ResMed

Narval CC™
Mandibular advancement device

3shape

Dentsply Sirona

Carestream DENTAL

User guide
Instructions on Narval CC online ordering
from digital impressions

Narval mandibular repositioning device can be ordered and manufactured on a fully digital process. Today, the appliance can be ordered with digital impressions obtained from three intraoral scanners.

The aim of this document is to provide step-by-step instructions to dental practitioners who want to use the 3Shape* TRIOS®, or Dentsply Sirona* CEREC Omnicam, or a Carestream Dental* CS 3600 intraoral scanner to order a Narval appliance.

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> **The order should be placed through Narval Easy, the ResMed online ordering platform.**
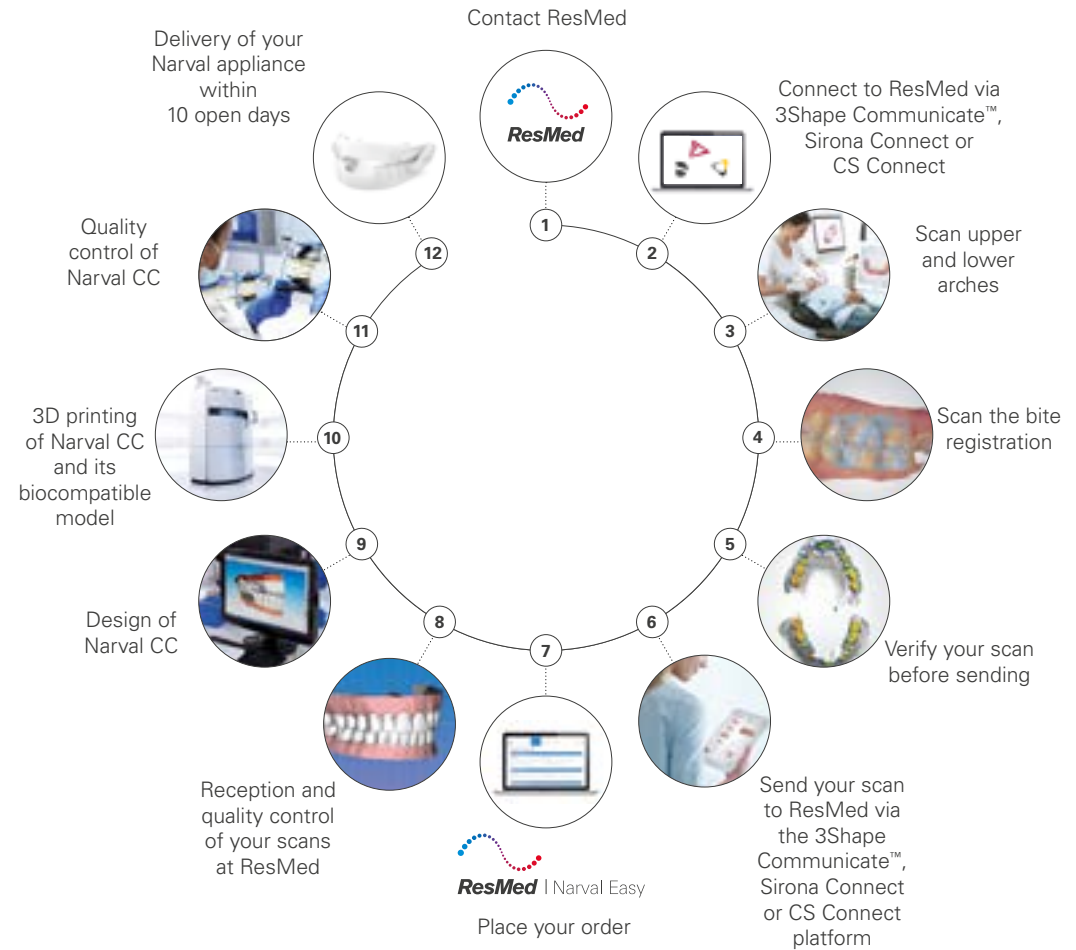> **To order Narval CC via a full digital process you will have to:**
> **1. Send your scan to ResMed via your intraoral scanner platform**
> **2. Place your complete order on our Narval Easy online ordering platform**

All other information intended to dental practitioners about the Narval appliance is in the "Narval Dental Practitioner Guide".

⚠ IMPORTANT

- The Narval appliance is designed according to patients' dental impressions and the technical information provided in the order forms. Thus, it is essential to provide good quality impressions and accurately fill in the order form.

- If the provided data is not suitable to successfully design the appliance, ResMed will contact you for additional information (new impressions and/or additional details).
- To process your order, ResMed must receive both your scans and your online order.

How to order Narval CC through a fully digital process?

Contact ResMed

1 — Connect to ResMed via 3Shape Communicate™, Sirona Connect or CS Connect

2 — Scan upper and lower arches

3 — Scan the bite registration

4 — Verify your scan before sending

5 — Send your scan to ResMed via the 3Shape Communicate™, Sirona Connect or CS Connect platform

6 — Place your order

ResMed | Narval Easy

7 — Reception and quality control of your scans at ResMed

8 — Design of Narval CC

9 — 3D printing of Narval CC and its biocompatible model

10 — Quality control of Narval CC

11 — Delivery of your Narval appliance within 10 open days

Content

Prerequisites

1. Contact ResMed

Before you start your first Narval order with digital impressions, please contact ResMed through your Narval sales representative or our customer services at **narvalcc@resmed.com**.
We will make sure you are provided with all relevant information and have access to our ordering system.
If you send us scans without contacting us in advance, we will not be able to process your order.

2. Check your equipment

Please make sure you are equipped with:

3shape▷	Dentsply Sirona	Carestream DENTAL
• A TRIOS® (any version) intraoral scanner, with the latest version of the software	• A CEREC Omnicam intraoral scanner, with the CEREC Ortho software version 1.1 or above	• A CS 3600 intraoral scanner with the latest version of the software CS IO 3D Acquisition or CS ScanFlow V.1
• A 3Shape Communicate account	• A Sirona Connect account	• A valid CS Connect account (available from CS Connect website: login and password are the ones from the SSO account)

- A computer with a modern internet browser. Recommended browsers are Mozilla Firefox or Google Chrome. Please note that you cannot use Microsoft Internet Explorer as the browser must support HTML5.
- An internet connection and an email address.
- A document scanner or digital camera (only if you want to upload additional pictures or documents into the ResMed online ordering system).

Digital impressions

> **IMPORTANT**
>
> Do not use any of the intraoral scanner software functions to send notes or comments to ResMed about your scans or about your order. ResMed will only retrieve the digital imprints and the patient identification from the scan communication platform (3Shape Communicate, Sirona Connect or CS Connect). Please use the ResMed Narval Easy platform for order notes (see chapter "Online ordering system").

Connecting to ResMed

Via 3Shape Communicate

Log in to your 3Shape Communicate account to add ResMed as a new a laboratory. ResMed's registered email address for 3Shape Communicate is **scans.narval@resmed.fr**.
Once ResMed approves the request for connection, it becomes active and you can send scans.
Note: do not send emails to this address, they will not be processed.

Via Sirona Connect

From your CEREC Ortho software, log in to your Sirona Connect account. Click on "Add laboratory". Search for the ResMed laboratory account in your country under the name "ResMed". You can either add this laboratory account to your list of favorites, or repeat the above search steps every time you want to send us a case.

Via CS Connect

Log in to your CS Connect account. Click on "Partners" and then "Invite a partner".
Enter the email address: **scans.narval@resmed.fr**. Customize the message as needed, then send the invitation.
Once ResMed approves the request for connection, it becomes active and you can send scans.
Note: Do not send emails to this address, they will not be processed.

Scanner configuration

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TRIOS® scanner

Make sure that your scanner is configured as follows: post-processing: "Normal" or "Detailed" (but not "Fast"). You should also choose a contrasting "hole close color" that emphasises the areas that have not been scanned (holes in the data).
The "Bite alignment mode" can be configured "live" or "automatic", or even "manual". If needed, alignment can always be manually corrected.
For details, please refer to your scanner manufacturer user documentation.

Dentsply Sirona

CEREC Omnicam scanner

There are no specific configuration requirements to scan for Narval (the bite alignment is always automatic).

Carestream

CS 3600 scanner

In the preference options, make sure your scanner is configured as follows:
Disable the "Enable Manual Bite Capture" option.
Enable "scan warning", "Data recovery", Bite adjustement" as well as "Hole Filling", "HD 3D" and "Adaptive hole filling color".
You should also choose a contrasting hole filling color that emphasizes the areas that have not been scanned yet. For further details, please refer to your scanner instructions.

Patient/order creation

Proceed as usual, according to the information provided by the scanner manufacturer. Select ResMed as the recipient of your order. Always enter the patient family and first name in the exact same way as you will type them on the corresponding order form in Narval Easy.

Scanning

1. Getting started

Make sure that your intraoral scanner is calibrated, that the mirror in the tip is clean, and that the tip is preheated to avoid condensation. Otherwise, the digital impression quality may degrade and the Narval appliance designed from it may not have an optimal fit.

2. General scanning instructions

Proceed according to the intraoral scanner manufacturer's recommendations to scan both full arches and the bite. Unless otherwise advised, you should:

- dry excess saliva as its reflecting effect may degrade the scan quality;
- avoid direct light into the scanning area;
- avoid scanning soft tissues (tongue, lips) or foreign bodies (finger, etc.);
- it is not necessary to scan the palate.

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- Start scanning each arch on the occlusal surface of a molar, as it is larger and has more distinctive features;
- When doing the pass on the incisors, scan the lingual/palatal and buccal side alternately a few times as you scan from canine to canine.

Dentsply Sirona

Let the software guide you through the protocol for scanning both arches.
Make sure that:
- the scan boundary extends far enough from the gingival margin (see next section);
- the holes and areas insufficiently recorded during the first swipe (highlighted in yellow) are later completely scanned.

Carestream

Choose "Orthodontics" mode in the CS IO 3D Acquisition software or "Scan" mode if you use CS ScanFlow software. Let the software guide you through the protocol for scanning both arches.

For more details, refer to the information provided by the manufacturer/reseller of your equipment.

3. Specific scanning instructions for Narval

For each arch, you should scan **1 cm beyond the gingival margins**, including distal to the last molars (or a minimum of 5 mm of soft tissue distal to the last molar – as these areas can be difficult to scan).

All teeth must be scanned (including wisdom teeth, if present).

It is necessary to scan at least:

For the upper arch:
• 50% of the last present molars;
• If all molars are missing, 100% of the second premolars AND 15mm of soft tissue extension after distal.

For the lower arch:
• 100% of the second molars AND 5mm of soft tissue extension distal to them;
• If second molars are missing, 100% of first molars AND 15mm of soft tissue extension after distal.

Make sure the gingival margin, undercuts, incisal edges and occlusal surfaces are correctly scanned and well defined (see arrows pointing these key area on the pictures below).

The last molar can, in certain circumstances, be a critical retention point in cases with low retention. It is always useful to scan up to its distal face on every case where the patient's anatomy and the scanning hardware allow.

If the last molar is impossible to access/scan then:
• you cannot request an appliance with full teeth coverage of the molar;
• in case of technical necessity (to improve retention for instance), ResMed may ask you to provide more complete impressions, possibly traditional ones.

Dentsply Sirona Once an arch is scanned, the software automatically suggests a scan boundary. Before you validate this boundary, please check it preserves the information defined above. If not, please redefine the boundary farther from the gingival margin.

Example of correct scans:
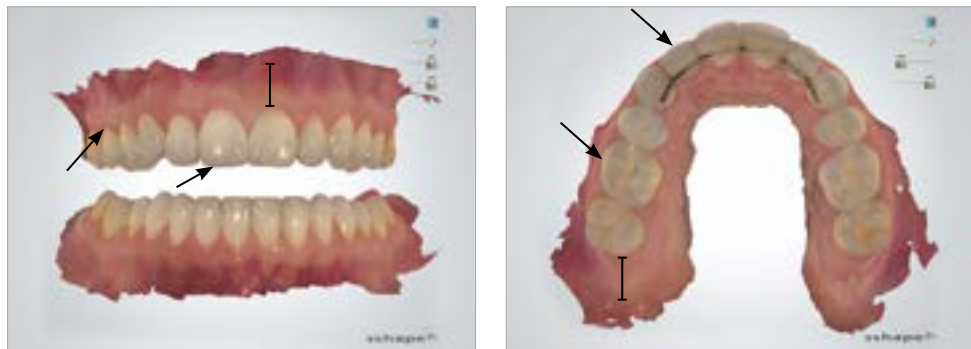
4. Scan of the bite registration

In order to register the occlusion of your patient with the intraoral scanner, you can choose to scan the bite in 2 possible positions:
• Option 1: in centric/natural occlusion, providing us with additional measurements (to adjust the protrusion);
• Option 2: in desired protrusion.

3shape For full arch applications, 3Shape recommends registering bites with two scans, one on each side. The software allows to do it with only one scan; if you choose to do so, please make sure that the result is correct and that there is no misalignment.

Dentsply Sirona The two scans are mandatory as the software will not allow you to move forward until the second scan is recorded.

Carestream Scan the bite registration following Carestream Dental instructions. You must acquire at least four bite images - one on each side at the premolars-molars, and one on each side at the canines.

• **Option 1: Scan in centric occlusion and measurements**

Please scan both sides, around the molars and premolars. Two bite registration scans are required (one on each side).
Each scan should include 4 to 6 teeth: **2 to 3 teeth of the upper arch and 2 to 3 of the lower arch.**
In addition to the scan of the centric occlusion, you will have to provide ResMed measurements of the **maximal protrusion** and the **latero deviation in protrusion.**
These measurements will be entered into ResMed online Narval Easy platform (see chapter "On-line ordering system").
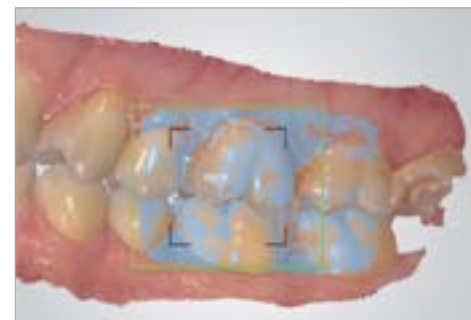
• **Option 2: Scan in desired protrusion**

The operation is similar to what is described in option 1. Two bite registrations are required, one on each side, around the molars and premolars.
Whatever the method and the material you use to record the bite registration in protrusion, **it is essential that the patient's jaw remains stable when scanning.** The material used for the bite registration will not prevent the scanner from recording correctly the occlusion, as long as it does not cover so much of the teeth that the scanner cannot see enough of them. The scanner software will automatically take away the material from the final 3D scan.

Scan of the bite registration   Automatic removal of bite material

Whatever the method you use it is important to verify the scan quality to make sure the jaw has not moved during / between scans, for instance when the tip of the scanner is introduced in the mouth.

Scan verification

For your first three patients, you can benefit from a live diagnosis of your scans, ensuring that you have completed the process successfully, while the patient is still in the chair. To benefit from this service, please contact ResMed to schedule an appointment in advance.

If you do not use ResMed live scan diagnostic service, would you please carefully verify the scans before sending them to ResMed and make sure there is no missing data or defects/artifacts.
While checking your scans, please pay particular attention to the following:

- Make sure the scan area extends 1 cm beyond the gingival margin in all directions (minimum is 5 mm).
- Check the definition and absence of holes in:
  - gingival margin,
  - occlusal surfaces,
  - intra dental spaces.
- Check to ensure there is no surface deformation that may be caused, by an excess of saliva or by presence of highly reflecting materials.
- Also make sure no soft tissue (lip, cheek) or foreign body (bite material) has been scanned.
- Verify the relative positions of the jaws whether they have been scanned in centric occlusion or in desired protrusion.
- Check the relevancy of the occlusion.

You can use the scanner software tool to visualise the clearance between occlusal faces. This will allow to identify if the bite that you have registered is correct.

Some defects, especially alignment, are more visible when the jaws are displayed in an open position. If needed please correct the scan or scan the patient again.

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Please apply the post-processing and check the result before sending (menu "Tools" in the "Analyze" tab). Otherwise, the post-processing will be automatically applied during the sending process but you will not be able to verify the result. This means we may get an impression that is not suitable.

Dentsply Sirona

Once you have verified the scans, adjust the orientation and location. You can then skip the later steps of analysis and design. **Especially, do not add a model base.**

Carestream

Once you have verified the scans, click on "Done". The preparation check window is displayed.
Check the occlusal space, undercut and marginal line on the 3D scan. If one of them is not acceptable, click "Cancel to go back to scanning". If everything is acceptable, click on "Check all".

Example of a good scan to order a Narval:

Narval:

Examples of unacceptable scans to order a Narval:

- **Surface flaws**

Surface flaw on the incisor: scan again.

- **Missing data in areas of interest**

Incomplete scan due to the presence of a partial denture: the inferior edge of the partial denture has not been captured.

Data missing in the area of interest.

- **Incomplete scans**

Missing information on sector 4 : the gengiva scan is too short, making it impossible for ResMed to position the triangle during the CAD phase.

Insufficient scan in the posterior section.

- **Incorrect scans linked to occlusion**

No contact in sector 2 and 3, occlusion should be scanned again.

At first glance the scan looks good but a careful inspection shows the intersection as emphasised in the "pseudo color" image on the right.

Scan sending

Send your case and choose ResMed as recipient or registered lab.

Please take note of the order ID which is automatically generated by the software:
- For 3Shape, the format of the ID is 12345_123456789012;
- For Dentsply Sirona, the format of the automatically generated ID is 1234567;
- For Carestream Dental, the ID with format ABC-1234 is indicated below the patient name.

This number will be required in the ResMed online ordering system.

⚠️ **The order ID must be noted on the online order form so we can match the scan and the online order.**

Online ordering system

Access the Narval Easy platform

In addition to sending your scans to ResMed via your IOS platform, you need to place your order into the ResMed online ordering system.
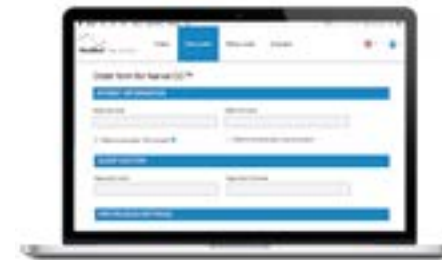
For your first connection, you will need to obtain a login from ResMed. It will be sent to you by email (sent from **narval_noreply@resmed.eu**), together with a link to follow to define your password.

Once you get your login, you can launch your web browser and access the platform:
https://Narval-easy.resmed.eu

ResMed recommends that you use Google Chrome or Mozilla Firefox browsers to access Narval Easy.

Double authentication process

In order to comply with European data privacy regulations patients data uploaded into Narval Easy will be securely stored and protected. As such, you must use a double authentication process to access the platform.

You will be asked to use your email address and password every time you want to log in (see picture 1). You will immediately receive a confirmation code via email (narval_noreply@resmed.eu) to be copied and pasted on the second authentication screen (see picture 2). This email may arrive in your spam folder.

Picture 1: 1st login and password

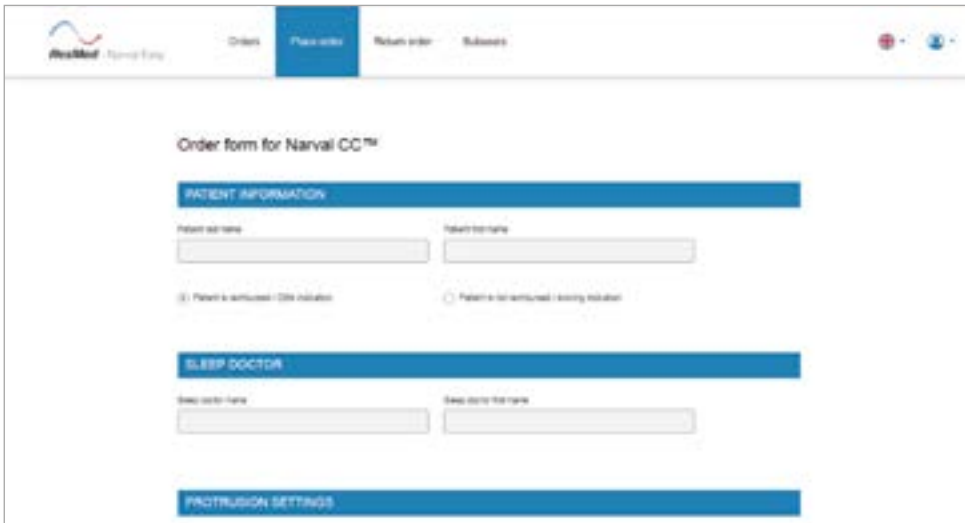Picture 2: 2nd authentication: confirmation code

Complete your online order

Once logged in, you can access your existing orders and place new ones. To do so, click "Place Order".

- Fill in the order form with the required information;
- Make sure the patient family and first name match the ones you've defined for the scan;
- Make sure to select "Digital impressions" in the "Impressions" section;
- Select the brand of scanner you are using;
- **Indicate the Order ID of your case (see section "Scan sending" above).
  This information is essential for us to match your order form with the scan you have sent in
  3Shape Communicate, Sirona Connect or CS Connect;**
- Upload any document you need in the "Files" section.
  Do not attach the scans, as they are sent through 3Shape Communicate, Sirona Connect or
  CS Connect already;

Carestream Please place your order on Narval Easy without delay as the Narval team will not be able to retrieve your scans in CS Connect after 14 days.

- Preview and submit the form when it is completed.

Support

Narval CC™
Mandibular advancement device
For any questions related to Narval or to the Narval Easy ordering platform, please contact ResMed customer support at: **narvalcc@resmed.com**

3shape
For support with your 3Shape TRIOS scanner or the 3Shape Communicate system, please contact your 3shape reseller/contact.

Dentsply Sirona
For support with your Dentsply Sirona Omnicam scanner and its software, or the Connect system, please contact your Dentsply Sirona reseller/contact.

Carestream
For support with your Carestream Dental scanner and its software, or the CS Connect system, please contact your Carestream Dental reseller/contact.

Note: please do not send emails to **scans.narval@resmed.fr** or **narval_noreply@resmed.eu** as they will not be read.

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