suresmile protocol

orascanner® 2
OraMetrix has its headquarters in Richardson, Texas, with offices in Berlin, Germany and Chatswood, Australia. For general information about OraMetrix, visit the OraMetrix website at www.orametrix.com.

Contact us for support

To contact us, please call one of the phone numbers listed below, or email us at customer.care@orametrix.com

<table>
<thead>
<tr>
<th>Region</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States &amp; Canada</td>
<td>1 888 672 6387</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>1 972 728 5902</td>
</tr>
<tr>
<td>Europe, Australia, New Zealand, Japan &amp; South Korea</td>
<td>+800 6655 1234</td>
</tr>
</tbody>
</table>

Note: We are currently rolling out this number on a country-by-country basis. If not yet available in your country, you can still call us by using our All other countries toll number below.

| All other countries                        | +1 972 728 5902              |
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About this Guide

This guide includes the protocol and procedures for using the orascanner 2 or its precursor, the orascanner, for suresmile treatment. Although informative for the doctor, the primary audience is the clinical assistant who will be performing scans and entering suresmile orders.

Any practice with an orascanner can use this document as a reference, including:

- New suresmile practices planning to use the orascanner for all model types.
- Existing suresmile practices who have decided to obtain an orascanner 2 for its mobile capabilities.
- Any suresmile practice planning to use the orascanner to capture supplemental and update scans for their suresmile-certified CBCT system.

Practices using CBCT must also refer to the applicable guide for the suresmile protocol for CBCT scans. These documents are available in the suresmile online help.

To access this area,

1. go to suresmile via your web browser
2. click the ? icon and select Help Center
3. Next, find the “Other Resources” section in the lower-right corner of the window and select “Useful Documents.”
4. When this page opens, find the appropriate CBCT guide under the heading, “Scanning Protocols.”

Prerequisite Training

Prior to conducting the suresmile training and launch:

- If using CBCT, the practice should be trained in the safe and effective operation of CBCT equipment by a representative of the manufacturer. To begin the process of validating your system for use with suresmile, visit sure u. You will find instructions here:

  www.suresmileu.com > Resources > Overview > Find resource by topic > Integrated Systems > Becoming a suresmile CBCT user
Getting Started

Set up a System for the orascanner 2

While the orascanner was developed as part of a scan station provided by OraMetrix in one unit, the mobile orascanner 2 is used with customer equipment that meets technical and patient safety requirements.

Refer to the orascanner 2 Hardware Manual for details on orascanner functionality, maintenance and safety precautions.

Install surescan

Install surescan, which is the scan acquisition software that runs the orascanner. For specific steps, see the orascanner® 2 quick start guide.

Cybersecurity Guidelines

1. Keep your computer's operating system up to date with patches and fixes.
2. Install and maintain an anti-virus program.
3. Install and maintain a firewall between your LAN and the internet.
4. Avoid installing browser add-ins or plug-ins.
5. Avoid downloading or installing software from unknown sites
6. Create a hard to guess password by using at least 8 characters of mixed case letters, numbers, and symbols.
7. Avoid using common words or phrases.
8. Do not reuse the same password for any accounts.
9. Consider using a password program to manage passwords, such as KeePass or LastPass
10. Do not display your password where others can see it.
11. Change your password periodically, every 60 to 90 days.
12. Logout or lock your workstation when leaving your desk.
13. Avoid clicking on links in email. Instead, go directly to the site and login using your user-id and password.

Contacts for service or software issues:

For issues with suresmile orders, software, or CBCT protocols for suresmile, contact suresmile Customer Care per the listing on page 2 or in the suresmile online help.
What is suresmile?

The suresmile system is the first end-to-end solution that allows the orthodontist to apply 3D diagnostic imaging and computer-aided treatment planning to produce custom appliances. This results in greater control and efficiency for orthodontic care.

The suresmile system is comprised of several technology components:

- Scanning technologies to produce a 3D model of the patient’s dentition that may be captured in an optical scan by our orascanner or a certified third party scanner; scans may also be captured by a certified CBCT system.
- suresmile 3D software, which provides powerful visualization tools for precision diagnosis, treatment simulation and customized appliance design. The doctor can review the digital setup with this software and use it to communicate with patients and with the suresmile Digital Lab.
- surescan software primarily used for scan acquisition with the orascanner or CBCT data submission
- The suresmile Digital Lab provides scan and setup processing to produce precise robotically bent custom archwires; or you may send the models to your lab to fabricate other appliances such as aligners.

IMPORTANT: OraMetrix does not determine patient care. OraMetrix provides therapeutics as directed by the doctor. The best possible results from the suresmile process depend on the application of the doctor’s diagnostic and clinical judgment.
## Treatment Models

The table below lists the 3D models produced from scans to support suresmile treatment. An optical scan may be captured by scanning a patient in-vivo (intraorally) or by scanning a plaster model; however, an in-vivo scan is required for wire therapy and strongly recommended when capturing any model used for appliance design.

The Digital Lab also produces a setup, which is a model of the doctor’s treatment plan based on the therapeutic model to fabricate custom appliances.

<table>
<thead>
<tr>
<th>Model</th>
<th>Purpose</th>
<th>Source Data</th>
</tr>
</thead>
</table>
| **Diagnostic Model**| Models the malocclusion, including individual teeth, to support: full dental examination using 3D diagnostic tools, a simulation of treatment options, and/or a model for appliance design. | • Optical scan In-vivo or plaster  
• CBCT In-vivo or plaster |
| **Therapeutic Model** | This scan is captured intraorally (or by in-vivo CBCT). For bonded patients, models the patient’s current tooth anatomy and bracket positions. Captured any time after bonding in preparation for designing custom archwires. For unbonded patients, models the patient’s current tooth anatomy to support: full dental examination using 3D diagnostic tools, a simulation of treatment options, and/or a model for appliance design. CBCT users have an additional scan option that accompanies a therapeutic scan:  
• **Supplemental scan** – an intraoral scan primarily used to capture areas with restorations that cannot be accurately modeled from a CBCT scan. The two scans of the patient are combined to produce a complete model. | • Optical scan In-vivo*  
• CBCT In-vivo scan |
| **Update Model** (for bonded patients only) | This scan is taken intraorally by an optical scanner to capture areas that have changed since the last model was produced. Schedule an update scan when you need to order archwires, but bracket positions have changed or new teeth have erupted. Note: If new teeth are captured, you must order a new setup prescription before ordering wires. | • Optical scan In-vivo* |
| **Final Model**     | Models the patient’s final tooth positions with individual teeth to support a Full Dental Examination using 3D diagnostic and quality grading tools, and/or a model for appliance design. | • Optical scan In-vivo or plaster  
• CBCT In-vivo or plaster |

* Capture this scan with the orascanner or check www.suresmileu.com under “integrated systems” for a list of third party scanners that are certified to capture data for therapeutic models.
What is the orascanner & surescan?

See the orascanner 2 *hardware manual* for details on the orascanner technology and maintenance. The parts of the system include:

- Laptop computer supplied by the practice (isolated from power source)
- orascanner 2 with USB cable and removable mirror
- Wireless footswitch (and receiver)

TIP: Add speakers to the laptop for audible cues. It is especially helpful to hear fast clicking as data is acquired vs. the idle clicking speed indicating the orascanner must be repositioned.

The scan acquisition software that operates the orascanner is called surescan. For instructions on installing the update service for this software, see the orascanner *Quick Reference Guide*.

**WARNING**: Scanning is a memory-intensive operation for the computer. Do not run any applications at the same time that you are scanning. Also, reboot after every few scans, or sooner if it improves system performance.

The surescan software interacts with the footswitch to start/stop scanning. For other on-screen operations, you can use touchscreen controls (if available on your computer) or a mouse.

When you capture the scan data, it is stored on the computer’s hard disk and associated with a suresmile patient record. To upload images and submit the product, refer to the patient’s file in the suresmile browser.

suresmile URL: [https://login.suresmile.com/](https://login.suresmile.com/)
Periodically, the system checks for submitted data and transfers it to the Digital Lab. If you try to shut down the computer before the data transfer is complete, the software displays an alert.

**WARNING:** Because the data is stored locally, you must submit an order from the same computer where you acquired the orascan data (or imported the CBCT data). There is one exception – you may place the order from another computer in your office where surescan is installed if both computers are on the same network. Contact Customer Care for further instructions.

TIP: orascan are NOT deleted from your computer automatically. After taking a few scans, check the hard disk space to determine when more space might be needed. Typically, a full scan (upper, arch and bite) takes about 200 MB.

CBCT data is handled differently since it is already stored on the CBCT acquisition computer in your practice. When you import the CBCT data into the suresmile order, surescan moves the copy to a hidden folder on the hard disk for transport (unless it was imported from the desktop, in which case the software makes a copy). The CBCT data is removed from the hidden folder on your hard disk after five days. If you imported the CBCT data from the computer’s desktop, this data will remain on the desktop until you delete it.
Workflow for orascanner®

While you may use your orascanner to scan either intraorally or scan a plaster model, the following scan types must be captured intraorally:

- **Therapeutic scans** – upper and lower arches (both arches are required even if the patient is receiving single arch treatment since both are needed to plan the occlusion)
- **Update scans** – arches or partial scans of arches to capture changes to tooth anatomy and/or brackets
- **Supplemental scans** – arches or partial scans of arches to capture supplemental data for CBCT scans

In addition, we strongly recommend capturing diagnostic and final scans intraorally when you plan to use them to design an appliance (aligners, for example).

After capturing the data, submit them to the suresmile Digital Lab via an order.

The process for the therapeutic scan appointment, which contains the most steps since it must be captured intraorally and requires records, is depicted below.

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*The steps to upload photos/x-rays and submit the suresmile order may be completed after the patient appointment. To avoid unnecessary delays to treatment, make sure you complete and submit orders by the end of the day the scan was captured.*
Taking Required 2D Records

The suresmile system requires current photos and x-rays any time a scan is taken to optimize 3D modeling accuracy. Each photo is used for a specific purpose in Digital Lab modeling or setup processing. A standard photo set consists of:

- 3 extraoral photos: Extraoral photos indicate the natural jaw position and natural smile line. The Digital Lab uses this information when orienting the 3D model to the head position.
- 5 intraoral photos: The Digital Lab references intraoral photos to confirm tooth anatomy, check bite registration, and confirm bracket placement.

The following table illustrates the records required (or recommended) for each model type.

<table>
<thead>
<tr>
<th></th>
<th>Required Photos</th>
<th>Required X-Rays</th>
<th>Strongly Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnostic Model</strong></td>
<td>-</td>
<td>-</td>
<td>Five standard intraoral + three facial + full mouth Panorex, Ceph</td>
</tr>
<tr>
<td><strong>Therapeutic Model</strong></td>
<td>Five standard intraoral + three facial</td>
<td>Panorex + initial or current Ceph*</td>
<td>Full Mouth + Overjet</td>
</tr>
<tr>
<td><strong>Final Model</strong></td>
<td>-</td>
<td>-</td>
<td>Five standard intraoral + three facial + full mouth Panorex, Ceph</td>
</tr>
</tbody>
</table>

For best results, photos should be taken the same day as the scan. To meet minimum modeling requirements, they must be taken within 4 weeks before or 2 weeks after the scan.

* For the most accurate orientation of the model to the head position, the Digital Lab recommends importing a ceph that includes the Frankfort Plane. If the patient’s CBCT scan does not capture this anatomy, you can import the ceph from the initial records.
Import Records On Time

Import required photos/x-rays into the patient’s suresmile record before the data is sent to OraMetrix.

If the 3D data arrives at the Digital Lab without the required records, the order will be placed on “customer hold,” and you will have to release the hold before work can begin in the Digital Lab.

Create a new image set

Create the image set using an integrated imaging system to automatically create the patient record and upload the set, or create the set manually in suresmile via the web:

1. On the patient overview, click Image Sets and then select Add Image Set...
2. Enter the name for the image set.
3. If you need to change the date, type the date or click the calendar icon and select the date that the records were taken.
4. Click Save.

Upload multiple images

Next, upload photos and x-rays.

1. Click the Upload Files button for the image set.
2. Select multiple image files from the Open dialog, and click Open.
3. Drag and drop images into their correct position in the montage.
SureWhite is a liquid solution consisting of titanium dioxide (white color pigment), dental adhesive and pure ethanol. It is applied to the patient’s teeth to increase opacity before performing an intraoral scan.

To correctly apply SureWhite, follow the approach “dry, apply, dry” to dry the teeth, paint on SureWhite and then dry the SureWhite.

For complete instructions, see the insert in the SureWhite package.
After applying SureWhite to an area, it is critical to maintain a dry field until you have captured the scan for the following reasons:

- Saliva or patient anatomy can wipe away your SureWhite application. To recover, you will need to “dry, apply, dry” again.
- Saliva can pool around an area coated with SureWhite causing the solution to thicken, lessening the accuracy of your model.
- If you must re-apply SureWhite and rescan, you increase the number of scan layers, which can lessen the accuracy of your model.
- If you must rescan multiple areas, you will significantly increase the length of the patient appointment.

For the shortest patient appointment and most accurate model, follow these guidelines when working with SureWhite. Send the patient to brush when you are ready for the SureWhite to be removed.

**In general:**

- If you are capturing a full scan (Upper, lower and bite) for a patient who salivates heavily, you may insert dry angles to block the parotid salivary ducts.
- Use retractors, such as the Nola retractor (Great Lakes) supplied with your orascanner, to keep the lips and cheeks from touching the teeth. (Red is for small mouths, white is for large.) If needed, use petroleum jelly on the lips prior to retraction.
- Suction, as needed, to keep the patient comfortable.
- Plan to capture an arch in three segments. Do NOT apply SureWhite to an area until you are ready to maintain a dry field and capture the area in a scan. Once you have captured an area and it will not need to be rescanned, you no longer need to protect the SureWhite in that area.
- Use a bib to protect the patient’s clothing from SureWhite splatter (although it does wash out easily).

**For the upper arch:**

- Use cotton rolls, as needed, to provide a barrier for a full upper lip while scanning the upper anterior teeth.

**For the lower arch:**

- When applying SureWhite to the lower posterior, use a tongue depressor as a barrier to keep the tongue from touching the teeth. If needed, wrap the tongue depressor with gauze to help absorb saliva and block the sublingual duct. Keep the tongue depressor in place until the posterior teeth are successfully captured in a scan.
- Use cotton rolls, as needed, to provide a barrier for a full lower lip while scanning the lower anterior teeth.
Guidelines for Scanning Segments

Scan arches according to a pattern to allow the system to accurately construct a 3D model of the patient's dentition. This pattern also accommodates the need to scan in sections to maintain a dry field for SureWhite. The position for holding the orascanner will depend on the area you are scanning.

Follow Scan Pattern for Segments

Upper & Lower Arches

1. Scan in a serpentine pattern across the posterior to capture all views of each tooth.
2. Follow a sweep-rock motion to capture the lingual/incisal view of the anteriors.
3. Continue a sweep-rock motion to capture the labial/incisal view, and return to overlap the canine area.
4. Finish the scan of the arch with the same serpentine pattern in the posterior of the other side.

Bite

1. Position the mirror over the molars in occlusion.
2. To capture gingival margins, move slightly up/down as you sweep forward.
3. Move mesially to capture 5 teeth in occlusion.

**TIP:** You may scan the upper or lower arch first, whichever is easier for you. Most technicians scan the lower arch first due to a tendency for some patients to salivate more as the appointment progresses.
Grip the orascanner Comfortably

Hold the orascanner in a comfortable, relaxed grip. Change hand positioning depending on:

- The area of the mouth you are scanning
- Whether you are left-handed or right-handed
- What is comfortable for you as you maintain a 45-degree angle to the teeth and follow the scan pattern

Here are some recommendations for a comfortable grip. Most operators sit behind the patient’s head with the patient in a supine position.

**For the upper posterior:**

- Position your fingers and palm over the suresmile logo with your thumb around the underside. Hold the unit with your fingers (rather than gripping it tightly) to allow you to move the orascanner in a serpentine pattern. Extend the mirror down to the patient’s molars to hold the orascanner vertically.

**For the anteriors:**

- Hold the orascanner horizontally to move in a sweep-rock pattern from first bicuspid to first bicuspid.
- You can use the other hand to steady the back of the mirror.

**For the lower posterior:**

- Position your fingers and palm around the underside of the orascanner with your thumb on the suresmile logo.
- Hold the unit with your fingers (rather than gripping it tightly) to allow you to move the orascanner in a serpentine pattern.
Capture Required Anatomy

To ensure successful processing by the Digital Lab and optimize model accuracy, capture a complete scan according to the following criteria for arches and the bite:

- **Bracket doors closed**
- **No missing cusp tips**
- **75% of every tooth surface**
- **.2 mm of gingiva**
- **One bracket wall and all 4 wings**
- **Include gingival margins**
- **5 teeth in occlusion on one side**

Overlap Facial/Lingual Segments

If you see ridges or grooves at the incisal edge that do not reflect actual tooth anatomy, the scan has not accurately registered; and it will ultimately be rejected by the suresmile Digital Lab. Do not order this scan. Instead, delete the segment and re-scan to capture accurate data.

**NOTE:** Once the scan is submitted, it cannot be modified. If the scan is rejected by suresmile, the patient must be recalled and the data re-captured.
Recognize Appropriate Frame Counts

The orascanner captures a series of pictures called “frames” to form a model. Frames must overlap for the software to continuously build onto captured data.

To assist you in avoiding memory issues as you acquire frames, we have developed some frame count guidelines. It is a best practice to scan an arch in under 750 frames, and the bite in under 100 frames. However, if you are experiencing an especially difficult scan, it is useful to know what level of performance to expect. Remember that high frame counts also affect the Digital Lab who must register the scan data prior to modeling teeth.

These guidelines are per arch:

<table>
<thead>
<tr>
<th>Frames per Arch</th>
<th>Level</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 750</td>
<td>Ideal</td>
<td>No performance issues during the scan or at the Digital Lab.</td>
</tr>
<tr>
<td>751-1000</td>
<td>Acceptable</td>
<td>Slight performance issues during the scan or at the Digital Lab.</td>
</tr>
<tr>
<td>1001-1250</td>
<td>Some Risk</td>
<td>May experience memory issues while scanning including the inability to save the scan session.</td>
</tr>
<tr>
<td>1251-1500</td>
<td>High Risk</td>
<td>Likely to experience memory issues. May be unable to save the scan. Digital Lab may be unable to process scan.</td>
</tr>
</tbody>
</table>

If all segments of a scan (upper arch, lower arch, bite) add up to 2500 frames, the scan is very likely too large to register and must be rejected by the Digital Lab. In other words, a scan is very likely to fail registration at OraMetrix if your upper and lower arch scans are both over 1250 frames.

If you have not completed your scan of the patient and you have captured a risky number of frames, you have the following alternatives:

- Use the Undo feature to remove large sections and rescan those areas more efficiently.
- Delete an arch and rescan it more efficiently.
- Ask another assistant to help suction or retract so you can complete the scan more efficiently.

If you scan each arch within about 900 frames or less, you will avoid memory issues on the scanning station and registration issues at the Digital Lab.
Handling Scanning Disruptions

Several strategies and features allow you to quickly handle scanning disruptions.

Switch Scan Segments
If you accidentally scan into the wrong windowpane, you can simply drag and drop to move a scan segment after you stop the orascanner.

1. Point to the scan in the “Upper” window, drag it to the “Lower” window.
2. Drag and drop as needed to move the scan segments to the correct windowpanes.

Undo Frames
As you are scanning, you can touch the Undo button to remove the previous section, up to the last break, and resume scanning. If you choose Undo multiple times, you will continue removing sections until you reach your starting point, or the point the file was last saved. This feature will also recover sections that were deleted.

**WARNING:** There is no Redo feature - once the section is undone it cannot be returned.

1. Click (the red button) to stop scanning (and run registration).
2. Click to Undo the last section, and click Yes to confirm. The section is removed and the segment moves to a left window.
3. Repeat the previous step as needed to Undo more sections. It is not necessary to move the segment back to the main window until you are ready to continue scanning.
4. Continue scanning when ready.

Delete a segment
You can delete the upper arch, lower arch or bite after you stop the orascanner.

1. Press and drag a copy of the segment to the main window. The Delete command becomes available
2. In the Edit menu, choose Delete Scan (or right-click and choose Delete). A window opens to confirm the deletion.
3. Click Yes to delete the segment, or No to cancel the deletion.
Run Single Registration

Each time you use the red button to stop the orascanner, a process called Single Registrations runs, which attempts to better fit together the frames. This feature is useful if frames do not appear to be well-aligned. However, be conservative in using this feature since it will result in a longer appointment time.

Run Network Registration

If your scan appears to be a double image because it is not building properly, this situation is called “double-shelling.” You can run an additional process called “network registration” to improve the fit of the frames. This is a cumulative process, which means you can run it multiple times for potentially better results.

TIP: If the scans are within 2 mm of each other, the Digital Lab can typically resolve this issue during processing of the model.

1. Right-click in the main windowpane where you can see the scan segment that has a “double-shell” problem, choose Network Registration.

2. Repeat as needed.

Running this process will result in a longer appointment time. Follow proper scanning techniques such as the “serpentine” motion to avoid this issue.
Resume Scanning after “Breaking”

While scanning and building a model, the orascanner may stop acquiring data and the fast clicking will return to the idle clicking speed. This situation is called “breaking” and refers to the inability of the software to fit the current frame to the last frame. Typical causes are:

- You have blocked the light path between the projector and the mirror.
- You have moved the orascanner mirror too far or fast.
- The mirror is too far away from the teeth.

When a break occurs, the last successful frame will be selected. It is indicated by a red arrow, which corresponds to the mirror position and direction.

1. If the last frame is in an awkward area, select a different frame as a starting point. It is easier for the software to resume on an occlusal surface in the posterior, over the cuspid/bicuspid area, or on the buccal view of the anteriors.

2. Position the mirror to match the location of the red arrow, angling the orascanner in the same direction. When you are lined up correctly, the model will begin building again and you will hear fast clicking. If the software does not respond:
   - Try moving the mirror slightly or changing the angle in case you are not lined up well with the selected frame.
   - Select another frame, such as an occlusal view, and try again.

Fill in Holes

First, determine the reason for the hole:

- Does the area have adequate SureWhite?
- Is there a problem with the angle of the mirror?

Use the Resume scanning features to fill in missing areas.

Keep Mirror Clean in Intraoral Scans

If your model is surrounded by a spray of white data, most likely your orascanner mirror is not clean. Any debris on the surface of the mirror will be captured in your pictures. Use your optical cloth dampened with alcohol to clean your mirror as needed.
Preparing for an Intraoral Scan

Prepare your Tray
As you set up the patient tray, add the following recommended items:

<table>
<thead>
<tr>
<th>Clinic supplies</th>
<th>suresmile supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient bib and clips</td>
<td>• From the SureWhite Tooth Preparation Kit:</td>
</tr>
<tr>
<td></td>
<td>o SureWhite</td>
</tr>
<tr>
<td></td>
<td>o SureWhite applicator (squeeze bottle and brush)</td>
</tr>
<tr>
<td>Safety glasses for patient</td>
<td>• Optical cloth</td>
</tr>
<tr>
<td>Two cotton rolls, 2”</td>
<td>• orascanner mirror</td>
</tr>
<tr>
<td>Lip balm</td>
<td></td>
</tr>
<tr>
<td>Tongue depressor</td>
<td></td>
</tr>
<tr>
<td>Antiseptic mouthwash</td>
<td></td>
</tr>
<tr>
<td>NOLA retractor (remove section with suction &amp; tongue retraction)</td>
<td></td>
</tr>
<tr>
<td>One 2” x 2” gauze</td>
<td></td>
</tr>
<tr>
<td>Two Dry Tips</td>
<td></td>
</tr>
<tr>
<td>Mouth mirror</td>
<td></td>
</tr>
</tbody>
</table>
Prepare the Patient

1. Instruct patient to brush teeth and rinse with mouthwash.
2. Use a bib to protect the patient’s clothing, and safety glasses to protect the patient’s eyes.
3. Remove the patient’s wires in the arches to be scanned. If they are suresmile archwires, keep track of their orientation to help you reinsert them correctly at the end of the appointment.
4. If you are using self-ligating brackets, close bracket doors.
5. Remove calculus and any other material that will misrepresent the true shape of the teeth.

*If the patient has turbos:*

If the turbos are scheduled to be removed at this appointment, remove them before the scan. Otherwise, enter a note in the suresmile order to describe the location of the turbos.

6. Rinse the patient’s mouth with the air/water syringe, and suction to clear the mouth of saliva.
7. Apply lip balm in preparation for retraction.
8. If needed, insert the Dry Tips to cover the parotid glands.
9. Retract the lips and cheeks using the Nola (red for smaller patients, white for larger).
10. Prepare the area to be scanned according to the instructions in the Guidelines for Handling SureWhite section.

**TIP:** Use cotton rolls as needed to block moisture and keep the lips clear of the anterior teeth. On the lower arch, it may be helpful to place a cotton roll between the tongue and teeth.

Reinsert Archwires at the End of the Appointment

*When you are finished scanning, send the patient to brush to remove the SureWhite.*

Reinsert the archwires and complete the patient appointment.
Working with suresmile and surescan

You can login and open the patient record during or prior to the scanning appointment.

Start with suresmile

1. Log onto suresmile on the web.

![Log onto suresmile on the web]

2. Add a new patient or open the Patient Overview for an existing patient.

![Add a new patient or open the Patient Overview]

3. Click the New drop-down menu in the timeline and select the model you want to order.
   The order page opens.

![Click the New drop-down menu]

4. Fill out the Dental Examination section.

Workflow for Entering Dental Exam

Best practice would be to fill out the dental exam prior to scanning the patient. Or, you can enter the dental exam separately from taking the scan. You have several options to support your workflow if you delegate these steps. Before the appointment, you can:

- Prior to the appointment, open the patient’s record in suresmile via the web. On the Patient Overview, select the Teeth & Brackets drop-down to enter the information.
- Alternatively, you can enter the dental exam after the appointment but it must be completed BEFORE you submit the order. Once you click the Submit button, the order becomes “Read Only” and will be placed on “hold” when it reaches the Digital Lab and is incomplete.
- After the appointment but BEFORE you submit the order, find the record in suresmile via the web. Go to the therapeutic scan order page.

5. Apply a bracket set/assign brackets if appropriate for the model you are ordering.

6. Scroll down to the Select your 3D Scan Data files section.

7. Click the Ora Scan tab as appropriate.
8. If surescan is...
   - ...on the same computer you are currently working on, click [Open surescan].
   - ...on another computer or a standalone OraScanner 1 station, click [Create a Task]. A spinning wait/busy cursor appears for a moment, and then a message: Task item already exists appears to the right of the button. Go to the computer or scan station with surescan installed.

9. **OPTIONAL:** If you are ordering a diagnostic or final model from a CBCT scan based on a plaster model, make sure you check the CBCT Plaster Scan check box before clicking the Open surescan or Create a Task buttons. This ensures that the Digital Lab processes the CBCT scan correctly.

---

**Continue to Specific Scan Steps**

If you are using an integrated imaging system such as Dolphin, you can push your new record set to initiate a suresmile patient record. If not, you will need to start a new record and then a new image set.

After the patient record is created in suresmile, continue to the section for the scan type you are ordering:

- Ordering a Therapeutic Model from STY/PLY Files
- Ordering an Update Model
- Ordering a Therapeutic Model from a CBCT Scan and a Supplemental Scan
- Ordering Diagnostic or Final Models
Ordering a Therapeutic Model

Schedule a therapeutic scan to capture the patient’s current tooth information (and bracket positions, if bonded) in preparation for treating the patient with custom appliances. You will capture three scan segments, upper, lower, and bite.

Instruct the Patient

1. Refer to the Scanning Appointment handout for patient instructions. At the beginning of the scan, reinforce the benefits of suresmile and the importance of the scan.
2. During the scan, enlist the patient’s help as needed with retraction and keep him/her informed on the procedure.
3. At the end of the scan, show the model to the patient and reinforce its benefits.

Get Started

1. Start surescan software. Find and open the task associated with the patient on the surescan overview page.
2. Start suresmile in the broswer. Find and open the patient record.
3. Follow the previous instructions to prepare the patient.

Select a Case Type

1. On the Patient Overview in the suresmile browser, click the New button and look at the menu.
2. If the “Select Case Type” option is available, choose it from the menu to go to the Patient Profile page. (If it is not available, continue to the steps below “Start a Therapeutic Model Order.”)
3. In the drop-down menu, select the appropriate case type and click Save Changes. The software returns to the Patient Overview.
   
   WARNING: If your patient will be treated with custom wires now or as a later therapy, do NOT select the Aligner case type.
4. Continue to the steps below “Start a Therapeutic Model Order.”
Start a Therapeutic Model Order

1. On the Patient Overview in the suresmile browser, click the New button and choose Therapeutic Model. A new scan order opens.
2. Update the Dental Exam for the Teeth tab.
3. If the patient is bonded, select the Brackets tab and update the Dental Exam for the bracket assignments.

Start a Therapeutic orascan

1. Below the Dental Examination section of the order page, select Ora Scan option under Select your 3D scan data files
   - ... on the same computer you are currently working on, click Open surescan.
   - ... on another computer or a standalone OraScanner 2 station, click Create a Task.

A spinning wait/busy cursor appears for a moment, and then a message: Task item already exists appears to the right of the button. Go to the computer or scan station with surescan installed.

2. Go to surescan

   If you are...
   - ... already logged onto surescan
     The orascanner page opens on your computer screen on top of suresmile.
   - ... not logged into surescan
     Log on when the surescan logon page opens. surescan takes you directly to the orascanner page for the patient.
3. Take your orascan now. If already taken, click ( ) to load all scans at once. *After scanning is completed, move pass the following blue section for next steps with this Therapeutic Model Order*

---

**Scan the Arches**

Remember to prepare each area with SureWhite and adjust your grip on the orascanner according to the instructions in the *Guidelines* sections on the previous pages.

1. Activate the orascanner by doing one of the following.
   - Press the foot pedal.
   - Click the green button (Start Scanning) at the top of the screen.
   - If you are using a touchscreen, touch the green button (Start Scanning) at the top of the screen.

   If you have connected speakers to your laptop, you will hear a steady clicking sound indicating the camera is ready to acquire images.

2. Position the mirror at a 45-degree angle to the occlusal surface of the second molar (either right or left), and watch the screen.

3. When you are in position and ready to begin scanning, press the foot pedal again (or click the Start Recording button in the software). Now you may hear rapid clicking, which indicates the orascanner is capturing images.

4. Follow the scan pattern as previously described in the guidelines:
   - Scan in a serpentine pattern (tooth-by-tooth) until you reach the cuspid area.
   - When you reach the cuspid, use the sweep-rock technique to capture the anteriors. Sweep-rock across the lingual, and then across the labial.
   - Finally, return to serpentine to capture the other side.

5. If the scan “breaks” (cannot match up the current picture with the last frame), follow the steps in the “Handling Scanning Disruptions” section on page Error! Bookmark not defined. to resume scanning.

6. Use Camera Navigation to examine the model. If your data does not meet quality standards due to holes or missing anatomy, use the resume feature to fill in areas.

**WARNING:** For best results, capture an area while it is still isolated. Do not continue on to another section until you have successfully captured the last section. If you have lost control of the section; however, you may continue to another segment and return to this area when you are ready to try again.
7. When the arch is complete, do one of the following to stop the orascanner and run registration:
   - Press the foot pedal.
   - Click the red button (Stop Scanning) at the top of the screen.
   - If you are using a touchscreen, touch the red button (Stop Scanning) at the top of the screen.

8. Select the Lower Arch window and repeat these steps to scan the other arch.

Scan the Bite

Avoid applying additional SureWhite for the bite segment. This scan is used merely to register the upper arch to the lower arch—the data is NOT used to fill in a scan.

1. Select the Bite window on the left side of the screen.

2. Remove the retractor to enable the patient to bite naturally, but continue to gently retract the cheek on one side with your fingers or the mirror.

3. Ask the patient to bite in his or her natural bite position and remain still. Hold the chin to assist, if needed.

4. Activate the orascanner by doing one of the following.
   - Press the foot pedal.
   - Click the green button at the top of the screen.
   - If you are using a touchscreen, touch the green button at the top of the screen.

5. Starting at the molars on one side, scan across the bite to capture at least five teeth in occlusion moving up/down slowly to capture the gingival margins as well.

   **TIP:** Avoid breaking on the bite scan since it is especially difficult for the software to match up the frames accurately in a 2D view.
4. Once scanning of upper, lower and bite is completed to satisfactory, click **Work Order** on the orascanner page in surescan to finish the scan.

5. In the white box, type a relevant note such as **“LR bridge, planned for implants.”**
   
   **NOTE**: You can type helpful notes in the white box that the Digital Lab will read prior to working on the order.

6. Click **Finish Scan**.

7. Click **OK** and **return to suresmile** in the browser to submit the product.
Submit the Order for a Therapeutic Scan

1. After you’ve completed capturing the orascan for that patient and have clicked **Finish Scan** to submit the scan data, return to suresmile in the browser.

   **if suresmile is...**
   
   **...on the same computer as surescan**
   
   - *If surescan is already opened:* click the globe icon in the surescan menu bar. The system creates a new tab in the browser with the refreshed data.
   
   - *If surescan is not open,* click the globe icon in the surescan menu bar to open the order page in suresmile for the patient.

   **...on a different computer**
   
   go to that computer and open suresmile.

2. Open the order page for the patient and scroll down to **Submit Order** section.

   Enter any additional information about the order for the Digital Lab if needed (optional).

3. Click the **“Deliver with Brackets”** checkbox as needed:

   - In a therapeutic model order, the **“Deliver with Brackets”** checkbox is checked by default. If this is correct (the patient is bonded and will receive custom wires), continue to the next step.

   - OR, if you are scanning a patient that is NOT bonded (or will be debonded at the next appointment) to transition from braces to aligners, uncheck the **“Deliver with Brackets”** checkbox.
4. Once images have been provided, dental exam is complete, and scan data have been uploaded, click Submit Product to begin processing of order.

Please aware that the Submit Product button will not be active until all prerequisites have been fulfilled.

If you have not fulfilled all of the prerequisites...

- when you return to the suresmile browser, suresmile opens to the Missing Prerequisites section of the Order page and shows which prerequisites are still missing.
- The system displays a reminder to refresh the screen. A message, Scan data missing, remains displayed until you manually refresh the web page. (Press the F5 key.)
- You must submit all missing prerequisites before you can submit the product order.
- Once you fulfill all missing prerequisites, click Submit Product to order the model. The Select your 3D Scan Data files section of the Order page closes.

Once an order is submitted, the Therapeutic Model order status is updated to Ordered.

- The order is now restricted to “Read Only” in the practice. This means you can review it, but you cannot change it.
- If you have submitted an order that you would like to cancel or change, please contact suresmile Customer Care.
Ordering an Update Model

The therapeutic model must reflect the patient’s current tooth anatomy and brackets. If there is a significant change, take an update scan. The resulting update model replaces the therapeutic as the reference model for producing custom appliances.

An Update Scan is used to update the therapeutic model of bonded patients in the event of:

- A newly erupted tooth has been added to treatment.
- One or more brackets were rebonded or repositioned.
- The tooth anatomy has changed to the extent that the setup is affected.

**NOTE:** The update scan is applicable to bonded patients only, and is not available in an aligner case type.

You may need an update scan at any point after the therapeutic model has been ordered.

If a setup has already been produced and custom archwires ordered, you will need to replace one or both of these items depending on the situation.

For example:

* Brackets were rebonded due to broken brackets or repositioning
* A tooth has erupted that the doctor is bonding and entering into treatment
* Tooth anatomy has changed that will affect the Setup (such as a restoration)

To help the Digital Lab accurately merge and process the update scan data with the therapeutic model data, follow these requirements:

- Follow coverage/quality requirements for therapeutic scans
- Capture the changed tooth AND the adjacent teeth for a minimum of three teeth that meet quality standards. The adjacent teeth are referred to as “anchor teeth.”
- If an arch has changes in multiple areas, we recommend scanning the entire arch.

<table>
<thead>
<tr>
<th>Reason for Update Scan</th>
<th>Requires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brackets were rebonded due to broken brackets or repositioning</td>
<td>new wire order</td>
</tr>
<tr>
<td>A tooth has erupted that the doctor is bonding and entering into treatment</td>
<td>new Setup prescription*</td>
</tr>
<tr>
<td>Tooth anatomy has changed that will affect the Setup (such as a restoration)</td>
<td>new Setup prescription*</td>
</tr>
</tbody>
</table>

Follow Standards for Update Scans

To help the Digital Lab accurately merge and process the update scan data with the therapeutic model data, follow these requirements:

- Follow coverage/quality requirements for therapeutic scans
- Capture the changed tooth AND the adjacent teeth for a minimum of three teeth that meet quality standards. The adjacent teeth are referred to as “anchor teeth.”
- If an arch has changes in multiple areas, we recommend scanning the entire arch.

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture the affected teeth AND the adjacent teeth.</td>
<td>If you rebonded the LL4 and LL5, capture the LL3-LL6</td>
</tr>
<tr>
<td>Capture a minimum of three teeth.</td>
<td>If you added the UL7 to treatment, capture the UL5-UL7</td>
</tr>
<tr>
<td>For the required area, follow quality criteria described for Therapeutic Scans</td>
<td>If you changed the brackets on the molars, completely capture anatomy and brackets for the molars. The anteriors may be captured at a lower quality as long as the arch is connected into one piece.</td>
</tr>
</tbody>
</table>

* a fee for the extra model may apply
Start an Update Model Order

1. On the **Patient Overview** in suresmile browser, click the **New** button and choose **Update Model**. A new model order opens.

   **NOTE**: If the update model option is not available:
   
   - If you selected the Standard or Extended case type, make sure that you have submitted a therapeutic model order.
   
   - If you selected the Aligner case type, you cannot use the update model feature. To capture changes to tooth anatomy for this case type, order another therapeutic model (additional fees may apply).

2. Update the dental exam and bracket assignments, if changed.

3. Under **Select your 3D scan data files**, choose **Ora Scan** for the data.

   Click to perform your orascan:
   
   - If surescan is installed on this computer, click **Open surescan**.
   
   - If surescan is installed on another computer, click **Create a Task**.

suresmile URL: [https://login.suresmile.com/](https://login.suresmile.com/)
4. **Go to surescan.** Locate and open patient from the surescan overview page if the patient’s record does not automatically open.

Once in patient’s scan page, fill out tooth chart for update scan.

---

**Identify Modeling Request**

Before you capture the data, you will need to indicate the affected teeth.

Continue clicking a tooth icon to toggle it to the appropriate setting, which translates to a processing request for the DL:

- **SETTING FOR ICON**
- **TOGGLE ICON TO INDICATE**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light blue shading</td>
<td>You may continue clicking an icon until it toggles to the correct setting. Light blue shading on the adjacent teeth reminds you to capture anchor teeth in the scan segment.</td>
</tr>
<tr>
<td>Click once to indicate a bracket requires updating (changed, repositioned, rebonded)</td>
<td></td>
</tr>
<tr>
<td>Click a second time to indicate a tooth requires updating (erupted, restored)</td>
<td></td>
</tr>
<tr>
<td>Click a third time to toggle the icon back to its original setting (no update)</td>
<td></td>
</tr>
</tbody>
</table>

You may only scan within one arch per segment, plan your segments accordingly. For example:

<table>
<thead>
<tr>
<th>EXAMPLE PATIENTS</th>
<th>SELECT IN SOFTWARE</th>
<th>SCAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper canines have erupted</td>
<td>Click each upper canine twice</td>
<td>Scan 4-4</td>
</tr>
</tbody>
</table>
| Lower 7’s were bonded to add them to treatment | - For first segment, click the LR7 twice  
- For the second segment, click the LL7 twice | - First segment: LR5-7  
- Second segment: LL5-7 |
5. See the notes in the bottom of the window to remind you to order wires and/or a setup.

   Click OK. A windowpane appears on the left side of the screen.

6. Remove the archwires in the affected arch and close the doors/clips of any self-ligating brackets.

7. Prepare the affected area for scanning (a **minimum of three teeth** are required to assist DL processing), and then scan.

   **TIP:** The label in the window reminds you of the teeth to be scanned.

---

**Start Another Update Scan Segment**

You can only enter the modeling request for one segment at a time. If the other arch or side must also be updated, start a new segment.

**TIP:** If you need multiple segments, you may create each windowpane you need first; and then select each windowpane to scan and add data. Or, you can scan after creating each windowpane.

1. Click ![Start Another Segment](image) to start another segment, if needed. The New update scan Segment window opens—the opposing arch information is visible, but Read Only.

2. Repeat the previous steps to add and scan a segment, as needed.

   OR

   To remove a data segment, right-click the windowpane and choose **Delete**.

   **NOTE:** If there are extensive changes to the patient’s teeth and brackets, we recommend ordering a new Therapeutic model (full scan of both arches and bite). Additional fee will apply.

3. When you are finished scanning, click the exit button ![Exit](image) to return to the order page.
Submit the suresmile Order for an Update Model

Once the update scanning is completed, it is time to submit the suresmile order for the Update Model. If you used the same brackets (identical part numbers) to rebond, you will simply scan to capture current positions and there will be no need to update bracket assignments. If the doctor changed part numbers, you must indicate the new assignments.

1. Click the Work order icon at the top of the screen in surescan.

2. Click in the white area, and type any relevant notes regarding your order.

3. Click Finish Scan to complete task for this patient and submit the scan.

4. Click OK and return to suresmile in the browser to submit the product.

5. Once you return to suresmile in the browser, you have the another opportunity to update the tooth and bracket information in the dental exam as needed to correlate to the patient’s current condition.

   Open the order page for the patient.

6. If no changes in the dental exam is needed, scroll down to Submit Order.

   Enter any additional information about the order for the Digital Lab if needed (optional).

Once an order is submitted, the update model order status is updated to Ordered. The order is now restricted to “Read Only” in the practice. This means you can review it, but you cannot change it.

If you have submitted an order that you would like to cancel or change, please contact suresmile Customer Care.
Ordering a Therapeutic Model from a CBCT Scan and a Supplemental Scan

A supplemental scan is used to add data from an optical scan (orascan) to the data from a CBCT scan to form a complete representation of the patient.

This scan is required if the patient has a certain number of teeth with restorations that cannot be accurately modeled from a CBCT Scan. Optionally, it can be used to add a bite segment as well as order a premium modeling service where all or most crowns are modeled from the optical data (additional fee applies).

Refer to the appropriate CBCT protocol to determine if a supplemental orascan (or premium) is needed.

Capture Scan Pieces

To help the Digital Lab accurately merge and process the supplemental scan data into the therapeutic model, follow these requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture the affected teeth AND the adjacent teeth.</td>
<td>If the upper laterals have been built up, capture the UL3-UR3</td>
</tr>
<tr>
<td>Capture a minimum of three teeth.</td>
<td>If the UL7 contains a large filling, capture the UL5-UL7</td>
</tr>
<tr>
<td>For the required area, follow quality criteria described for Therapeutic Scans</td>
<td>If both sides of an arch have been restored in the posterior, completely capture anatomy and brackets for the restored teeth and adjacent teeth. The anteriors may be captured at a lower quality as long as the arch is connected into one piece.</td>
</tr>
</tbody>
</table>
Start a Therapeutic Model Order (for CBCT Scans)

1. In the browser, create an order for a Therapeutic CBCT scan following the instructions in the suresmile protocol for your CBCT Scanner.
2. Upload patient’s photos and x-rays
3. Complete the dental exam.
4. Refer to surescan to import the CBCT data.

Launch surescan

You must use the surescan software to upload orders based on CBCT data. The browser software only allows uploading of STL/PLY data.

1. On your desktop, double-click the surescan 7.3 icon to start the software.
2. Login with your username and password. (This is the same username/password that you use to login to the web version of suresmile.)
3. Click Next, select a database, and then click Next or Finish.
4. Find and open a patient record from the displayed task list
5. Import the CBCT data.

   **NOTE:** You must attach CBCT data using the “Select CBCT scan data folder” button before the Finish Scan button will become available.
Capture Supplemental orascan

The supplemental orascan feature opens a scan session where you may capture one or more segments. To add a bite scan only, continue to the following section.

1. Select the OraScan tab and click the Supplemental orascan button
2. Click Yes to confirm that you need to take a scan. A scan session opens, and the New supplemental scan segment dialog displays.
3. Decide which arch or quadrant you want to work on first.
4. In the tooth diagram for that arch or quadrant, select each tooth in one arch to be modeled from the supplemental scan. If another tooth in that arch or quadrant has a large filling or other condition requiring that it be modeled from the Supplemental, select it as well. Then, click OK.

   OR

Click the arch checkbox (upper or lower) to select all teeth and gingiva in the arch for premium modeling (additional fee applies).

   WARNING: If you select the checkbox, remember to scan the entire arch!

   NOTE: See your CBCT protocol for more information on when a supplemental scan is required.

5. If the patient is bonded, remove the archwires in the affected arch and close the doors/clips of any self-ligating brackets.
6. Prepare the affected area for scanning (a minimum of three teeth are required to assist DL processing), and then scan.

   TIP: The label in the window reminds you of the teeth to be scanned.

7. Click to start another segment, if needed, and repeat steps 3 – 6. If you would like to add a bite segment, continue to the steps in the next section.
8. When you are finished scanning, click the exit button to return to the order page.
Add a Bite orascan

1. You can also use the supplemental orascan feature to capture a bite scan to improve bite registration in the 3D model.
2. Click \( \text{Start} \) to start another segment.
3. Select the Bite Scan option in the New supplemental scan Segment dialog, and click OK.
4. Prepare the area to be scanned, including removing wires. Apply SureWhite as needed; it is not necessary to add SureWhite to areas that are already coated.
5. Remove the retractors to enable the patient to bite naturally, but continue to gently retract the cheek on one side with your fingers or the mirror.
6. Ask the patient to bite in his or her natural bite position and remain still. Hold the chin to assist, if needed.
7. Starting at the molars on one side, scan across the bite to capture at least five teeth in occlusion moving up/down slowly to capture the gingival margins as well.
8. When you are finished scanning, click the exit button \( \text{Exit} \) to return to the order page.

Submit the suresmile Order for a CBCT Scan with a Supplemental Scan

![Submit the suresmile Order for a CBCT Scan with a Supplemental Scan](image-url)
1. Once all necessary scan data have been uploaded for the CBCT scan with supplemental order, it is time to complete the task.

   Click in the white area, and type any additional notes regarding your order.

2. Click on Finish Scan to complete task for this patient and submit the scan.

3. Click OK and return to suresmile in the browser to submit the product.
Return to suresmile

1. **Return to suresmile in the browser** *(F5 to refresh if patient is not showing).*

   **if suresmile is...**
   
   **...on the same computer as surescan**
   - **If surescan is already opened:** click the globe icon in the surescan menu bar. The system creates a new tab in the browser with the refreshed data.
   - **If surescan is not open,** click the globe icon in the surescan menu bar to open the order page in suresmile for the patient.
   
   **...on a different computer**
   - go to that computer and open suresmile.

2. **Open the order page for the patient and scroll down to Submit Order.**
   - Enter any additional information about the order for the Digital Lab if needed *(optional).*
   - If you have new appointment dates for wire insertion or debond, update the dates.
   - Click the “Deliver with Brackets” checkbox as needed:
     - In a therapeutic model order, the “Deliver with Brackets” checkbox is checked by default. If this is correct (the patient is bonded and will receive custom wires), continue to the next step.
     - OR, if you are scanning a patient that is NOT bonded *(or will be debonded at the next appointment)* to transition from braces to aligners, uncheck the “Deliver with Brackets” checkbox.

**NOTE:** You may import the required photos and x-rays before or after you have taken the CBCT scan and placed the order. If you decide to add these records at the end of the day, it is possible that the order will arrive for processing in the Digital Lab before you import the photos/x-rays and be placed on “hold.” To avoid incurring a hold, import photos/x-rays within one hour of submitting the order.

**If you have not fulfilled all of the prerequisites...**
- when you return to the suresmile browser, suresmile opens to the Missing Prerequisites section of the Order page and shows which prerequisites are still missing.
- The system displays a reminder to refresh the screen. A message, Scan data missing, remains displayed until you manually refresh the web page. *(Press the F5 key.)*
- **You must submit all missing prerequisites before you can submit the product order.**
- Once you fulfill all missing prerequisites, click **Submit Product** to order the model. The Select your 3D Scan Data files section of the Order page closes.
Ordering Diagnostic or Final Models (Intraoral)

In addition to scanning patients intraorally, the orascanner can be used to scan plaster models to acquire data for storage or provide the doctor with a model for diagnostics or simulations. However, if the purpose of capturing the model is to provide therapeutics (such as aligners), you may find the model is more accurate when captured intraorally.

Capture a Diagnostic/Final Scan Intraorally

For an intraoral scan, follow many of the same steps you perform for a therapeutic scan.

1. At the patient appointment, take the same photos as needed for a Therapeutic model. You can use suresmile to import the image set; and then add them during the appointment or within about one hour of submitting the order.

2. On the Patient Overview in the suresmile browser, click the New button and choose Diagnostic Model or Final Model. Option of Final Model will not be available until after a Therapeutic and a Plan has been processed and approved. A new scan order opens.

3. Update the Dental Exam for the Teeth tab. Select Ora Scan under Select your 3D scan data files.

4. Go to surescan and follow the same guidelines for therapeutic scans to capture the upper arch, lower arch and bite.

5. Once scanning of upper, lower and bite is completed to satisfyctory, click Work Order on the orascanner page in surescan to finish the scan.

6. In the white box, type a relevant note such as “LR bridge, planned for implants.”

   NOTE: You can type helpful notes in the white box that the Digital Lab will read prior to working on the order.

7. Click Finish Scan.

8. Click OK and return to suresmile in the browser to submit the product.

9. In the browser, click the “Deliver as Finished” checkbox as needed:
   - For diagnostic models, leave the box checked if you prefer the model to be delivered with a workflow task that includes options for starting an IDB tray or treatment simulation. Uncheck the box if you prefer the model to be delivered in a Review Order state.
   - For final models, leave the box checked if you prefer the model to be delivered without a task. Uncheck the box if you prefer the model to be delivered in a Review Order state.
Ordering Diagnostic or Final Models (Plaster Model)

Just like the therapeutic scan, a standard record set including photos and x-rays helps the Digital Lab with tooth modeling. For plaster model scans, these records are recommended rather than required.

The steps in the software are the same for capturing intraoral and model scans; however, coverage requirements are more stringent. Also, the serpentine pattern is the only acceptable pattern in model scanning since this technique consistently produces scans that will register in Digital Lab processing. Because scanning the anteriors intraorally can be very difficult depending on the patient, the “sweep-rock” method is permissible chairside.

Check Models for Patient Selection

Before selecting a patient for suresmile, check the model to ensure it represents all of the patient’s dental anatomy and has not been damaged. In addition, OraMetrix recommends scanning models that have been in storage for less than a year. Shrinkage may affect suresmile’s ability to register teeth modeled from the stone model and therapeutic scans.

Produce Accurate Plaster Models

You can use PVS material for impressions to capture more detail and allow a second chance to pour up the model.

If you are using alginate, attempt to preserve the impression by carefully removing the model from the impression material. For the best results, pour up the model within 24 hours of taking the impression since alginate impressions may shrink over several days.

To accurately represent the patient’s dental anatomy, the model must meet the following criteria:

- Includes all teeth
- Includes gingiva around each crown
- No voids or bubbles on the crowns
- No chips on the crowns
- Well-defined gingival margins

**NOTE:** Do NOT soap a model that you plan to scan!

Scan the model prior to using it for any other purpose. It may be damaged during the process of articulating the model or using it to create appliances. In addition, any markings used to create Indirect Bonding trays will interfere with scanning.

**NOTE:** If the impressions cannot be used for a second model, it is a good idea to scan the original model prior to the bonding appointment. If the patient is bonded and you do not have an acceptable model to scan, you will need to start the patient with an intraoral scan for a Therapeutic model.

Do not handle the model extensively with bare hands. In particular, do not touch the crowns. Any slight discoloration or shiny residue left by the oil in your fingertips will interfere with scanning. *(If you experience this problem, see instructions on using Centric in upcoming page)*

Allow the model to dry completely (about 48 hours), if poured up recently. After it is poured, scan the model before the end of one week.
Serpentine Pattern Required

You must scan tooth-by-tooth in a “serpentine” fashion. This method produces the most reliable scan data. To follow a “serpentine” pattern, continue turning lingually and buccally as you move across the arch to capture all surfaces before advancing to adjacent teeth. The following diagram illustrates the movement of the orascanner mirror across the arch. The line represents the path of the middle of the mirror, which is 18mm wide.

- If it is more comfortable, you may start from a labial position first, and then move lingual.
- Notice the middle of the mirror is frequently positioned over interproximal areas and crowding to reduce shadows.
- When scanning serpentine across the anteriors, the middle of the mirror is never positioned directly over the midline. Instead, each image of a central incisor is captured with the adjacent lateral.

Follow Two-Pass Technique (if needed)

The procedure for scanning a model references a technique called “Two-Pass” scanning, which is recommended when scanning models that leave shadows in the interproximal areas.

**NOTE:** If you are able to capture a model that meets quality requirements on the first pass, there is no need for the second pass.

As you scan the model, shadows are thrown according to the angle of the mirror to the model. If you start on one side of the model with the anteriors toward you, shadows are usually created in the same interproximal area of each posterior tooth leaving holes *(see After first pass).*

By scanning the model again and starting from the opposite side of the model, you will generally fill in these holes and create a very high-quality scan *(see After second pass).*
A step-by-step description of two-pass scanning is illustrated below.

A. Position the model with the anteriors towards you, and start scanning from the last molar.

B. Rotate the model counter-clockwise in your hand as you work your way, tooth-by-tooth in a serpentine pattern, through the arch.
   Keep the scanner mirrored angled in the same direction all around the arch.

C. When you reach the last molar on the other side of the model, turn the model to prepare to scan back in the other direction. It is not necessary to stop the orascanner.

D. After rotating the model so that the anteriors are towards you again, continue scanning back along the arch.
   Rotate the model clockwise as you scan to keep the same mirror angle (which is opposite of the mirror’s angle in the first pass) and complete the scan.
Spray Model with Centric (if needed)

If the orascanner “breaks” more than usual as you scan a plaster model, it is possible that the model is not reflecting the white light effectively. Try spraying the model with Centric™ to provide an opaque surface.

**WARNING:** You can obtain Centric from your dental supplier. Use Centric in a well-ventilated area away from the orascanner or other computer equipment. Avoid breathing the spray. Read the warnings and “Directions for Use” on the side of the can.

1. Remove the nozzle attached to the outside of the Centric can. It consists of two pieces – a spray nozzle and a 1.25” white tip.
2. Remove the outside cap, and the spray nozzle seated on the can. You will not need this nozzle since it creates a wide spray.
3. Attach the spray nozzle (previously attached to the outside of the can) that includes the tip. This nozzle creates a concentrated spray.
4. Shake Centric vigorously for several seconds so that the ball within the can is shaken against each end of the can. You must shake well before use, and between each use to mix the contents.
5. Hold the can so that the tip is 2 to 3 inches from the surface of the model. Be careful to maintain this distance to avoid any clumping of Centric that might obscure tooth anatomy.
6. Spray each model of the upper and lower arches to provide an even coating of Centric on the teeth and surrounding 2-3mm of gingiva. (Do not spray or scan the base of the model.)

When you have finished spraying the model, place the cap on the can to keep the liquid contents from drying. Attach the nozzle with the tip to the cap, to keep it with the can.
Scan Arches

1. After opening the patient record, go to the Scan page.

2. In the diagnostic or final model section, select orascan from the drop-down list and click New. The Upper Arch windowpane is selected by default.

3. After starting a scan session, click the Dental Exam icon at the top to access the patient’s dental examination. Update teeth and bracket information, if applicable.

4. Hold the arch by the base, occlusal view facing up, in the hand opposite from the hand you will use to scan. To avoid disturbing the even coating of Centric (if applied), do not touch the teeth or gingiva.

5. Position the anteriors toward you.

6. Follow the recommended technique for scanning using a serpentine pattern, and capture the arch.
   
   TIP: Rotate the model in your hand to help capture the lingual view and areas with severe crowding. As with intraoral scanning, be careful not to block the view of the posteriors by letting the anteriors obstruct the camera window.

7. Evaluate the scan, and rescan an area as needed. If the model contains a series of interproximal holes, try turning the model and scanning it again to use a Two-Pass Technique.

   NOTE: The total number of scan frames appears in the upper left of the main windowpane after registration is complete. OraMetrix recommends that you NOT exceed 750 frames each for the upper arch and lower arches. Exceeding 750 frames may cause performance problems preventing OraMetrix from processing your order. Ideally in a scan of a model, you should average approximately 500 frames or less each for the upper and lower arches, and 100 frames or less for the bite.

   A good scan of an arch model has 98% coverage with the following characteristics:
   - No occlusal holes
   - No interproximal holes on both lingual and buccal surfaces
   - No buccal/facial holes where a bracket would be placed
   - No holes larger than 1.5 mm in diameter
   - Captures incisal edges, cusps
   - Captures some gingiva around each tooth
   - Capture 2-4mm of gingiva and palate behind the anteriors

8. Select the Lower Arch window.

9. Repeat steps 4-7 to scan the lower arch.
Scan the Bite

The bite scan is used to register the upper and lower arch scans together to form a complete model of the patient’s dentition. To provide enough information for registration, you must capture five teeth in occlusion.

**NOTE:** The bite scan is not used to fill in data in either arch. It is used for registration purposes only.

1. Select the Bite windowpane.

   **NOTE:** The doctor should evaluate the correct bite for the patient.

2. Carefully hold the models together to reflect the proper bite. (Do not use the wax bite from the records appointment.)

3. Position the orascanner mirror at the molars (either right or left).

4. Scan in a smooth motion across the teeth to capture 5 teeth in occlusion. Avoid stopping and resuming the scan, especially at the midline.

5. Evaluate the scan. Delete the segment and rescan it if needed.

   **NOTE:** It is very important to hold the model securely to avoid rocking or other movement between the upper and lower arches as you scan the bite. If the bite will not register properly during processing of the scan in the Digital Lab, OraMetrix may request that you rescan the bite.

Submit the Order

1. After you complete the scan, click in the main toolbar to save the patient record.

2. Click the work order icon at the top of the screen.

3. Click in the Product Notes area, and type any relevant notes regarding your order.

4. Click Finish Scan. Click OK and return to suresmile to submit the product.

5. **Return to suresmile.** Open the order page for the patient. If you have not already updated the tooth and bracket information as needed to correlate to the patient’s current condition, enter updates now.

6. Scroll down to the Submit Order section. Click the “Deliver as Finished” checkbox as needed:
   - For diagnostic models, leave the box checked if you prefer the model to be delivered with a workflow task that includes options for starting an IDB tray or treatment simulation. Uncheck the box if you prefer the model to be delivered in a **Review Order** state.
   - For final models, leave the box checked if you prefer the model to be delivered without a task. Uncheck the box if you prefer the model to be delivered in a **Review Order** state.

After scanning, store the models in a safe place in the unlikely event that a second scan is necessary. If you are using the model to create appliances, such as an Indirect Bonding tray, clean the models as needed to remove Centric.
FAQs for Scanning Plaster Models

**What if I see “double-shelling” using the two-pass technique?**

As you scan the model in a second pass, you may notice that the second scan diverges from the first (sometimes called a double-shell). These two models will consolidate when you stop the scanner. A registration process runs automatically, and it can easily merge two models that contain all sides of each tooth. (Double-shelling is only an issue where you have accidentally scanned too far along one view—buccal, lingual or occlusal—and Suersmile is unable to match the new frames to the frames already captured.)

When you scan the model in two passes, with each pass following the serpentine and other required scanning methods, you will create two 3D models that Suersmile can easily fit together.

**TIP:** You can also use a software feature to improve registration. Right-click in the window and choose “Network Registration.” This process is cumulative so you may select it again if needed.

**If I use the two-pass method, won’t my frame count be too high?**

When you scan at a quick and comfortable pace, scanning in two passes will not produce an excessive number of frames. You will find that your final frame count for an arch is still less than the maximum recommended number of 750 frames per arch. You may even be able to capture the ideal number, 500 frames per arch or less, using this method since it is not necessary to return to an area and scan to fill in holes.

**If I have trouble scanning an area, can I capture it later either intraorally or on the model?**

A scan should be taken entirely intraorally or entirely from a model. Do not scan one arch intraorally and the other arch from a model. The bite will not register properly.

**Can I delete a scan to try again?**

Yes, you can delete a segment—the upper arch, lower arch or bite. First you must stop the orascanner using the red button on the screen or your foot pedal. Next, right-click in the window and choose the “Delete” option. Instead of deleting an entire segment, you can use the “Undo” button to remove recently captured frames.
Other FAQs

What if I am interrupted while working on completing the order in suresmile and cannot finish importing required records until later?

Do not click Submit. When you are ready to complete the order, select the Tasks tab and filter for Submit Order to easily find your incomplete patient records.

Why would I submit an update model order?

An update scan is used to update a bonded Therapeutic model in the event of:
- A newly erupted tooth has been added to treatment.
- One or more brackets were rebonded or repositioned.
- The tooth anatomy has changed to the extent that the setup is affected.

We broke a bracket when retrying the wire after the therapeutic scan. How do we proceed?

Rebond the bracket and take an update scan. Don’t forget to type notes to let the DL know the reason for the scan. As soon as possible, submit the therapeutic scan since it is a prerequisite for processing the update scan.

We are capturing a diagnostic/final model for the purpose of fabricating aligners for a patient. Can we take impressions and orascan a model?

Yes. Although the highest accuracy is obtained from an intraoral scan, many suresmile practices follow this workflow.

Oops, we scanned the patient in a new record when there was already a patient record started. What do we do now?

The intraoral scan cannot be moved, so this must be the order you submit. You can eliminate the first record since the photos and other information can be entered into your new record.

To change the patient’s status of the duplicate record:

1. Open the patient record.
2. Click the Edit button adjacent to the patient’s name.
3. Click the Status drop-down, and select Quit.
4. Click Save. Once the patient status is changed to quit or cancelled, the mark for deletion status becomes available in the menu.
5. Click the Status drop-down, and select MD (which stands for Marked for Deletion).
6. Click Save. The patient state is updated to your selection.
To see this patient record listed in the future, you will need to filter for “Show Md Patients” or “Show All.”

**NOTE:** If you are using an integrated system such as Dolphin Imaging, a best practice is to create the patient record in Dolphin and use the suresmile button to push records into suresmile. When progress records are taken, again import the records into Dolphin first and push them to suresmile.

The first time you push a patient’s records from Dolphin, a record with the same patient name will be created in suresmile automatically. For updates, the records are pushed to the patient record with the same first and last name and birthdate. If you manually create the patient’s record in suresmile, you risk typing in a slightly different name (*e.g. Joseph in one record and Joe in the other*) that will prevent the systems from matching up the records.

Follow this best practice to save time, and also to avoid creating duplicate records in suresmile.

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**We scanned a patient before the brackets were available in the library. Now that they have been added, how do we update the patient’s Therapeutic model?**

This situation is more common for new practices that are in the process of getting brackets added to the suresmile Bracket Library. If none of the patient’s brackets are available in the library, the order will be placed on “Resolve hold.” In this state, the brackets can be easily identified once they are available by following the steps to release a hold.

But what do you do if the case was processed into a finished therapeutic model because some brackets were available and registered? Now that the order is in a finished state, you will need to follow a workaround to apply new bracket assignments.

1. Create a new **Update Model** in the suresmile browser.
2. In the order page, select the **Brackets tab** in the dental exam to make the new bracket assignments.
3. Then select **Ora Scan** as the scan data file.
4. Launch surescan software. Open the patient record. It should open to the scan page.
5. In the tooth chart box, click a tooth symbol ONCE to indicate one of the brackets that has changed. (If you accidentally click more than once, click again until the bracket symbol is highlighted in dark blue, but not the tooth symbol.) It is not necessary to indicate more than one bracket since you will be typing this information in the notes.
6. Click **OK**.
7. Scan a piece of white paper to put data in the order.
8. Click the **Work Order icon**.
9. Type notes to explain which teeth should be re-processed with new bracket assignments.
10. Click **Finish Scan**. Then OK in next window to return to suresmile browser.
11. In the suresmile browser, you can still edit the dental exam before submitting the product.

   **WARNING:** Do not re-apply brackets to teeth that were already correctly assigned with bracket part numbers.

12. Once everything has been completed, click **Submit Product** to send the case to Digital Lab.
What if I don't have a supplemental scan to upload when I'm importing my CBCT scan?

1. If supplemental cannot be provided at the same time as importing of CBCT Data, do not Finish Scan

2. Click Save

3. Click Back. This will create a task for this patient and return you back to the Tasks page in surescan
**Glossary**

**Aligner case type:** a preselected set of products recommended for patients who will receive aligners based on suresmile models, but will not be bonded nor receive wires: 1 unbonded therapeutic model from optical scan only; 1 setup with Digital Lab assistance.

**archwire prescription:** Archwire design instructions based on a setup or a treatment simulation. Used to order custom archwires.

**bracket set:** Collection of predefined bracket choices used to quickly assign a bracket prescription to a suresmile patient record.

**case items:** Case items consist of suresmile products and simulations.

**CBCT scan:** A scan taken with a suresmile-certified Cone Beam CT scanner (in the practice or at an imaging center) of a patient to capture their individual tooth anatomy, roots and bracket positions to produce a patient model.

**custom archwires:** Archwires custom-bent for a patient using suresmile.

**Customer Care:** Customer service department of OraMetrix providing technical and software support for suresmile.

**diagnostic model:** A digital model of the malocclusion comprised of individual tooth models created from an in-vivo scan or a scan of a plaster model. A 3D model created from a plaster model or from an impression can be used for analysis. A 3D model created from an in-vivo scan can be used for analysis, labial or lingual bracket placement simulations, bracket placement simulation for IDB tray design, and aligner or wire therapy treatment simulations.

**Digital Lab:** Located at OraMetrix headquarters in Richardson, Texas (a suburb of Dallas), the suresmile Digital Lab includes all of the departments that process scans, develop 3D models, and fills orders for archwires, staged models and IDB trays.

**final model:** A digital model of the final tooth positions after debonding. It can be created from an in-vivo scan or a scan of a plaster model.

**in vivo:** In suresmile, means that the procedure is performed on a patient rather than on a model; e.g., an in-vivo scan means a scan performed on a patient.

**optical scanner:** A handheld intraoral camera used to capture 3D images of a patient’s dentition, such as the orascanner or iTero®.

**patient ID:** Number automatically assigned to each patient by the suresmile software. Contains the first initials from the patient’s last name and first name followed by a six-digit number; for example, patient ID for John Doe: DJ123456.

**plan:** Used in suresmile to refer to the setup model or setup prescription.

**robot:** The mechanical device that heats and bends each wire to the specifications in the archwire prescription.

**scan:** 3D digital image of the patient’s dentition. Scans are taken with a suresmile orascanner, a suresmile-approved intraoral scanner or a suresmile-approved CBCT scanner. suresmile scans are associated with the following suresmile products: diagnostic model, therapeutic model, update scan and final model.

**supplemental scan:** A partial intraoral scan to capture areas with restorations which were not captured adequately during a CBCT scan. The suresmile Digital Lab merges the partial intraoral scan with the CBCT scan to produce a complete model. If the restored teeth number 6 or less per arch (or 10 total), there is no additional fee for a supplemental scan. If more teeth are involved, you may capture full arches to request our premium model service (available for an additional fee) or submit a full intraoral scan in lieu of a CBCT with supplemental.
**SureWhite®**: Liquid solution consisting of titanium dioxide (white color pigment), dental adhesive and pure ethanol. It is applied to the patient's teeth to increase opacity before performing an intraoral scan.

**therapeutic model**: A model of the patient's individual tooth anatomy and bracket positions. It is created from an intraoral scan or an in-vivo CBCT scan. It is taken when the patient is ready for custom archwires. Use for analysis and treatment simulations.

**update scan**: Intraoral scan used to capture changes to brackets or newly erupted teeth after the therapeutic scan has been taken. (Only relevant to wire therapy.)
To learn more about suresmile, click the icon in suresmile web software and select the option for “sure u” or go directly to: http://suresmileu.com/
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