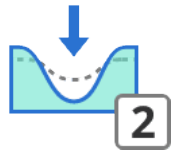
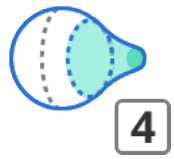


10. Click “Next” or press the space bar to see the created crown.

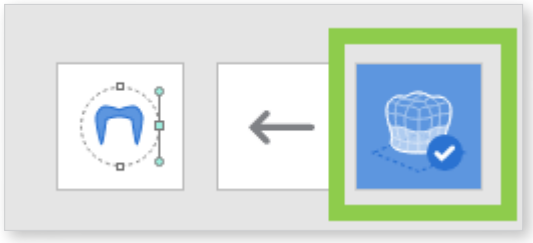
11. In this step, Sculpting Tools are automatically activated for you to design the outer surface of the crown. Adjust the brush size and strength and then add, remove, smooth, or morph the material of the crown.

    If there are areas that are too thin, they will be displayed in blue. Sculpt them before finishing.

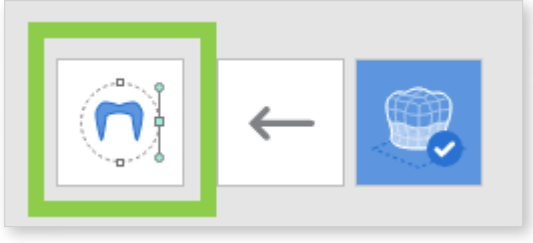


Sculpting Tools (Check more hotkeys for sculpting by clicking the question mark; provided hotkeys help save time when sculpting.)		
	Add	Add material to the restoration. Hotkey: 1
	Remove	Remove material from the restoration. Hotkey: 2
	Smooth	Smooth parts of the restoration. Hotkey: 3
	Morph	Morph the material on the restoration by dragging it with your mouse. Hotkey: 4

12. After sculpting, you can save the created crown to Medit Link by clicking “Complete” in the bottom right corner.

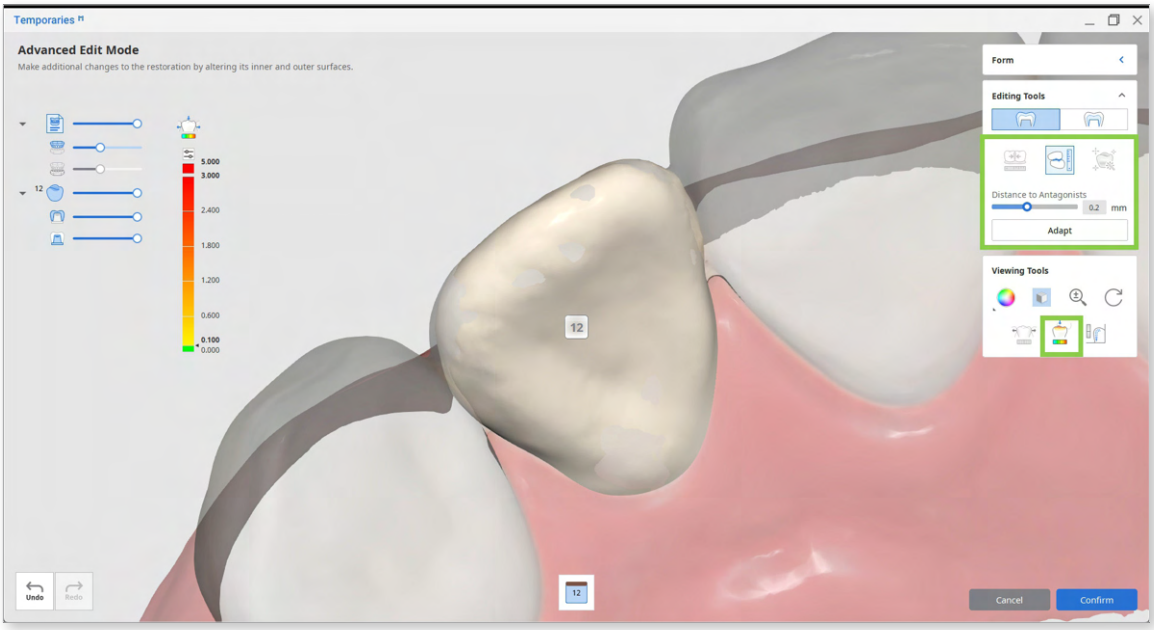


13. If you want to make more adjustments to the inner and outer surfaces of the restoration, go to Advanced Edit Mode.

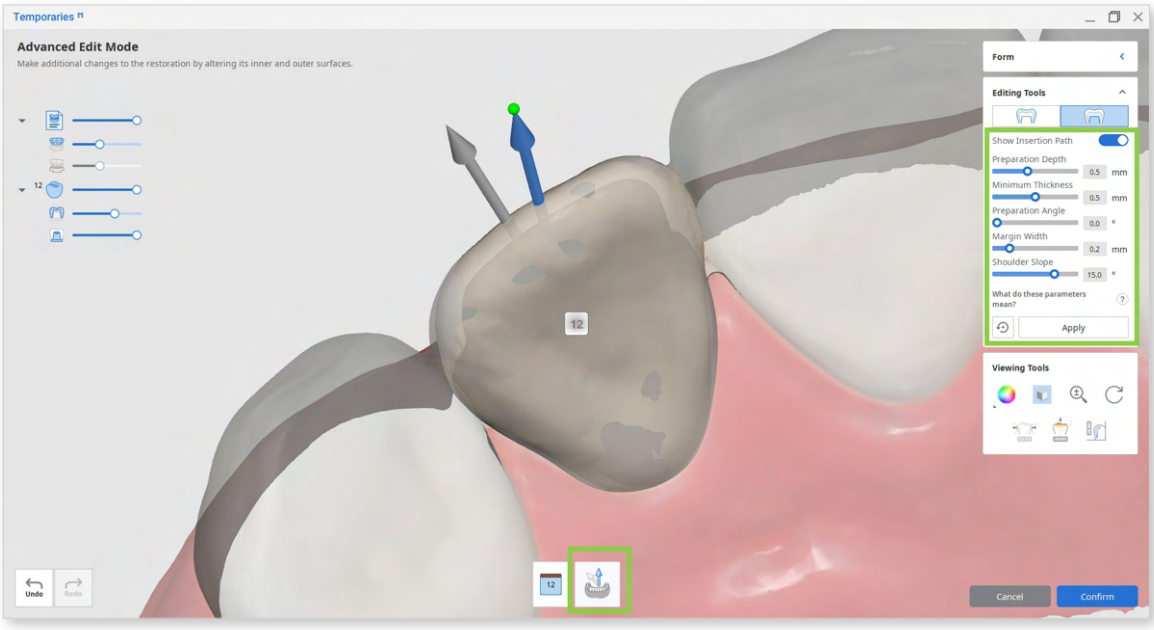


A) Edit the outer surface of the crown using the Adjust to Antagonists feature in the outer surface tab of the Editing Tools. Turning on Show/Hide Contact Areas with Antagonists will help you examine what parts must be removed.

Only the Adjust to Antagonist feature will be available when working on a single crown.



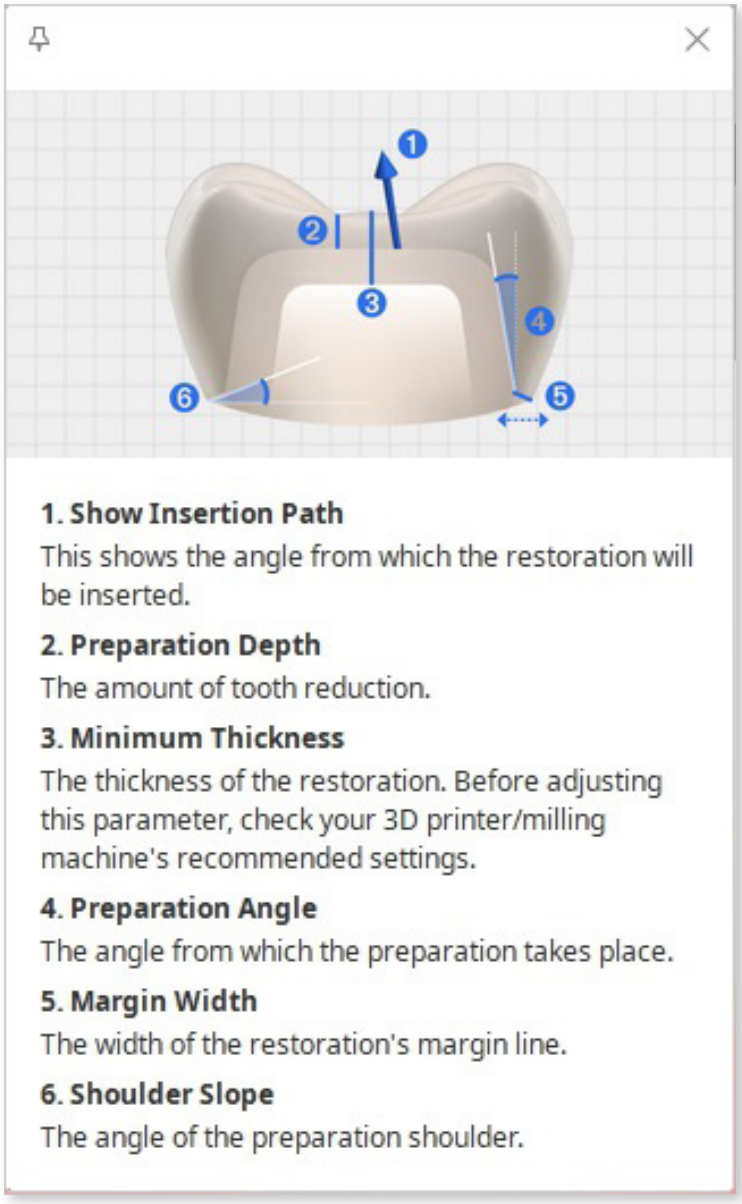
B) Edit the inner surface by adjusting the insertion path arrow and changing values for the parameters in the inner surface tab of the Editing Tools. Adjust the insertion path by moving the arrow, or try using the Set Arrow to Your Viewpoint to quickly set the insertion direction to your viewpoint.



<The gray arrow indicates the automatically set insertion direction; the blue arrow is the newly set insertion direction.>

Remember to click “Apply” after setting new parameter values.

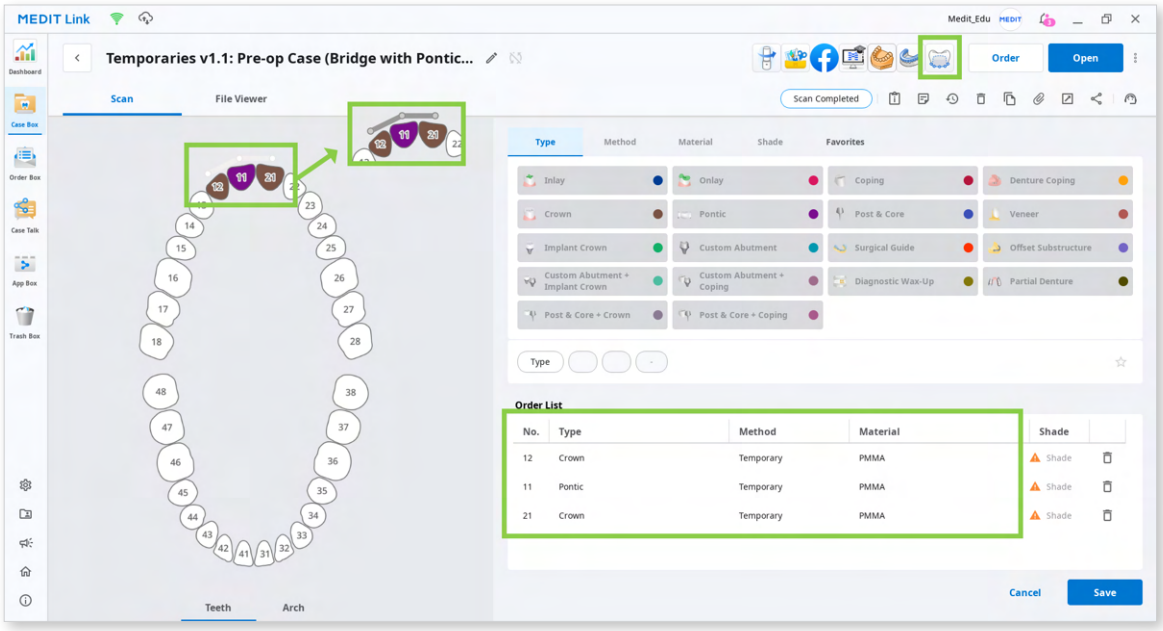
In the pre-op data module, you can adjust the following parameters for the inner surface of the crown.



Bridges

Medit Temporaries allows you to create eggshell-type bridges based on the preoperation data alone.

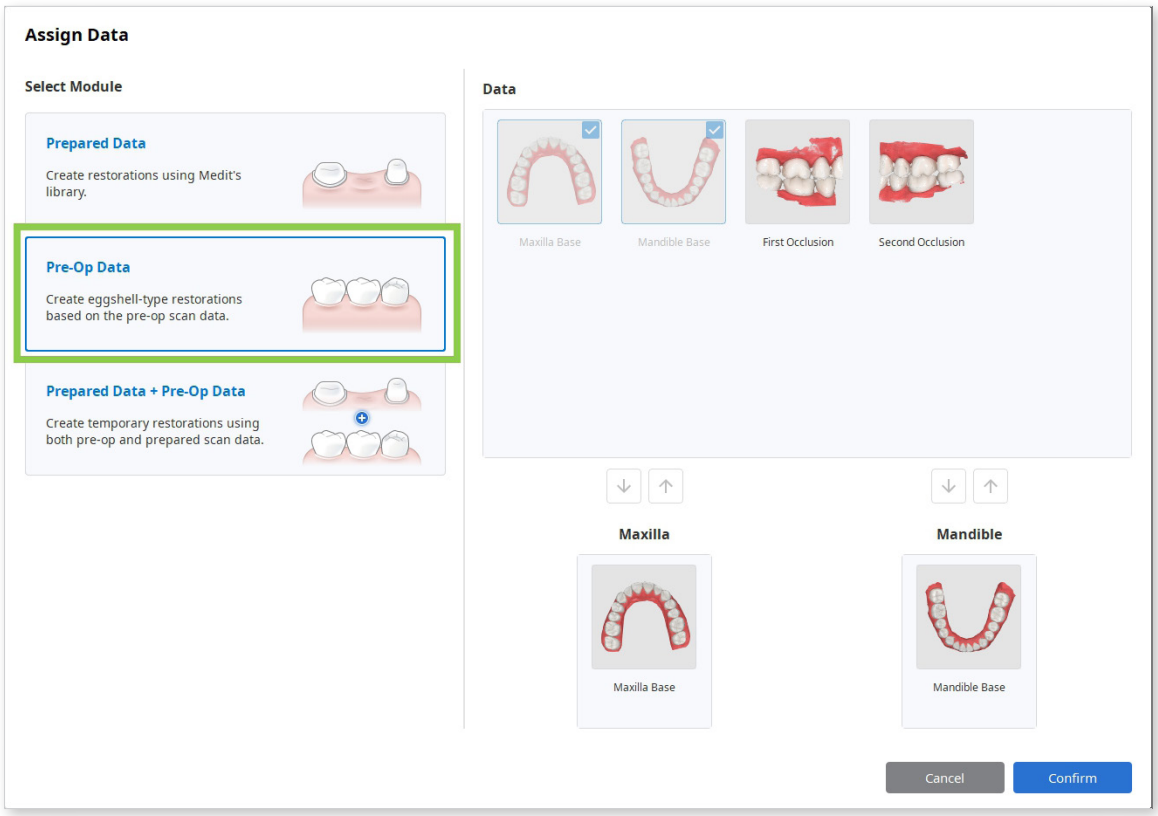
1. Register several crowns or crowns and pontics in the form, connect them, and run Medit Temporaries.



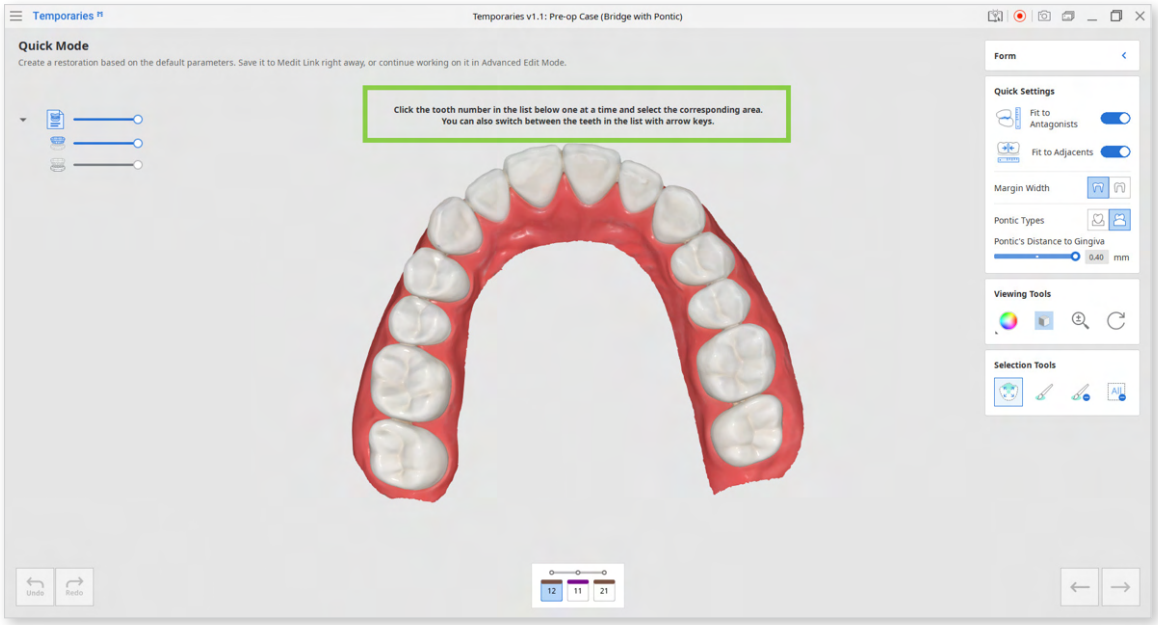
Note that to design a bridge, crowns and pontics must be connected, as shown in the image above. Otherwise, the program will consider them as multiple single crowns.

All crowns and pontics of the bridge must be registered with the same ‘method’ and ‘material.’

2. After the app has opened, select the pre-op data module and assign your scan data. Then, click “Confirm.”



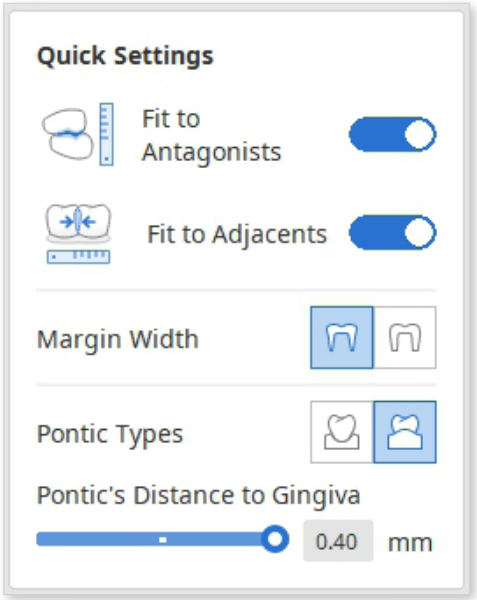
3. Once data has appeared on the screen, follow the instructions in Guide Message.



4. Utilize Selection Tools to select the teeth you want to create a bridge for. Smart Single Tooth Selection is automatically enabled once you enter this step. Click and drag on the tooth to select; the selected tooth data will be green. To work on the next tooth, click its number in the list below the 3D data or use the arrow keys.

Selection Tools		
	Smart Single Tooth Selection	Automatically select the area of a single tooth, leaving out gingiva parts. Click and drag the mouse on the tooth.
	Brush Selection	Use a brush to select all entities on a freehand drawn path on the screen.
	Brush Deselection	Use a brush to deselect all entities on a freehand drawn path on the screen.
	Clear All Selection	Clear all selected areas.

Check the Quick Settings located at the top right corner of the screen before moving to the next step. If your bridge includes pontic, choose between ovate or saddle in this step. Using Quick Settings helps shorten the time spent on manually editing the restoration.

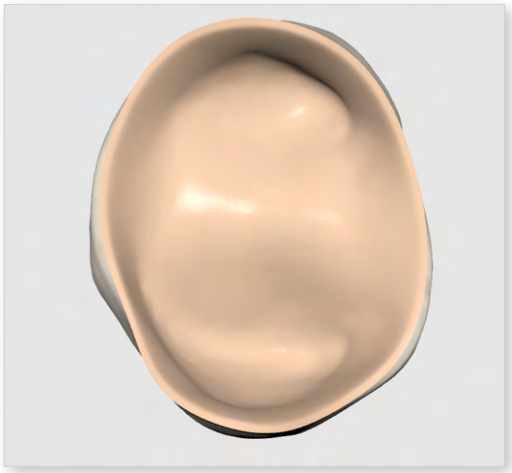


	Fit to Antagonists	Use this option to cut all intersections of the restoration with its antagonist. The default value for this parameter is 0.2 mm. You can make more precise adjustments later in the Advanced Edit Mode by entering a different value.
	Fit to Adjacents	Use this option to fit the outer surface to the adjacents. This will help to expand the restoration so that the space between the crown and adjacents is minimized.
	Margin Width	**Thin Margin:** Choose this option to create a restoration with a thin margin line (0.2 mm). Go to Advanced Edit Mode to access more inner surface parameters. **Thick Margin:** Choose this option to create a restoration with a thick margin line (0.5 mm). Go to Advanced Edit
	Pontic Types	**Ovate:** Create a pontic with a convex surface that resides in the gingiva. **Saddle:** Create a pontic with a concave surface that overlaps the gingiva buccolingually.

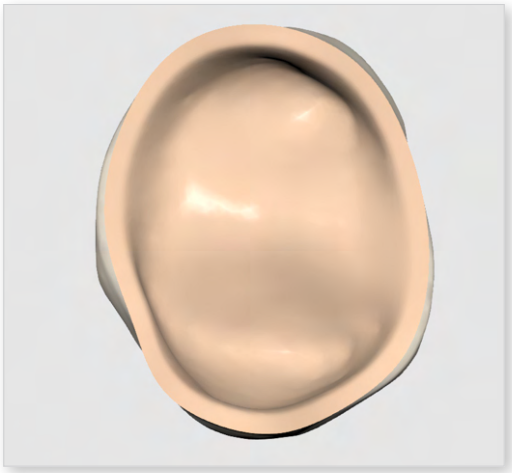
The restoration will be created based on the default parameters unless you change them in Settings or further on in Advanced Edit Mode.

To better understand the difference between using a thin or thick option of the Margin Width, compare the two images below.

Thin Margin

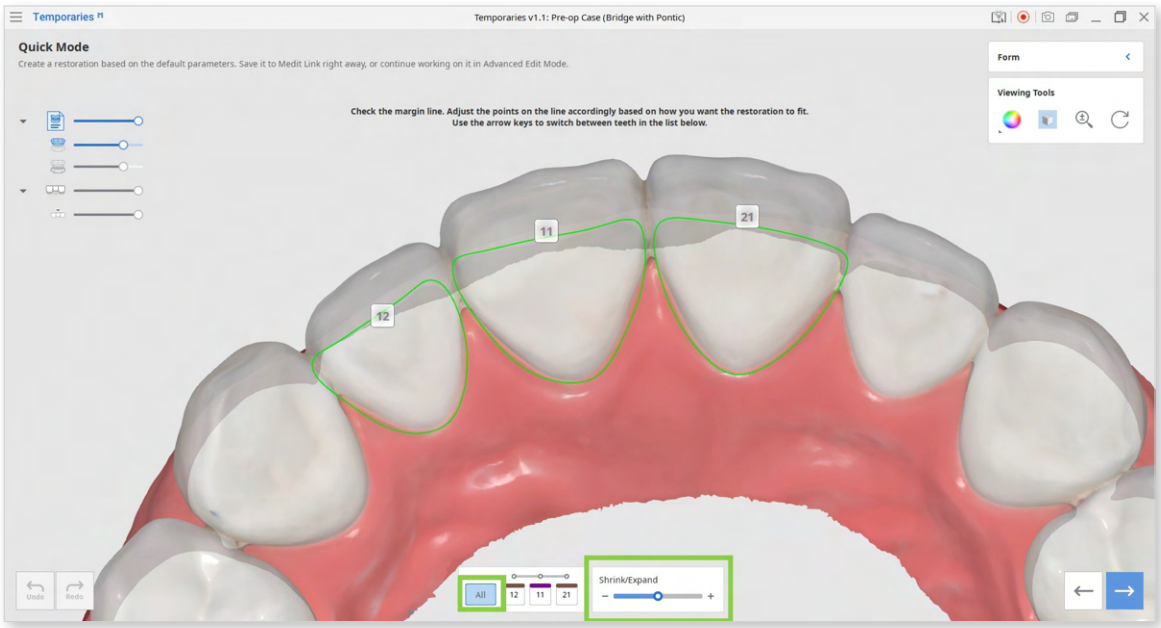


Thick Margin

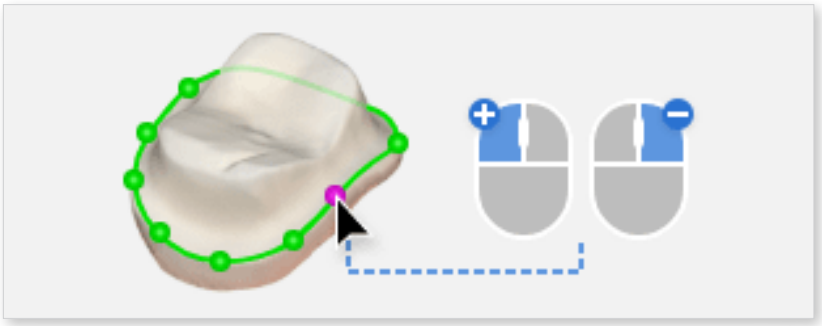


5. Click “Next” or press the space bar when done to continue.

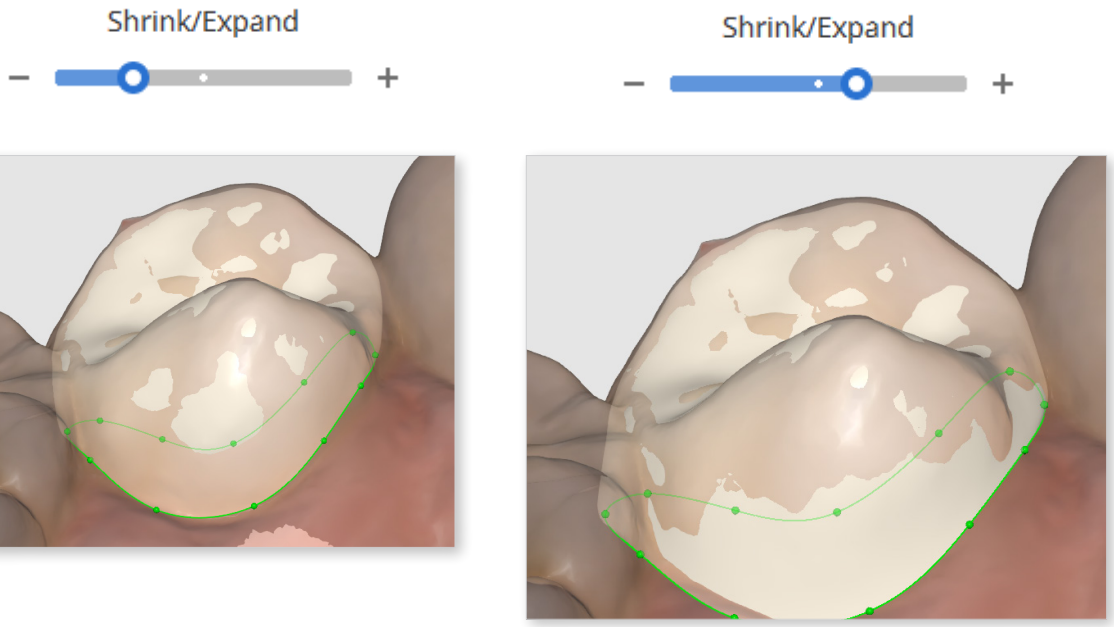
6. In the next step, the margin lines will be automatically created for all your target teeth. Examine margins and, if needed, edit them.



Add, move, or delete control points to edit the margin. Left-click to add points, rightclick to delete, and click and drag to move.

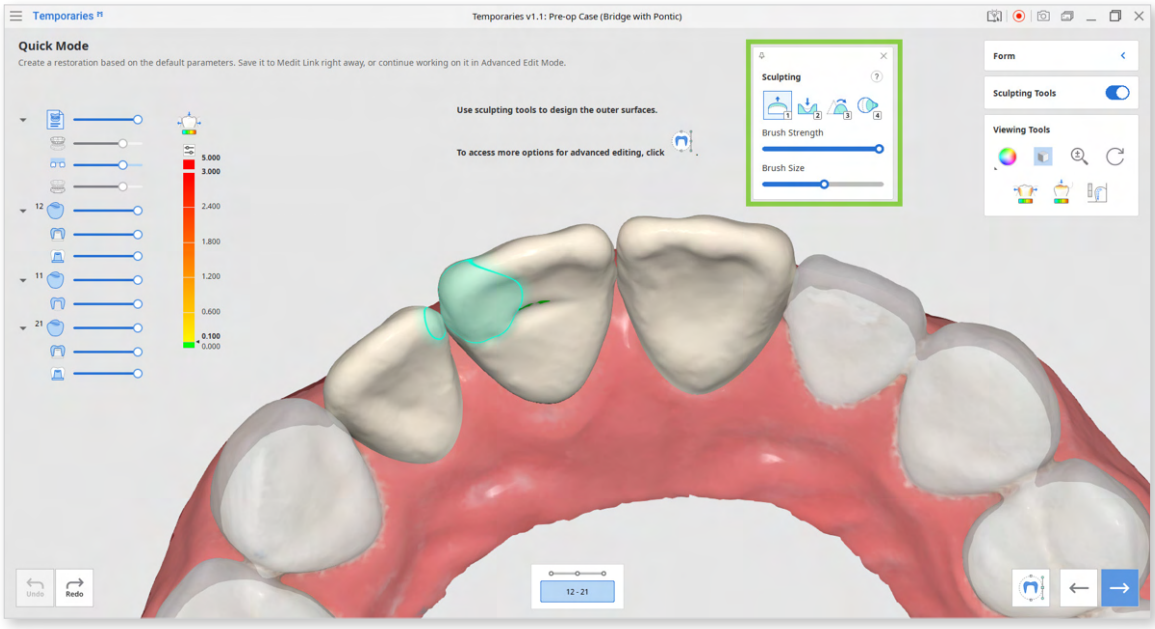


Use the slider at the bottom of the screen to quickly expand or shrink the margin evenly in all directions. Note that by default, the program will create a slightly bigger margin line. To apply this change to all teeth, select “All” in the list below the 3D data.



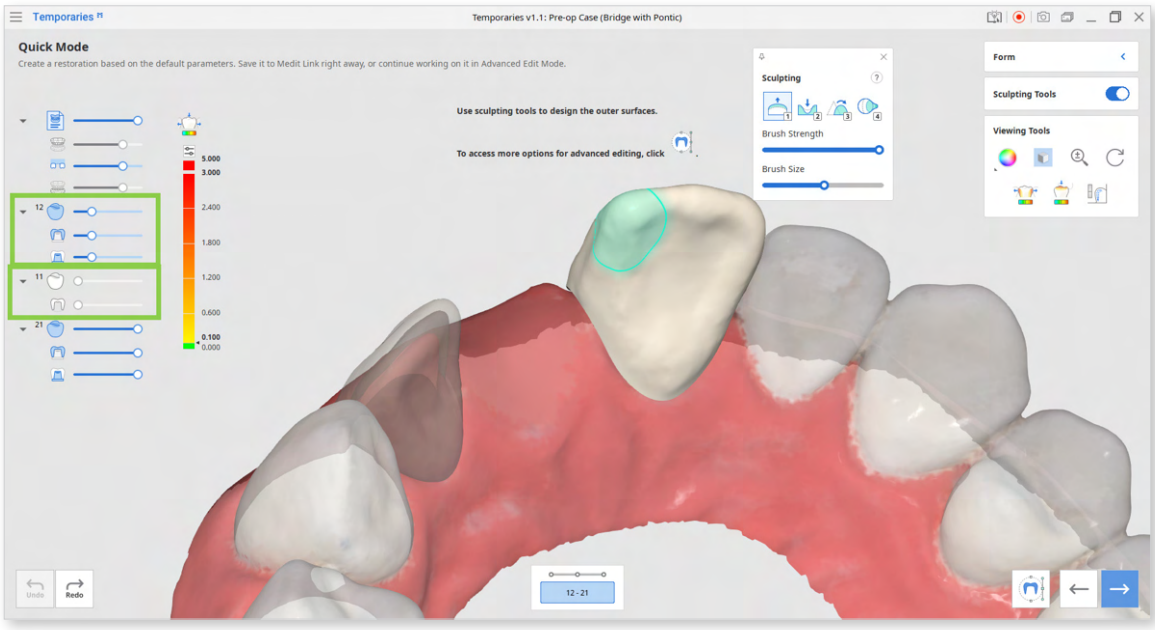
7. Click “Next” or press the space bar to see the created bridge.

8. Use Sculpting Tools to design the outer surfaces of the bridge. Turn on contact features in the Viewing Tools to assist you when sculpting.



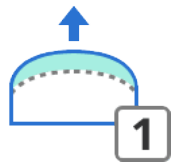
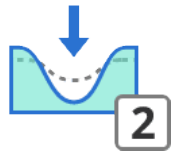
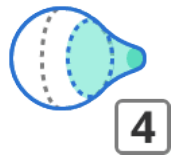
When sculpting, adjust the transparency slider of each crown in Data Tree or click them to completely hide the restoration.

This will improve the visibility and access when designing the mesial and distal sides.

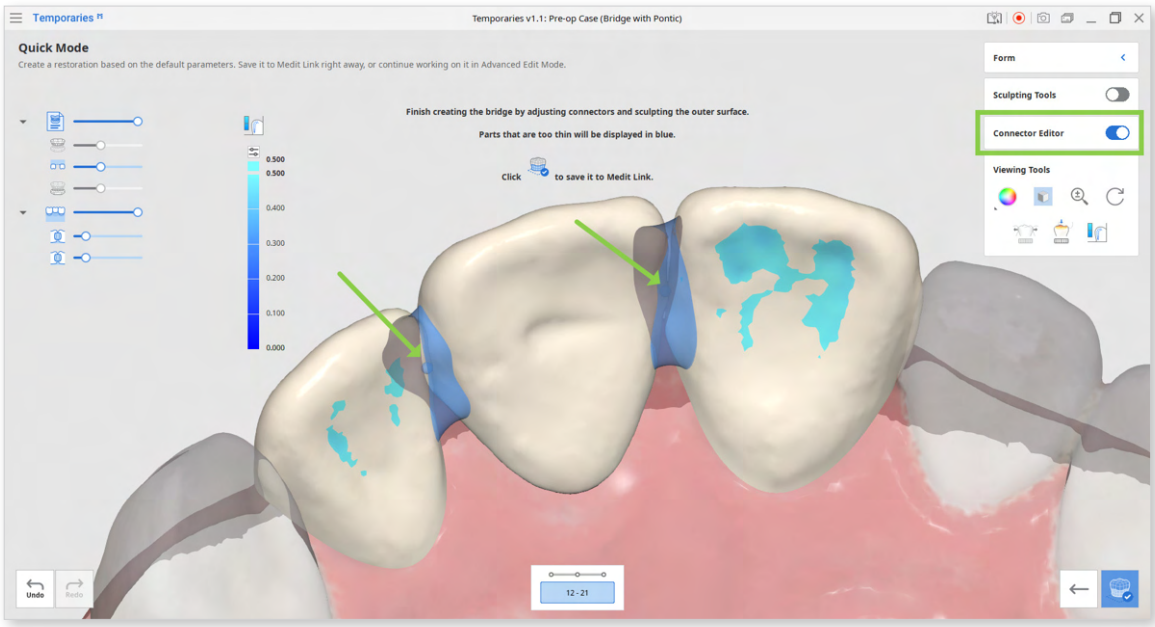


<Tooth #11 is hidden and tooth #12 is transparent.>

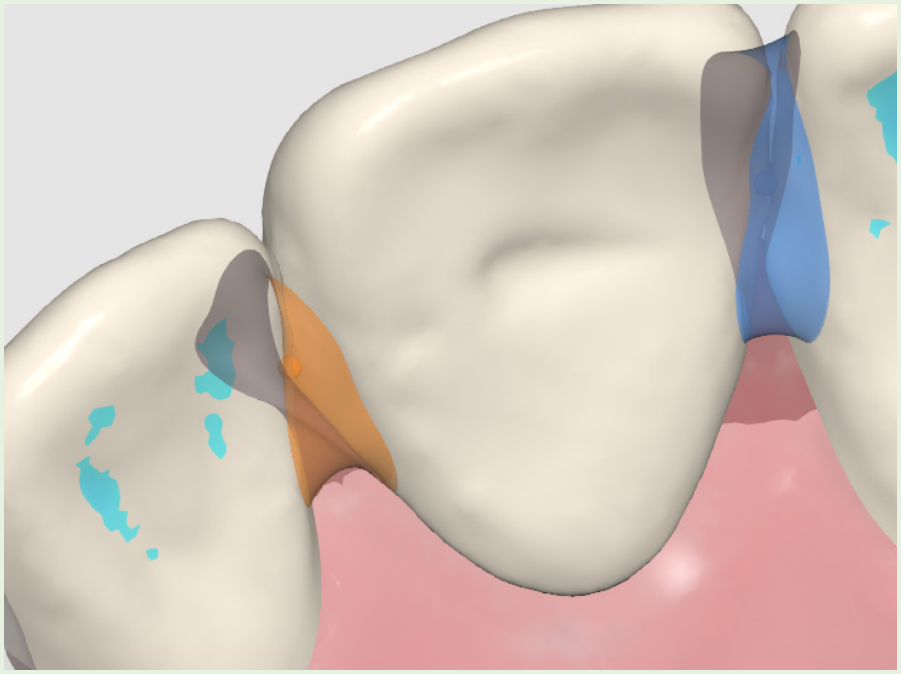
After sculpting, you can make more changes to the outer and inner surfaces of the restoration in Advanced Edit Mode. This step is optional. See more on Advanced Edit Mode at the end of this chapter.

Sculpting Tools (Check more hotkeys for sculpting by clicking the question mark; provided hotkeys help to save up time when sculpting.)		
	Add	Add material to the restoration. Hotkey: 1
	Remove	Remove material from the restoration. Hotkey: 2
	Smooth	Smooth parts of the restoration. Hotkey: 3
	Morph	Morph the material on the restoration by dragging it with your mouse. Hotkey: 4

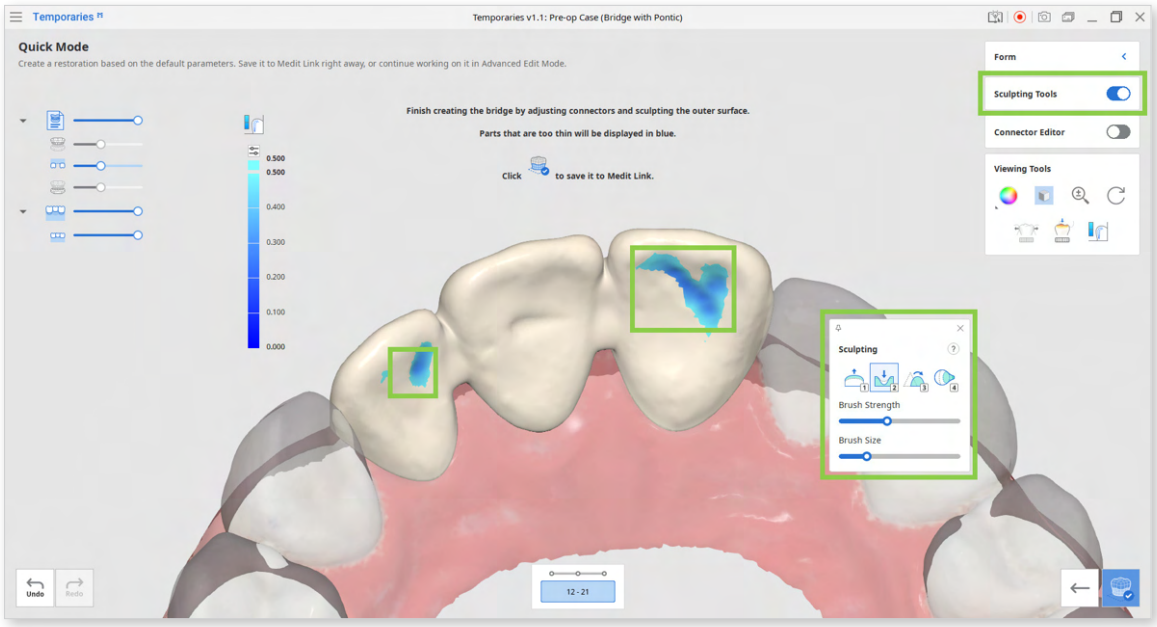
9. Finish creating the bridge by adjusting connectors. Turn on the Connector Editor on the right and drag the center point of each connector to change its position. The minimum cross-sectional area for connectors can be set in program settings. The default value is 9 mm² for anterior teeth and 14 mm² for posterior teeth.



If the connector is displayed in orange, its position is not optimal; adjust until it is blue again.

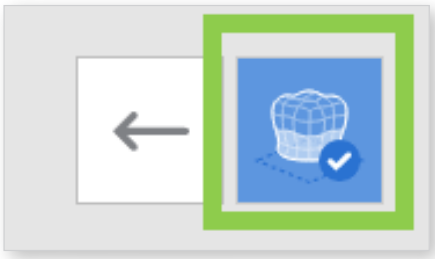


If there are parts of the restoration that are too thin, they will be displayed in blue. Turn on Sculpting Tools and edit them before finishing.

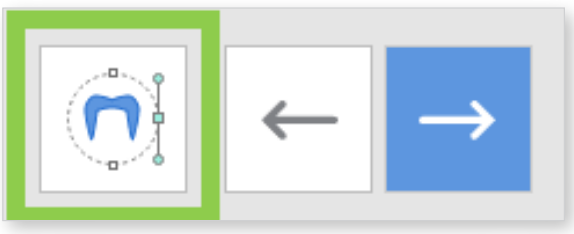


> ⚠ It is recommended first to adjust the connectors and only then to perform sculpting.
>
> If you turn on Connector Editor after sculpting, your sculpting results will be lost.

10. If satisfied with the result, save the bridge to Medit Link by clicking “Complete” in the bottom right corner.

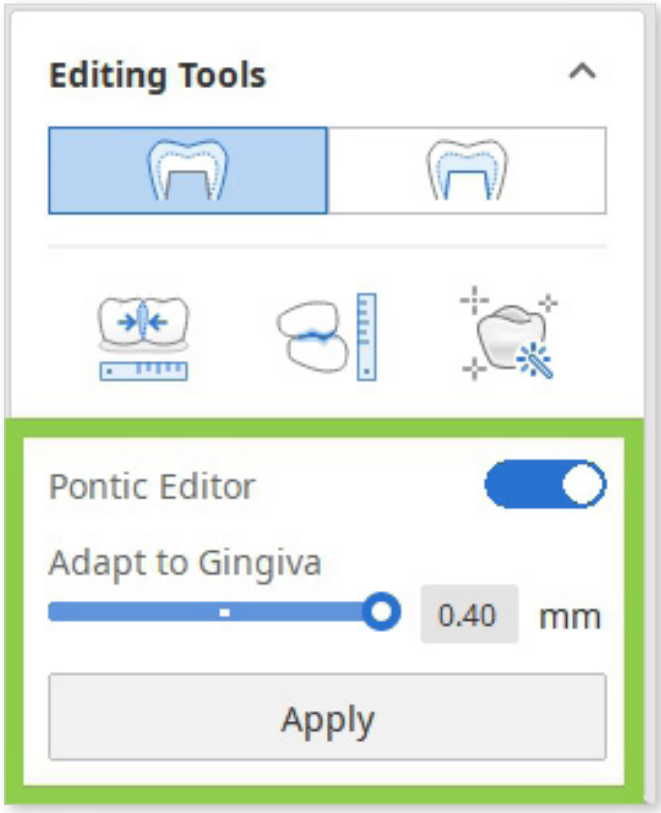


11. If you want to make more advanced edits to the restoration’s inner and outer surfaces, click “Advanced Edit Mode” in the bottom right corner of step 8.



A) Edit the outer surface of each crown separately by performing the adaptation with tools provided in the outer surface tab of the Editing Tools.

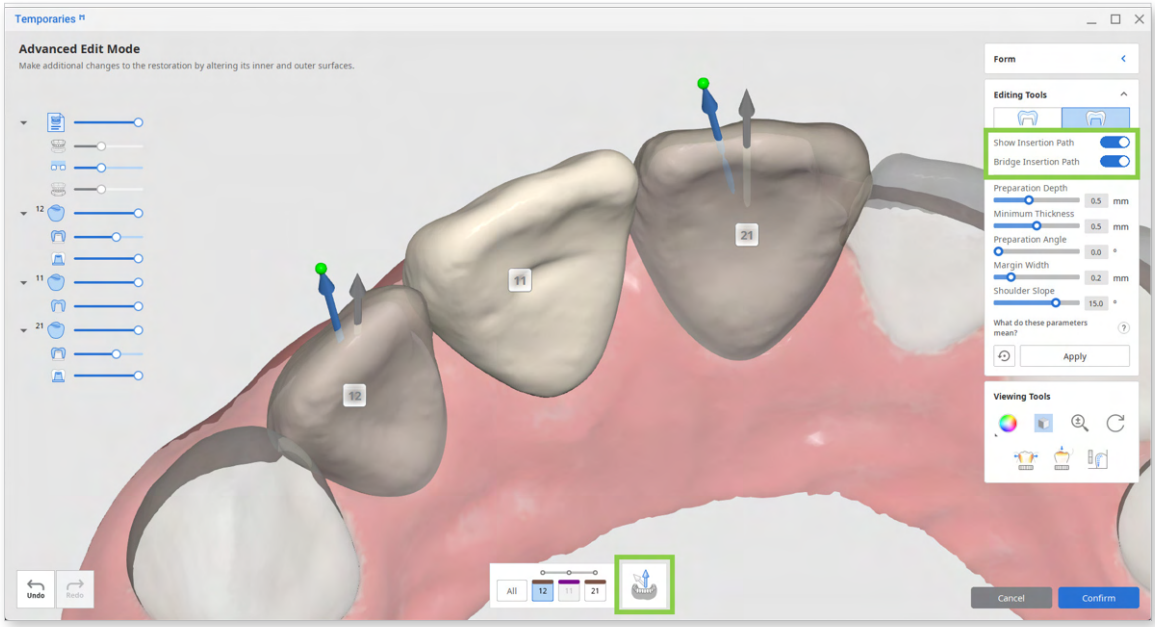
To edit the pontic, turn on Pontic Editor and adjust it to the gingiva.



Editing Tools (Outer Surface)		
	Adapt to Adjacents	Adapt the restoration to adjacents.
	Adapt to Antagonists	Adapt the restoration to antagonists.
	Smart Adaptation	Adapt the restoration to the antagonists and adjacents simultaneously based on our recommended parameters.

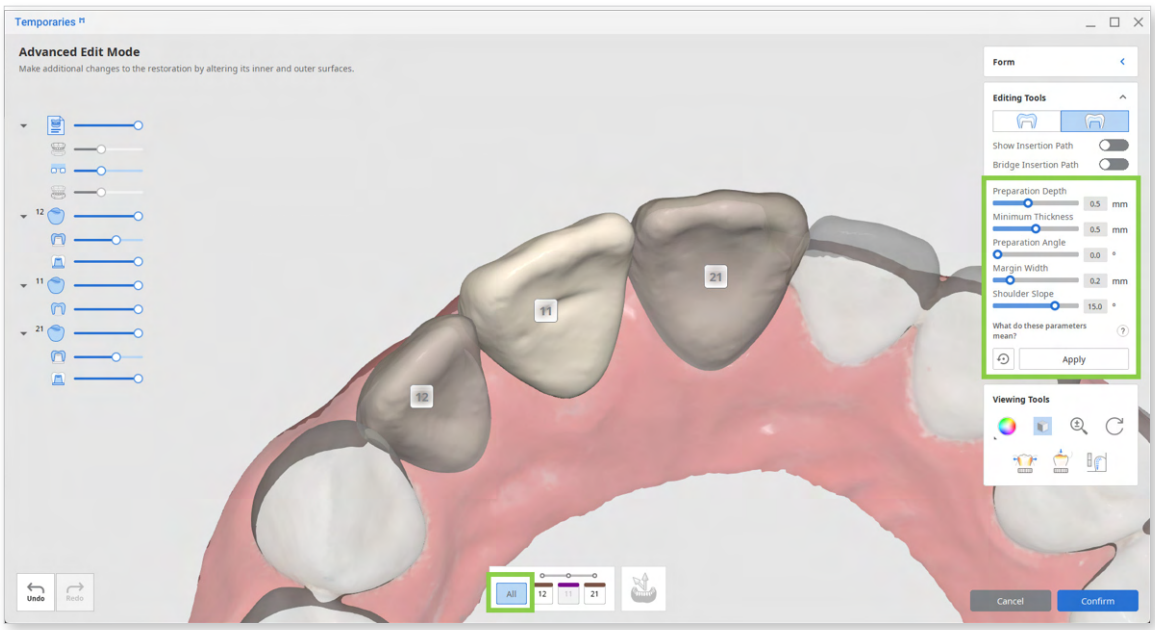
B) Edit the inner surfaces by adjusting the insertion path arrows and values for the parameters provided in the inner surface tab of the Editing Tools.

Adjust the insertion path by moving the arrow for each crown separately, or turn on Bridge Insertion Path so the arrows would move as one. You can also use Set Arrow to Your Viewpoint to quickly set the insertion direction to your viewpoint.



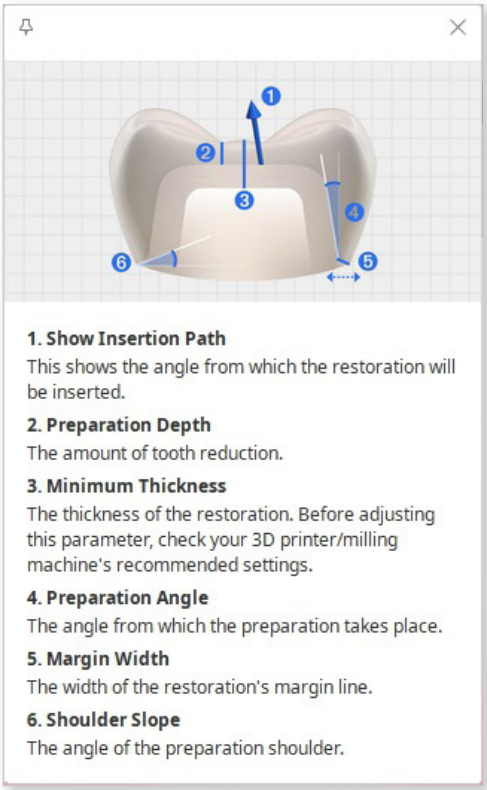
<The gray arrow indicates the automatically set insertion direction; the blue arrow is the newly set insertion direction.>

To adjust inner surface parameters for all teeth at once, click “All” in the list below the 3D data.



Remember to click “Apply” after setting new parameter values.

In the pre-op data module, you can adjust the following parameters for the inner surface of the crowns.



Settings in Pre-Op Module

Medit Temporaries creates restorations quickly and easily using pre-set parameters. To change any of the default values, go to settings in the program menu in the top left corner.

Here is a list of available settings in the pre-op data module.

General

Settings	Description	Default	Range
Send Anonymous Usage Statistics	Set whether to send anonymous usage statistics to Medit.	On	
Advanced Rendering	Displays the 3D model in a more vivid and realistic way.	On	

Outer Surface – Default settings

Parameter	Description	Default	Range
Distance to Adjacents	The distance from the restoration to its antagonists. All overlapping areas will be removed.	0.2 mm	0 mm - 0.5 mm
Min. Cross-Section Area of the Connectors **(bridges only)**	Set the minimal value for the cross-sectional area of the connectors. Values are set separately for bridges with anterior and posterior teeth.		
Anterior		9 mm^2	6 mm^2 - 15 mm^2
Posterior		14 mm^2	10 mm^2 - 30 mm^2

Inner Surface - Default Settings

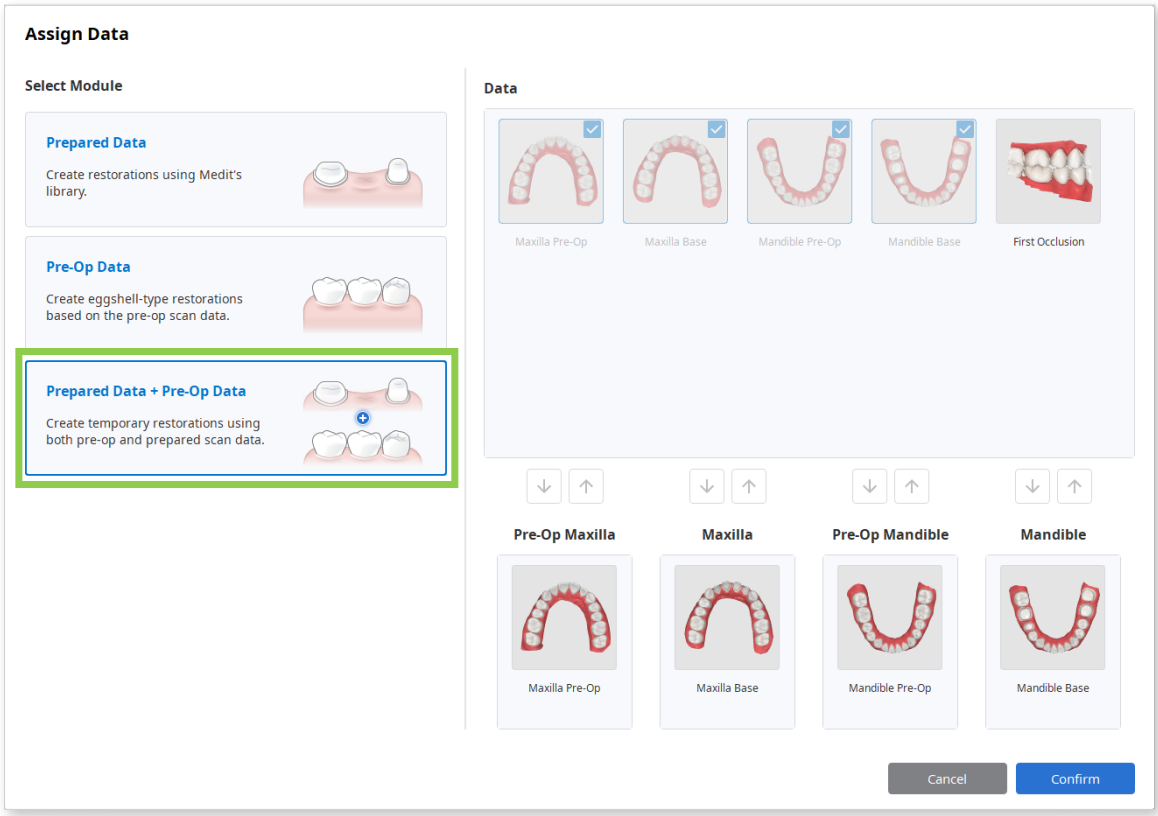
Parameter	Description	Default	Range
Preparation Depth	The amount of tooth reduction.	0.5 mm	0.3 mm - 0.8 mm
Minimum Thickness	Set the minimum thickness of the restoration.	0.1 mm	0.3 mm - 0.7 mm
Use Preparation Angle	Choose if the preparation angle parameter would be used.	On	
Preparation Angle	Set the angle from which the preparation takes place.	0°	0 - 30°
Shoulder Slope	The angle of the preparation shoulder.	15°	-30 - +30°
Smoothing	Choose how smooth you would like the inner surface to be.	3	1 - 5

How to Design Restorations Using Pre-Op + Prepared Data

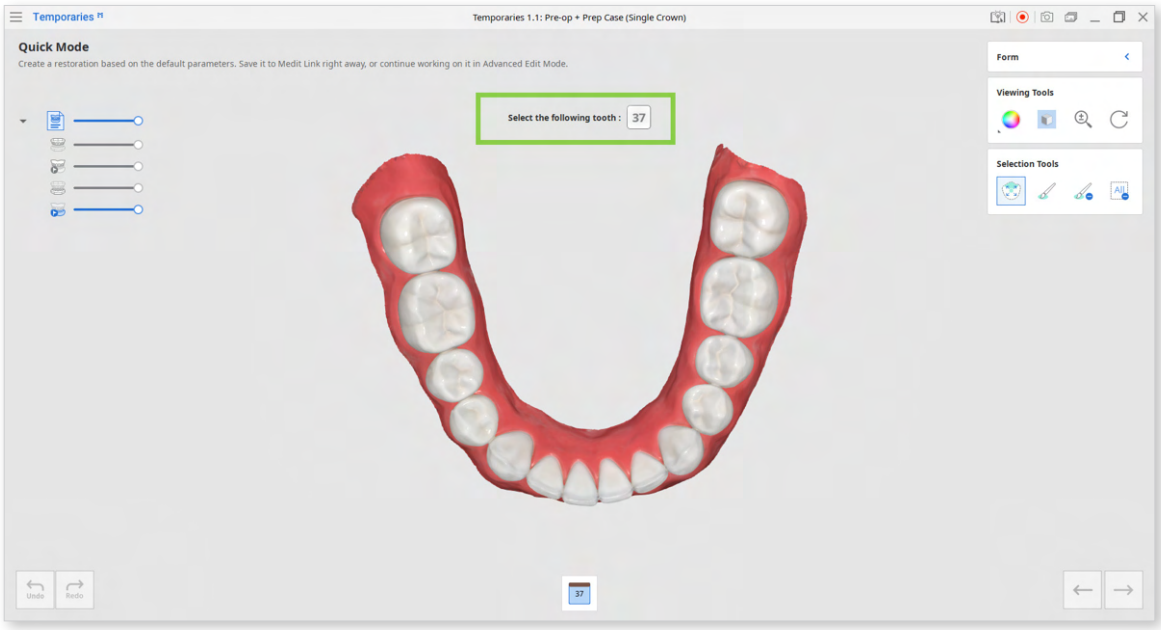
Crowns

Design a temporary crown that fits the tooth’s prepared surface using pre-operation and prepared data.

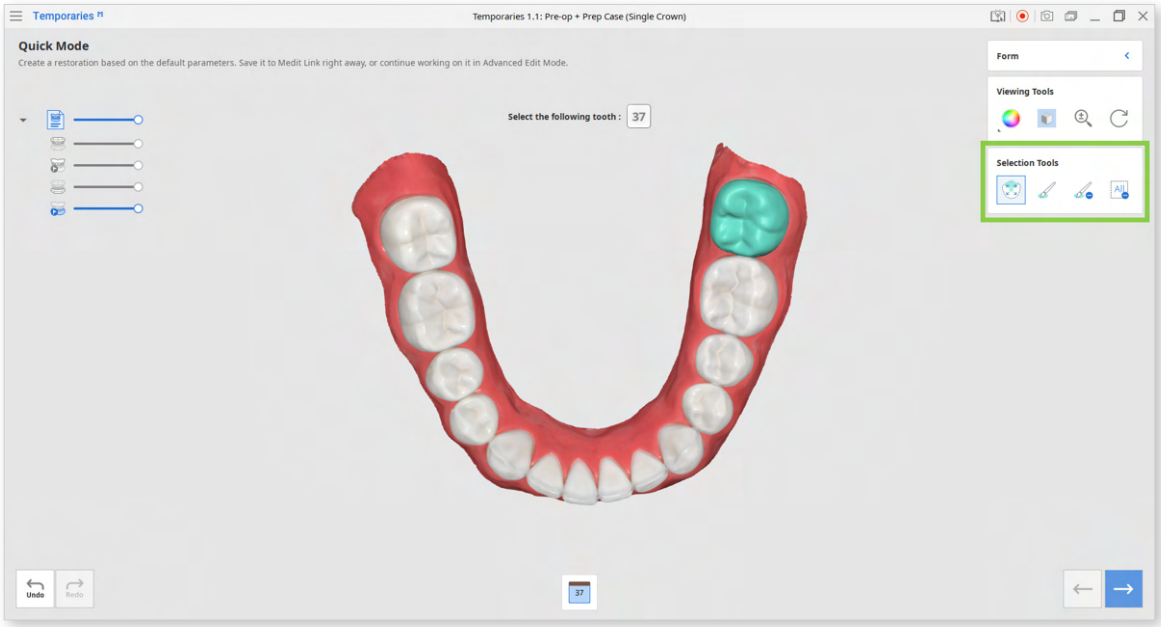
1. Register a crown in the form and run Medit Temporaries.
2. After the app has opened, select the prepared + pre-op data module and assign your scan data. Then, click “Confirm.”



3. Once data has appeared on the screen, follow the instructions in Guide Message.



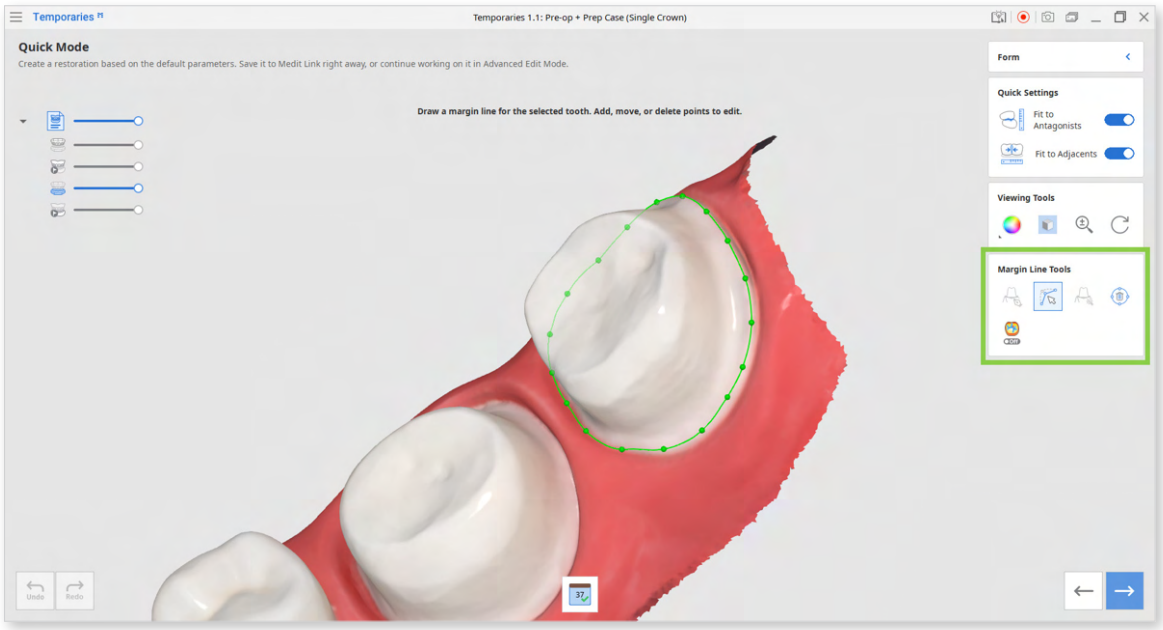
4. Utilize Selection Tools to select the tooth you want to create a crown for. Smart Single Tooth Selection is automatically enabled once you enter this step. Click and drag on the tooth to select; the selected tooth data will be green.



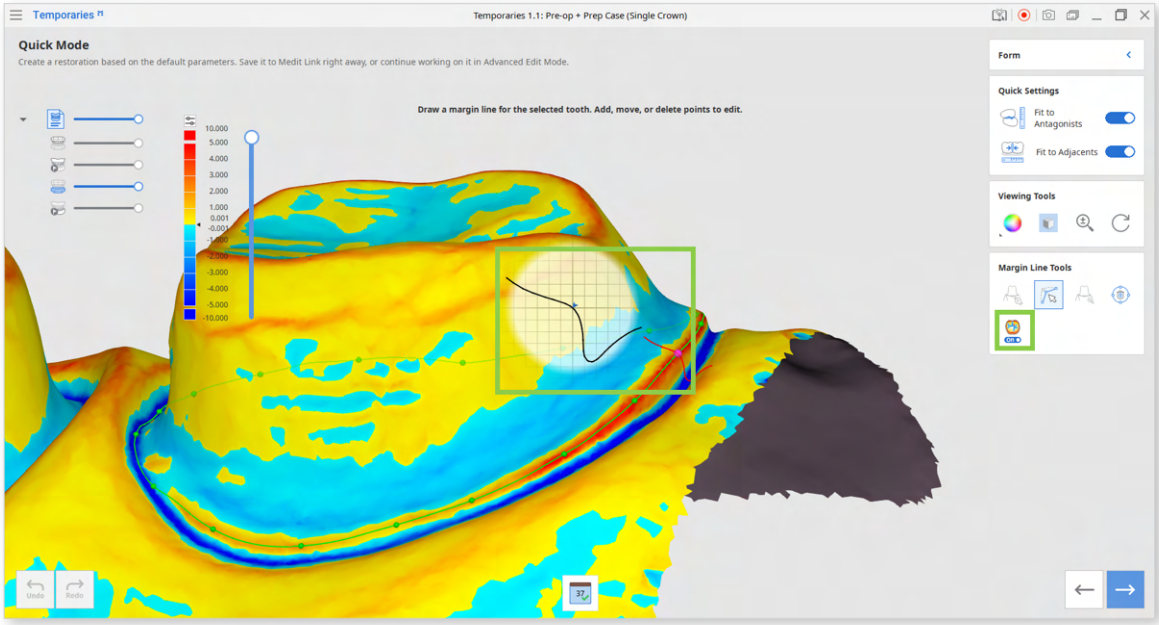
Selection Tools		
	Smart Single Tooth Selection	Automatically select the area of a single tooth, leaving out gingiva parts. Click and drag the mouse on the tooth.
	Brush Selection	Use a brush to select all entities on a freehand drawn path on the screen.
	Brush Deselection	Use a brush to deselect all entities on a freehand drawn path on the screen.
	Clear All Selection	Clear all selected areas.

5. When done, click “Next” or press the space bar to move to the next step.

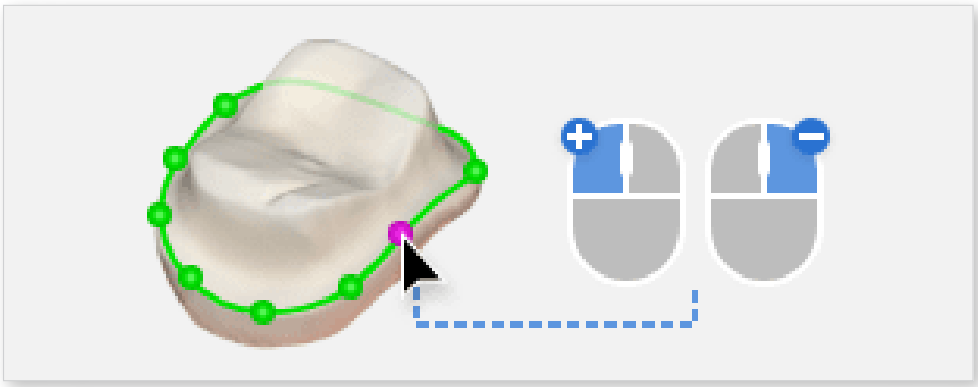
6. If you have already created a margin line for the prepared tooth in the Medit Scan for Clinics, it will be automatically imported to the app in this step. If there is no margin line information in the case, create a margin for your target tooth using the Margin Line Tools. The app supports manual and automatic margin line creation.



To create a more precise margin, you can turn on Curvature Display Mode and refer to the cross-sectional display that appears when you hover the mouse over the data.



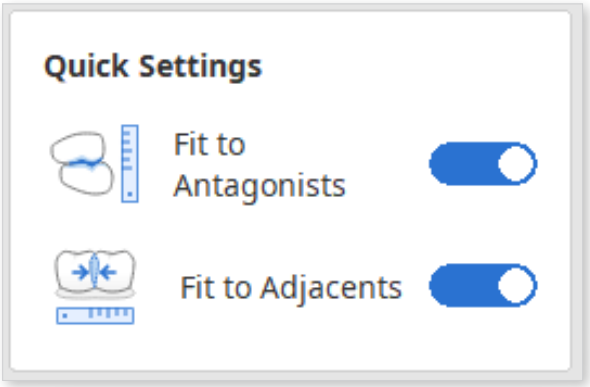
Edit the margin by adding, moving, or deleting the control points on the line with a mouse. Left-click to add points, right-click to delete, and click and drag to move.



Margin Line Tools		
	Manual Creation	Manually create a margin line based on the selected points.
	Edit	Edit the margin line. Add, move and delete the control points.
	Auto Creation	Automatically create a closed margin line based on the selected point.
	Delete	Delete the margin line.
	Curvature Display Mode	See curvature of the data through Color Map.

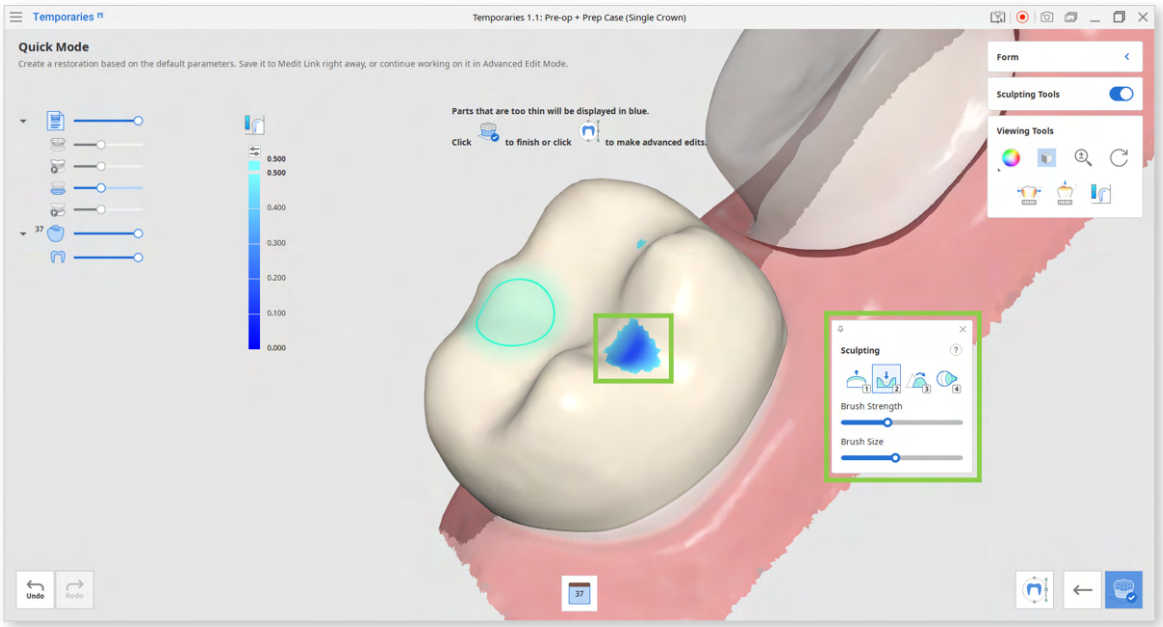
Check the Quick Settings located at the top right corner of the screen before moving to the next step.

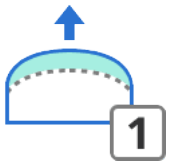
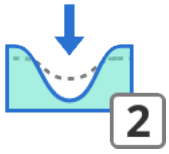
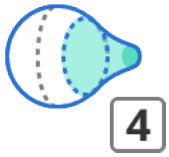
Using Quick Settings helps shorten the time spent on manually editing the restoration.



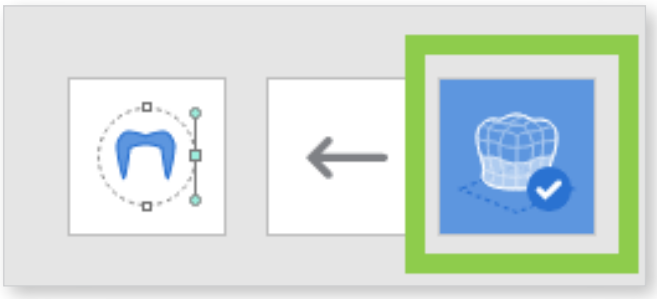
7. Click “Next” or press the space bar when satisfied with the created margin.

8. In this step, Sculpting Tools are automatically activated for you to design the outer surface of the crown. Adjust the brush size and strength and then add, remove, smooth, or morph the material of the crown. If there are areas that are too thin, they will be displayed in blue. Sculpt them before finishing.

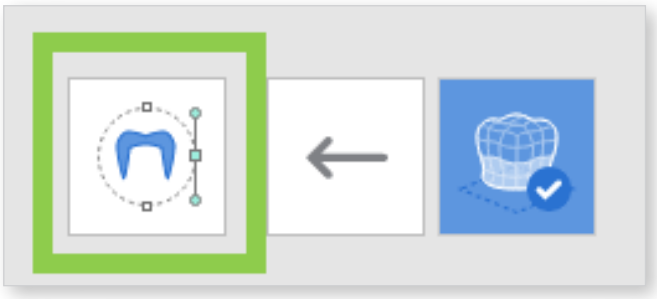


Sculpting Tools (Check more hotkeys for sculpting by clicking the question mark; provided hotkeys help save time when sculpting.)		
	Add	Add material to the restoration. Hotkey: 1
	Remove	Remove material from the restoration. Hotkey: 2
	Smooth	Smooth parts of the restoration. Hotkey: 3
	Morph	Morph the material on the restoration by dragging it with your mouse. Hotkey: 4

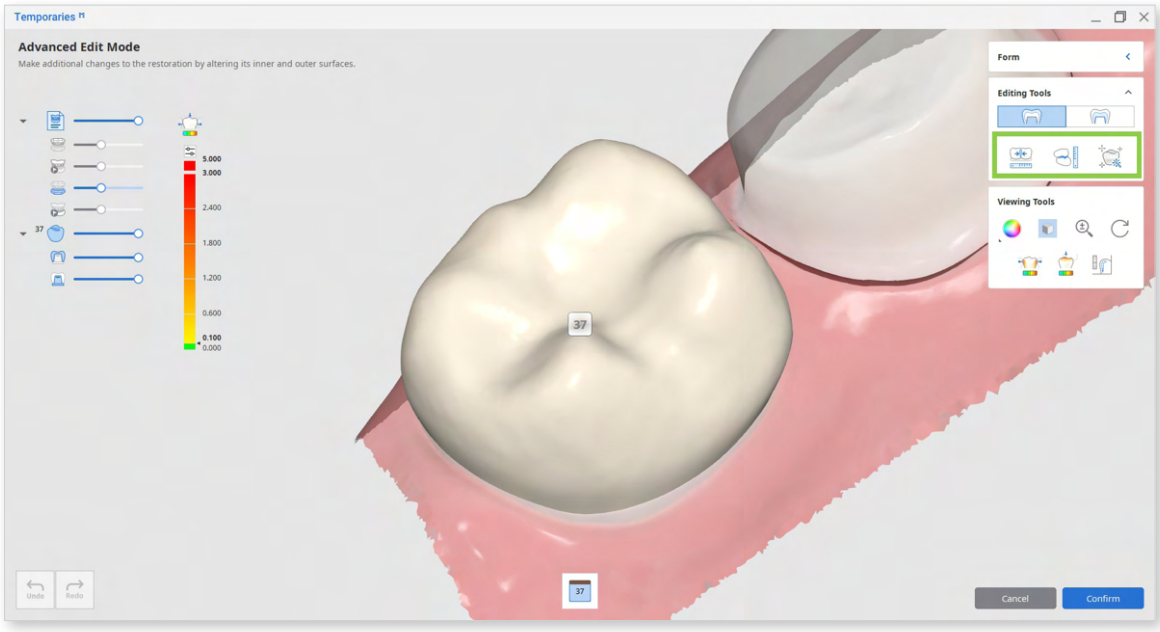
9. After sculpting, you can save the created crown to Medit Link by clicking “Complete” in the bottom right corner.



10. If you want to make more adjustments to the inner and outer surfaces of the restoration, go to Advanced Edit Mode.

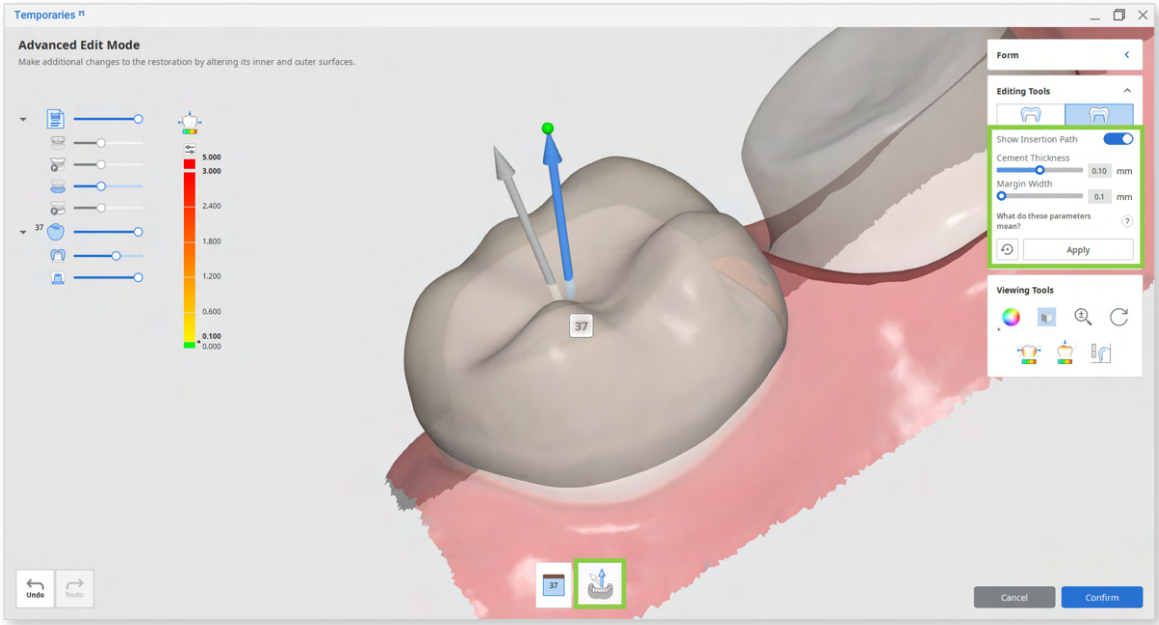


A) Edit the outer surface by performing the adaptation with tools provided in the outer surface tab of the Editing Tools. Utilize contact features in Viewing Tools to help you.



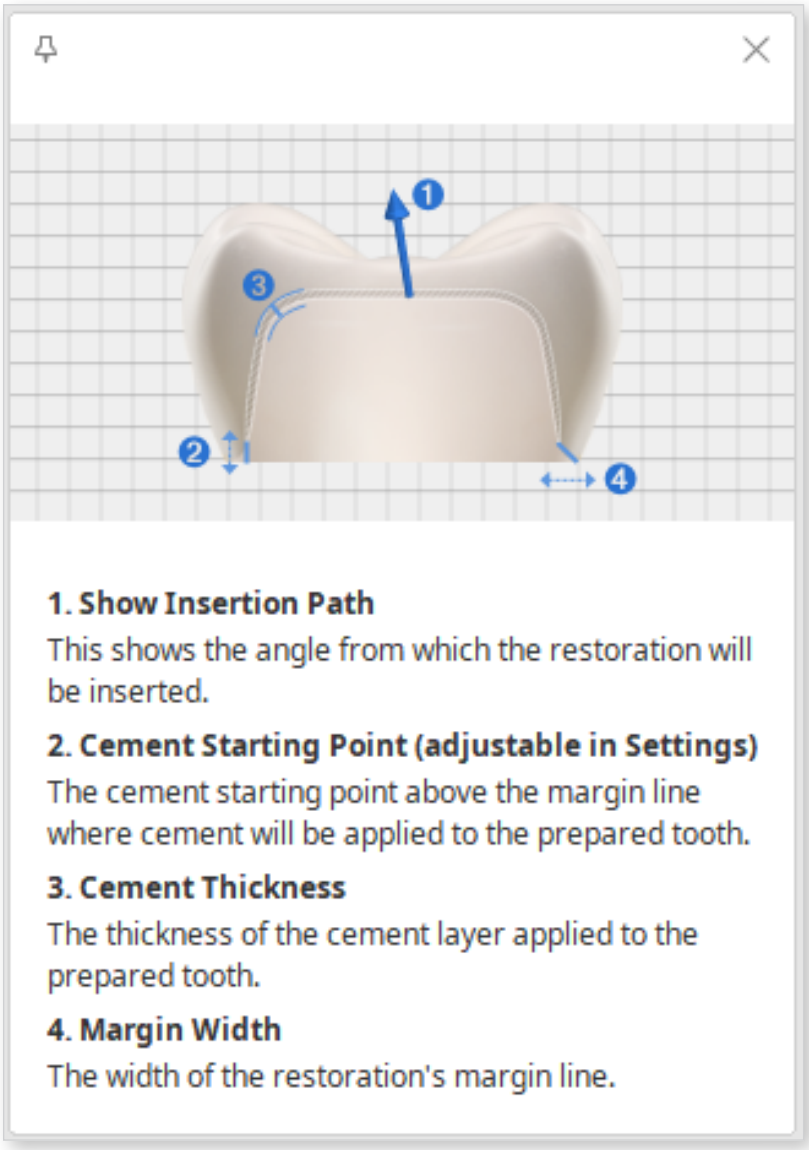
Editing Tools (Outer Surface)		
	Adapt to Adjacents	Adapt the restoration to adjacents.
	Adapt to Antagonists	Adapt the restoration to antagonists.
	Smart Adaptation	Adapt the restoration to the antagonists and adjacents simultaneously based on our recommended parameters.

B) Edit the inner surface by adjusting the insertion path arrow and changing values for the parameters provided in the inner surface tab of the Editing Tools. Adjust the insertion path by moving the arrow, or try using the Set Arrow to Your Viewpoint to quickly set the insertion direction to your viewpoint.



Remember to click “Apply” after setting new parameter values.

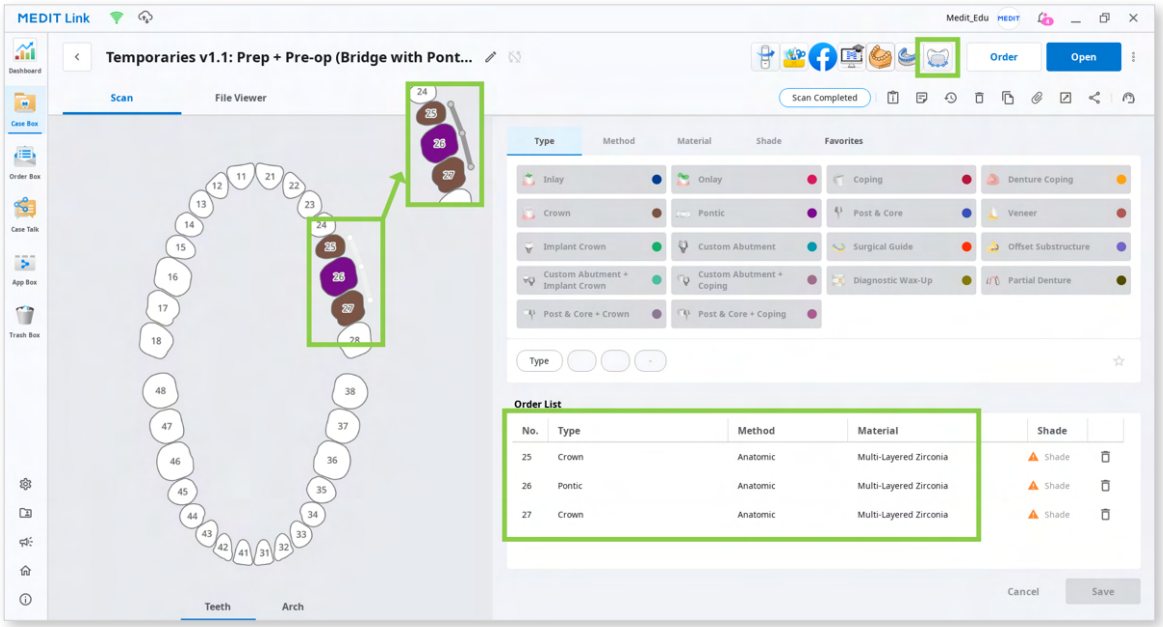
In the prepared + pre-op data module, you can adjust following parameters for the inner surface of the crown.



Bridges

Design a bridge that fits the tooth's prepared surface using pre-operation and prepared data.

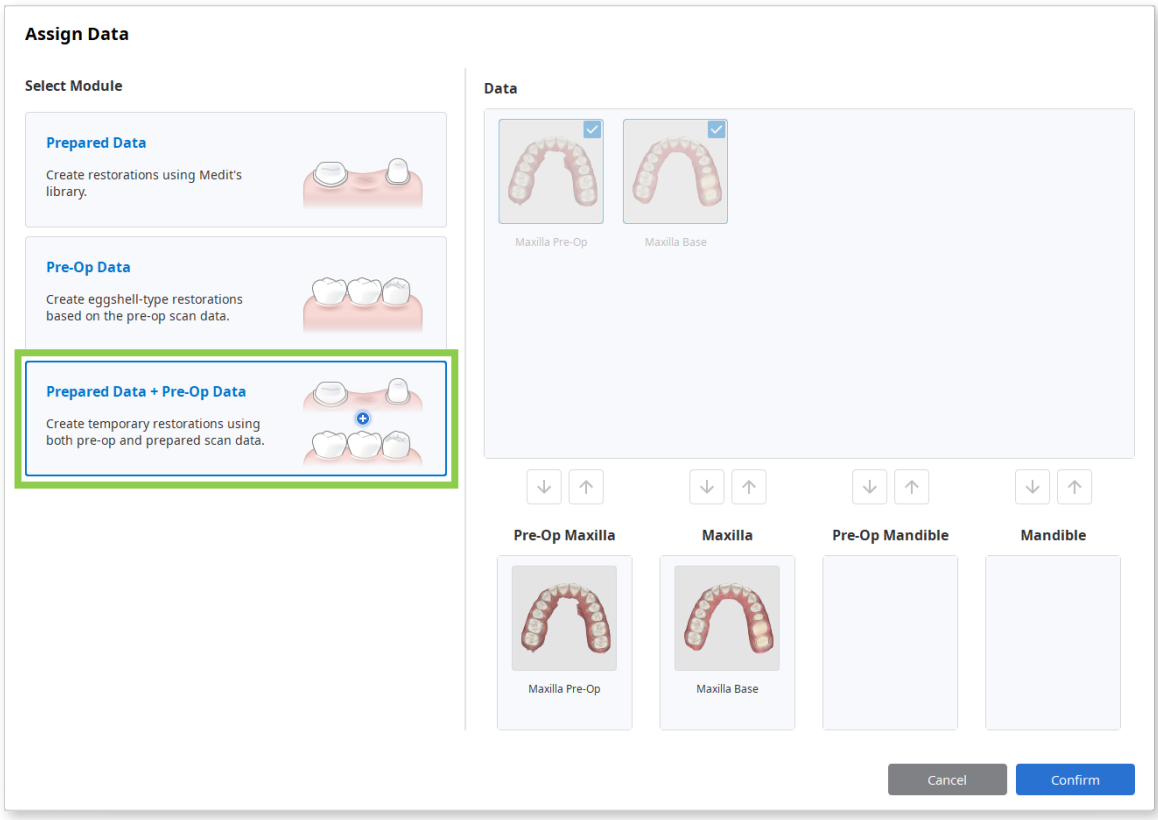
1. Register several crowns or crowns and pontics in the form, connect them, and run Medit Temporaries.



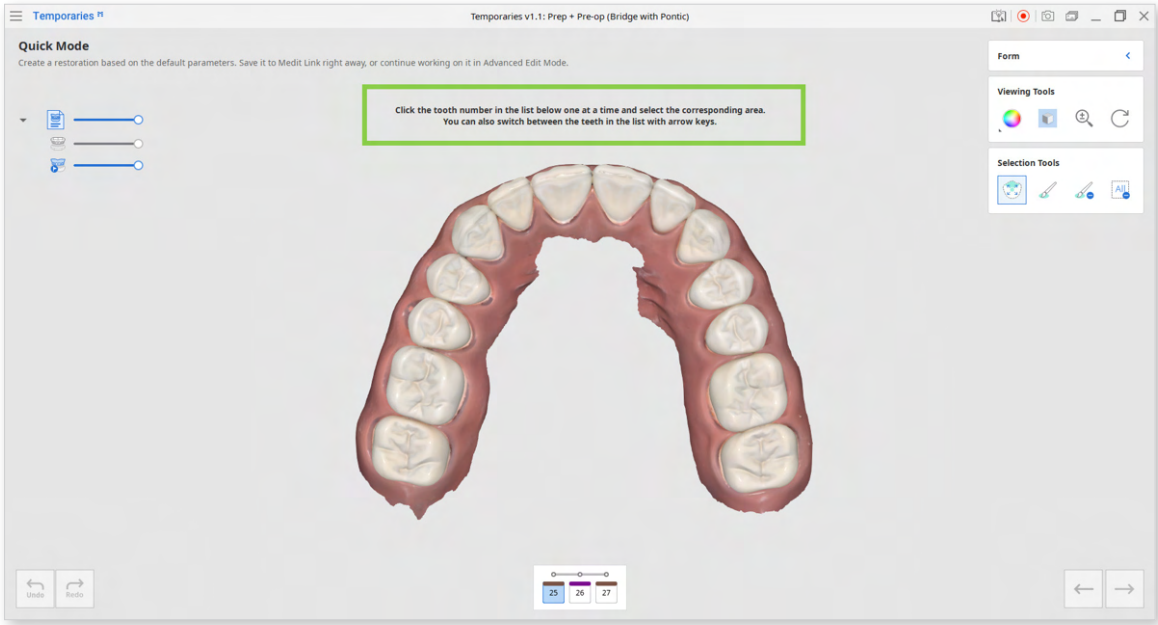
Note that to design a bridge, crowns and pontics **must** be connected, as shown in the image above. Otherwise, the program will consider them as multiple single crowns.

All crowns and pontics of the bridge **must** be registered with the same 'method' and 'material.'

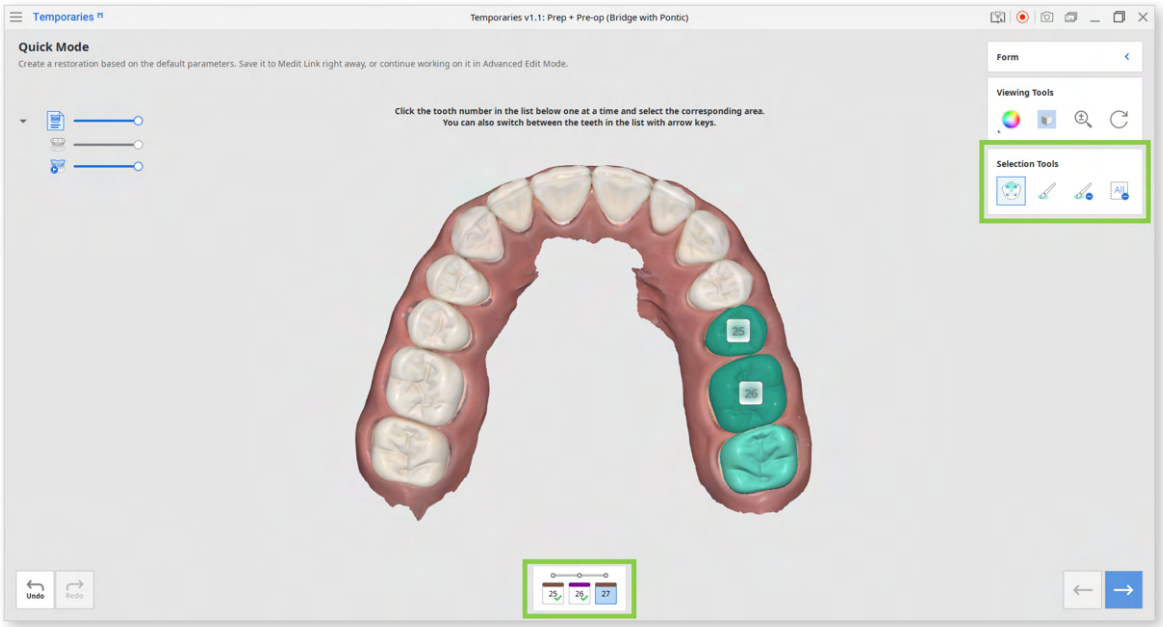
2. After the app has opened, select the prepared + pre-op data module and assign your scan data. Then, click “Confirm.”



3. Once data has appeared on the screen, follow the instructions in Guide Message.



4. Utilize Selection Tools to select the teeth you want to create a bridge for. Smart Single Tooth Selection is automatically enabled once you enter this step. Click and drag on the tooth to select; the selected tooth data will be green. To work on the next tooth, click its number in the list below the 3D data or use the arrow keys.

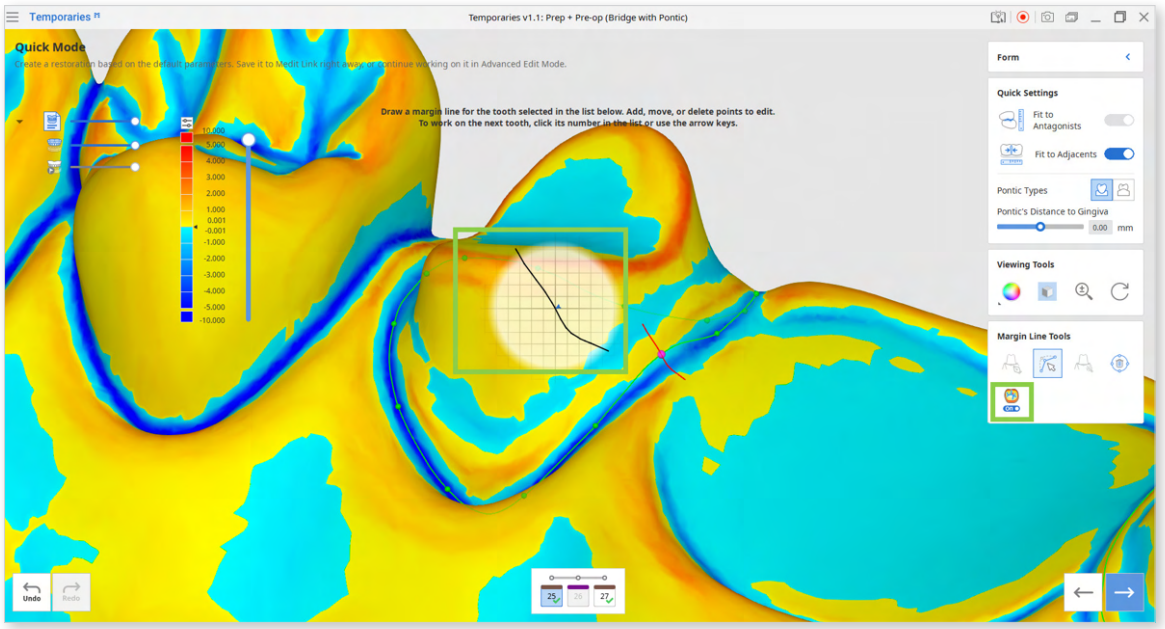


Selection Tools		
	Smart Single Tooth Selection	Automatically select the area of a single tooth, leaving out gingiva parts. Click and drag the mouse on the tooth.
	Brush Selection	Use a brush to select all entities on a freehand drawn path on the screen.
	Brush Deselection	Use a brush to deselect all entities on a freehand drawn path on the screen.
	Clear All Selection	Clear all selected areas.

5. Click “Next” or press the space bar to move to the next step.

6. If you have already created a margin line for the prepared tooth in the Medit Scan for Clinics, it will be automatically imported to the app in this step.
   If there is no margin line information in the case, create a margin for your target tooth using the Margin Line Tools. The app supports manual and automatic margin line creation.

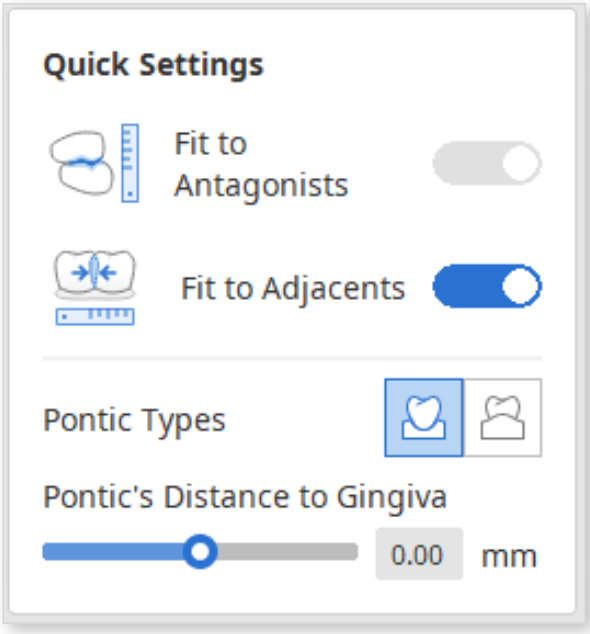
To create a more precise margin, you can turn on Curvature Display Mode and refer to the cross-sectional display that appears when you hover the mouse over the data.



Margin Line Tools		
	Manual Creation	Manually create a margin line based on the selected points.
	Edit	Edit the margin line. Add, move and delete the control points.
	Auto Creation	Automatically create a closed margin line based on the selected point.
	Delete	Delete the margin line.
	Curvature Display Mode	See curvature of the data through Color Map.

Check the Quick Settings located at the top right corner of the screen before movin to the next step. If your bridge includes pontic, choose between ovate or saddle in this step.

Using Quick Settings helps shorten the time spent on manually editing the restoration.

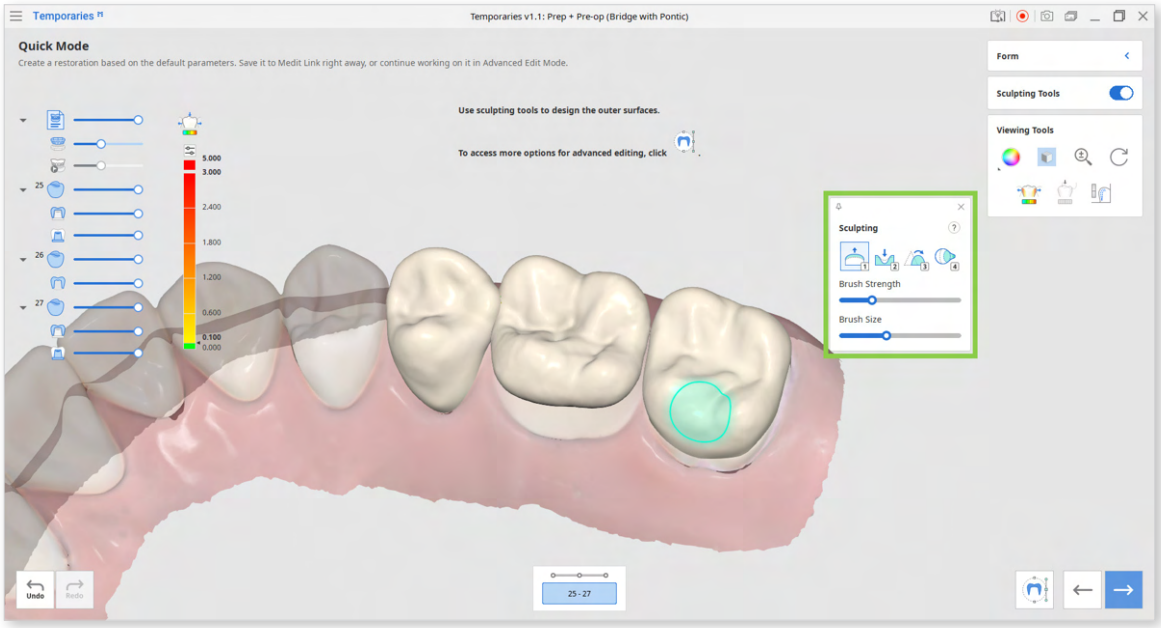


	Fit to Antagonists	Use this option to cut all intersections of the restoration with its antagonist. The default value for this parameter is 0.2 mm. You can make more precise adjustments later in the Advanced Edit Mode by entering a different value.
	Fit to Adjacents	Use this option to fit the outer surface to the adjacents. This will help to expand the restoration so that the space between the crown and adjacents is minimized.
	Pontic Types	**Ovate:** Create a pontic with a convex surface that resides in the gingiva. **Saddle:** Create a pontic with a concave surface that overlaps the gingiva buccolingually.
	Pontic's Distance to Gingiva	Set desired value for the pontic's distance to the gingiva.

The restoration will be created based on the default parameters unless you change them in Settings or further on in Advanced Edit Mode.

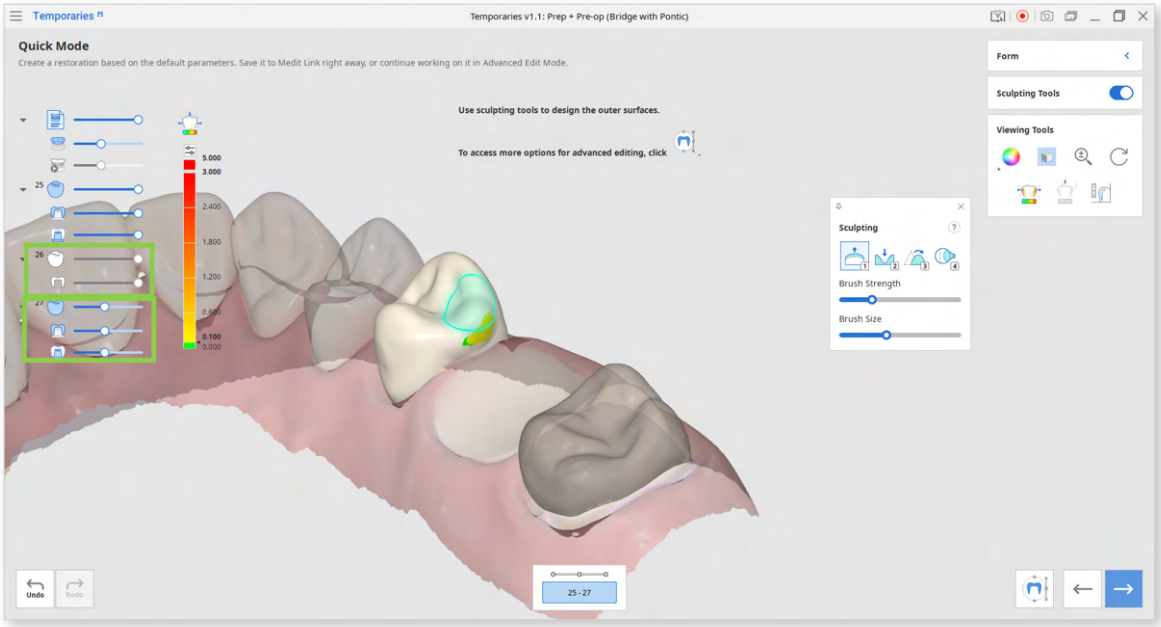
7. Click "Next" or press the space bar when ready for the next step.

8. Use Sculpting Tools to design the outer surface of the bridge. Turn on contact features in the Viewing Tools to assist you when sculpting.



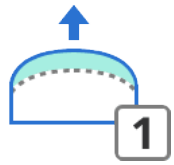
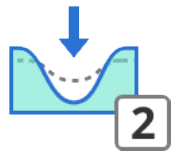
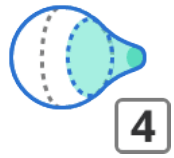
When sculpting, adjust the transparency slider of each crown in Data Tree or click them to completely hide the restoration.

This will improve the visibility and access when designing the mesial and distal sides.

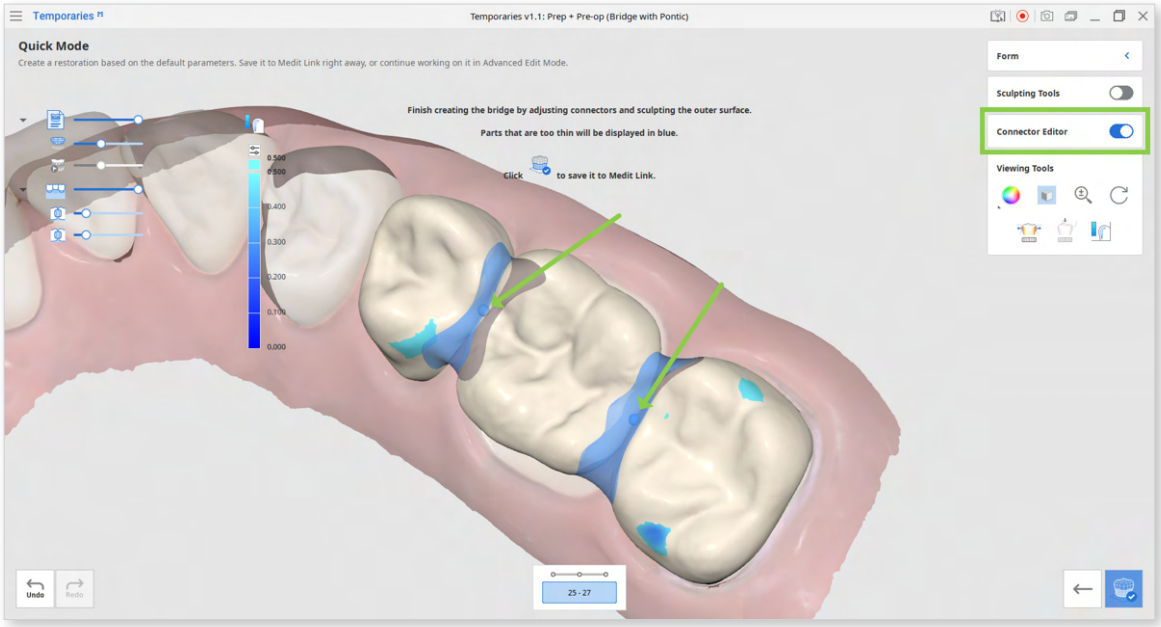


<Tooth #26 is hidden and tooth #27 is transparent.>

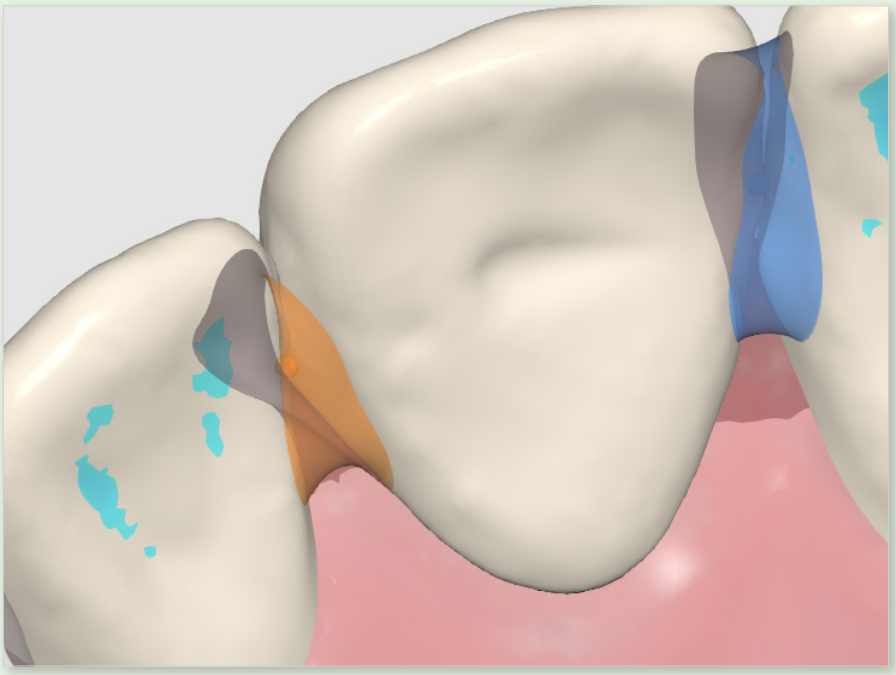
After sculpting, you can make more changes to the outer and inner surfaces of the restoration in Advanced Edit Mode. This step is optional. See more on Advanced Edit Mode at the end of this chapter.

Sculpting Tools (Check more hotkeys for sculpting by clicking the question mark; provided hotkeys help to save up time when sculpting.)		
	Add	Add material to the restoration. Hotkey: 1
	Remove	Remove material from the restoration. Hotkey: 2
	Smooth	Smooth parts of the restoration. Hotkey: 3
	Morph	Morph the material on the restoration by dragging it with your mouse. Hotkey: 4

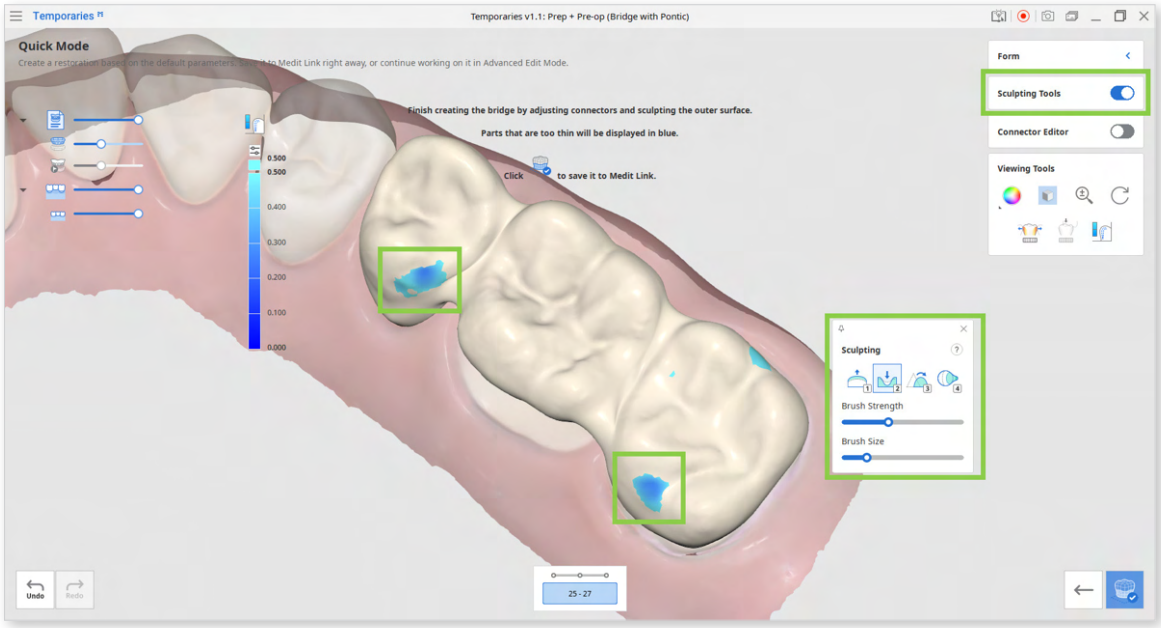
9. Finish creating the bridge by adjusting connectors. Turn on the Connector Editor on the right and drag the center point of each connector to change its position. The minimum cross-sectional area for connectors can be set in program settings. The default value is 9 mm² for anterior teeth and 14 mm² for posterior teeth.



If the connector is displayed in orange, its position is not optimal; adjust until it is blue again.

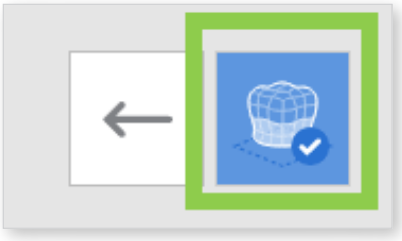


If there are parts of the restoration that are too thin, they will be displayed in blue. Turn on Sculpting Tools and edit them before finishing.



> ⚠ It is recommended first to adjust the connectors and only then to perform sculpting.
>
> If you turn on Connector Editor after sculpting, your sculpting results will be lost.

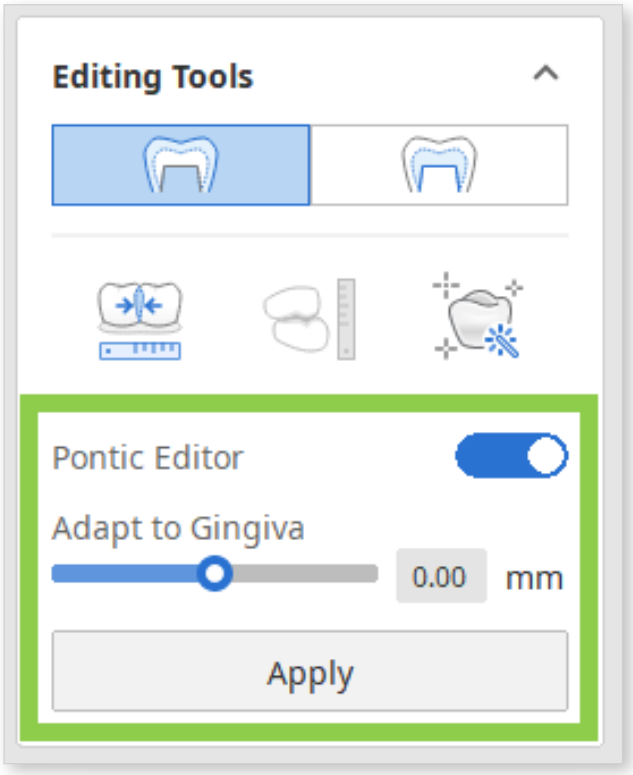
10. If satisfied with the result, save the bridge to Medit Link by clicking “Complete” in the bottom right corner.



11. If you want to make more advanced edits to the restoration’s inner and outer surfaces, click “Advanced Edit Mode” in the bottom right corner of step 8.

A) Edit the outer surface of each crown separately by performing the adaptation with tools provided in the outer surface tab of the Editing Tools.

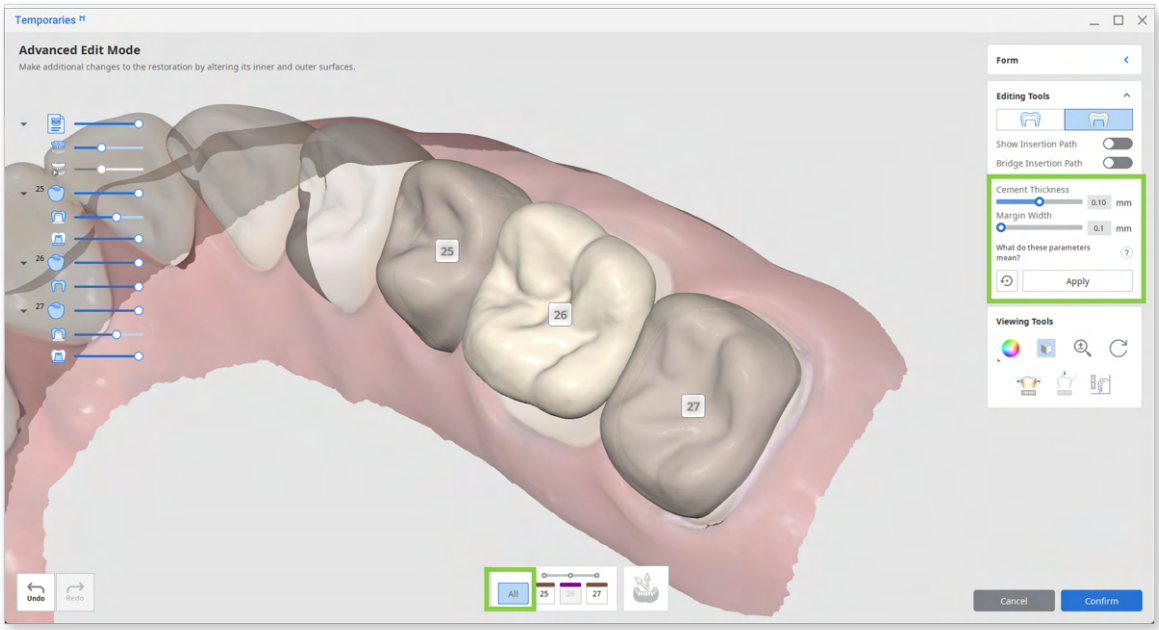
To edit the pontic, turn on Pontic Editor and adjust it to the gingiva.



Editing Tools (Outer Surface)		
	Adapt to Adjacents	Adapt the restoration to adjacents.
	Adapt to Antagonists	Adapt the restoration to antagonists.
	Smart Adaptation	Adapt the restoration to the antagonists and adjacents simultaneously based on our recommended parameters.

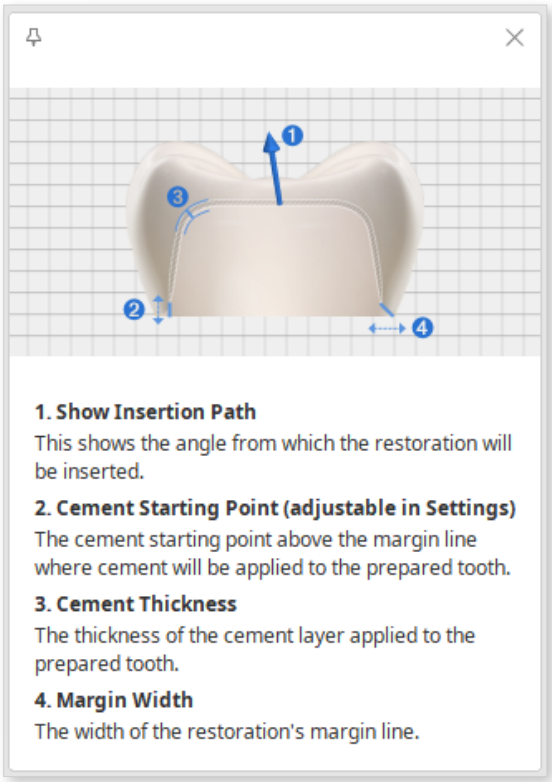
B) Edit the inner surfaces by adjusting the insertion path arrows and values for the parameters provided in the inner surface tab of the Editing Tools. Adjust the insertion path by moving the arrow for each crown separately, or turn on Bridge Insertion Path so the arrows would move as one. You can also use Set Arrow to Your Viewpoint to quickly set the insertion direction to your viewpoint.

To adjust inner surface parameters for all teeth at once, click “All” in the list below the 3D data.



Remember to click “Apply” after setting new parameter values.

In the prepared + pre-op data module, you can adjust the following parameters for the inner surface of the crowns.



Settings in Prepared + Pre-Op Module

Medit Temporaries creates restorations quickly and easily using pre-set parameters. To change any of the default values, go to settings in the program menu in the top left corner.

Here is a list of available settings in the prepared data module.

General

Settings	Description	Default	Range
Send Anonymous Usage Statistics	Set whether to send anonymous usage statistics to Medit.	On	
Advanced Rendering	Displays the 3D model in a more vivid and realistic way.	On	

Outer Surface - Default Settings

Parameter	Description	Default	Range
Distance to Antagonists	The distance from the restoration to its antagonists. All overlapping areas will be removed.	0.2 mm	0 mm – 0.5 mm
Distance to Adjacents	The distance from the restoration to its adjacents. Negative value: Overlapping areas will be created. Positive value: All overlapping areas will be removed.	0 mm	-0.5 mm – 0 mm
Min. Cross-Section Area of the Connectors **(bridges only)**	Set the minimal value for the cross-sectional area of the connectors. Values are set separately for bridges with anterior and posterior teeth.		
Anterior		9 mm^2	6 mm^2 - 15 mm^2
Posterior		14 mm^2	10 mm^2 - 30 mm^2

Inner Surface - Default Settings

Parameter	Description	Default	Range
Minimum Thickness	Set the minimum thickness of the restoration.	0.5 mm	0.3 – 0.7 mm
Cement Thickness	The thickness of the cement layer over the prepared tooth.	0.1 mm	0 mm – 0.2 mm
Cement Starting Point	The point, counted from the margin line, from which cement will be applied to the prepared tooth.	2	1- 5
Smoothing	Choose how smooth you would like the inner surface to be. 💡 Note that generally, this depends on your 3D printer or milling machine. We recommend making the surface smoother by default, especially when using milling machines.	1	1 - 5
Remove Undercuts		On	