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## 1. About these instructions

These Instructions for Use (IFU) describe the safe and effective use of DentVIS version 3.0.7 for iPad, macOS and Windows. The functions for working with cases are the same on all platforms; how DentVIS is updated depends on the platform (section 17). The version installed on your device is shown in **About DentVIS**. These instructions are an integral part of the device. Read them completely before first use and keep them available for every user.

The IFU are provided in electronic form at [www.dentvis.com/ifu](http://www.dentvis.com/ifu) and from **About DentVIS** in the application. A printed copy can be requested free of charge from the manufacturer at [dentmall@email.cz](mailto:dentmall@email.cz) and is delivered within 7 calendar days. Previous revisions remain available on request.

Notices used in this document:

### WARNING

A situation that could lead to an incorrect model or file being used for manufacturing if the instruction is not followed.

### CAUTION

A situation that could lead to loss of work, incorrect output or a delay.

### NOTE

Useful information for efficient use.

Names of buttons and screen elements are written in **bold**, exactly as they appear in the English user interface. The user interface is also available in other languages (4.3), in which the names are shown translated.

## 2. Device identification

|                   |                                                                                                     |
|-------------------|-----------------------------------------------------------------------------------------------------|
| Trade name        | DentVIS — CAD visualization software for 3D dental models                                           |
| Device type       | Standalone medical device software (MDSW)                                                           |
| Regulatory status | Class I medical device according to Regulation (EU) 2017/745 (MDR), Annex VIII, Rule 11. CE marked. |

|                          |                                                                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Basic UDI-DI             | 859423687DentVISY4                                                                                                                    |
| UDI-DI                   | 08594236870008                                                                                                                        |
| UDI (in the application) | (01)08594236870008(8012)<software version> — the production identifier (8012) is the software version shown in <b>About DentVIS</b> . |
| EMDN                     | Z12119092                                                                                                                             |
| Manufacturer             | Dentmall s.r.o., Pivovarská 214/4, 370 01 České Budějovice, Czech Republic · SRN CZ-MF-000053272                                      |
| Applies to               | DentVIS 3.0.7 for iPadOS, macOS and Windows                                                                                           |

The full label of the device is shown in the application under account menu → **About DentVIS** (see section 18).

## 3. Intended purpose and intended users

### 3.1 Intended purpose

**CAD software for preparation of digital dental models for orthodontic and prosthetic appliance manufacturing. Not for diagnostic use. For professional use only.**

DentVIS is a tool for visualizing and editing 3D dental models. It is used to prepare digital models (for example setup models and models for 3D printing or thermoforming) that serve as a basis for manufacturing appliances.

### 3.2 What the software does not do

- The software does not provide diagnostic or clinical recommendations and does not establish a diagnosis.
- The software does not evaluate the position of teeth and does not automatically determine tooth movements. Every tooth position and every goal on the timeline is set by the user; intermediate steps are calculated only as an interpolation between the positions entered by the user, limited by the step size set in **Settings**.
- The software does not determine interproximal reduction (IPR). The contact, the amount and the step of every IPR entry (11.7) are entered by the user; the software does not calculate or recommend them and does not take them from the collision indication.
- The software does not choose, propose or optimise the order or the timing of movements. The steps in which each movement of a tooth takes place (11.8) are set by the user; by default every movement changes evenly between two goals.
- The displays of the position set in the model — the distance of the teeth from the arch curve (11.2), the movement vectors (11.3) and the occlusion map (11.4) — do not evaluate the position of the teeth or the bite and do not recommend any change. The arch curve is shaped only by the user; the software does not choose, fit or optimise its shape.
- The software does not control any machine. The files for the TT120 trimming machine (12.5) are only written to the export folder; they are not sent anywhere.
- The tooth axes are the default geometric coordinate frame of each segmented tooth, tuned manually by the user. They are not anatomical measurements.
- The roots displayed with **HIDE GUM** or **Show roots** are schematic template shapes for orientation only; they do not represent the real roots. While they are shown, the short closure of each tooth below the crown margin is not drawn, so the crown continues directly into the schematic root.
- All clinical decisions remain the sole responsibility of a qualified healthcare professional.

### 3.3 Intended users and environment

- **Users:** qualified dental professionals — dentists, orthodontists and dental technicians — trained in digital dental workflows. The software is not intended for laypersons.
- **Training:** no formal training is required. Users must read these instructions and should practise with the **Demo case** before working on real cases.
- **Environment:** dental practices, dental laboratories and educational institutions; office conditions on a computer or iPad.
- **Persons whose models are processed:** the software has no contact with any person. It processes 3D scan files of dental arches provided by the user.

### 3.4 Contraindications and clinical benefit

**Contraindications:** not applicable — the software is a CAD tool and has no direct diagnostic or clinical effect.

**Clinical benefit:** indirect — efficient and reproducible preparation of digital dental models used for appliance manufacturing. The software itself does not act on the human body.

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## 4. Safety information

### 4.1 Warnings

#### WARNING

- **Do not use the software as the sole basis for clinical decisions.** A qualified professional must review every output before it is used.
- **Review every model before manufacturing.** Exported models are a basis for appliance manufacturing, not a finished device. Check the shape, the tooth positions, the base, the trim line and the scale of each exported file in your printing or milling software before production.
- **Verify the jaw assignment.** On the **New case** screen the software places each scan file in the **UPPER JAW** or **LOWER JAW** tile by the file name, otherwise by the model shape (palate). This is a file assignment only, not an evaluation of the teeth, and it can be wrong. Check every tile in its 3D preview and correct the assignment with **Swap** or **Replace**. A swapped assignment becomes visible only later in the workflow.
- **Verify the model after import.** Imported meshes are automatically repaired and simplified (removal of defects, closing of small holes). Check visually that the model represents the scanned situation before you continue.
- **Check the tooth outlines.** Initial tooth outlines can be wrong, for example at bridges, crowding, restorations, scan holes or fixed retainers. Review and correct every outline in step 2 - **Check outlines**.
- **Values in mm and ° show the position set in the model — not a measurement.** They are not calibrated measurements. Use calibrated instruments for any clinical measurement.
- **Check the steps.** Intermediate steps are an interpolation between the positions you entered; if you use Movement timing (11.8), they also follow the steps you set for each movement. Review every step on the timeline, including collisions, before export.
- **Before every cut on a trimming machine run the dry-run program of the same step.** The programs for the TT120 trimming machine are not verified on the machine (12.5).

### 4.2 Precautions

#### CAUTION

- Keep the software up to date. Cases saved with a newer version cannot be opened by an older version. Use the same version on all devices that share cases.
- A case with IPR entries (11.7) can be opened by an older version of DentVIS, but the older version does not show the IPR entries, and if the case is saved there, the IPR entries are removed. An older version shows the goals added with IPR (11.7) as ordinary goals. Open and save cases with IPR entries only with this version or a later one.
- A case with movement timing set by you (11.8) can be opened by an older version of DentVIS, but the older version shows the default timing, and if the case is saved there, your timing is removed. Open and save such cases only with this version or a later one.
- Cases are opened only by a signed-in account with an active plan (6.1). Models (STL) and project files (.vis) that you exported remain yours and can be used outside DentVIS, but DentVIS does not open the .vis files and does not allow editing without an active plan.
- Cloud synchronization is not a backup. Back up your case files (.vis) and exports regularly.
- Use a neutral case label. Do not enter names or other data identifying the person to whom the model belongs in the case name, notes or file names.
- Steps that have been exported are locked. If you need to change them, the change must be exported again and the earlier files must not be used.
- Do not close the application while a case is being saved, exported or synchronized.
- Install updates only from DentVIS itself (macOS, 17.1), from [www.dentvis.com/download](http://www.dentvis.com/download) (Windows) or from the App Store (iPad). Do not switch off the computer while DentVIS restarts to install an update. Install each new version on all devices that share cases.

### 4.3 Residual risks

After all risk control measures, the following residual risks remain. They are acceptable when the warnings above are followed:

- The software cannot verify that an imported scan or an exported file belongs to the case; label cases, files and printed models unambiguously, without data identifying a person.
- The pre-assignment of a scan file to the upper or lower jaw (by file name or model shape) can be wrong; a swapped assignment that is not corrected on the **New case** screen may become apparent only later in the workflow.

- The software does not check the units or the scale of imported scans; use scans in millimetres and verify that the model dimensions are plausible.
- Imported scans are automatically simplified and repaired (fewer triangles, removal of separate fragments, closing of holes), which can remove fine surface detail.
- Initial tooth outlines drawn after **Detect** can deviate from the actual tooth margins, especially at retainers and fused or crowded contacts.
- The coloured preview of the teeth during segmentation is approximate; the final segmentation can differ from it.
- In rare cases the cut can follow a slightly different path than the displayed outline; inspect the segmented crowns after **Confirm**.
- When the teeth are built, the edge of the gingiva next to each tooth is placed onto the tooth surface automatically, and gingiva that would cover the crown above the tooth outline is moved below the outline (towards the root); this changes the gingiva only next to the teeth — check the gingival margin in the exported models.
- Where you remove a tooth, the gingiva over its place is closed with a smooth surface; check this area in the exported models.
- When the teeth are built, each crown above the tooth outline is kept as scanned, including the contacts between the teeth; only scan points that two neighbouring crowns share at a contact are moved apart by 0.003 mm so that the exported models remain valid.
- Tooth numbers and the occlusal plane are derived from the teeth you tap; wrong or missing marks lead to wrong numbering or a tilted model.
- Tooth axes are a default geometric frame of the segmented tooth that you tune manually; they are not anatomical axes.
- Roots shown in the software, and the short closure of each tooth below the crown margin that follows the cross-section of a schematic root, are schematic construction geometry and must not be used to judge root position.
- All values in mm and degrees show the position you entered in the software's own coordinate frame; they are not measurements.
- Collision indication is a visual indication of overlapping models; collisions can be missed, and the displayed overlap values are approximate and are not a prescription for enamel reduction.
- IPR contacts, amounts and steps are entered by you; they are not measurements, they are not derived from the collision indication, and the software does not calculate or recommend them. The overlap and the gap shown in the IPR window and in its questions are calculated from the models and are approximate. Check tooth numbers, amounts and steps before any enamel reduction.
- Where the teeth at a contact overlap by more than 0.10 mm at the step entered (a collision), IPR is entered only after you confirm it; the decision is yours. The narrowed models then remove the overlap as well. If the overlap grows later, the entry is not used until you confirm it again.
- From the step entered, both teeth at an IPR contact are shown and exported narrowed so that, at the tooth positions of that step, the gap at the contact equals the amount entered (the width of the instrument); a contact or an overlap is removed as well, half on each tooth; where there is already a gap, only the difference is removed, and where the gap is already at least the amount, the models do not change. At some curved contacts (molars) the models show a smaller gap than entered; the software says so. The gingiva is not changed, so next to the contact the gingival margin can stand off the narrowed tooth by about half of the removal, more at curved contacts. The exported models assume that the reduction is done as entered.
- Entering IPR at step N makes step N of the jaw a goal (11.7); the tooth positions at that step are then kept when you change other goals, and the IPR moves with this goal on the timeline. Check the timeline after entering IPR.
- Deleting a goal that has IPR also removes its IPR entries once you confirm **Delete goal and IPR?**; **Undo** restores both. Check the IPR panel after you delete goals.
- When the timeline changes after IPR was entered, the step number of the entry is kept and the entry is marked for checking; files and case reports created earlier show the earlier entries.
- Intermediate steps are a linear subdivision of the movement between your goals, or, with Movement timing, between the steps you set; the software does not assess whether the change per step is biologically appropriate.
- Movement timing: a movement shifted, shortened or lengthened by mistake, or moved across a goal, changes the intermediate steps of the exported models and, for a movement moved across a goal, the position of the tooth in that goal. The setup speed limits only how short a movement can be; it does not assess the movement. The components are given in the coordinates of the jaw used by the setup speed check, so for a tooth with a turned long axis the numbers in the graph can differ from the numbers in the **Move** panel. Movement timing is not listed in the case report. Check the steps after changing the timing (11.8).
- An older version of DentVIS opens a case with movement timing with the default timing; saving the case there removes the timing.
- The arch curve, its distances, the occlusion map, the movement vectors and the layer **Surface against movement** are displays of the position set in the model, calculated from the displayed models with limited resolution (about 0.3 mm for the occlusion map). They can miss or

misplace details, are not measurements, are not saved and are not exported; do not use them to assess the bite or to decide the position of an attachment or another element.

- The arch curve, the handles, the locks and the selection are kept only while the **Arch** tab is open. **Symmetric edit**, **Rotate teeth with curve** and **Align** move or turn teeth in the model; check the teeth, the collisions and the steps afterwards (11.2).
- Attachments, pontics and twin-block parts are placed only where you place them, and pontics have a simplified generic tooth shape, not the shape of the missing tooth; check them in every exported step.
- The occlusion setting is a manual position of the lower jaw that you define; the displayed values are not a bite registration.
- Reference models and arch forms in **Compare** are visual references only. Their placement over the crowns is approximate and is not an assessment; they are not a target shape and they never change the case or the long axes.
- Base height, hollow models, printing supports, the case label and the automatic repair of small mesh defects before saving (12.3) change the printed geometry; where the short closure of a tooth below the crown margin reaches the base plane, it is cut flat at the base, and with a low base a hollow model can have several openings in the base; verify every exported model before printing.
- Only the steps you select are exported and files are named by their step number; verify the exported set and the file names before manufacturing.
- The trim line for trimming machines follows the gingival margin and is smoothed; across a notch narrower than the trimming tool it is led straight, which moves a short stretch of the line away from the teeth by up to about 2 mm (12.5). It does not avoid pontics and must be checked before trimming.
- Trimming programs for the TT120 machine are calculated from a simulation with assumed machine and tool values (work offset G54, tool length, dimensions of the tool, collet and holder); a wrong work offset, another tool or stickout, or a program used with another print can cut outside the trim line or cause a collision. Home the machine, check G54 and run the dry-run program before every cut (12.5).
- Near a machine trim line the supports of upright models can be lower, and behind the last molars they can extend under the back wall of the gingiva and be joined by a plate on the build platform (12.2); check that the printed model stands firmly.
- Attachments are turned out of the tooth automatically before export where they point into it (12.3); no message is shown, so check the attachments in every exported step.
- Build-plate files are arranged automatically for the build area stated by the maker of the printer; models that are too large or too tall are only listed in the export summary and in the export panel. The Bambu Studio project and the Formlabs files are made for the printer software named in them and can be shown differently there; open the file in the printer software and check the position, the orientation and the supports before printing (12.4).
- Cloud synchronization is not a backup; when two versions of a case differ, choose the version deliberately.
- An unexpected shutdown can lose changes made since the last automatic save.
- Cases saved by a newer version cannot be opened by older versions.
- An older version of DentVIS opens a case with IPR entries without them; saving the case in the older version removes the IPR entries.
- Case data are stored on the device without additional encryption by the software and remain there after you sign out.
- If you cannot sign in, or the plan of your account is not active, DentVIS does not open your cases and does not allow editing (the demo case excepted) until it is; nothing is deleted, and the models (STL) and project files (.vis) you exported earlier remain yours. Keep the exports you need for production outside DentVIS.
- The number of devices on which an account can have cases open at the same time depends on its plan; with **Open here** the case on the device that was inactive for the longest time is saved and closed. Check which device holds the latest version before you open the case elsewhere.
- The user interface is available in English, Czech, German, French, Spanish, Italian and Polish (account menu → **Language**; applied after restart). Texts without a translation are shown in English.
- On iPad, large scans and long operations can be slow, and precise editing on a small touch screen requires care.
- Deleting a case removes it from this device and, for cloud cases, from all devices; this cannot be undone.
- A new version can be offered to devices gradually, so devices that share cases can run different versions for some time; cases saved by the newer version cannot be opened by the older version until it is updated.
- If an update cannot be installed, the previous version stays installed. If the computer is switched off while DentVIS is being replaced, DentVIS may not start; install it again from [www.dentvis.com/download](http://www.dentvis.com/download) — the cases stored on the device are not affected.
- When the manufacturer requires a newer version, the older version cannot be used until the

update is installed; an internet connection is needed to install it.

## 5. System requirements and installation

| Platform | Minimum                                                                | Installation                                                                                                                                                                                                           |
|----------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Windows  | Windows 10 or 11 (64-bit), 8 GB RAM, graphics with OpenGL 3.3 or newer | Installer (MSI) from <a href="http://www.dentvis.com/download">www.dentvis.com/download</a>                                                                                                                            |
| macOS    | macOS 12 Monterey or later, 8 GB RAM                                   | Disk image (DMG) from <a href="http://www.dentvis.com/download">www.dentvis.com/download</a> ; drag DentVIS to the <b>Applications</b> folder and open it from there (needed for updates within the application, 17.1) |
| iPadOS   | iPadOS 16.0 or later; an iPad with an M1 chip or newer is recommended  | App Store ("DentVIS Dental CAD")                                                                                                                                                                                       |

**Recommended:** 16 GB RAM, dedicated graphics, display 1920 × 1080 or higher, mouse or trackpad (Apple Pencil or touch on iPad).

**Internet connection:** required for sign-in, licence verification, version checks and (Team plan) cloud synchronization. Editing runs locally on the device.

**File formats:** import STL, OBJ, PLY (3D scans) and VIS (DentVIS case); export STL (models), VIS (case), CSV and PTS (trim line for trimming machines), TAP (trimming programs for the TT120 machine, 12.5), 3MF (printer build plates, project for Bambu Studio), TXT (instruction sheets), PDF (case report).

## 6. Getting started

### 6.1 Start screen and sign in

When no account is signed in, DentVIS starts on the **3D VIEWER** start screen. It offers:

- **Try the demo case** — opens the demo case that is part of the application, for viewing (read-only). It opens without signing in and without a plan.
- **Open .vis file** — opening a DentVIS case file (.vis), also by dropping it onto this screen on a Mac, needs a signed-in account with an active plan (**Opening cases** below); without an account DentVIS takes you straight to the sign-in screen, which says **Sign in to open the case file**. The start screen says  
**Open a .vis case file to rotate the models, zoom in and play every step. Sign in to open case files; the demo case needs no account.**
- **Sign in** (top right, next to **Have an account?**) — opens the sign-in screen. Sign in with the e-mail address and password of your DentVIS account.
- **New to DentVIS? Start 14-day free trial** (top right, on Mac and Windows computers only) — opens the DentVIS account registration in your web browser.

**Opening cases.** A case — a .vis file opened in any way (choosing a file, dragging it onto the application, double-click, **Open in DentVIS** on iPad, **Import**), a case from the case list, from the cloud or from a link, or a new case — is opened only by a signed-in account with an active plan; a running free trial counts as an active plan. Only the demo case that is part of the application always opens, also without signing in and without a plan.

- **Not signed in:** a .vis file opened in any way takes you **straight to the sign-in screen**; under **Log in** it says **Sign in to open the case file**. After you sign in, the file opens by itself (with the usual choice **Quick preview / Import to case list**). **Back** returns to the start screen, and the file is not opened. The message **Sign in to open this case (Sign in / Cancel)** remains only as a fallback for opening without a file and normally does not appear.
- **No active plan, computer (macOS, Windows): Active plan required** — with the reason when it is known (**The free trial has already been used on this device.** or **All devices included in your plan are in use.**), **Opening cases requires an active DentVIS plan for this account.** and **Your saved and exported files are not affected.**; **Manage plan** opens the management of the plan in the web browser, **Cancel** closes the message.
- **No active plan, iPad: Case can't be opened** — **This account can't open cases on this device.** **Your saved and exported files are not affected.** **Your DentVIS license is managed by your organization.** with **OK**; the message offers no purchase and shows no price.
- **No internet connection:** the last check of your account decides, for at most 8 hours. If it is not valid, **Connect to the internet** (**To open this case, DentVIS needs to check your account. Connect to the internet and try again.**)

offers **Retry** or **Cancel**. A case that is already open is never closed because the connection is lost.

**Your files are not affected.** Without an active plan you do not lose your data: the project files (.vis) you saved and the models (STL) you exported remain yours and can be used outside DentVIS. DentVIS only does not open cases and does not allow editing, and it deletes nothing.

**Devices with an open case.** An account can have cases open at the same time on as many devices as its plan includes: the free trial and the Solo plan one device, the Team plan and older plans as many as the number of their editor devices. For a signed-in account the application records on which device a case is open (the demo case is not recorded). When the limit is full:

- **limit of one device: Case open on another device shows**  
Your account has a case open on {device} since {time}. and  
Cases can be open on only one device at a time. If you open this case here, the case on the other device is saved and closed.  
with **Open here** and **Cancel** ({device} is the name and the platform of the device);
- **limit of more devices: Device limit reached shows**  
This account can have cases open on {N} devices at a time, and all of them are in use. and  
If you open this case here, the case on {device} (last active {time}) is saved and closed.  
(without the time, or {device} and {n} other devices when more cases have to close) with  
**Open here** and **Cancel**. The device that was inactive for the longest time is closed.

With **Open here**, the case on the other device is saved and closed to the case list within about one minute (after a running export or drag has finished), and **Case closed** there says **This case was closed because your account opened a case on {device}**. and, when the case was saved, **Your changes were saved.**; a case open for viewing only (Quick preview) is closed without saving. Without an internet connection, opening is not blocked; the record is completed when the connection returns. For access control and the check of the licence, the server records the account, the device (name, model, platform, version of the operating system and of DentVIS), the IP address and the country derived from it, an identifier of the case (never its name) and the times of opening, last activity and closing with the reason; the region and the city are not recorded (see the Privacy Policy).

If you try to edit a case while no account is signed in (for example, you tap a tooth in the demo case), DentVIS shows **Sign in to edit**. **Sign in** closes the case without saving and opens the sign-in screen; **Cancel** keeps the case open for viewing.

When you are signed in with an active plan, opening a .vis file offers **Quick preview** (the case opens read-only and is not added to your case list) or **Import to case list**. If a case is open for viewing only (Quick preview, the demo case opened outside your case list, or a case open on another device), DentVIS shows **View only** once per opened case when you tap a tooth or use Undo / Redo, and each time you start a model action (base, segmentation, trimming). After Quick preview it adds **Open the file again and choose Import to case list to edit it**. A case locked after export still shows **Case is locked** (14).

If the e-mail address of a new account is not confirmed yet, DentVIS shows **E-mail not confirmed**. Open the link in the e-mail we sent to that address, then sign in again. **Resend e-mail** sends the e-mail again; DentVIS then shows **E-mail sent**, or **E-mail not sent** if sending was not possible (try again later).

If you have forgotten your password, tap **Forgot password?** on the sign-in screen. On the **Password reset** screen enter the **Email** address of your DentVIS account and tap **Send instructions**; you receive an e-mail with instructions to reset your password. **Back to sign in** returns to the sign-in screen.

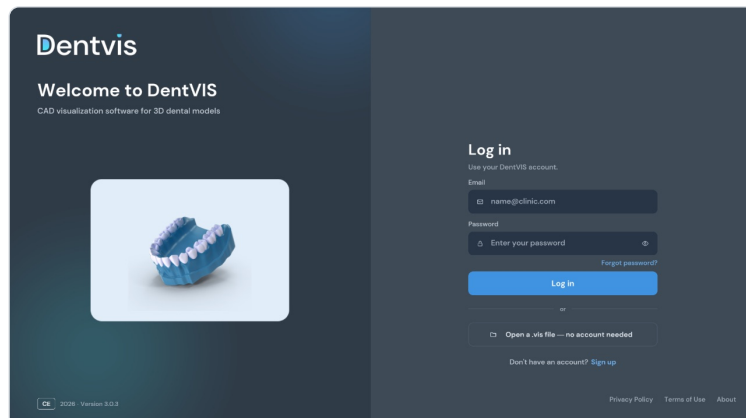


Figure 1. Sign-in screen.

## 6.2 Important notice and legal documents

On first sign-in, and whenever the documents change, the application shows the **Important Notice** with the intended purpose and the classification. Read it, confirm the notice, the Terms of Use and the Privacy Policy, and tap **Continue**. Updated documents are shown in the **Updated terms** dialog.

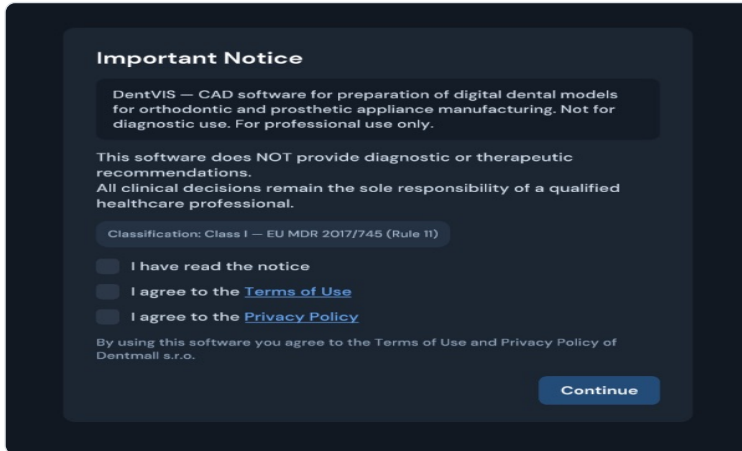


Figure 2. Important Notice — must be confirmed before use.

## 6.3 Register the device for editing

Editing cases is allowed on registered **Editor devices**. The number of Editor devices depends on your plan. If the current device is not registered, the dialog **Edit on this device?** appears: tap **Register this device**, or **Sign out**. A registered device can be swapped once every 30 days; contact support if a device is lost or broken.

On macOS and Windows, when the plan of your account changes in the web browser, return to DentVIS. If this device is not registered yet, the dialog **Use DentVIS on this device?** appears with **Your plan is active. Register this device to edit and export**. Tap **Register this device**, or **Later**. Export also needs a registered Editor device; if this device is not registered, **Export** shows the same dialog. If the free trial was already used on this device with another account, the message **Trial already used on this device** (iPad: **Editing not available**) appears after sign-in and when you start a **New case**.

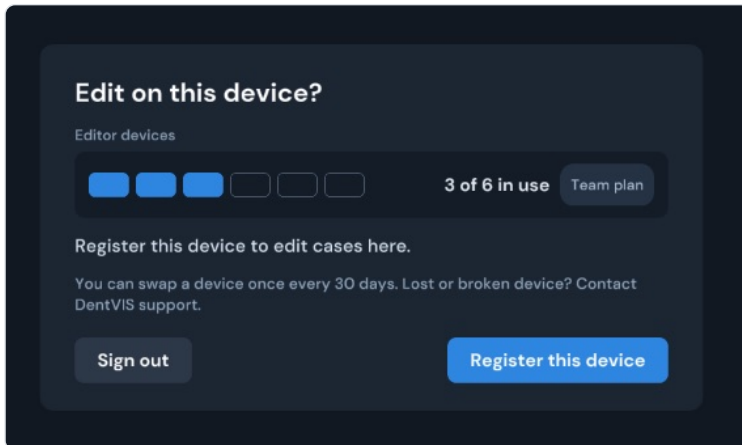


Figure 3. Editor device registration.

## 6.4 First use: quick setup, setup speed and tour

After sign-in, DentVIS guides you through the first use. The progress of the guide is saved with your account, not with the device.

**New account.** A new account goes through three parts:

- 1 **Quick setup (Step 1 of 2):** choose the **Language** of the user interface (applied after restart) and your **Printer** (the exported models are laid out on its build plate, 12.4). Tap **Save and continue**, or **Skip** to keep the current settings. Both can be changed later: the language in the account menu → **Language**, the printer in the export settings.
- 2 **Setup speed** (step 2 of 2, required): check and confirm the values as described below.

- 3 The main screen shows the **Getting started** card.

**Existing account.** Once after the update to version 3.0.4 or later, an existing account is shown only the required **Setup speed** confirmation (**Required once - applies to new cases**). After **Confirm**, DentVIS offers a short tour of the new look on the demo case: **Start tour** or **Later**. The tour can also be started later from the account menu → **Take the tour**.

### Setup speed confirmation (required)

The setup speed is the largest change of a tooth position between two steps. DentVIS calculates the number of intermediate steps between your goals from it (11.1). Because the default values may not match your practice, this step cannot be skipped; the window is shown again until the values are confirmed.

- 1 Check the six values: **Translation per step** — **Right / Left, In / Out, Up / Down** (mm); **Angles per step** — **Rotation, Inclination, Torque** (°). Change a value with – / + (0.05 mm or 0.5° per tap). Values show the position set in the model — not a measurement.
- 2 Tick **I have checked the values and they match my practice**. Only then does **Confirm** become available.
- 3 Tap **Confirm**. The values are saved as your default setup speed for **new** cases. Existing cases keep their own setup speed.

You can change the values later in the Virtual Setup under **Settings** → **Setup speed** (11.6).

#### WARNING

Confirm only values you have checked. The number of intermediate steps, and with it the change of the tooth positions per step in every exported model, follows from the setup speed. Review the steps on the timeline before export.

### Getting started card

For a new account, the main screen shows the **Getting started** card (**Welcome to DentVIS**) with **Start tour**, **Instructions for Use** (opens these instructions) and **Hide guide**. **Your progress** lists four steps; each step is ticked off when you have done it:

1. **Quick setup** — language, printer and setup speed;
2. **Tour on the demo case** — **Start tour**;
3. **Create your first case** — **New case** (section 9);
4. **Set a goal and export** — a goal on the timeline and the first export (section 12). If your account can edit cases but does not include export (for example in the free trial), this step is **Set a goal and play the steps** — a goal on the timeline and playing the steps of your own case (11.1); on a computer it shows **Export is not included in the trial**.

The card is shown until all four steps are done. **Hide guide** hides it; the account menu → **Getting started** shows it again.

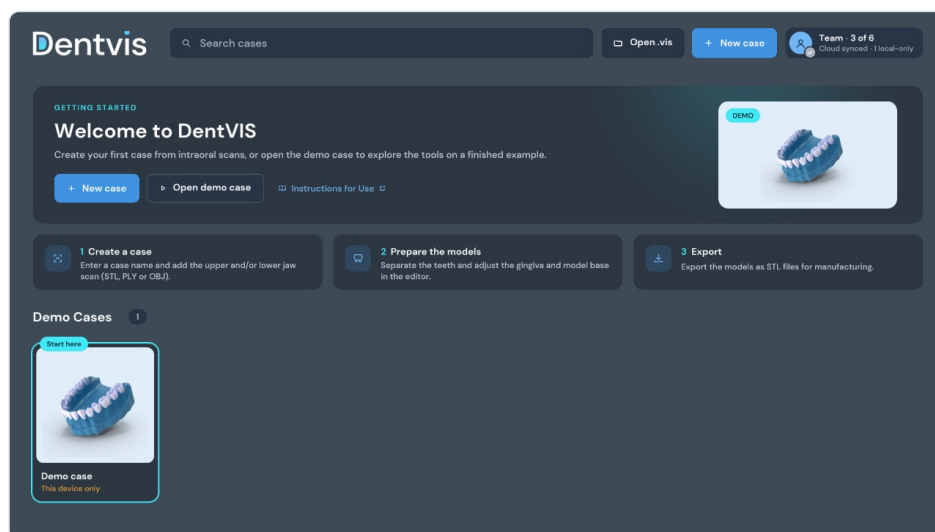


Figure 4. Main screen of a new account with the **Getting started** card.

### Tour

**Start tour** (on the card or after the setup speed confirmation) or the account menu → **Take the tour** opens the demo case and explains the Virtual Setup in seven steps: **3D view**,

Move teeth, Timeline and steps, Markers, Collisions, Notes and Export. The element being explained is highlighted and can be used. Next and Back move between the steps, Finish ends the tour and Exit (or the Esc key) leaves it at any time. If your account does not include export, the last step (Export) says so (Export is not included in the trial. on a computer, Export is not available for this account. on iPad) and points to setting a goal and playing the steps on the timeline.

Tips

The first time you open Markers, Occlusion, Compare or Settings in the Virtual Setup, a short tip is shown next to the panel. Got it closes the tip; Don't show tips switches all tips off for your account.

NOTE

The guide, the tour and the tips explain how to operate the software. They do not replace these instructions.

7. Main screen and case management

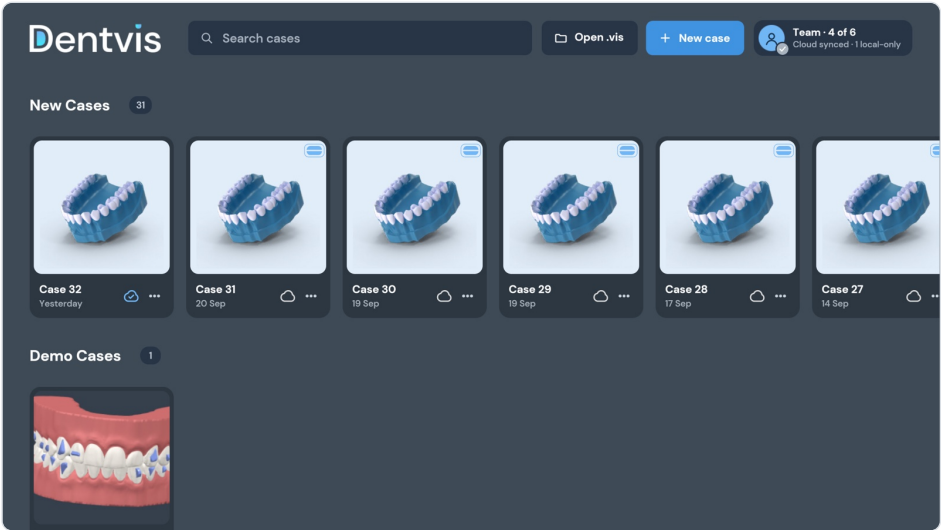


Figure 5. Main screen: search, Open .vis, New case, account menu; case cards grouped by category.

| Element                                          | Function                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Search cases                                     | Filters the case list by case name.                                                                                                                                                                                                                                                                                                  |
| Open .vis                                        | Opens a DentVIS case file from disk (needs a signed-in account with an active plan, 6.1). If the case is already in your list, you can open the existing case or import a copy.                                                                                                                                                      |
| New case                                         | Creates a new case (section 9).                                                                                                                                                                                                                                                                                                      |
| Categories                                       | New Cases, Active Cases, Discontinued Cases, Demo Cases.                                                                                                                                                                                                                                                                             |
| Case card                                        | Shows a preview, the case name, the date and the synchronization state. Tap the card to open the case.                                                                                                                                                                                                                               |
| Case name at the top of an open case             | Tap the name to rename the case (also in Export); Enter or ✓ saves, Esc cancels. Use a neutral designation (for example an internal case number). The new name is also used for the case name embossed in the base and for the case in the cloud. A case renamed in the case list shows the new name the next time it is opened.     |
| ... on a case card (or right-click / long press) | Open, Rename, Move to (category), Duplicate, Select (then tap other cases to add them to the selection and move them to a category or delete them), Delete.                                                                                                                                                                          |
| Account menu                                     | Plan and devices, Settings, Language, Getting started and Take the tour (6.4), Send feedback (16), Manage license, About DentVIS, Log out.                                                                                                                                                                                           |
| Settings (account menu)                          | Cards Account (Plan, Valid until, Device limit (not shown for the Solo and Team plans), Editor devices, This device, Credits on per-case plans; buttons Manage license and Log out), Language, Cloud sync (synchronization state, when known) and About (About DentVIS, Privacy Policy, Terms of Use); on macOS also Updates (17.1). |

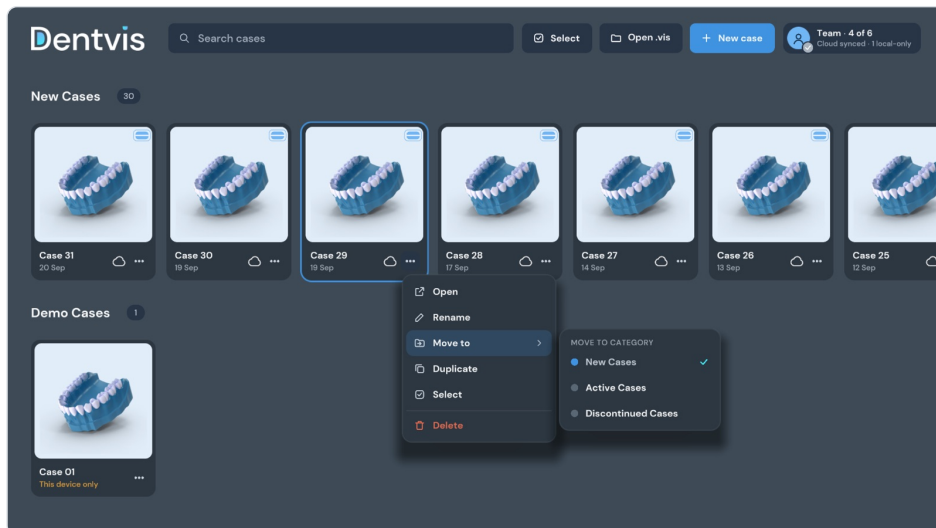


Figure 6. Case actions with the Move to submenu.

### CAUTION

Delete removes the case from this device and from your cloud cases on all devices. This cannot be undone.

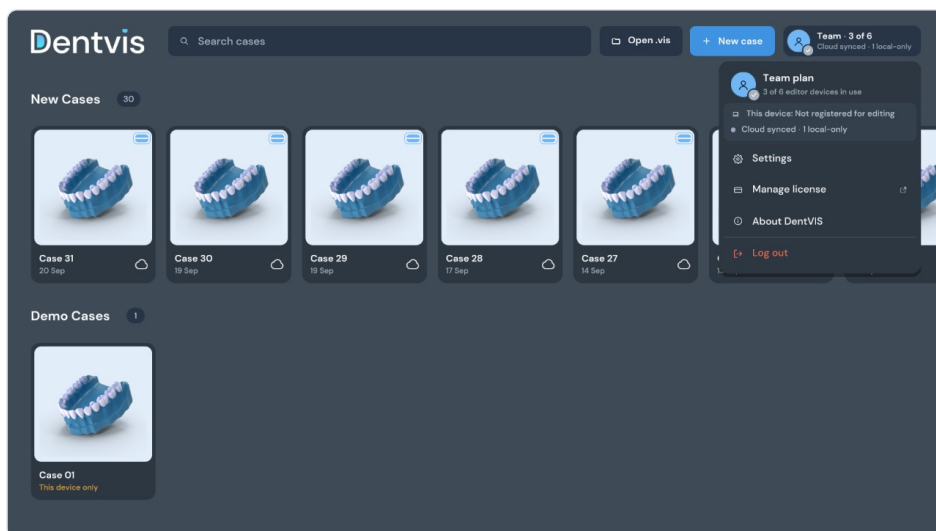


Figure 7. Account menu with About DentVIS.

## 8. Workflow overview

### 1 • Case

Create a case and add the upper and/or lower jaw scan.

### 2 • Segmentation

Tap teeth → Detect → check outlines → long axes → Confirm.

### 3 • Virtual Setup

Set tooth positions and goals on the timeline; add markers.

### 4 • Review

Check every step, collisions, occlusion and notes.

### 5 • Export

STL for 3D printing, build plate, trim line, or the .vis project.

All work is saved automatically with the case. **Undo** and **Redo** are available at the bottom left of the screen.

## 9. Creating a case

- 1 On the main screen tap **New case**. The **New case** screen opens.
- 2 Add one or two scan files (STL, PLY or OBJ): on a Mac drag them onto the screen (**Drop the jaw scans here**), or tap **Choose files** and select them.
- 3 The software reads the files and places each one in the **UPPER JAW** or **LOWER JAW** tile — by the file name (for example *upper / lower, maxilla / mandible*; green note **Recognized by file name**), otherwise by the model shape (an upper jaw scan usually includes the palate; orange note **Recognized by shape — please check**). Each tile shows a 3D preview, the file name and the number of triangles.

- 4 Check every tile: drag the preview to rotate the model (**Drag to rotate**). If the scans are in the wrong tiles, tap **Swap**. **Replace** chooses a different file for one tile, the trash icon removes the scan; a case can also have one jaw only (the empty tile offers **Choose file**; if you select both scans there, they are assigned as when dropped). When a model's shape clearly does not match its tile, the tile shows **Shape looks like a lower jaw — please check** (or ... **an upper jaw** ...).
- 5 Under **Case name** the software fills in **Case** and today's date (dimmed until you change it). Use a neutral label (for example an internal case number).
- 6 Tap **Create case**. The case opens in tooth segmentation. **Create case** is dimmed until at least one jaw scan has been added and the case name is not empty. **Cancel** or × (top right) closes the screen without creating the case.

When an existing case is edited, the screen **Edit case** opens instead: change the case name or the jaw scans and tap **Save changes**; **Delete case** deletes the case after confirmation (see the caution in section 7).

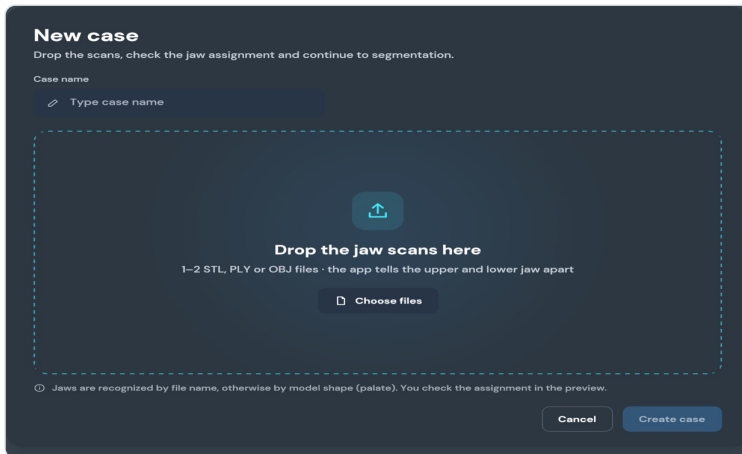


Figure 8. New case before the scans are added — drop area, **Choose files**, case name.

#### WARNING

Check in the 3D preview that the upper jaw scan is in the **UPPER JAW** tile and the lower jaw scan in the **LOWER JAW** tile, also when the note is green. The assignment by file name or shape is only a pre-assignment of the files; you confirm it with **Create case**.

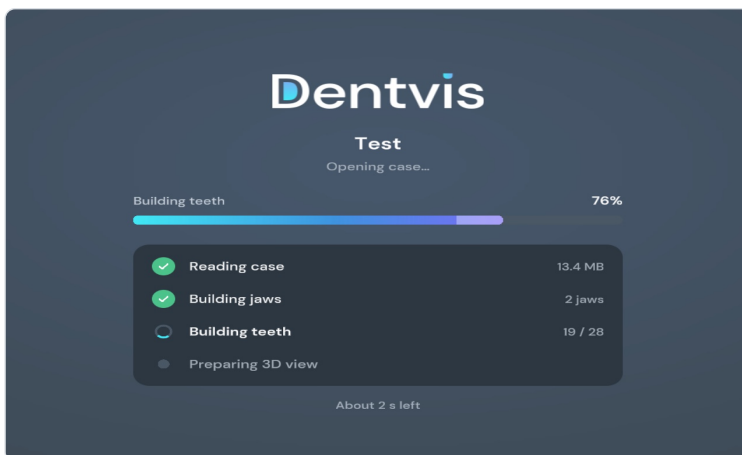


Figure 9. A case is being opened (reading the case, building jaws and teeth).

## 10. Tooth segmentation

Segmentation separates the individual teeth from the scan. It has three steps shown in the card on the left. Switch between jaws with **Upper jaw** / **Lower jaw** at the top of the card.

### 10.1 Step 1 · Tap teeth

- 1 The card shows the tooth number (FDI notation) to tap, for example **21**. Tap that tooth on the model. A ball marks the tooth and the arch diagram shows its state. The tapped tooth is shaded; the shading fades out towards its edge because it is only a preview — the exact tooth boundary is shown by the outline in step 2.
- 2 If the tooth is missing, tap **Skip**. **Back** returns to the previous tooth.
- 3 Optional: open **Detection** to change, for the current tooth, the **Margin** sensitivity (**Low** / **Medium** / **High**) and the **Tooth size**.
- 4 When all teeth are marked, tap **Detect**. The software draws an initial outline of each tooth from your marks; you check and correct every outline in step 2.

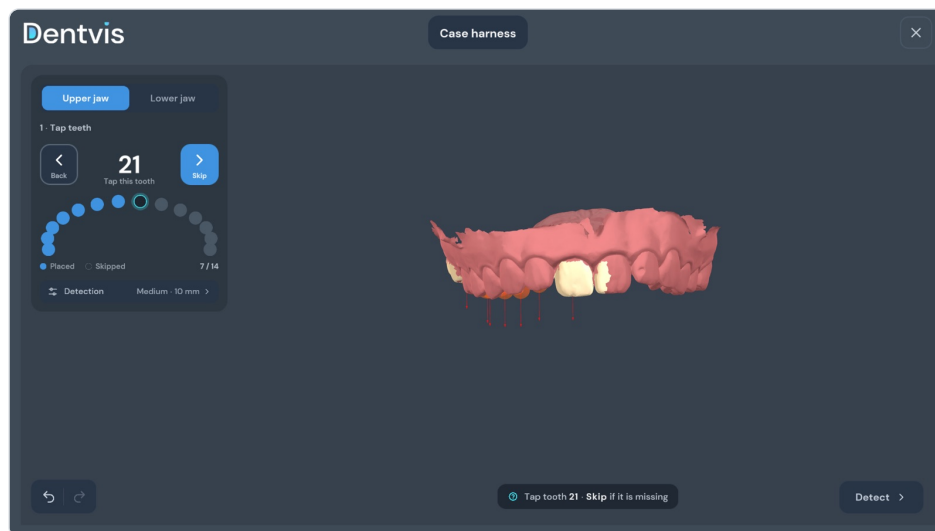


Figure 10. Step 1 · Tap teeth — the tooth to tap, **Back** / **Skip**, arch diagram with placed and skipped teeth, **Detection**.

### 10.2 Step 2 · Check outlines

Each tooth is shown with its outline (blue line); neighbouring teeth have different colours.

- 1 Check every outline from several views. The outline must follow the gingival margin of the tooth and must not cut into the neighbouring tooth or the gingiva.
- 2 To correct an outline, tap the tooth and use the fix tool: **Drag** moves the outline points, **Draw** redraws a section of the outline on the model, **Brush** paints the tooth area with a circle around the finger, pencil or cursor — choose **Add** to enlarge the tooth or **Remove** to make it smaller and paint over the area; the outline follows the painted area and stops at the nearest groove on the surface. The **Brush size** slider sets the size of the circle, which is shown under the finger, pencil or cursor; **Undo** removes the whole stroke. Check every corrected outline from several views.
- 3 **< Previous / Next >** in the panel move to the outline of the neighbouring tooth — use them also to select a tooth that is hard to tap.
- 4 **Back to teeth** returns to step 1 (for example to add a missed tooth).
- 5 When all outlines are correct, tap **Confirm**.

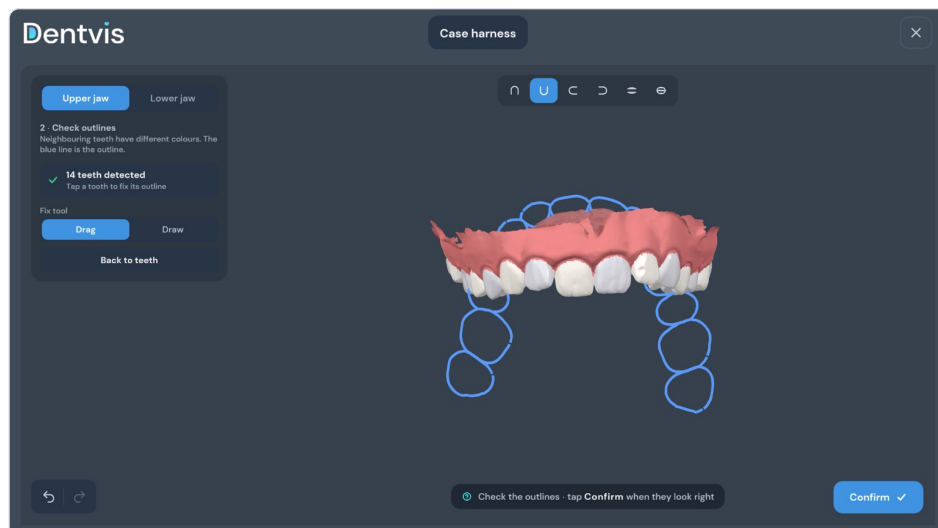


Figure 11. Step 2 · Check outlines — teeth and their outlines, fix tool Drag / Draw.

#### WARNING

An outline that is not corrected determines the shape of the separated tooth and of the gingiva in every exported model. If a tooth cannot be segmented, the message **Failed to segment tooth NN** appears: the outline must not pass through a hole in the model; fix the outline so that it passes over the hole.

### 10.3 Step 3 · Long axes

Each tooth receives a default geometric coordinate frame (long axis). The axis defines how the tooth rotates and tilts in the Virtual Setup.

- 1 The card shows the current tooth. Drag the axis on the model to adjust it; use **Back / Next** to move between teeth.
- 2 The card shows **Mesial-distal tilt**, **Buccal-lingual tilt** and **Facial direction** of the axis. These values show the position set in the model — not a measurement.
- 3 Optional: tap **Compare** and add STL models of the teeth of this jaw (and, if you have one, a model of the jaw). DentVIS places them semi-transparently over the crowns as a visual reference; a model of the jaw is placed in the same position. The long axes are not changed — set each axis yourself. The reference models are not saved in the case and are not exported.
- 4 Optional: switch on **Show roots** in the card. The gingiva is hidden and every tooth shows a schematic template root that follows the axis as you drag it. The root is a template shape along the axis you set, not the real root. The displayed root is not saved or exported; only its cross-section just below the crown margin shapes the closure of each tooth (see the next step). The gingiva returns when you leave this step.
- 5 Tap **Confirm**. The teeth, the gingiva and the model base are built and the case opens in the Virtual Setup. Below the crown margin, each tooth is closed by a short shape that follows the cross-section of the schematic template root for its tooth type along the long axis you set, with its width between the teeth matched to the crown of that tooth; this is construction geometry of the model, not the anatomical root and not a measurement. The crown above the outline is not changed. Where the gingiva meets a tooth, its edge is placed slightly into the tooth surface and the gingiva next to it is smoothed, so that no gaps or folds remain between the gingiva and the tooth in the 3D view and in the exported models; the outlines you confirmed are not changed.

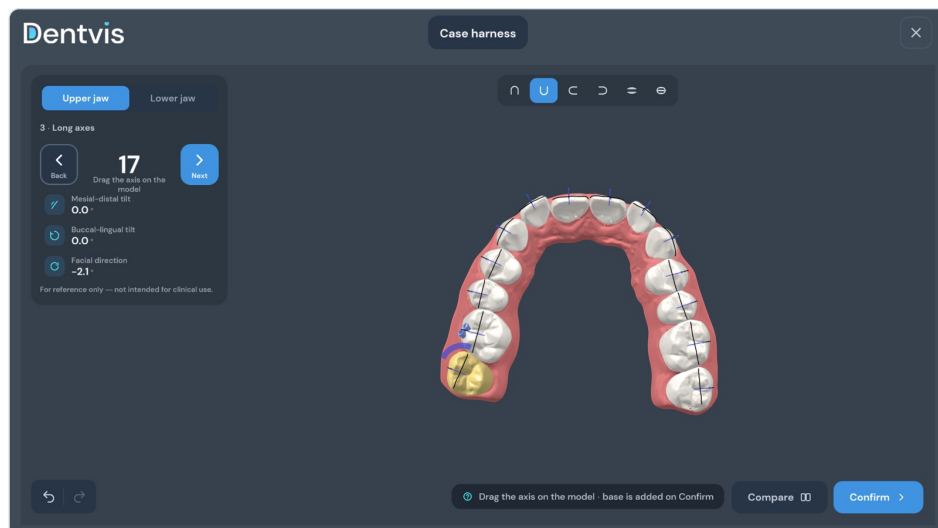


**Figure 12.** Step 3 · Long axes — axis of the current tooth with values and Confirm.

#### NOTE

A finished segmentation can be undone from the Virtual Setup. The dialog **Undo the finished segmentation?** warns that the jaw returns to curve editing and that later edits are discarded.

# 11. Virtual Setup

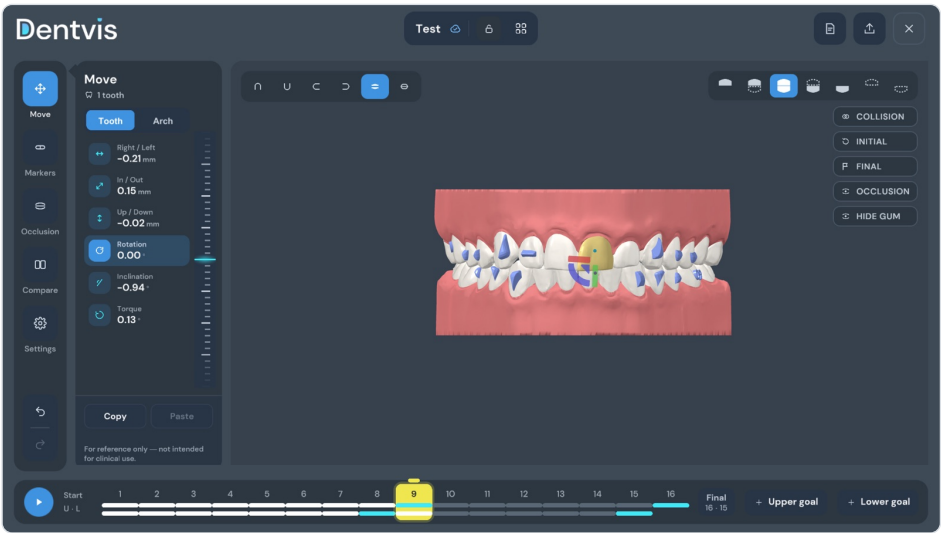


Figure 13. Virtual Setup — tool rail (left), tool panel, 3D view with view buttons (top) and display switches (right), timeline (bottom).

| Area                     | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Header                   | Case name and synchronization state; case lock; notes; <b>Export</b> ; close the case.                                                                                                                                                                                                                                                                                                                                                                                          |
| Tool rail (left)         | <b>Move, Markers, IPR, Occlusion, Compare, Settings; Undo / Redo</b> (Mac: Cmd+Z / Shift+Cmd+Z or Cmd+Y; Windows: Ctrl+Z / Ctrl+Shift+Z or Ctrl+Y).                                                                                                                                                                                                                                                                                                                             |
| View buttons (top)       | Standard views (front, sides, occlusal) and which jaws are displayed.                                                                                                                                                                                                                                                                                                                                                                                                           |
| Display switches (right) | <b>COLLISION</b> (contacts and overlaps between teeth; an overlap is shown with a minus sign, a gap between neighbouring teeth in blue), <b>INITIAL</b> (initial position overlay), <b>FINAL</b> (final position overlay), <b>OCCLUSION</b> (occlusion map, 11.4), <b>IPR</b> (below <b>COLLISION</b> ; shown only when the case has IPR entries; shows or hides the IPR marks in the 3D view, 11.7), <b>HIDE GUM</b> (hides gingiva and base; shows schematic template roots). |
| Timeline (bottom)        | <b>Start</b> , numbered steps, <b>Final</b> , <b>Upper goal</b> / <b>Lower goal</b> , play button.                                                                                                                                                                                                                                                                                                                                                                              |

In the 3D view the gingiva next to the teeth may be drawn with a soft colour transition towards the tooth colour. This is a display effect only: the models, the collision values and the exported models keep the exact border between the tooth and the gingiva — check the gingival margin in the exported models, not on the screen.

## 11.1 Timeline, steps and goals

The timeline shows the initial state (**Start**), the steps and the final state (**Final**) for both jaws. A **goal** is a step in which you set the tooth positions yourself (entering IPR at step N also makes step N a goal with the positions it already has, 11.7); the steps between goals are interpolated, and their number follows the maximum change per step set in **Settings**. Teeth that you removed do not move and do not add steps; in a case exported with an earlier version, the number of steps stays as it was.

- Tap a step to display it. Tap **Upper goal** / **Lower goal** to add a goal for the jaw.
- Tap the selected step again to open the step menu: **Set as goal**, **Extend goal** (hold the goal one step longer), **Delete goal** (if the goal has IPR, DentVIS asks **Delete goal and IPR?**, 11.7), **Set upper goal** / **Set lower goal**, **Add note** and the IPR item (11.7).
- If you move teeth in a step that is not a goal, the dialog **Teeth are not in a key step** asks whether to move them in the current step.
- The steps in which each movement takes place between two goals can be set in **Movement timing** (11.8).
- The play button plays the steps as an animation.

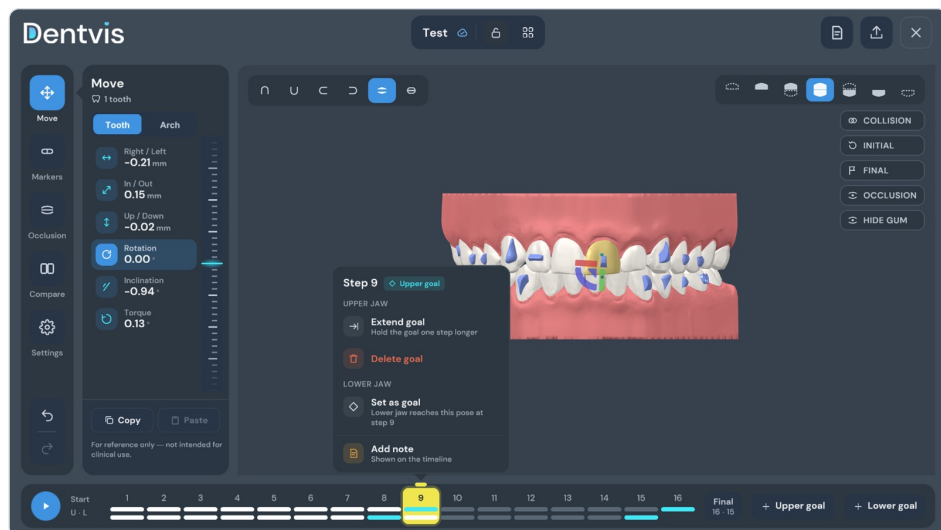


Figure 14. Step menu on the timeline (step 9, upper goal).

## Notes

Notes can be written for the case and for individual goal steps. Open **Notes** from the header or with **Add note** in the step menu. A step with a note is marked on the timeline; notes are saved with the case.

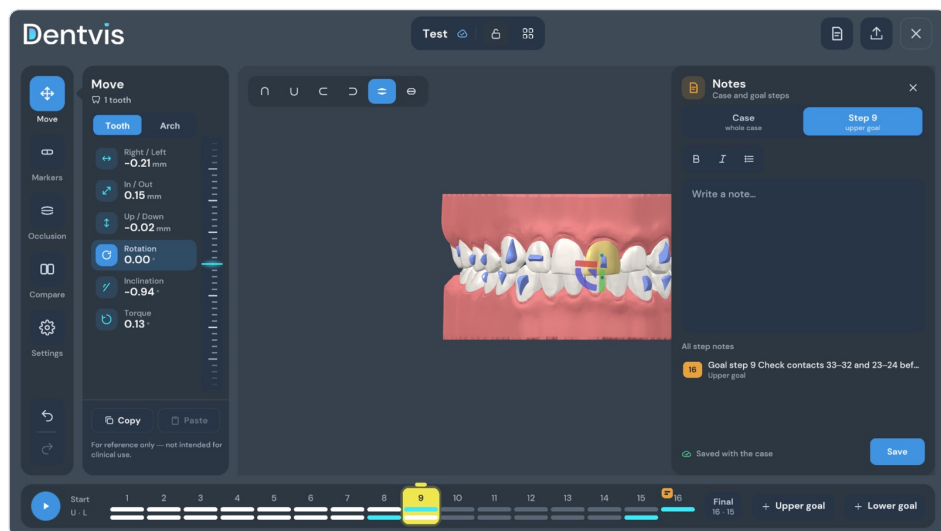


Figure 15. Notes panel with the Case tab and a step tab.

## 11.2 Move

- 1 Tap **Move** and choose **Tooth** (individual teeth) or **Arch** (whole jaw).
- 2 Tap a tooth to select it; several teeth can be selected and moved together. The panel shows the change of the tooth in the displayed step against **Start: Right / Left, In / Out, Up / Down** (mm) and **Rotation, Inclination, Torque** (°). Values show the position set in the model — not a measurement.
- 3 Change the position by typing a value or using the step buttons in the panel, or by dragging the gizmo in the 3D view: arrows move the tooth, rings rotate it. While you drag the gizmo, the slider for the same movement appears in the panel; you can set the value with it too.
- 4 The pivot of the rotation is marked on the tooth with a highlighted ball. Change it in the **Pivot** row (**Center, Edge, Mesial, Distal**) or tap a white ball on the tooth.
- 5 **Copy / Paste** copy the tooth positions of the displayed step and paste them into another step.



Figure 16. Move — gizmo with arrows and rings, pivot at the center of the crown, values in the panel.

#### WARNING

Switch on **COLLISION** and check contacts and overlaps between teeth in every step before export.

### Arch curve (Arch tab)

In the **Arch** tab the arch of the jaw is drawn as a curve with handles on the buccal side of the teeth. You shape the curve only by dragging its handles; the software does not choose, fit, optimise or assess any shape or position of the curve or of the teeth. With **Teeth follow** (default), dragging a handle moves the tooth with it, as in earlier versions.



Figure 17. Move → Arch — the card Arch curve, the labels with the distance of each tooth from the curve, and the card Distance to curve.

- **Distance to curve.** With **Show distance to curve** on, the occlusal view shows a short line from the anchor of each tooth on the buccal surface to the curve, with a label (tooth number and distance in mm; + = the tooth lies outside the curve, - = inside), and the floating card **Distance to curve** with a bar chart by tooth. **Largest distances** lists the three largest distances. While you drag a handle, a bubble shows the shift of the handle. The distance is the distance between the anchor of the tooth and the curve drawn by the editor, in the occlusal view.
- **Handles and edit mode.** **Handles** sets the number of handles (5 to 13). **Curve only** reshapes the curve and leaves the teeth where they are; **Teeth follow** moves the teeth with the curve. **Reset curve** returns the curve to pass through the teeth.
- **Symmetric edit, rotation and locks.** **Symmetric edit** mirrors the drag of a handle to the opposite handle; if there is no opposite tooth is locked, only the dragged handle moves and the card says so. **Rotate teeth with curve** turns a tooth about the vertical axis by the change of the direction of the curve at its handle. Tap a handle to select its tooth (yellow handle); **Lock selected teeth** locks the selected teeth (orange handle) — a locked tooth and its handle do not move while you drag.
- **Align.** **Align selected teeth...** and **Align all teeth...** are commands of yours: after you confirm the list of changes by tooth, the teeth move in or out in the displayed step so that the anchor of

each tooth lies on your curve; locked teeth stay in place. One **Undo** step reverts the command. Nothing is moved without the command.

- **Touch screen.** The handles have a touch area of at least 44 pt, only the first finger drags a handle, and a magnifier above the finger shows the position of the handle.



Figure 18. Dragging a handle in Curve only mode: the bubble shows the shift of the handle; the teeth stay in place.

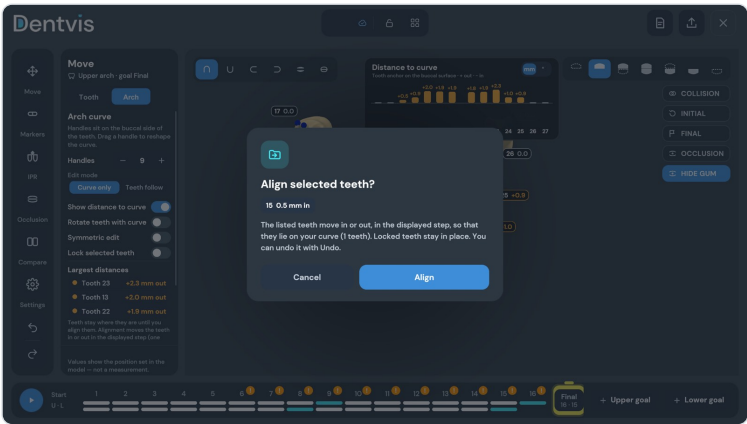


Figure 19. Align selected teeth? — the list of changes by tooth is confirmed before the teeth move.

The curve, the handles you add, the locks and the selection are not saved with the case; they exist only while the **Arch** tab is open, and reshaping the curve in **Curve only** mode is not an **Undo** step. Moving teeth by dragging in **Teeth follow** mode and the command **Align** are **Undo** steps. The values in ° in the chart show the turn of a tooth about the vertical axis since the tab was opened (only with **Rotate teeth with curve**). Values show the position set in the model — not a measurement.

### 11.3 Markers

**Markers** adds construction elements to the model.

- **Tooth tab:** up to three marker slots per tooth. Choose a shape from **Standard** or **Special**, its **Height** (**Low** / **Medium** / **High**), place it on the tooth and adjust it in the 3D view; **Remove** deletes it.
- **Model tab:** twin-block elements (**Lateral**, **Occlusal** — tap a block in the 3D view to move it) and pontics for gaps in the upper or lower arch. A pontic is a generic tooth shape that the software generates for the tooth number from a table of average crown dimensions; the shape is simplified (without surface detail). The pontic sits in the gap between the neighbouring teeth and its width follows the gap. It is construction geometry of the model — not the shape of the missing tooth and not a dental restoration. Cases saved with an earlier version open with the new pontic shape; the position of the pontic is kept.

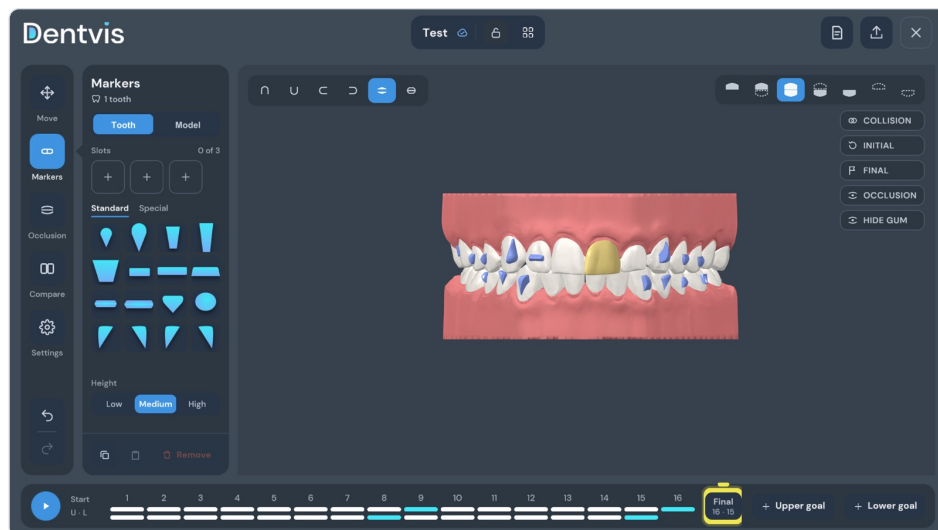


Figure 20. Markers — marker shapes and height for the selected tooth.

**Movement vectors (Markers, Tooth tab).** The card **Movement vectors** next to the panel switches a display of the movement set in the model. **Vectors** shows arrows on the crown surface: each arrow shows the direction and size of the movement of one point of the surface from the displayed step to the final position set in the model (the length of an arrow is the size of the movement; the scale **1 mm of movement** is in the corner; arrows are hidden while the timeline plays). The arrows are shown for the selected tooth, or for all teeth when **All teeth** is on. For the selected tooth a summary shows the shift of the crown (mm), the rotation (°) and the components along the axes of **Move** from the displayed step to the final position.

**Surface against movement** (off by default) colours, for the selected tooth only, the part of its surface whose outward direction points against the movement of that point set in the model; the colour becomes stronger with the size of the movement perpendicular to the surface (the scale is in mm), and surfaces that face the occlusal direction are not coloured; the card states

**Geometric display only — not a recommendation.** These are informative displays of the position set in the model: they show only the geometric consequence of the positions and goals you set and do not evaluate, classify or recommend anything. They are not saved, are not part of any export and do not change the model. They do not recommend a position of a marker or of any other element. The switches **Vectors**, **All teeth** and **Surface against movement** are off when you open the Virtual Setup and return to off when you leave it. Values show the position set in the model — not a measurement.



Figure 21. Markers → Tooth — the card **Movement vectors**: arrows on the crown of the selected tooth, the summary from the displayed step to the final position and the scale **1 mm of movement**.

## 11.4 Occlusion

**Occlusion** adjusts the position of the lower jaw against the initial bite. Switch between **Initial** and **Modified**, drag the lower jaw in the 3D view, or type values (left-right, up-down, front-back, tilts and rotation). **Reset occlusion** returns to the initial bite. Values show the position set in the model — not a measurement.

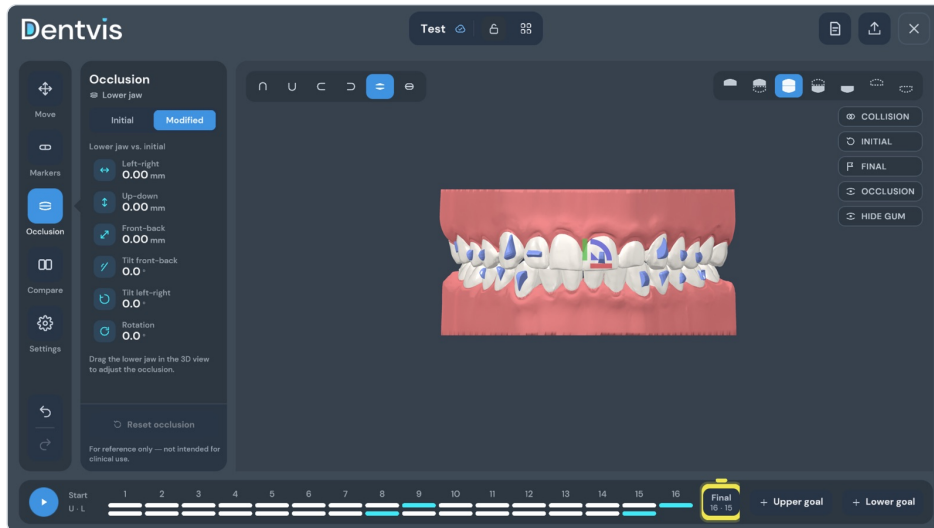


Figure 22. Occlusion — lower jaw against the initial bite.

**Occlusion map (switch OCCLUSION).** Shows, for the displayed step, the distance between the crowns of the upper and lower models as set in the model (0 to 1.00 mm; colour scale in the legend, contour lines every 0.2 mm); places where the models overlap are marked separately.

**Overlaps only** shows only the overlaps. **Points** shows the closest place of each contact with its value in mm. Tap a coloured place to show its value. **Occlusal view** shows one jaw with the opposing jaw and the gingiva hidden. The map is an informative display; it does not evaluate the bite and is not a measurement. It is not part of the export or of the case report. Values show the position set in the model — not a measurement.

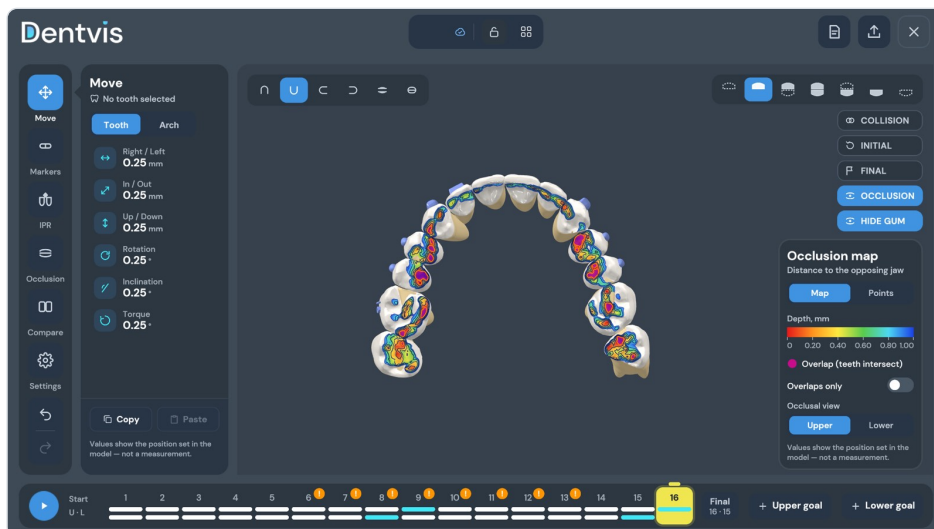


Figure 23. The occlusion map for the displayed step: distance between the crowns of the upper and lower models (0 to 1.00 mm), overlaps (violet), the card Occlusion map with Map / Points, Overlaps only and Occlusal view.

## 11.5 Compare

Compare displays reference models as a passive visual overlay. It does not change the case.

- **+ STL files** loads reference models (for example an earlier scan); **+ Arch form** adds an arch form (small, normal, wide).
- For each model set the colour, visibility and **Opacity**. Selected models can be linked (**Link / Unlink**) and moved together, or removed.
- **Matching**: drag a model in the 3D view to adjust the overlay; **Reset matching** returns it.
- Large models (more than about 200 000 triangles) are reduced for display when they are added (**Loading model**). Reference models are not saved in the case and are not exported.

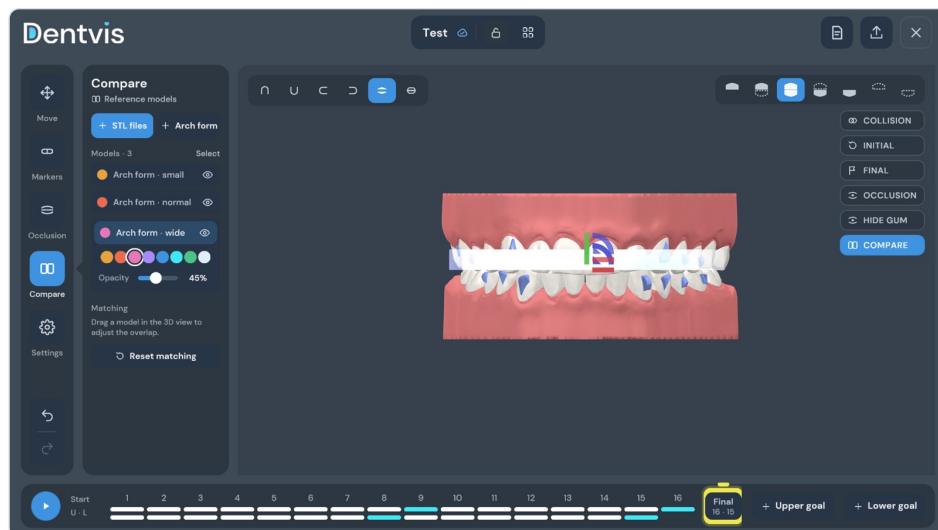


Figure 24. Compare — reference models and arch forms over the case.

## 11.6 Settings

**Settings** → **Setup speed** sets the maximum change of a tooth per step: translation (right/left, in/out, up/down; default 0.25 mm) and angulation (rotation, inclination, torque; default 2°). The number of interpolated steps between goals follows these limits. **Save** applies the values to the case; **Set as default** uses them for new cases; the default for new cases is also set when you confirm the setup speed after sign-in (6.4). Values show the position set in the model — not a measurement.

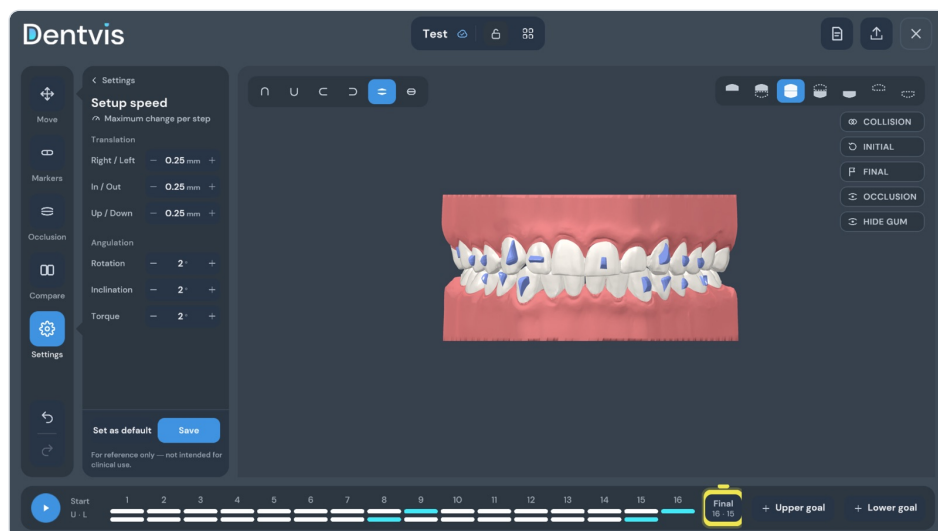


Figure 25. Settings → Setup speed.

## 11.7 IPR (stripping)

IPR records the interproximal reduction (stripping) that you plan at a contact between two neighbouring teeth of the same jaw: the contact, the amount in mm and the step at which the reduction is done (step N: before the appliance of step N is inserted). You enter every value yourself; the software does not calculate or recommend contacts, amounts or steps and does not take them from the collision indication. The amount is the width of the instrument that passes between the teeth: after the reduction, the gap at the contact equals the amount. The amount is at most 0.5 mm. If the two teeth overlap at the contact by more than 0.10 mm in the tooth positions of the step entered (a collision), the software asks whether to enter IPR anyway; the decision is yours. **IPR values are entered by the user — not a measurement.**

- 1 Tap **IPR** in the tool rail, below **Markers**. The panel shows a chart of both arches — upper arch at the top, lower arch below, tooth numbers outside the arches, the right side of the jaws (R) on the left and the left side (L) on the right — and below it the entries by jaw with the total entered for each jaw. The chart is schematic and not to scale; its tooth widths are typical values, not those of the case. A number on the **IPR** button shows how many entries the case has; an orange ! means that some entries need checking. x at the top right of the panel, or Esc, closes the panel (also in a locked case).

- 2 Tap ◇ between two teeth, in the 3D view or in the chart, or tap two neighbouring teeth in the 3D view one after the other: the first tap marks the tooth (**Tooth 13 marked — tap a neighbouring tooth.**), a tap on its neighbour in the same jaw opens the window for the contact, and a tap on the marked tooth again or on an empty place clears the mark. While the IPR panel is open, tapping a tooth does not select it for moving (no gizmo); rotating and zooming the view work as usual. ◇ is offered only between two neighbouring teeth of the same jaw that are present in the model (not across a pontic or a removed tooth). Deciduous teeth (51–85) are neighbours in the same way as permanent teeth. Where tooth numbers are ambiguous (a number used twice, or a permanent and a deciduous tooth at the same position), ◇ is not offered at those teeth; if a tooth of the jaw has no number, no ◇ is offered in that jaw. While **COLLISION** is on, ◇ in the 3D view are hidden; tap ◇ in the chart or tap the two teeth.
- 3 A window opens at the contact, for example **IPR 13 | 12** with **Upper jaw · between 13 and 12**; < and > move to the neighbouring contact. Choose the **Amount**: 0.1, 0.2, 0.3, 0.4 or 0.5 mm (at most 0.5 mm). The amount is the total at the contact, not per tooth. A new contact has no amount, and nothing is saved until you choose one. In the tooth positions of the step entered, with the teeth before the reduction, the window shows the overlap of the teeth at the contact (**Overlap at step N: X mm**) or an existing gap (**Gap at step N: X mm**). After you choose an amount, it shows **Gap at the contact after IPR: Y mm** — the amount, or the existing gap if it is already larger; then **The gap is already at least the IPR amount — the models do not change**. Both values are calculated from the models and are approximate.
- 4 Before the entry is saved, DentVIS asks in two situations; both questions end with **Values show the position set in the model — not a measurement**.
  - The teeth overlap at the contact by more than 0.10 mm at the step (**Overlap at 13 | 12 · step N: The teeth overlap X mm at step N (collision). The gap after IPR will be Y mm. Enter IPR anyway?**). Enter **IPR anyway** saves the entry together with the overlap you confirmed (the window then shows **Overlap X mm confirmed by the user.**); **Cancel** saves nothing. An overlap of up to 0.10 mm counts as a tight contact and is not asked about. This question appears when you choose the first amount at a new contact and when you change the step of an entry.
  - There is already a gap at the contact at the step (**Gap at 13 | 12 · step N: The teeth already have a gap of X mm at step N. The gap after IPR will be Y mm., or, if the gap is at least the amount, The teeth already have a gap of X mm at step N — at least the IPR amount of Y mm. The models will not change.**). Enter **IPR** saves the entry; **Cancel** saves nothing. This question appears once for each contact and step while the case is open.

If you cancel a question after changing the step of an entry, the entry keeps its earlier step and the window shows **Not saved — the IPR stays at step N**.
- 5 Set **At step**: step N is the step at which the reduction is done — before the appliance of step N is inserted. A new entry starts with the step displayed on the timeline; **Use step N** sets the displayed step.
- 6 Every choice is saved at once. Close the window with **Done** (**Close** if no amount was chosen), by tapping elsewhere or with Esc. A confirmation at the bottom left of the 3D view shows the entry, for example **IPR 13 | 12 · 0.2 mm · step 3**, with **Undo**.

Pairs are always written from the right side to the left side of the jaw, as in the chart: for example 13 | 12, 11 | 21, 43 | 42, 41 | 31. To change an entry, tap its ◆ in the 3D view or in the chart, or its row in the list. **Remove IPR** in the window removes the entry; **Remove all...** under the list asks **Remove all IPR?** and removes all entries of the case.

**Goal at step N.** Entering IPR does not move teeth. When you enter IPR at step N or change the step of an entry, step N of that jaw becomes a goal (keystep) with the tooth positions it already has, unless it is a goal already (**Final** is always a goal). The tooth positions at step N then stay fixed when you later edit other goals. The IPR stays with this goal: if the goal moves on the timeline (for example when you add or delete a goal before it, or the number of steps before it changes), the IPR moves with it. The gap or overlap at the contact is evaluated in the tooth positions of step N, before the reduction; models from step N onwards show the reduction, and from step N the collisions are shown with the narrowed teeth. The number of steps does not change; the positions in the steps between goals can change by up to about 0.01°. One **Undo** removes the IPR change together with this goal; removing an IPR entry keeps the goal. If you change the tooth positions in this goal, the overlap at the contact is calculated again; an overlap above 0.10 mm that you have not confirmed is shown as not confirmed (see **When the timeline changes**).

**Deleting a goal with IPR.** If you delete a goal that has IPR (step menu → **Delete goal**), DentVIS asks **Delete goal and IPR? — Step N (upper jaw) has IPR at contact 13 | 12**.

**Deleting this goal also removes the IPR. Delete both?** Cancel keeps both. **Delete goal and IPR** removes the goal and its IPR entries in one action; **Undo** restores both, **Redo** deletes both again. Removing the IPR alone (**Remove IPR**) keeps the goal.

**Undo and Redo.** Each window session (all changes of the amount and the step at one contact), each removal, **Remove all...** and each **Keep step** is one step of **Undo / Redo** (buttons at the bottom of the tool rail; Mac: Cmd+Z / Shift+Cmd+Z or Cmd+Y; Windows: Ctrl+Z / Ctrl+Shift+Z or Ctrl+Y). After Undo or Redo of an IPR action, the IPR panel opens and the confirmation names what was undone or redone.

**Where IPR is shown.** The 3D view shows each entry as a label at its contact with the amount and the step (**step 3**; in the step itself **now · step 3**). The switch **IPR** below **COLLISION** on the right of the 3D view (shown only when the case has at least one IPR entry) controls these labels: when it is on (default), the labels are shown at the contacts also while the IPR panel is closed, for reading only; when it is off, they are shown only while the IPR panel is open. The switch changes only the display; the models, the collisions and the export stay the same, and the marks on the timeline, the number on the **IPR** button, the panel and the warning **IPR needs checking** stay. The switch returns to on when you leave the Virtual Setup. On the timeline, a violet ♦ on the upper or lower bar of step N marks the entries at that step, with the number of contacts when there are two or more; ♦ is orange with ! when an entry needs checking and red with ! when an entry is not used. Tapping ♦ opens the IPR panel at that step, and tapping it again closes the panel; on a Mac, pointing at ♦ lists the entries. The step menu (11.1) contains **IPR at step N · k contacts...** or **Add IPR at step N...**, which opens the panel. In a locked case or a case open for viewing only, IPR entries can be viewed but not changed. IPR entries saved by a newer version of DentVIS can only be viewed (**These IPR entries were saved by a newer DentVIS version — view only.**).

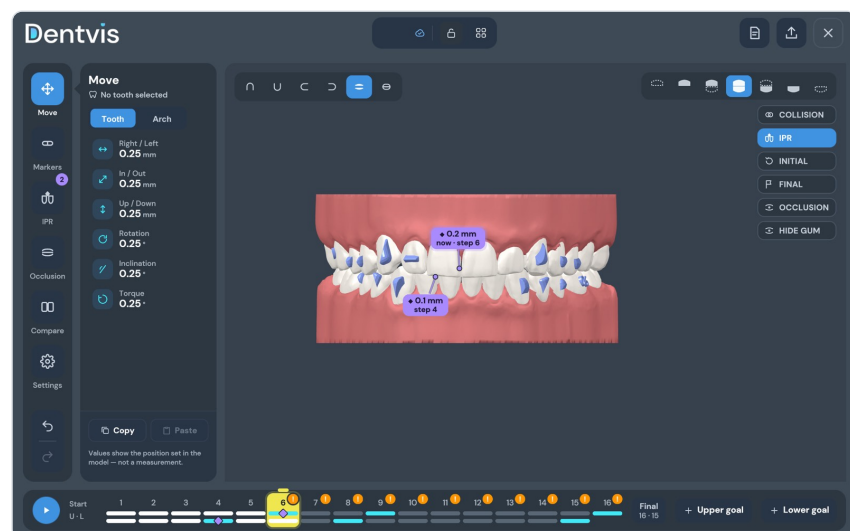


**Figure 26.** The switch IPR below COLLISION (on): the IPR labels with the amount and the step at the contacts, with the IPR panel closed.

**Models from step N.** From step N onwards, both teeth at the contact are shown and exported narrowed on the side of the contact so that, at the tooth positions of step N, the gap at the contact equals the amount entered. Where the teeth touch or overlap, the contact or the overlap is removed as well, half on each tooth (for 0.2 mm and an overlap of 0.1 mm, 0.15 mm per tooth). Where there is already a gap, only the difference is removed (for 0.3 mm and a gap of 0.1 mm, 0.1 mm per tooth); where the gap is already at least the amount, the models do not change. The narrowing applies to the side of the tooth facing the contact, from about 0.5 mm above the lowest point of the tooth outline next to the contact to the incisal edge or occlusal surface, and across the arch as far as the contact requires (at molars up to 6 mm on each side); the rest of the tooth and the gingiva are not changed, so next to the contact the gingival margin can stand off the narrowed tooth by about half of the removal, and somewhat more at curved contacts. If the narrowing at a contact is limited by the gingiva protection near the margin, or the contact cannot be located — this can happen at curved molar contacts —, the models show a smaller gap than entered: the IPR window shows

**The models at this contact show a smaller gap than entered.** and the case report lists the contact (section 14); check the exported models at this contact before use. Steps before N are not changed. **COLLISION**, the collision marks on the timeline and the collisions in the case report show the narrowed teeth; **INITIAL** shows the teeth without narrowing and **FINAL** the teeth of the final step.

**When the timeline changes.** An entry stays with its goal at step N (see above); changes of other goals do not affect it. Each entry also remembers the timeline of its jaw. If the timeline changes in a way that the entry cannot follow (for example tooth numbers or the scan of the

jaw), the step number of the entry is kept and the entry is shown in orange with

**Step changed — check IPR**; the models stay narrowed from that step. Check the entry and keep the step with **Keep step N for 13 | 12** (or **Keep step N · k contacts** in the list), or set another step. If the step no longer exists, a tooth of the pair is missing or removed by that step, a pontic is between the teeth, the teeth are no longer neighbours or the tooth numbers of the jaw are ambiguous (**Tooth numbers in this jaw are ambiguous**), the entry is shown with

**This IPR entry can't be used** and the reason; such an entry does not change the models, is not counted in the totals and can only be removed. An entry with an amount above 0.5 mm (**Amount above 0.5 mm**) is shown in the same way and is not used either, but you can change its amount or step, or remove it. If the overlap at the step of an entry is above 0.10 mm and was not confirmed, or has grown by more than 0.02 mm since you confirmed it (for example after you changed goals), the list shows **Overlap X mm at step N — not confirmed** and the window **Overlap not confirmed (The teeth overlap X mm at step N)**.

**The models don't use this IPR until the overlap is confirmed.**; the models don't use the entry until you confirm the overlap with **Confirm...** in the window or **Confirm overlap · 13 | 12...** in the list, which asks the question again. Entries are never moved or removed automatically.

**Case report.** The case report (12.3) contains the page **IPR overview**: the chart with the entries, a table for each step (**Contact**, **Amount** and the empty fields **Done (mm)**, **Date** and **Initials** to fill in by hand), the totals for each jaw and the section **To check**. The page states that models exported from the step entered show the reduction, that the gap at the contact after IPR equals the amount entered (the width of the instrument) and that the models do not change where the gap at that step is already at least the amount. It lists the contacts where the gap is already at least the amount (**Gap already at least the amount — models unchanged: ...**) and the entries entered despite an overlap above 0.10 mm (**IPR entered despite an overlap above 0.1 mm, confirmed by the user: ...**); contacts that the chart does not show (third molars) are listed in a note. From the step entered, the collisions in the report are calculated with the narrowed models. **Case report (PDF)** in the IPR panel creates the same report. If entries need checking when you export STL models or create the report, the message **IPR needs checking** appears (section 14).

#### WARNING

Before any enamel reduction, check the tooth numbers, amounts and steps of all IPR entries in the panel or in the case report. Models exported from step N assume that the reduction is done as entered. If it is done differently, at another time or not at all, change or remove the entry and export the affected steps again; do not use earlier files or reports.

## 11.8 Movement timing

**Movement timing** shows, for each tooth and for each component of its movement (**Right / Left, In / Out, Up / Down, Rotation, Inclination, Torque**), in which steps between two goals the component changes. By default a component changes evenly over the whole phase, from one goal to the next. You can set the steps yourself. The software does not choose, propose or optimise any order or timing, and every change is your explicit action.

- 1 Open the panel with the button **Movement timing** at the bottom of the **Move** panel, or with the key T (Mac); x or Esc closes it. Choose the jaw with **Upper / Lower**. The graph shows the teeth in rows and the steps in columns; the phases between the goals are marked at the top, and each coloured bar is one component of one tooth. Expand a tooth to adjust its components; the legend of the components filters the graph.
- 2 Drag a bar to shift it; drag its ends to shorten or lengthen it; or set **From step** and **To step** in the inspector at the bottom. Between **From** and **To** the component changes linearly; outside them it does not change. The inspector shows the length, the total change and the change per step; while you drag, the 3D view shows a live preview of the tooth at the step under the handle, and Esc cancels the drag. **Whole phase** makes the movement last the whole phase, **Start after...** starts it after another movement of the phase ends, **To another phase...** moves it across a goal and **Default** restores the default timing; **Default timing of the jaw...** restores the default timing of all movements of the jaw.
- 3 The setup speed (11.6) is a hard limit: a movement is never shorter than its change divided by the setup speed (rounded up). A shorter length is shown with a warning (**More than the setup speed in steps ...**), and on release it snaps to the shortest allowed length. Lengthening a movement beyond the end of its phase lengthens the phase, and the later goals move by the same number of steps.
- 4 The goals you set are never changed by the timing, except when you explicitly move a movement across a goal: a dialog (**Move the movement to phase ...?**) lists every change, including the changed position of the tooth in that goal; **Start** and **Final** stay unchanged. Every confirmed change is one **Undo** step. In a locked case or a case open for viewing only, the panel can be viewed but not changed.

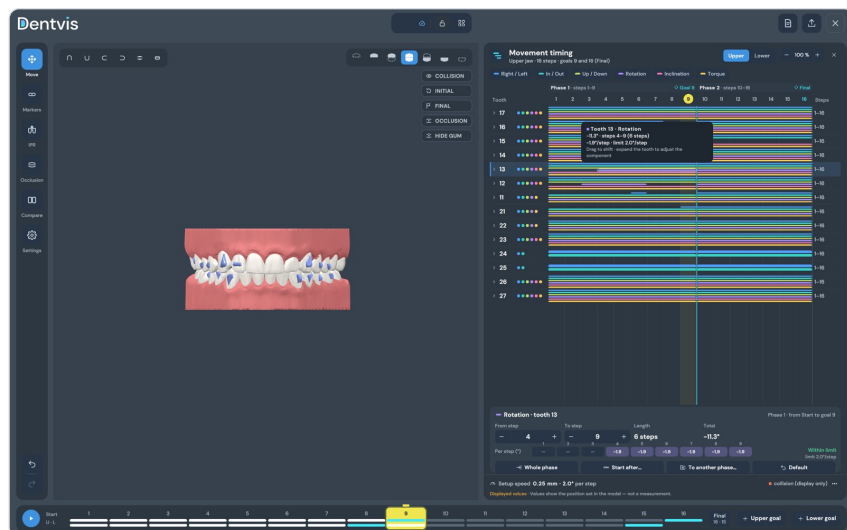


**Figure 27.** Movement timing — the graph of teeth and steps with the phases, the bars of the components of tooth 13 and the inspector with **From step**, **To step** and the change per step.

The components are given in the coordinates of the jaw used by the setup speed check; the panel **Move** gives the values in the coordinates of the tooth, so for a tooth with a turned long axis the numbers can differ. The exported models of the intermediate steps follow the timing you set; the goals are unchanged. Movement timing is saved with the case; the case report does not list it. Values show the position set in the model — not a measurement.

#### WARNING

A changed timing changes the intermediate steps of every exported model. Check every step, including collisions, after you change the timing, and export the affected steps again; do not use earlier files.

## 12. Export

Tap **Export** in the header. The export screen shows the settings on the left, the model in the centre and the step selection on the right. The timeline shows which steps were already exported. The view controls (jaw visibility, **COLLISION**, **INITIAL**, **FINAL**, **OCCCLUSION**, **HIDE GUM**) are also available in Export, at the top right of the 3D view; they change only what is shown, not what is exported.

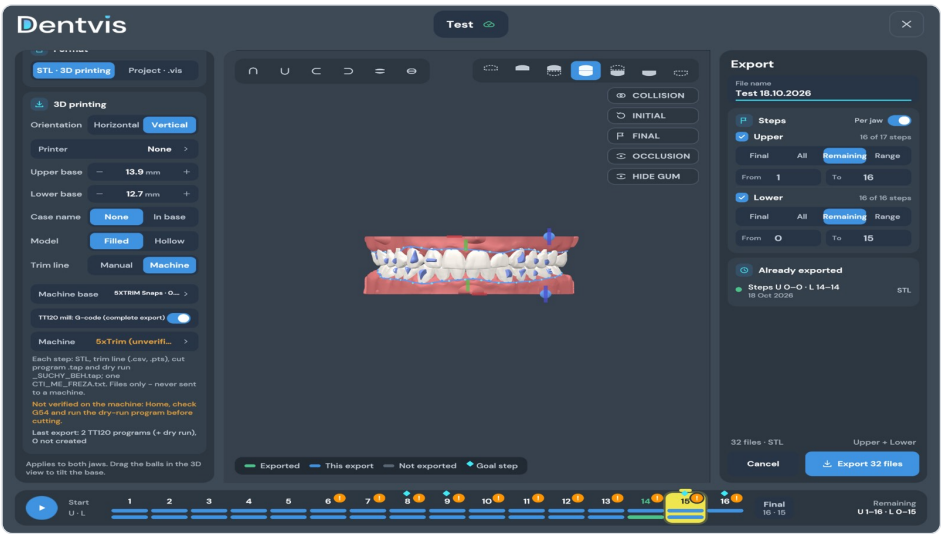


**Figure 28.** Export — Export settings (left) with the Printer row and the options for the TT120 trimming machine, preview with the view controls at the top right, Export panel with steps (right), legend on the timeline.

### 12.1 Format

- **STL · 3D printing** — STL models of the selected steps.
- **Project · .vis** — the complete case as a .vis file (for archiving or transfer).

If the project file cannot be exported, a note under **Project · .vis** says why:

**Project export is not available in view-only mode., Export is not included in the trial.**  
(computer), **Export is not available for this account.** or **Export is not available on this device.**

### 12.2 3D printing settings

| Setting                 | Meaning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Orientation             | <b>Horizontal</b> (flat) or <b>Vertical</b> (upright, with supports at the back of the model). Behind the last molars the supports also extend under an overhanging back wall of the gingiva and the base, below the trim line, and the supports of both sides are joined by a plate 2 mm thick in the plane of the build platform; the plate does not touch the model. The supports stay on the model for thermoforming and trimming; near a machine trim line they are kept away from it (12.5).                                                                                         |
| Upper base / Lower base | Height of the model base in mm. Drag the balls in the 3D view to tilt the base. The base is at least 3 mm from the deepest crown edge; a new case starts at 7 mm. A smaller base height gives a lower model. With <b>Hollow</b> and a low base, the cavity is made only where there is room for it; the rest stays filled, and the model can have several openings in the base. Where the short closure of a tooth below the crown margin reaches the base plane (for example with a low base), it is cut flat at the base. Values show the position set in the model — not a measurement. |
| Case name               | <b>None</b> or <b>In base</b> (case name and step number embossed in the base; after the case is renamed, the embossed name is updated).                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Model                   | <b>Filled</b> or <b>Hollow</b> . <b>Hollow</b> : the cavity stays at least 1.5 mm from the surface of the gingiva and from the teeth; thin areas (between teeth, where a tooth meets the gingiva) stay filled. In <b>Hollow</b> , the 3D view shows the exported model for the step shown, including the cavity and its reinforcement; after you move or tilt the base, it is updated after a short moment (a spinner is shown in this row meanwhile).                                                                                                                                     |
| Trim line               | <b>Manual</b> , or <b>Machine</b> — a model with a machine base and a CSV file with the trim line for the selected trimming machine ( <b>Machine base</b> ). For the TT120 trimming machine, the bases <b>5XTRIM Tabs</b> (default for a new case), <b>5XTRIM Snaps</b> and <b>T120 (older)</b> are offered first, and the export can also contain trimming programs (12.5).                                                                                                                                                                                                               |
| Printer                 | Optional: place the models directly on the build platform of a printer (12.4).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## 12.3 Steps to export

For each jaw choose **Final**, **All**, **Remaining** (not yet exported) or **Range (From – To)**.

**Already exported** lists earlier exports. Enter the **File name** (renaming the case at the top of the export screen also updates the default file name) and tap **Export N files**. Keep DentVIS open until the export is complete. While the models are being built, **Cancel** stops the export: no files are created, the steps are not marked as exported and the step you were on is shown again. The same applies if the export cannot be completed (for example, the disk is full): no files are created and the step you were on is shown again. If the hollow model cannot be created for a model, that model is exported filled and a message after the export lists it.

The gingiva, the teeth and the attachments of each step are joined into one closed, watertight model. If they cannot be joined, the step is exported as separate parts as before. Check the model in your printer software before printing.

Before saving, every exported model is checked the way 3D printing software reads it; small mesh defects (holes, duplicate or collapsed triangles, loose fragments) are repaired automatically. Defects that cannot be repaired safely, and larger openings, are not changed. DentVIS also checks the orientation of the attachments: an attachment that points into the tooth is turned back out of the tooth surface, and a closed part with inverted orientation is turned the right way round; an attachment that removes material (a torque attachment) is not changed. No message is shown for this. Check every model, including the attachments, in your printing software before printing.

The export also contains the **case report** (<case> - **Case report.pdf**): diagrams of both arches with attachments and the places of collisions, collisions by step, a list of attachments and model parts, the case note and the step notes, and the page **IPR overview** when the case has IPR entries (11.7). The same report can be created at any time with **PDF** in the **Notes** panel. Values in mm show the positions set in the model — not a measurement; the collision indication can miss contacts and is not a prescription for enamel reduction.

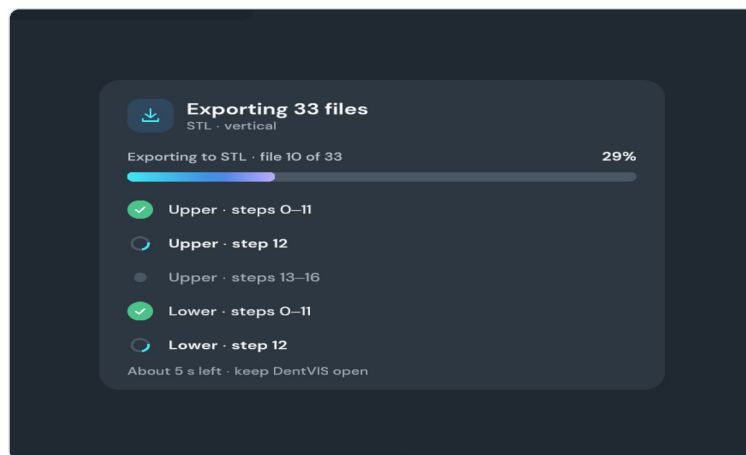


Figure 29. Export in progress.

### WARNING

Exported steps are locked to protect the files already sent to production. Before manufacturing, open each exported file in your printing or trimming software and check the model, the base, the trim line and the scale. Never mix files from different exports of the same case.

## 12.4 Printer build plate

The row **Printer** opens the dialog **Printer** with a search field (**Search, e.g. Form 4 or Bambu**): type the maker or the model and choose a printer from the list, which shows the build area (width × depth × height in mm) and the kind of each printer (resin, FDM, files only).

**No printer — separate files** exports only the single model files. The list contains printers of several makers (for example Formlabs, SprintRay, Asiga, Carbon, HeyGears, Shining 3D, Ackuretta, Phrozen, Elegoo, Anycubic, Uniz, Rapid Shape, Bambu Lab, Prusa and Creality); the build areas are taken from data published by the makers and can differ from your machine or its settings. Your choice is remembered on this device.

DentVIS places the exported models on build platforms of that printer — flat or upright according to **Orientation**, in the order of the steps (the upper jaw first, then the lower jaw) — and writes the platform files in addition to the single model files, which are exported as before.

**Plate file** sets the format: **3MF**, **STL** (one STL file per model, in the coordinates of the platform) or **Both**. A platform file is named <case> - <printer> - platform k of N - <steps> ,

and the file HOW TO OPEN – <printer>.txt in the export says how to open the files. The models on a platform are the same models as in the single files. DentVIS only writes files; it sends nothing to a printer.

- **Bambu Lab:** one project for Bambu Studio with all platforms (one plate for each platform; the printer is preset) and, as a backup, the plain 3MF files of the platforms. Open the project in Bambu Studio with **File → Open project**; if Bambu Studio shows the models differently, open the plain 3MF files.
- **Formlabs:** a 3MF file for each platform and a single STL file with all models of the platform in their positions. If PreForm asks how to import the 3MF file, choose to keep the layout, or open the single STL file.
- **Other printers:** a 3MF file for each platform and, with **Both** or **STL**, STL files in the coordinates of the platform.

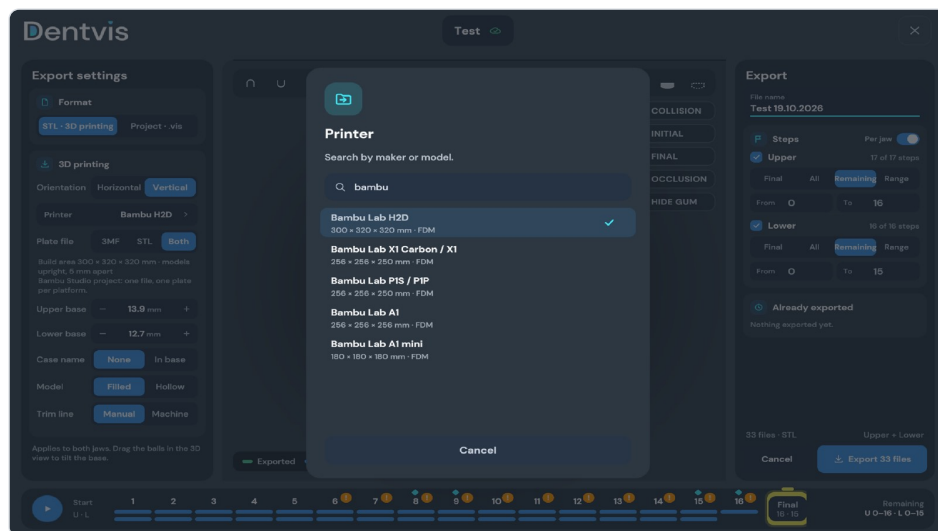


Figure 30. The dialog Printer with the search field and the list of printers with their build areas.

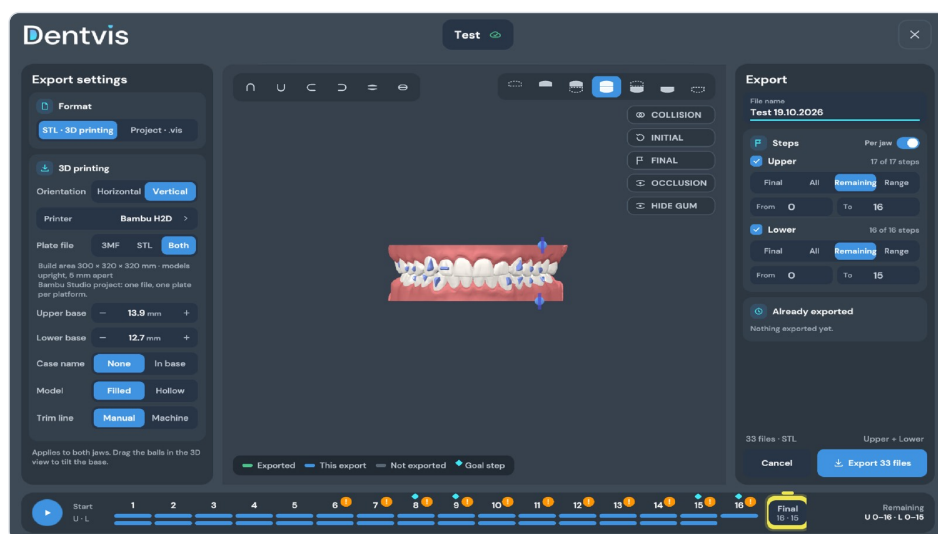


Figure 31. Export with Printer and Plate file; the line under the row shows the build area, the orientation of the models and the kind of the files.

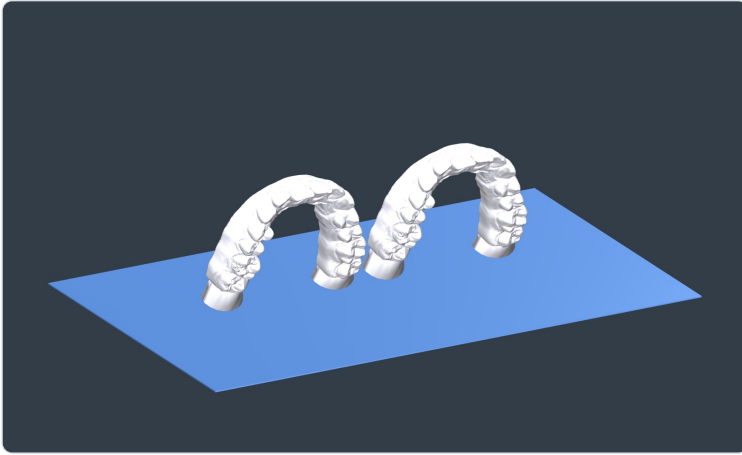


**Figure 32.** Example of models placed upright on a build plate (preview of an exported 3MF file).

### CAUTION

Models that are **too large** for the build area or **too tall** for the printer are not placed on a platform; the export panel (**Too large for the build area ...**, **Taller than the build height ...**) and the summary after the export list them. Always check the platform in the printer software (supports, orientation, spacing) before printing.

## 12.5 Export for the TT120 trimming machine

With **Trim line** → **Machine** and a **Machine base** for the TT120 trimming machine, the export can also contain the programs for trimming the thermoformed foil on the machine. The option **TT120 mill: G-code (complete export)** under the machine base is switched on by default. The programs are created only with the bases **5XTRIM Tabs**, **5XTRIM Snaps** or **T120 (older)**; with other bases the panel says

**The TT120 G-code is created only with the 5XTRIM Tabs, 5XTRIM Snaps or T120 base.**

| Base         | Clamping on the machine                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5XTRIM Tabs  | Default for a new case. Three tabs under the model (under the first molars on the left and right and under the incisors) that sit completely in the grooves of the fixture.                                                                                                                                                                                                                                                                                                           |
| 5XTRIM Snaps | Three sockets in the bottom of the model that are pressed onto the balls of the fixture plate until they snap in. With this base the base height cannot be set closer than 6 mm to the teeth (3 mm with the other bases); if a base was set lower, it is moved to this limit when Snaps is chosen. The export card shows when a snap is closer than 3.0 mm to the trim line (small margin for the cutter); where it is closer than 2.2 mm, no TT120 program is created for that step. |
| T120 (older) | The earlier T120 base with tabs; kept for earlier cases.                                                                                                                                                                                                                                                                                                                                                                                                                              |

A case in which a base was already chosen keeps its base; earlier cases are not converted. When another base is chosen (for example Snaps instead of Tabs), the new base is positioned automatically under the model, as in a new case; the position of the earlier base is not carried over. A base that was moved by hand stays where it is as long as the same base remains selected.

For every exported step and jaw the export contains, with the same name as the STL model:

- `<name>.stl` — the model with its base;
- `<name>_trimline.csv` and `<name>.pts` — the trim line;
- `<name>.tap` — the trimming program, and `<name>_SUCHY_BEH.tap` — the dry-run program (the same tool path with the tool tip about 10 mm away from the trim line; nothing is cut);
- or, instead of both programs, `<name>_TT120_report.txt`, which says why no program was created.

The export also contains one sheet `CTI_ME_FREZA.txt` (in Czech, with a short English part): which printed model belongs to which program, how to clamp the model and the steps before cutting. After the export, a summary shows how many programs were created and which were not, for example **N TT120 programs were created (cut + dry run)**.; the same line is shown in the export panel.

A program is created only when the tool path passes the checks of the machine axes and a simulation of the whole tool assembly (tool, collet, holder) against the model, its supports and

base parts and the fixture plate. The simulation assumes the tool settings in the panel (tool diameter 2 mm) and the tool assembly of the TT120 machine as measured on 19 October 2026: the cutter held in an adapter with an ER8 nut that sits in the ER11 collet of the spindle; the front nut 22 mm from the tool tip (diameter 13 mm), the adapter body 10.5 mm, the ER11 nut 16.5 mm in diameter. With another cutter stickout or another adapter the simulation does not apply. Where the simulation finds that the tool would cut into the model above the trim line, DentVIS tries to avoid it by changing the tilt and, if needed, the direction of the tool axis locally near that place; the header of the program then says so. If this does not remove the collision, no program is created for that step and the report says why. The files are only written to the export folder; DentVIS never sends anything to a machine.

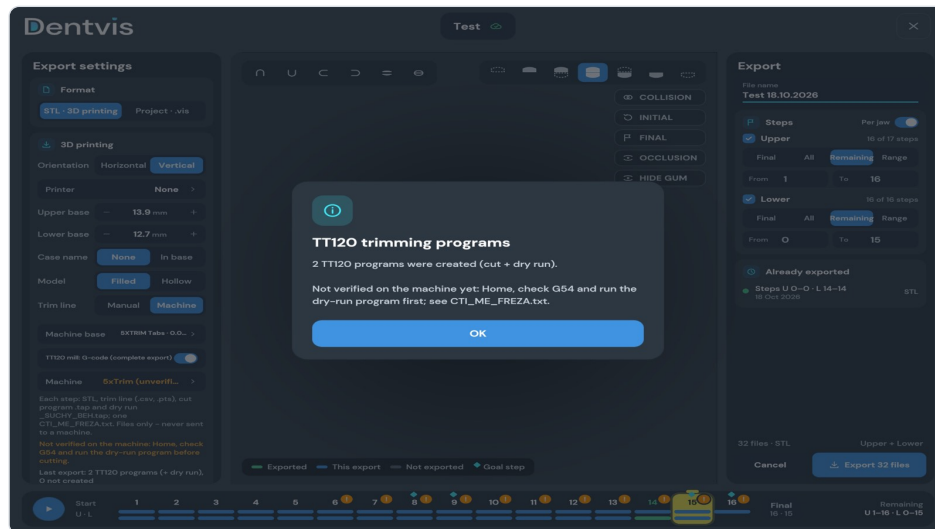


Figure 33. The summary after the export: the number of the programs that were created (cut and dry run) and the note that they are not verified on the machine.

#### WARNING

- **Not verified on the machine.** Until the manufacturer has verified the machine values (work offset G54, tool length) on the machine, every program, the sheet `CTI_ME_FREZA.txt` and the panel say so  
(Not verified on the machine: Home, check G54 and run the dry-run program before cutting.; in the program header `NEOVERENO NA STROJI` ).
- **Always run the dry-run program of the same step first.** Home the machine, check the work offset G54, run `_SUCHY_BEH. tap` with a reduced feed and check that the tool tip goes around the whole trim line at a distance of about 10 mm. If it does not, stop the machine and do not run the trimming program.
- **Use a program only for the model printed from the same export, step and jaw, with its base.** Never use it for another step or jaw, for another print of the case (for example a model exported for other trimming software) or with another tool or stickout.
- The simulation does not replace the check of the trimmed edge. Check every trimmed appliance.

**Supports of upright models.** The supports at the back of the model (**Orientation** → **Vertical**) stay on the model during thermoforming and on the trimming machine. With a machine trim line they keep at least 4 mm from the trim line, and within 12 mm of the trim line (seen from above) they stay at least 1.5 mm below its height, so that the trimming tool does not touch them; near the trim line the supports can therefore be lower. The preview in the export panel shows these supports; with **Hollow** the supports at the back are drawn for the solid model and can be larger in the exported files, so check them in your printing software.

**Narrow notches in the trim line.** Where a machine trim line would run into a notch narrower than the trimming tool (for example a very narrow space between two teeth), the trim line runs straight across the notch instead, so that the tool does not have to cut into the appliance there. Only a short stretch of the line changes, by up to about 2 mm, and the edge of the appliance moves away from the teeth there. The line shown in the 3D view, the files `<name>_trimline.csv` and `<name>.pts`, the supports and the trimming program all use the same line. A notch that would have to be bridged by more than that is left as it is; the simulation may then report that no program was created for that step.

## 13. Cloud synchronization and multiple devices

Cases are stored locally on the device. With the Team plan, cases are also synchronized through the manufacturer's cloud service to the other devices of your team. The state of each case is shown on its card.

- An account can have cases open at the same time on as many devices as its plan includes (6.1): when the limit is full, **Case open on another device** (limit of one device) or **Device limit reached** (more devices) offers **Open here** (the case on the device that was inactive for the longest time is saved and closed) or **Cancel**.
- A case can be edited on one device at a time. If it is open elsewhere, the dialog **Case is open on another device** offers **Cancel**, **Try again** or **Open anyway** (a new version is created).
- If a newer version exists in the cloud, **A newer version of this case is available** offers **Download new** (the local version is backed up) or **Use local version**.
- Without an internet connection, you can continue with the local version.
- A free trial account can be used on one device at a time. If it is in use on another device, the message **Device limit reached (The account can be used on one device at a time.)** appears; sign out of DentVIS on the other device, or try again in up to 2 hours.
- If DentVIS cannot reach the server at start and the license cannot be confirmed on this device, **No connection** offers **Try again** or **Continue offline** (the cases on this device open as long as the last check of your account is valid, at most 8 hours, 6.1); a case that is open is not closed because the connection is lost.
- When you close a case, confirm with **Exit**. The case is saved on the device; with the Team plan, the app then waits up to 30 seconds for the upload to the cloud (**Saving to cloud...**). **Continue in background** opens the case list and the upload finishes later.
- A new case name is also saved in the cloud; other devices keep the name they already show.

CAUTION

Synchronization is not a backup. Export important cases as .vis files and back them up.

## 14. Messages and what to do

| Message                                                                                                                                                                                                            | Meaning and action                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Failed to segment tooth NN                                                                                                                                                                                         | The outline passes through a hole in the model. Fix the outline :                                                                                                                                                  |
| Case is open on another device                                                                                                                                                                                     | Close the case on the other device and tap <b>Try again</b> , or <b>Open</b>                                                                                                                                       |
| A newer version of this case is available                                                                                                                                                                          | Choose <b>Download new</b> unless you know the local version is the                                                                                                                                                |
| Case is locked                                                                                                                                                                                                     | Unlock the case in the header to make changes.                                                                                                                                                                     |
| Teeth are not in a key step                                                                                                                                                                                        | You are editing an interpolated step. Tap <b>Yes</b> to move the teeth                                                                                                                                             |
| No internet connection / Download failed                                                                                                                                                                           | Check the connection and try again, or continue with the local                                                                                                                                                     |
| Update required                                                                                                                                                                                                    | This version is no longer supported. On macOS tap <b>Update now</b> on the download page (17.2); on iPad <b>Update in the App Store</b> (17.3).                                                                    |
| DentVIS <i>new version</i> is ready to install (bar on the case list, macOS)                                                                                                                                       | An update was downloaded and checked; the bar shows the nu<br><b>What's new</b> shows the release notes (17.1).                                                                                                    |
| Close the case first                                                                                                                                                                                               | DentVIS can restart and update only from the case list. Close th                                                                                                                                                   |
| Finishing cloud sync... / Cloud sync is still running                                                                                                                                                              | DentVIS restarts only after your cases are synchronized. Wait, r                                                                                                                                                   |
| Move DentVIS to Applications first                                                                                                                                                                                 | DentVIS is running from the disk image or from a temporary loc                                                                                                                                                     |
| The update could not be installed                                                                                                                                                                                  | The previous version stays installed and the update is offered a<br><b>Administrator permission is needed to replace DentVIS in thi</b>                                                                            |
| The update could not be downloaded. It will be tried again later. /<br>The downloaded update is damaged and was deleted. It will be downloaded again later.<br>/ The update could not be verified and was deleted. | The update failed a check and was not installed; nothing was cl<br>www.dentvis.com/download and report it to the manufacturer (                                                                                    |
| Could not check for updates. Check your internet connection and try again.                                                                                                                                         | The server could not be reached. Check the connection and tap                                                                                                                                                      |
| IPR needs checking                                                                                                                                                                                                 | Some IPR entries need checking: the timeline changed after the<br>0.10 mm at the step is not confirmed. <b>Review IPR</b> opens the IPI<br>report lists these entries under <b>To check</b> . When the timeline ch |
| Step changed — check IPR                                                                                                                                                                                           | The timeline of the jaw changed after the entry was entered in :                                                                                                                                                   |

|                                                                                                                                                                 |                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                 | or set another step (11.7).                                                                                                                                                                                                                                              |
| This IPR entry can't be used                                                                                                                                    | The step no longer exists, a tooth of the pair is missing or removed. <b>Tooth numbers in this jaw are ambiguous:</b> remove the entry a step, or remove the entry. Such an entry does not change the n                                                                  |
| Delete goal and IPR?                                                                                                                                            | The goal you are deleting has IPR at the contacts listed. <b>Delete both.</b> To keep the goal, remove only the IPR in the IPR panel (11                                                                                                                                 |
| Remove all IPR?                                                                                                                                                 | Removes all IPR entries of the case. Tap <b>Remove N</b> to confirm,                                                                                                                                                                                                     |
| Overlap at 13   12 · step N — Enter IPR anyway?                                                                                                                 | In the tooth positions of step N (before the reduction), the teeth overlap you confirmed; from step N the narrowed models also r nothing (11.7).                                                                                                                         |
| Gap at 13   12 · step N                                                                                                                                         | There is already a gap at the contact at step N. The message sh amount. <b>Enter IPR</b> saves the entry; <b>Cancel</b> saves nothing (11.7)                                                                                                                             |
| Not saved — the IPR stays at step N.                                                                                                                            | You cancelled a question after changing the step of an entry; th                                                                                                                                                                                                         |
| Overlap not confirmed (IPR window); Overlap X mm at step N — not confirmed (list)                                                                               | The overlap at the step of the entry is above 0.10 mm and was I IPR until you confirm the overlap: <b>Confirm...</b> in the window or <b>C</b> amount, or remove the entry (11.7).                                                                                       |
| The models at this contact show a smaller gap than entered. (IPR window); in the case report: At these contacts the models show a smaller gap than entered: ... | From the step entered, the narrowed models at this contact do narrowing, or the contact could not be located. Check the expc                                                                                                                                             |
| These IPR entries were saved by a newer DentVIS version — view only.                                                                                            | The case was saved by a newer version of DentVIS; its IPR entr                                                                                                                                                                                                           |
| Some models were exported filled                                                                                                                                | The hollow model could not be created for the listed models; th may help.                                                                                                                                                                                                |
| TT120 trimming programs                                                                                                                                         | Summary after an export with <b>TT120 mill: G-code (complete e</b> reason (details in the <code>_TT120_report.txt</code> file of the step). C (12.5).                                                                                                                    |
| Move the movement to phase ...? (Movement timing)                                                                                                               | A movement was dragged across a goal. The dialog lists the st unchanged. <b>Move to phase ...</b> confirms, <b>Cancel</b> keeps the mov                                                                                                                                  |
| Default timing of the jaw?                                                                                                                                      | All movement timings of the jaw return to the whole phase; the                                                                                                                                                                                                           |
| More than the setup speed in steps ... (Movement timing)                                                                                                        | The movement you are dragging is shorter than the setup spee                                                                                                                                                                                                             |
| Align selected teeth? / Align all teeth?                                                                                                                        | The dialog lists the teeth that will move in or out in the display not; <b>Undo</b> reverts it. <b>No tooth to align: the teeth are on the cu</b>                                                                                                                        |
| No mirrored handle — only this handle moves. / The mirrored tooth is locked — only this handle moves.                                                           | With <b>Symmetric edit</b> on, the opposite handle is missing or its t                                                                                                                                                                                                   |
| Too large for the build area ... / Taller than the build height ...                                                                                             | The listed steps do not fit on a platform of the chosen printer a                                                                                                                                                                                                        |
| Case already in your list                                                                                                                                       | The opened file belongs to a case in your list. <b>Open existing ke</b>                                                                                                                                                                                                  |
| Sign in to open this case                                                                                                                                       | Fallback message, normally not shown: a .vis file opened witho the file opens by itself, <b>Back</b> returns to the start screen). If the application opens without an account (6.1).                                                                                    |
| Active plan required (computer)                                                                                                                                 | The signed-in account has no active plan. The message gives t <b>All devices included in your plan are in use.)</b> and says <b>Openin Your saved and exported files are not affected. Manage plan</b> not deleted, and the models (STL) and project files (.vis) you e) |
| Case can't be opened (iPad)                                                                                                                                     | <b>This account can't open cases on this device. Your saved an</b> closes the message (6.1).                                                                                                                                                                             |
| Connect to the internet                                                                                                                                         | DentVIS cannot confirm your account without a connection (th <b>To open this case, DentVIS needs to check your account. Co</b> already open is not closed because the connection is lost (6.1).                                                                          |
| Case open on another device                                                                                                                                     | Shown when the plan of the account allows one device with an <b>Cases can be open on only one device at a time. If you open</b> device; <b>Cancel</b> leaves it as it is (6.1).                                                                                          |
| Case closed                                                                                                                                                     | Shown on the other device: <b>This case was closed because you</b> case open for viewing only is closed without saving. <b>OK</b> closes                                                                                                                                 |

|                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sign in to edit                                                                                                                                                                                                                          | No account is signed in, so the case (the demo case) is open for                                                                                                                                                                                                                                                                           |
| View only                                                                                                                                                                                                                                | The case is open for viewing only (Quick preview, the demo case preview, open it again and choose <b>Import to case list</b> (6.1). On case is not closed.                                                                                                                                                                                 |
| E-mail not confirmed                                                                                                                                                                                                                     | The e-mail address of the account is not confirmed yet. Open it (6.1).                                                                                                                                                                                                                                                                     |
| E-mail not sent                                                                                                                                                                                                                          | The e-mail could not be sent (for example no internet connection).                                                                                                                                                                                                                                                                         |
| Trial ended (iPad: Access for this account ended)                                                                                                                                                                                        | Computer: <b>Your 14-day trial ended on {date}. Your cases stay Access for this account ended on {date}. Your cases stay on Access for this account has ended.</b> Your data are not deleted; message; on macOS and Windows, <b>See plans</b> opens the plans                                                                              |
| License expired                                                                                                                                                                                                                          | Computer:<br><b>Your DentVIS license has expired. Cases can't be opened or Renew your subscription to continue.</b> iPad: <b>Your DentVIS license At start: Cases can't be opened or edited, and export and close the models (STL) and project files (.vis) you exported earlier</b>                                                       |
| Export (Export is part of the Solo and Team plans / Your plan has ended... / Export is not available for this account)                                                                                                                   | Export is not available in the current account state.                                                                                                                                                                                                                                                                                      |
| Couldn't verify your license                                                                                                                                                                                                             | Check the internet connection and try again.                                                                                                                                                                                                                                                                                               |
| Trial already used on this device (iPad: Editing not available)                                                                                                                                                                          | The free trial was already used on this device with another account                                                                                                                                                                                                                                                                        |
| Device limit reached                                                                                                                                                                                                                     | Two messages have this title. (1) A free trial account is in use on other device, or try again in up to 2 hours (13). (2) When you open <b>This account can have cases open on {N} devices at a time, and If you open this case here, the case on {device} (last active {the longest time and opens the case here; Cancel leaves every</b> |
| No connection (at start)                                                                                                                                                                                                                 | DentVIS could not reach the server. Tap <b>Try again</b> , or <b>Continue</b> hours (6.1).                                                                                                                                                                                                                                                 |
| Session Expired                                                                                                                                                                                                                          | The sign-in is no longer valid. Sign in again.                                                                                                                                                                                                                                                                                             |
| Sign in to send feedback                                                                                                                                                                                                                 | <b>Send feedback</b> needs a signed-in account. Sign in, or tap <b>E-mail</b>                                                                                                                                                                                                                                                              |
| Your message was sent (ref. ...)                                                                                                                                                                                                         | The message was saved for the manufacturer with the reference report it to the competent authority (section 16).                                                                                                                                                                                                                           |
| The message could not be sent. Try again later or e-mail ... /<br>No internet connection. Your text is kept — send it again when you are online. /<br>You have sent several messages in a short time. Try again in an hour or e-mail ... | The message was not sent; the text is kept while DentVIS is open                                                                                                                                                                                                                                                                           |
| Cannot create case                                                                                                                                                                                                                       | Check the connection and try again; if the message says on the                                                                                                                                                                                                                                                                             |

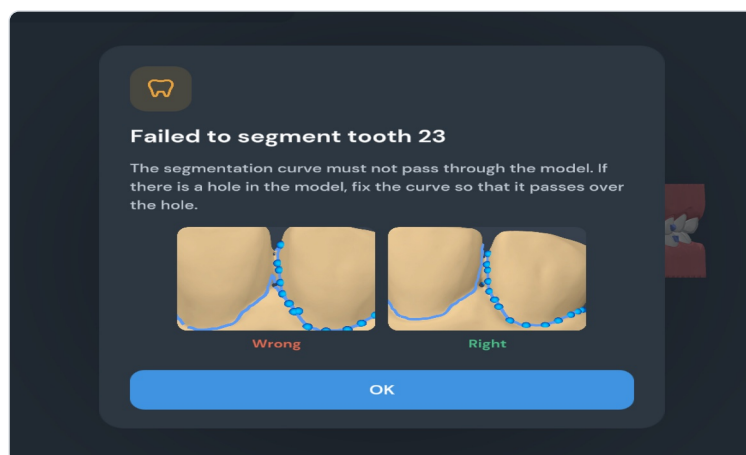


Figure 34. Example: Failed to segment tooth 23 with the wrong and right outline.

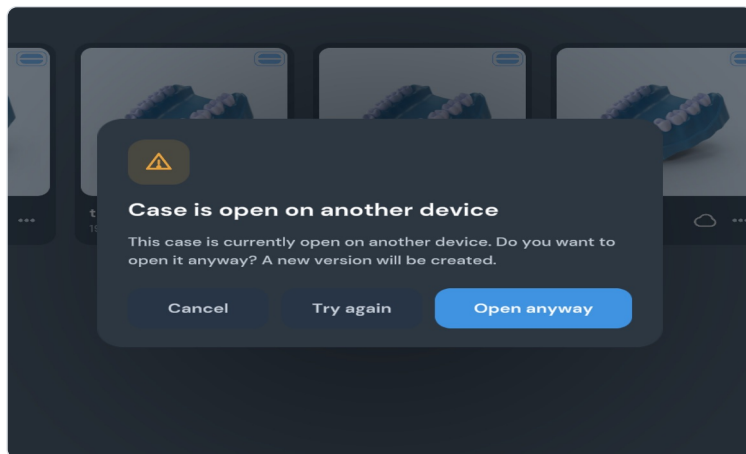


Figure 35. Case is open on another device.

## 15. IT security and data protection

- Use DentVIS only on devices that meet the system requirements and run an operating system that still receives security updates; install updates promptly.
- Install DentVIS for macOS and Windows only from [www.dentvis.com/download](http://www.dentvis.com/download) and for iPad only from the App Store; do not bypass operating-system security warnings.
- Keep DentVIS up to date; versions that are no longer supported are blocked. On macOS, DentVIS installs an update only after checking that it is unchanged and signed by the manufacturer and notarized by Apple (17.1). Enter an administrator password only in the macOS window that appears after you chose **Restart and update** or **Update now**.
- Protect every device with its own user account, a strong password or passcode and automatic screen lock, and turn on full-disk encryption (FileVault, BitLocker, iPad passcode). DentVIS stores cases and sign-in data on the device without additional encryption.
- On shared computers use a separate operating-system user account for each person; signing out of DentVIS does not remove cases stored on the device.
- Use a unique password, never share your account and sign out on devices you do not use; if a device is lost, change your password and remove the device from your Editor devices.
- Allow outgoing HTTPS (port 443) to the DentVIS services; no incoming connections are required. Use trusted networks and avoid open public Wi-Fi.
- Use anti-malware protection and a firewall according to the IT policy of your organization.
- Back up local DentVIS data regularly — synchronization is not a backup.
- Use neutral case labels; the case label also appears in exported file names and can be embossed in the model base.
- Open .vis and model files only from trusted sources; store exported files on protected storage and transfer them securely.
- Report suspected security incidents or vulnerabilities to the manufacturer without delay ([dentmall@email.cz](mailto:dentmall@email.cz)).

Processing of personal data is described in the Privacy Policy.

## 16. Incident reporting and support

Any serious incident that has occurred in relation to the device must be reported to the manufacturer at [dentmall@email.cz](mailto:dentmall@email.cz) (see also [www.dentvis.com/regulatory](http://www.dentvis.com/regulatory)) and to the competent authority of the EU Member State in which the user is established. In the Czech Republic this is SÚKL (State Institute for Drug Control, [www.sukl.cz](http://www.sukl.cz)), to which users report serious incidents pursuant to Act No. 375/2022 Coll., on medical devices. The manufacturer reports serious incidents according to Article 87 of Regulation (EU) 2017/745.

For questions and problems that are not incidents, contact the manufacturer at the same address. Please state the software version from **About DentVIS**, the platform and a description of the problem; do not send identifying personal data.

**Send feedback.** Signed-in users can also send a rating, a problem description or an idea from the app: account menu → **Send feedback**. Choose **Rating** (1 to 5 stars), **Problem** or **Idea** and write a short text (at least 10 characters for a problem or an idea). The message is saved with your account and sent to the manufacturer together with the software version; with **Attach technical info** (on by default; the preview shows what is attached) also the platform, the device model and the screen you were on — never the name of a case or of the device. If the problem may have affected a manufactured appliance or anyone's safety, choose **Problem** and

**Safety concern (possible incident). Sending a message from the app does not replace reporting a serious incident to the competent authority** as described above (the dialog reminds you:

**Serious incidents must also be reported to the competent authority of your country (Czech Republic: SÚKL). See About DentVIS → Incident Reporting.).**

**Do not include personal data**, such as names or other data of the persons to whom your cases belong (**Do not include personal data, such as names from your cases.; Privacy Policy**).

Without signing in, **E-mail us** opens an e-mail to the manufacturer.

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## 17. Updates, lifetime and decommissioning

New versions of DentVIS are published by the manufacturer with release notes and with the instructions for use of that version. DentVIS checks for a newer version shortly after start and then regularly while it is running; this needs an internet connection. Without a connection, you can continue working and DentVIS checks again later.

From DentVIS 3.0.6, you stay signed in after an update to a newer version on all platforms — after an update within the application (macOS), from the App Store (iPad) and when you install the new version from [www.dentvis.com/download](http://www.dentvis.com/download) (macOS, Windows), including the update from 3.0.5 to 3.0.6; DentVIS checks your account and license online when it starts. If the sign-in is no longer valid, **Session Expired** asks you to sign in again (section 14). Without an internet connection right after an update, **No connection** offers **Try again** or **Continue offline** (cases open as long as the last check of the account is valid, at most 8 hours) until the license is confirmed online. If you go back to an older version, you are signed out.

### 17.1 Updates on macOS

Updates within the application are available from DentVIS 3.0.6; the first update within the application is from 3.0.6 to a later version. DentVIS 3.0.5 and earlier for macOS do not update themselves: when **Update available** is shown, **Download update** opens [www.dentvis.com/download](http://www.dentvis.com/download); download the disk image (DMG), drag DentVIS to the **Applications** folder, replace the older version and open DentVIS from there (section 5). From 3.0.6 on:

- **Download in the background.** With **Download updates automatically** switched on (default), a new version is downloaded in the background while you work. Nothing is installed without your choice.
- **Checks before installation.** Before the update is offered, DentVIS checks the downloaded file against the release information of the manufacturer (SHA-256 checksum and size) and checks the new application: the code signature of the manufacturer (Dentmall s.r.o., team AUVB69KV84), the notarization by Apple, the application identifier and the version. The signature is checked again just before the restart. A file that fails any check is deleted and is never installed (section 14).
- **Ready to install.** On the case list, a bar shows **DentVIS new version is ready to install** · **Restart DentVIS to finish updating.** (with the number of the new version) with **What's new**, **Later** and **Restart and update**. **What's new** shows the release notes of the new version (a **Beta** label marks a beta version). **Later** hides the bar until the next start; you can install the update at any time from **Settings → Updates**.
- **Restart only from the case list.** DentVIS restarts to update only when no case is open (otherwise **Close the case first**) and after cloud synchronization has finished (**Finishing cloud sync...**; DentVIS waits up to 2 minutes, **Cancel** stops the restart). Then **Preparing the update...** and **Restarting...** are shown, DentVIS closes, the application is replaced in the same folder and the new version opens.
- **Administrator permission.** If your macOS user account cannot change the folder in which DentVIS is installed, macOS asks for the name and password of an administrator in its own window with the text **DentVIS needs your permission to install the update**. The password is entered only in the macOS window; DentVIS does not see or store it. If you cancel, the previous version stays installed (**Administrator permission is needed to replace DentVIS in this folder.**).
- **Disk image.** DentVIS opened directly from the disk image (DMG) or from a temporary location cannot update itself: **Move DentVIS to Applications first** — quit DentVIS, move it to the Applications folder and open it again.
- **After the update.** **Updated to DentVIS new version** shows the version, the release notes and the link **Instructions for Use**. Read the instructions for use of the new version, at least its revision history (section 19), before you continue. You stay signed in; your cases, settings and local files are kept.
- **If the update fails.** The previous version stays installed or is restored and opened again; **The update could not be installed** · **DentVIS installed version is still installed. The update will be offered again later.**
- **Settings → Updates.** **Settings** (account menu) → **Updates** shows **Version** (with **Beta** when your account receives beta versions), the state of the update and one button:

Check for updates, Download or Restart and update. The switch

Download updates automatically —

Updates are downloaded in the background. DentVIS asks before restarting. When it is off, the bar shows DentVIS *new version* is available with Download.

- **Required updates.** When the manufacturer requires a newer version (for example to correct a safety-related error), the window **Update required** shows

This version of DentVIS (*installed version*) is no longer supported. Install version *required version* or newer to continue.

with the release notes, **Update now** and **Quit**. **Update now** downloads, checks and installs the update in the same way as above; the progress is shown on the button. If a case is open, the window appears when you return to the case list. An optional update can be offered in the same window with **Update available**, **Update now** and **Later**.

- **Gradual release and beta versions.** A new version can be offered to devices gradually over several days, so devices that share cases can temporarily run different versions (4.2). Versions marked **Beta** are offered only to accounts that the manufacturer has included; this cannot be changed in the application.

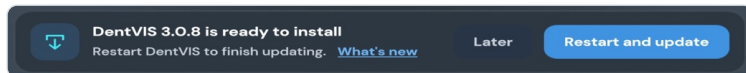


Figure 36. The bar on the case list when an update is ready to install.

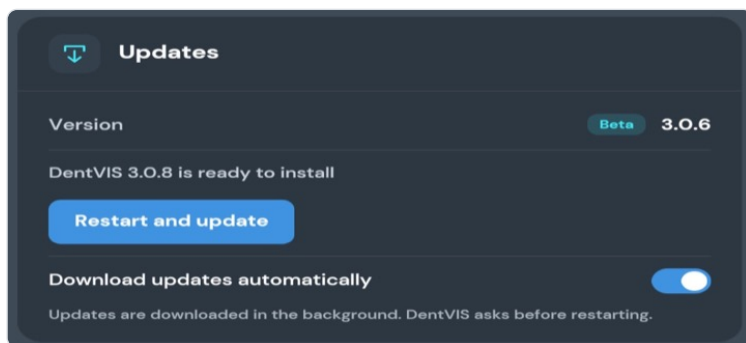


Figure 37. Settings → Updates.

## 17.2 Updates on Windows

In this version, DentVIS for Windows does not update itself. When a new version is available, **Update available** or **Update required** offers **Download update**, which opens [www.dentvis.com/download](http://www.dentvis.com/download); download the installer (MSI) and run it; it replaces the installed version. Updates within the application on Windows will be described in the revision of these instructions that introduces them.

## 17.3 Updates on iPad

DentVIS for iPad is updated only through the App Store (automatically, if automatic updates are switched on in iPadOS, or manually in the App Store). **Update required** on iPad offers **Update in the App Store**. After an update, you stay signed in (section 17).

## 17.4 Supported versions and decommissioning

- A software version is supported until a newer version is required by the manufacturer. Release notes are published with each version.
- To stop using the device: export the cases you need as **.vis**, sign out, uninstall the application (Windows: Apps & features; macOS: move DentVIS to the Bin; iPad: remove the app) and delete local case files and exports according to your data retention rules. Cancelling the subscription is done in the account dashboard.

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## 18. Symbols and label

| Symbol                                                                              | Meaning (ISO 15223-1 / MDR)                           |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|
|  | CE marking — conformity with Regulation (EU) 2017/745 |
|  | Medical device                                        |
|  | Unique Device Identifier                              |



Manufacturer



Consult electronic instructions for use — [www.dentvis.com/ifu](http://www.dentvis.com/ifu)



Caution

The label is shown in **About DentVIS**: device name and description, version and release date, CE marking, manufacturer, intended purpose, classification, Basic UDI-DI, UDI-DI, UDI, SRN, PRRC, measurement disclaimer, link to these instructions and incident reporting contacts.

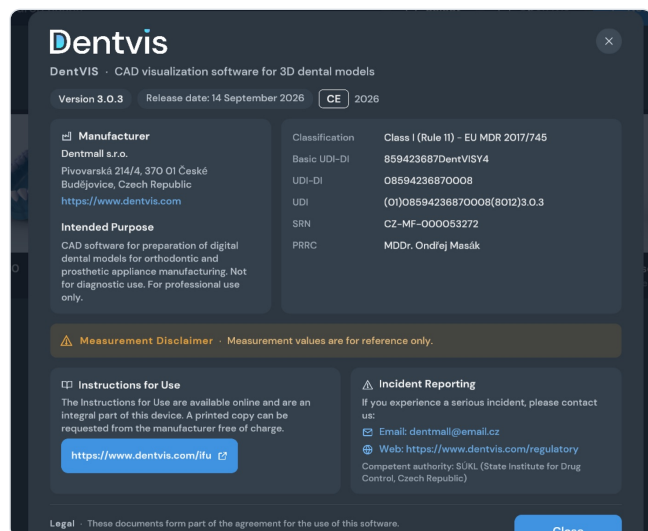


Figure 38. About DentVIS — electronic label.

## 19. Revision history

| Revision | Date            | Applies to          | Changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|-----------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8        | 22 October 2026 | 3.0.7               | Movement timing: the steps in which each movement of a tooth takes place are set by the user (3.2, 4.1–4.3, 11.1, 11.8, 14); arch curve in the <b>Arch</b> tab: distance of the teeth from the curve, handles, <b>Curve only / Teeth follow</b> , <b>Symmetric edit</b> , <b>Rotate teeth with curve</b> , locking of teeth, the command <b>Align</b> , touch control (11.2, 14); movement vectors and the layer <b>Surface against movement</b> (11.3); occlusion map (11.4); the switch <b>IPR</b> in the display switches (11, 11.7); soft colour transition of the gingiva next to the teeth in the 3D view (11); export for printers: search for a printer, platform files, project for Bambu Studio, files for Formlabs (5, 12.4, 14); export for the TT120 trimming machine: trimming program and dry-run program for each step, CTI_ME_FREZA .txt , summary after export, “not verified on the machine”, simulation of the tool assembly, bridging of narrow notches in the trim line (12.2, 12.5, 14); bases 5XTRIM Tabs (default), 5XTRIM Snaps and T120 (older) (12.2, 12.5); supports of upright models under overhanging back walls, plate on the build platform, kept away from the machine trim line (12.2, 12.5); automatic check of the orientation of attachments before export (12.3); opening of cases only for a signed-in account with an active plan, the number of devices with an open case according to the plan, the demo case, the messages <b>Active plan required</b> , <b>Case can't be opened</b> , <b>Connect to the internet</b> , <b>Case open on another device</b> , <b>Device limit reached</b> and <b>Case closed</b> , and the sign-in screen with <b>Sign in to open the case file</b> . (4.2, 4.3, 6.1, 7, 13, 14, 17); residual risks (4.3), precautions (4.2), what the software does not do (3.2); export of each step as one closed, watertight model (12.3). |
| 7        | 15 October 2026 | 3.0.6               | Single version 3.0.6 for iPad, macOS and Windows (1, 2); IPR at step N: the step at which IPR is entered becomes a goal, the IPR stays with this goal, and deleting the goal asks <b>Delete goal and IPR?</b> (4.3, 11.1, 11.7, 14); <b>Send feedback</b> in the account menu (7, 14, 16); staying signed in after an update on all platforms (17); updates within the application on macOS: download in the background, checks before installation, restart from the case list, <b>Settings</b> → <b>Updates</b> , required updates with <b>Update now</b> (17.1); updates on Windows and iPad (17.2, 17.3); related messages (14), precautions and residual risks (4.2, 4.3), installation in the Applications folder (5), IT security (15).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6        | not published   | — (draft for 3.0.6) | Superseded by Rev. 7 before publication; its content is included in Rev. 7 (the goal at step N–1 is replaced by the goal at step N). Draft changes: The model base can be lower (at least 3 mm from the deepest crown edge); hollow model cavity kept at least 1.5 mm from the gingiva and the teeth; preview of the exported hollow model; automatic check and repair of every exported model for 3D printing; view controls in Export; the messages <b>Some models were exported filled</b> and <b>Sign in to edit</b> in section 14 (editing without a signed-in account, 6.1); closing a case (13); <b>View only</b> for a signed-in user, unconfirmed e-mail, trial and license messages and the trial link on computers (6.1, 6.3, 13, 14); Getting started card and tour when the account does not include export (6.4); <b>Device limit</b> hidden for Solo and Team (7); note under <b>Project</b> · .vis (12.1); drag and drop of .vis files on Mac only (6.1); residual risks of the printed geometry (4.3); corrected wording on initial tooth outlines (sections 4 and 10), on the user-interface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

language (section 1) and in sections 3.2 and 3.4; IPR (stripping): IPR entries entered by the user (0.1–0.5 mm; the gap at the contact after IPR equals the amount; a question before IPR at an overlap above 0.10 mm and at an existing gap) with the IPR panel and chart, selecting a contact by tapping two teeth, a goal at step N–1, Undo / Redo, the timeline marks and the step menu; models from the entered step shown and exported narrowed; checking of entries after the timeline changes; the **IPR overview** page in the case report (11.7, 12.3); the messages **IPR needs checking**, **Step changed — check IPR**, **This IPR entry can't be used**, **Remove all IPR?**, **Overlap at ... before step N**, **Gap at ... before step N**, **Not saved — the IPR stays before step N.**, **Overlap not confirmed**, **The models at this contact show a smaller gap than entered.** and **These IPR entries were saved by a newer DentVIS version — view only.** in section 14; IPR entries and goals in older versions (4.2); IPR residual risks (4.3) and section 3.2; goals (11.1); Shift+Cmd+Z / Ctrl+Shift+Z for Redo (11).

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| 5 | October 2026      | 3.0.5 | Renaming a case from the case screen and export, moving between tooth outlines, slider shown while dragging. |
| 4 | October 2026      | 3.0.4 | Added printer build plates, a redesign of the application and faster segmentation.                           |
| 3 | 19 September 2026 | 3.0.2 | Validity for 3.0.2, date.                                                                                    |
| 2 | [see archive]     | 3.0.1 | —                                                                                                            |