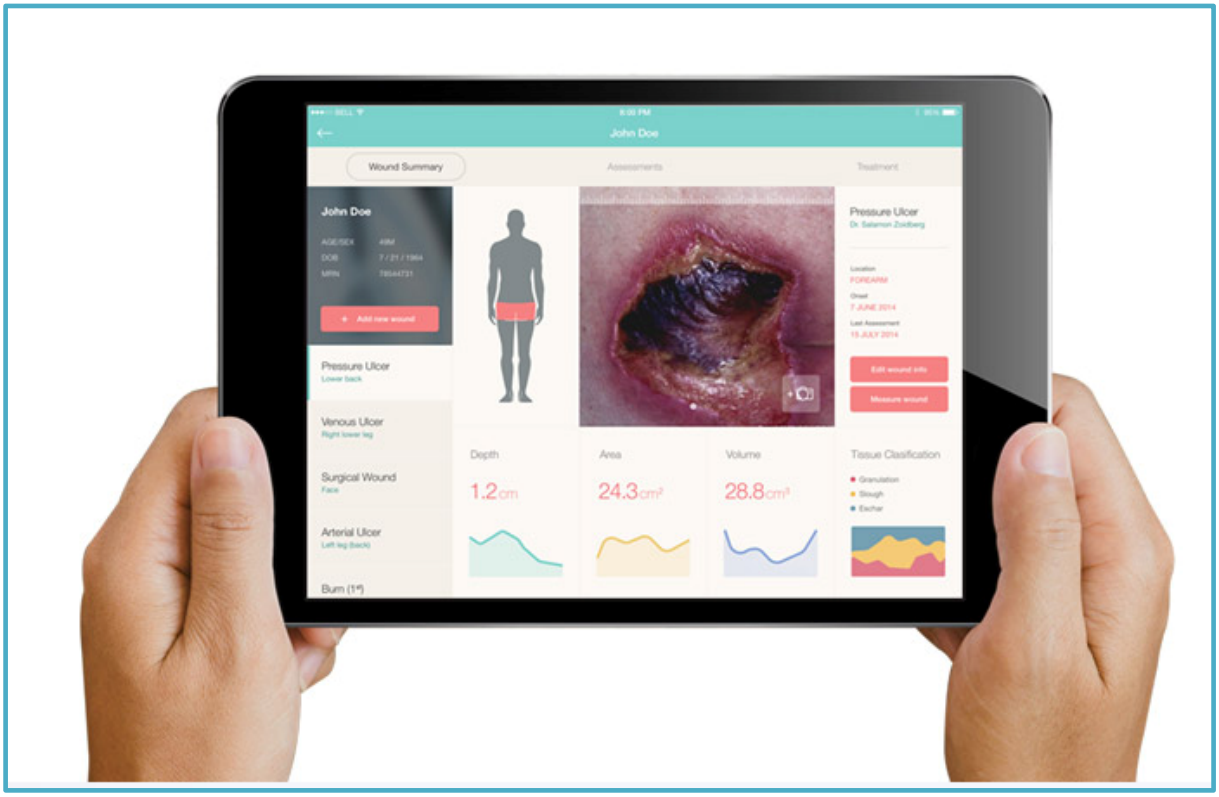
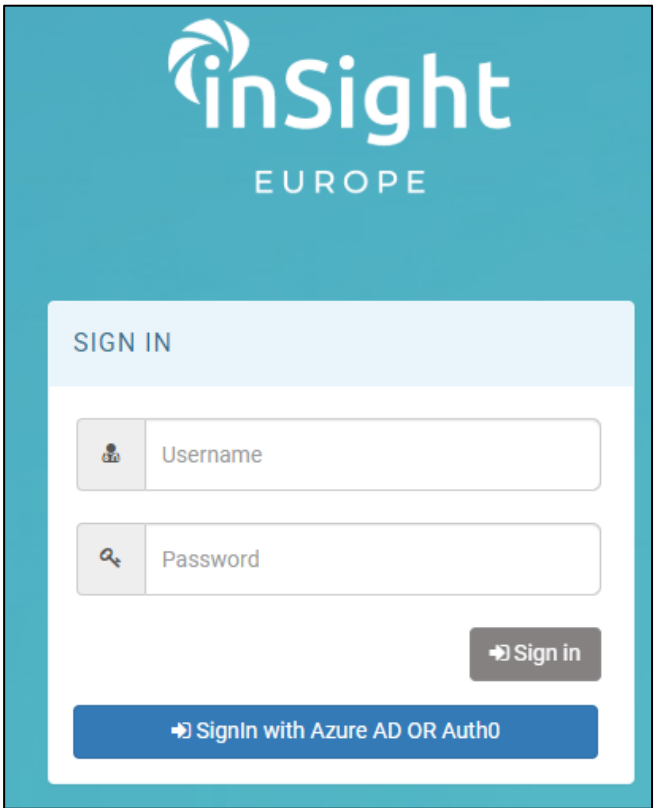
3D camera user guide



Contents

1| Starting eKare inSight

1. Open the eKare inSight app.

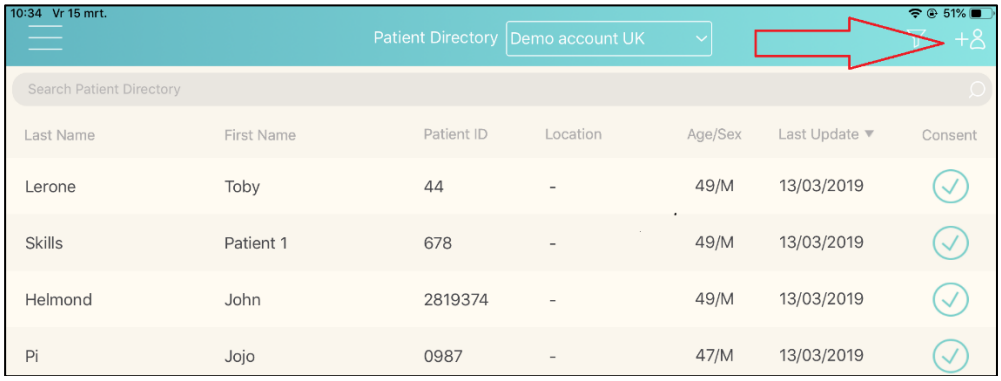


2. Log in using your username and password.
3. Press “Sign in”

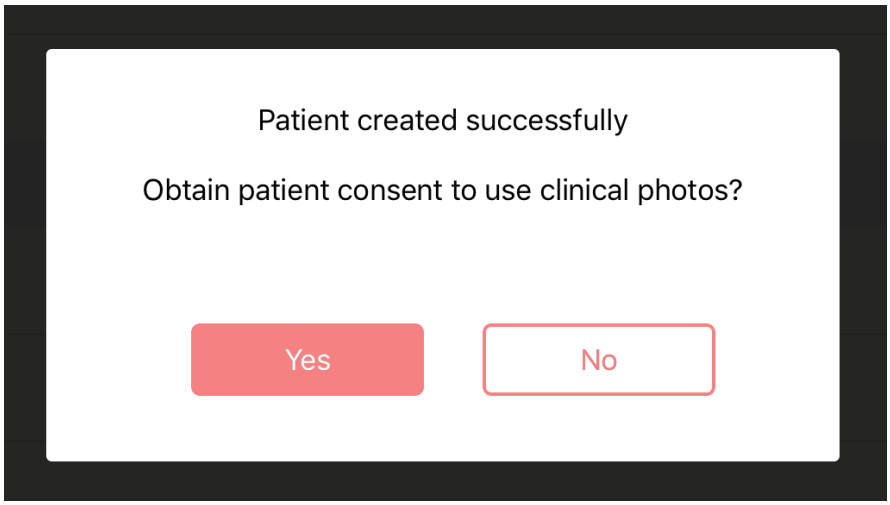
A screen will prompt allowing you to choose one of your different sites. If you only have one site, this screen will not appear.

2| Creating a new patient

Once you're logged in you're in the patient directory. This gives you an overview of all your patients. You can create a new patient by pressing the icon in the right upper corner.



1. Fill out all the patient's information. Field marked with an * are mandatory.
2. Press "Save" once all the information is correct and complete.
3. You'll now be given the opportunity to obtain the patients consent. Choose "Yes" to proceed. If you choose "No", you'll skip this part of the process and you can't do anything with the patients record. You need to obtain consent to change data and add information to this record.

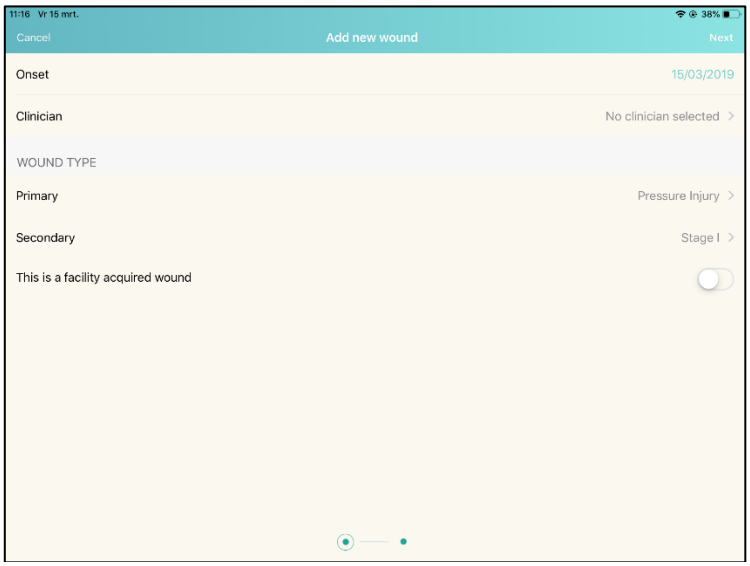


4. When you choose “Yes”, you can select for what purposes the patient gives consent. You can obtain consent for:
    - Assessment, treatment, and referral
    - Research and education
    - Medicine/ science related publication

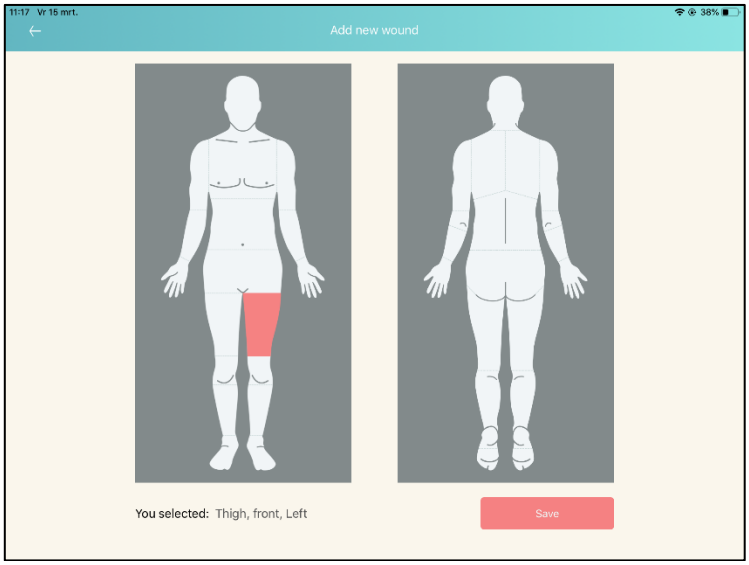
5. Press “Obtain consent” to let the patient, family member, legal representative or clinician sign this electronic document.
6. Once it has been signed, press the TICK to conclude this process.

3| Creating a new wound

1. Press “Add new wound”
2. Use “Onset” the indicate the onset date. If you leave this field unchanged, it will state today’s date.

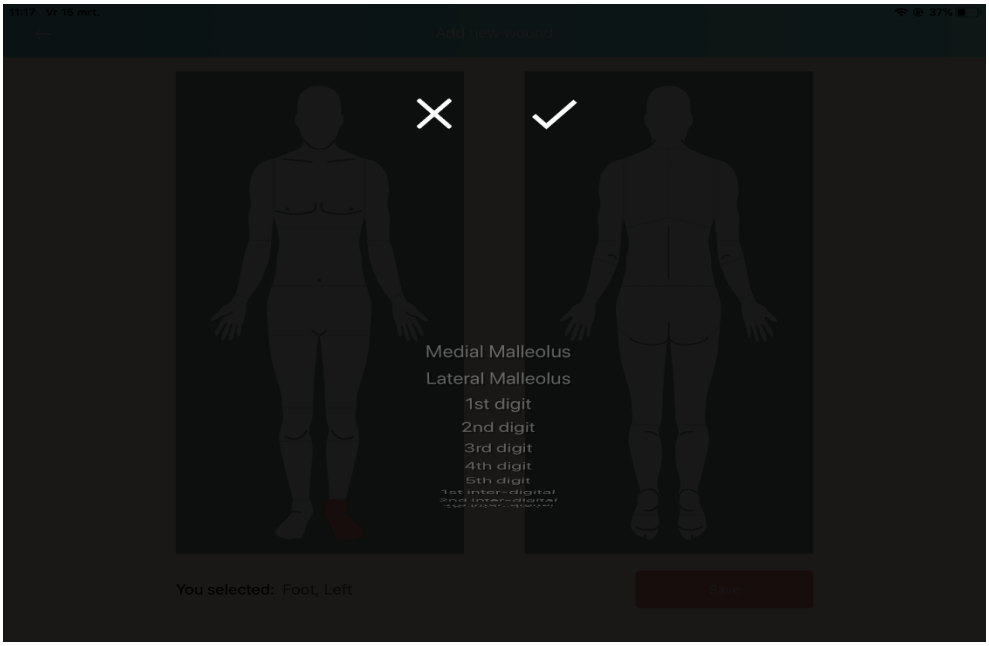


3. By selecting clinician, you can specify which clinician adds this wound.

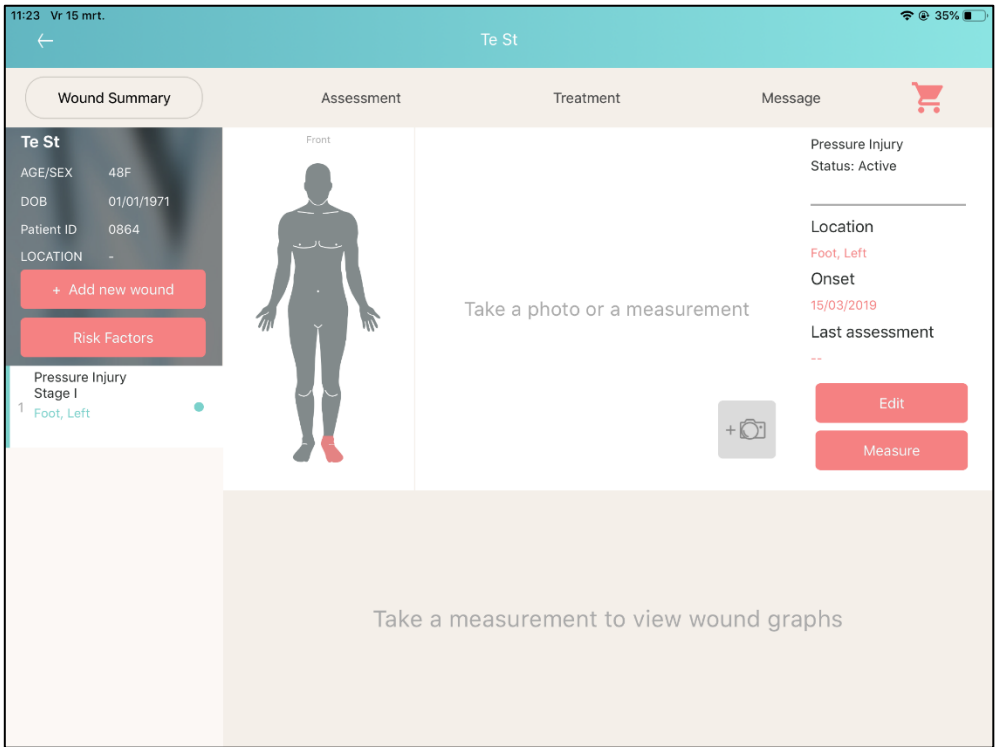


4. Select the type of wound by pressing “Primary”.
5. Some wounds have a secondary type. If this applies, select this by pressing “Secondary”.
6. If it’s a facility acquired wound, slide the switch to the right.
7. Press “Next” in the top right corner when the information is correct.

8. Now select the body part were the wound is located. Some body parts, feet for example, will prompt a new window to specify the location.

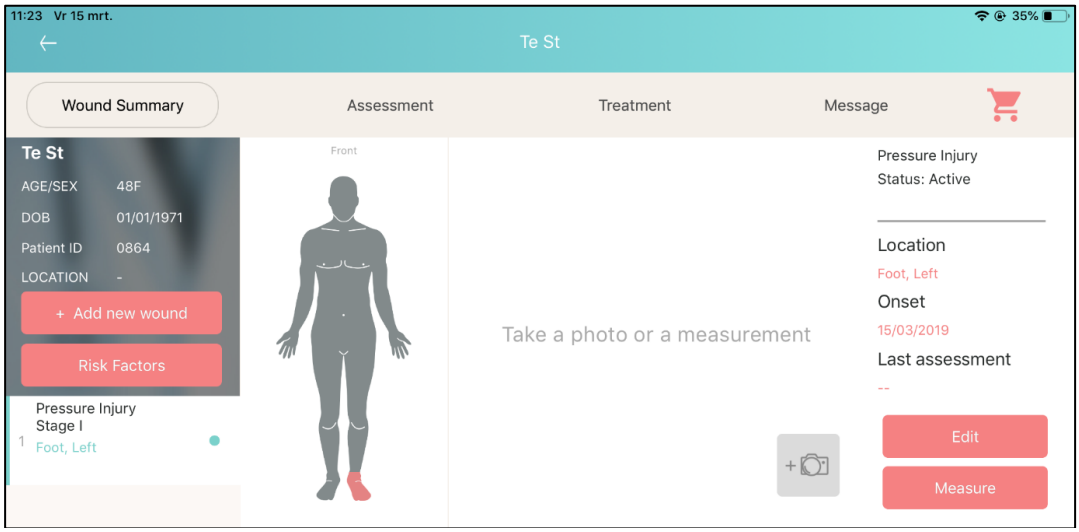


9. Press “Save” to add this wound.
10. You’ll automatically go to the “Wound summary” tab. Beneath the patient’s information you’ll see the newly added wound.

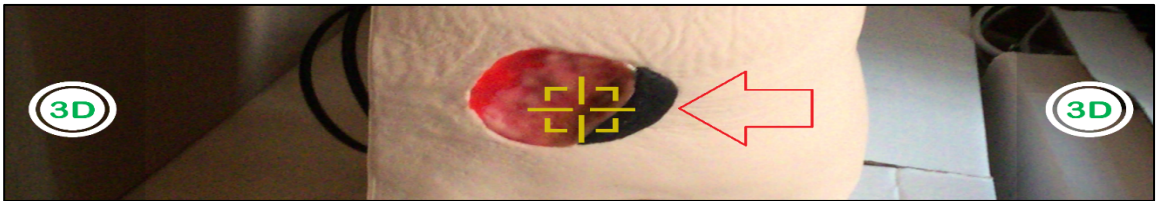


4| Measuring a wound

To measure a wound, press “Measure” in the right bottom of the screen.

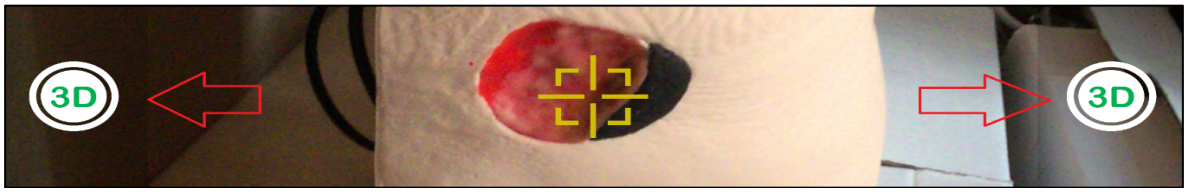


1. Aim the camera on the wound so that the cross hatch is as close to the center of the wound, as possible.



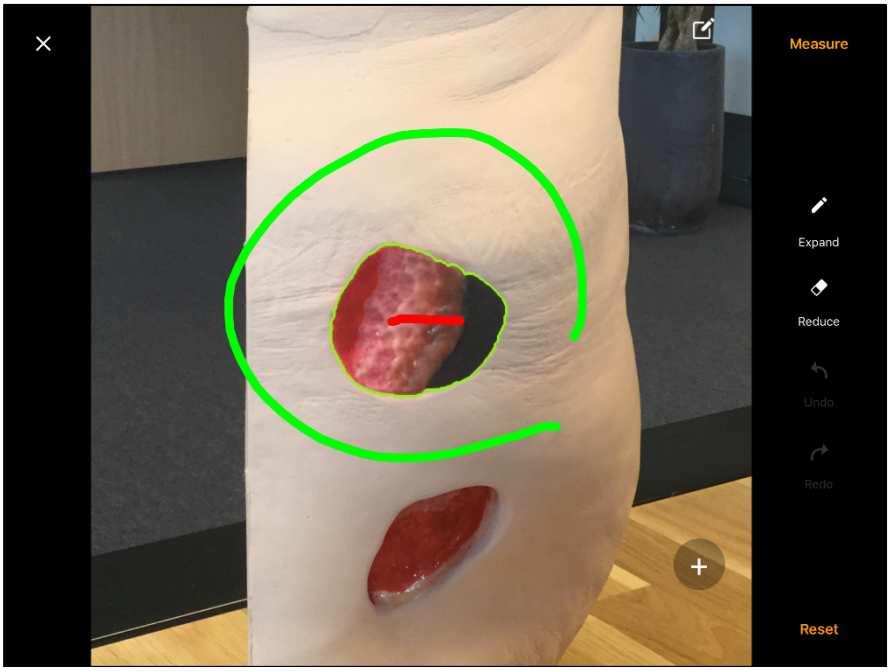
2. This icon indicates that your camera's battery is nearly empty. Always make sure the camera is fully charged.

3. If you hold the camera too close to the wound, there won't be enough depth information for an accurate measurement. Follow the on-screen instructions to move the camera closer or further from the wound until the button on both sides on the screen indicates "3D" in green. Press this button to take the photo.

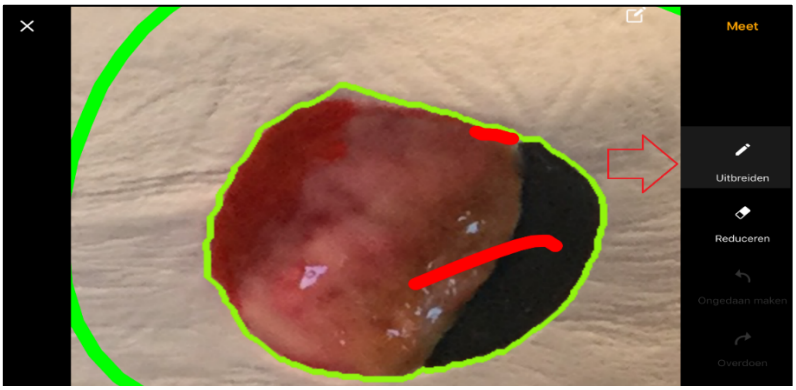


4. Now you can mark the wound by drawing a circle around it. This circle is green, indicating healthy tissue. This circle doesn't have to be fully closed.

5. Now that the wound area is marked, you can indicate the actual wound. You can now draw a red line in the wound area, indicating the unhealthy tissue. Just a small line will suffice. inSight will now automatically recognize the wound borders and show these within a thin green line.

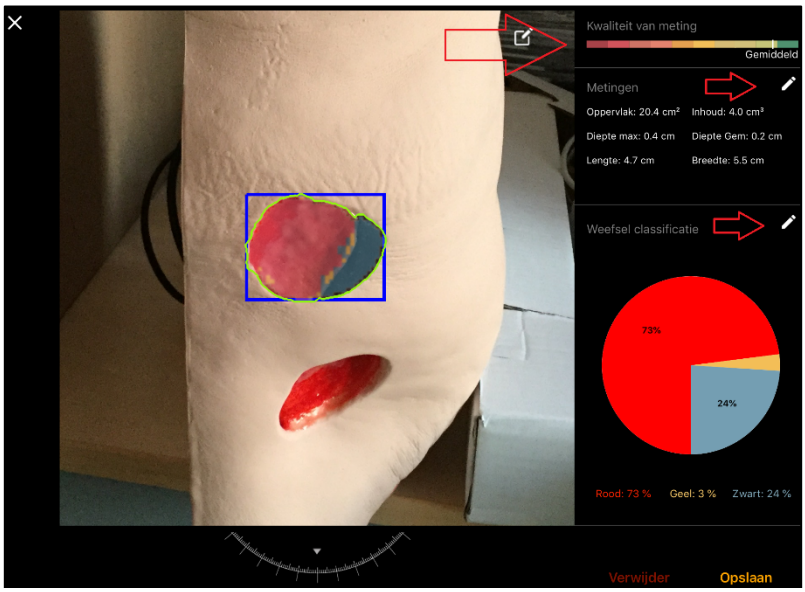


6. If you think the wound borders are not correct, you can manually adjust these. Press “Expand” on the right side of the screen to redraw (parts of) the border. Expand will let you draw with the red line indicating unhealthy tissue.



7. You could also redraw the borders with the green line by pressing “Reduce”.

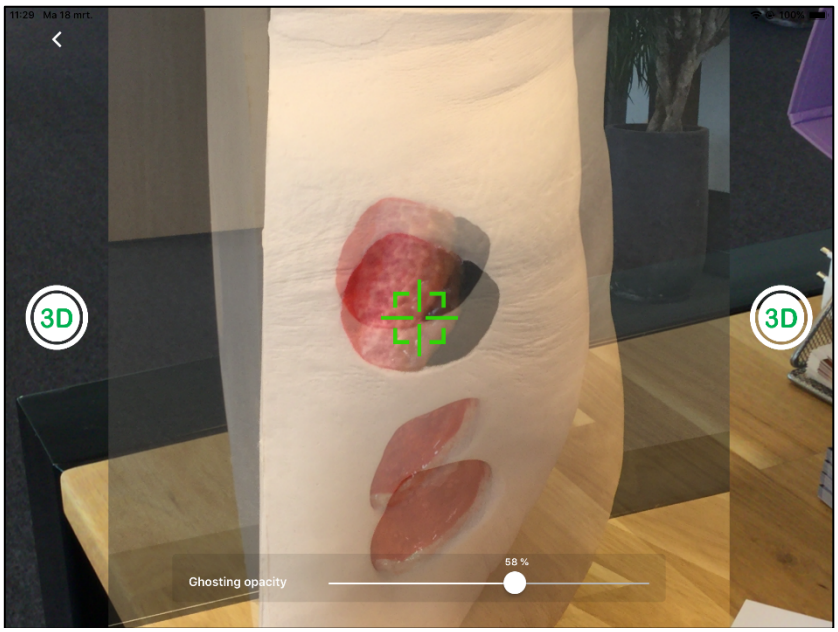
8. When the border is correct, select “Measure” in the top right corner.



9. In the upper right corner of the screen there's a coloured bar indicating the quality of the measurement. Red on the left indicates poor quality, while green on the right indicates high quality.
10. If you don't agree with the measurements, you can manually adjust these by pressing the "Pencil" icon next to "Measurements". You will have to type a reason for manually adjusting the measurements. This also applies to the outcome of the tissue classification.
11. Once you're satisfied, press "Save" in the bottom left corner.

4.1| Measuring an already existing wound

1. When inSight has been used previously to obtain a photo/ measurement of your current wound, you'll be able to "ghost" a previous image. By ghosting the image, the previous photo will be transparently visible in your screen. This enables you to take photos of the wound consistently. You can adjust the opacity by sliding the scale in the bottom of the screen.



2. The next steps to take a measurement/ photo will be the same as described earlier.

5| What if I have made a mistake?

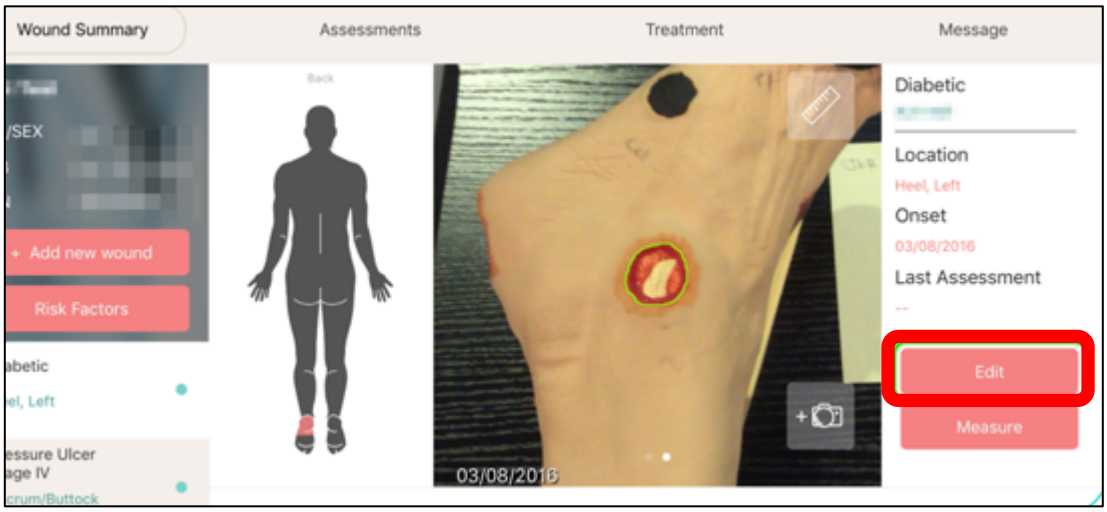
Many things within this system can be changed after they have been saved. Some of these changes may require administrator involvement. Some examples are below.

5.1| Editing information about a wound

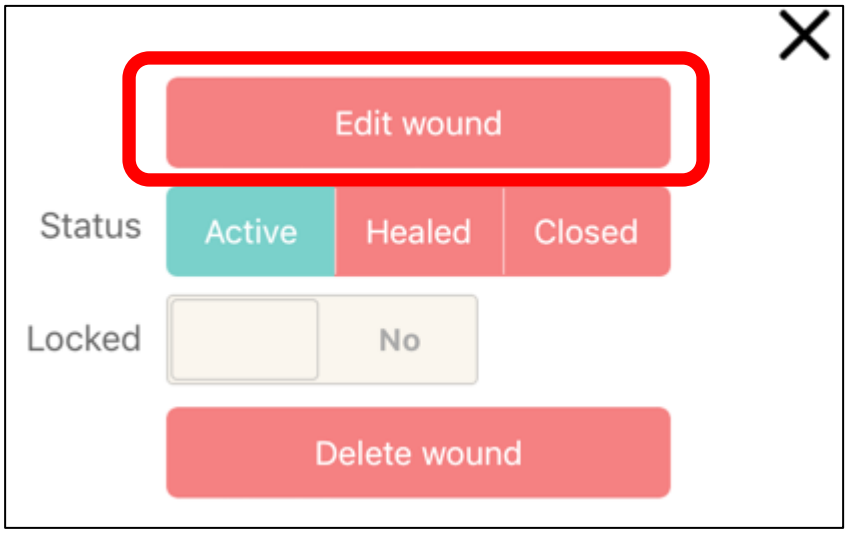
If you mistakenly input incorrect information about a wound you have created, or notice that someone else has done this, then it is easy to correct it. For example, if you had marked the posterior of the left knee when in fact the wound is on the posterior of the right knee, but only noticed after you had created the wound and saved this information.

When within the relevant patient's home page, select the correct wound from the list of wound(s) down the left of the screen.

Simply select the 'edit' button highlighted below;



The following menu will appear;



The ‘Active’, ‘Healed’ & ‘Closed’ tabs allow the user to mark the wound status.

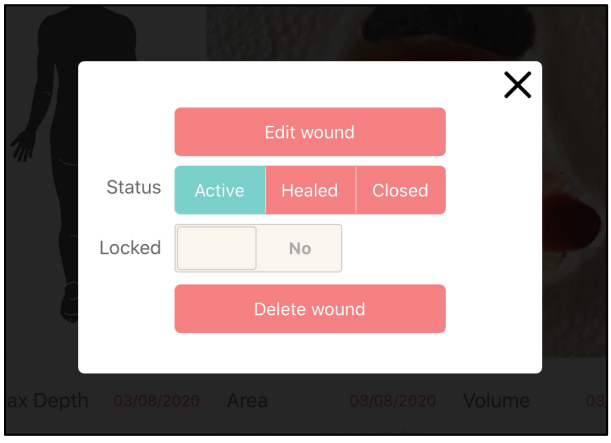
The ‘Locked’ status option allows the user to lock a wound. This allows users with Site Admin privilege to manually lock a wound to prevent further edits to the wound record.

To edit a wound’s basic info, tap the edit wound button. This will allow you to change a wound’s type, onset date, clinician, location, etc.

5.2| Editing patient information, or moving images between wounds within a patient

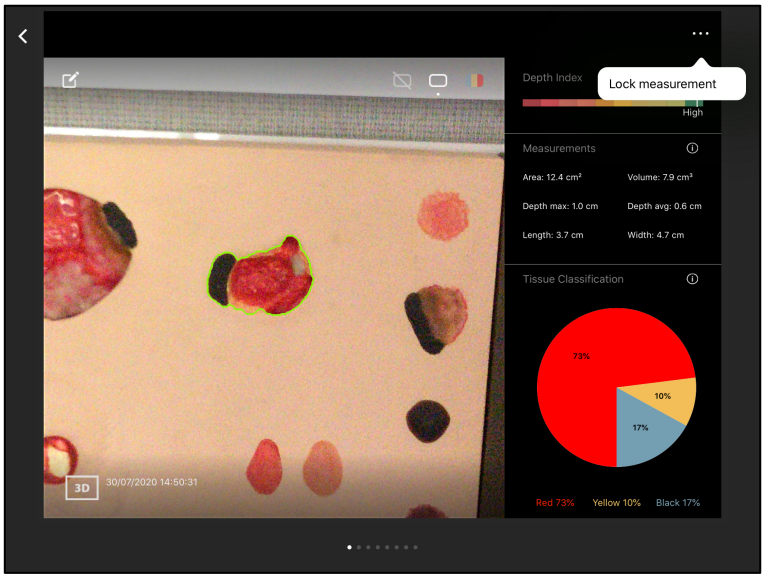
There are some functions which are only available to those with Site Administrator permissions within inSight.

- If you notice that some of the patient information has been entered incorrectly, and that patient has already been created within the system, then please contact your administrator for assistance
- If a patient has multiple wounds and you have taken a measurement image but notice afterwards that you have done this within the wrong wound, then you can contact your inSight administrator for assistance. They will be able to assist and move this image to the correct wound within that patient’s record
- As a precaution, data and images can be locked by Site Administrators to prevent accidental changes to data:
    - Subjects - subjects can be frozen/locked so that no data or images can be edited or deleted. Navigate to the patient in the Patient Directory, select the ‘Action’ tab in the portal, or hold your finger down on the patient on the iPad screen and select Freeze/Unfreeze.
    - Wounds – wound IDs can be locked so that no new images can be collected for that wound ID and no existing images/measurements can be edited or deleted. Navigate to the Patient Dashboard for the patient and select ‘Edit’. When the window below pops up, change ‘Locked’ from ‘No’/‘Yes’.



    - Images –single wound images and corresponding measurements can be locked to prevent images from being retraced. Navigate to the image you

want to lock via Gallery View, select the '3-dots' menu in the upper right corner of the screen and then select 'Lock/Unlock Measurement'.

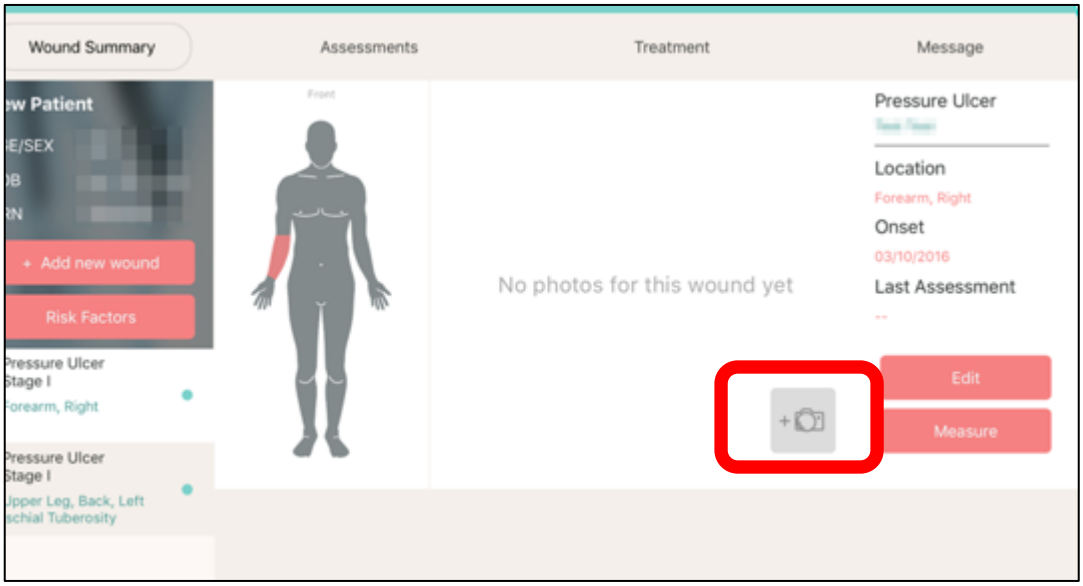


6| High resolution images Vs 'measurement' images

A key feature of inSight is the ability to obtain objective measurements, however there may be times when a high-resolution photograph of a wound is required. You have the option to use the iPad camera to take a high-resolution image of a wound from inside the inSight App. The benefits of this are;

- The high-resolution image is stored with all other images and measurements
- The High-resolution image can provide excellent suplementary information alongside measurement images. For example, if utilising the inSight images for referal or communication with another healthcare professional about a specific topic
- If a wound has healed, or is very small (a length/ width/ depth of less than 3mm) then it may not be possible to 'measure' using inSight. However rather than simply marking a wound as healed, it is good practise to complete the patient record by taking a high-resolution, non-measurement photo in place of, or in addition to, the measurement image

To take a non-measurement photo you need to press the 'camera' icon within the patient/wound home page on the iPad device (see below highlighted by the red box)
A high-resolution image will be added to the photo gallery for that wound in chronological order, in the same way that a measurement image is added. The key difference is that there will be no measurements relating directly to a high-resolution image and hence, these images will not impact the healing trajectory graphs.


Wound Summary
Assessments
Treatment
Message
+ Add new wound
Risk Factors
Front
No photos for this wound yet
Pressure Ulcer
Location
Forearm, Right
Onset
03/10/2016
Last Assessment
Edit
Measure

7| Quality control for measurements and tissue classification

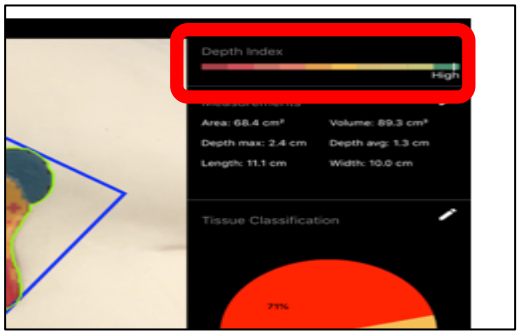
inSight uses a Structure Sensor which uses an array of infrared light and artificial intelligence to establish dimensions/measurements and to recognize tissue classification within a wound.

The measurement/tissue classification quality is determined by:

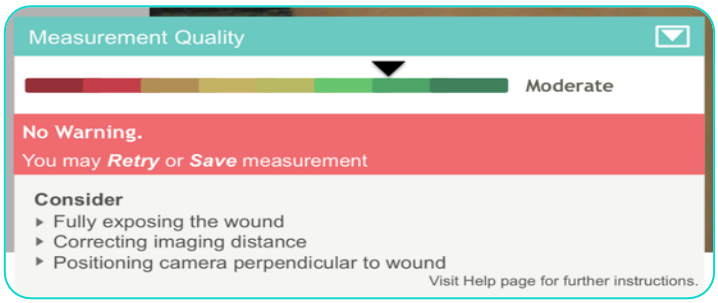
- **Imaging angle:** less angulation (i.e. hold the device paralell to the wound) = better quality data
- **Imaging distance:** capture image within recommended '3D' distance = better quality data (45-50cm between wound and camera)
- **Imaging placement:** try to ensure that the wound you are measuing is as central to the device screen as possible
- **Presence of wound border:** more border visible = better quality
- **Border quality:** more surrounding healthy skin visible = better quality data
- **Lighting: if you struggle to see the colours and features within the wound with the naked eye, or on the image you have captured with inSight, then this will limit the accuracy of the measurements and tissue classificaiton.** Better lighting = better quality data
- **Potential for array of infrared light to travel far beyond the area of the body where the wound is located:** if the wound is located on an area of the body that is 'floating' in mid-air when the meausrement image is taken (e.g. foot/hand) then it may be more difficult to position the devcie within the correct '3D' distance. You may also find that the quality of the meausrements is reduced. A background close to the wound (e.g. couch, bed, drape, wall, etc.) = better quality data

7.1| Depth index

The depth index is located in the top right corner of the measurement confirmation page (the page displaying the measurement statistics and tissue classification pie chart), as well as the gallery view. This index shows **information about the quality of the depth measurement**. Ideally you want white marker on this scale to be sitting within the green area indicating 'high' data quality.



If the white marker is displayed further down the scale, then the measurement quality is of lower quality. In some cases, the system may force the user retake a measurement if the quality is found to be too poor (i.e. camera held at steep angle during photography or issues with lighting and focus).



7.2| Inaccurate tissue classification

inSight uses the Structure Sensor on the back of the iPad device to recognize the tissue classification within a wound (red, black, yellow). It classifies tissue types within a wound into either the red, black or yellow categories where red = granulation tissue, yellow = slough and black = necrostic tissue. The segments of the resultant pie chart will always equal 100%.

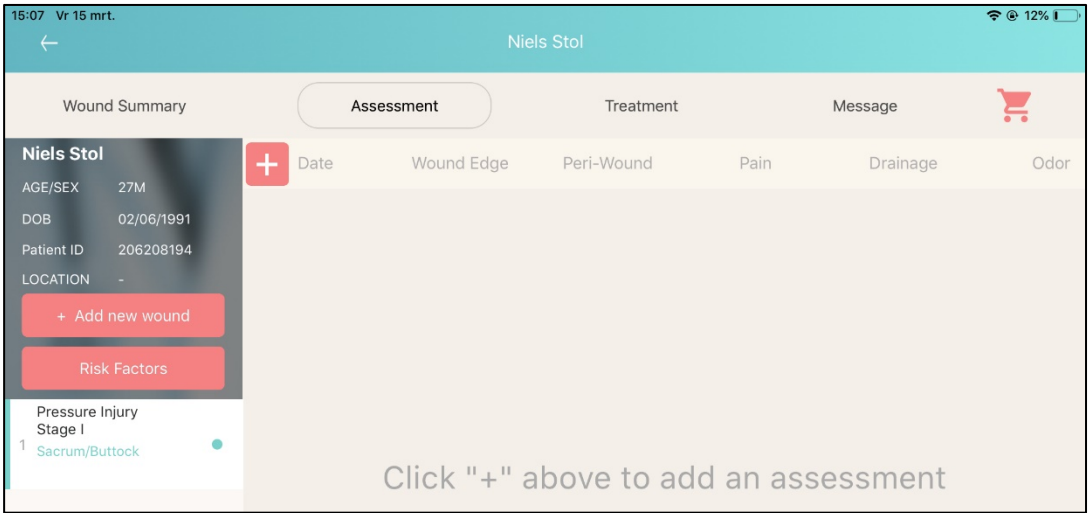
If the user does not agree with the tissue classification shown on the pie chart, there are some common causes;

- Lighting – this is the most key factor for colour recognition. If the lighting on the wound is poor then there is an increased likelihood that the colours recognized by inSight will not reflect those actually in the wound
- More than one type of structure within the wound and they are all similar in colour. For example, if there is slough, exposed tendon and exposed bone all visible within a wound then it's likely that inSight would classify all these structures as 'yellow'
- A foreign object within the wound which is a colour that is not red, black, yellow. In this instance inSight would assign this area to the closest colour to this object i.e. red, black, yellow

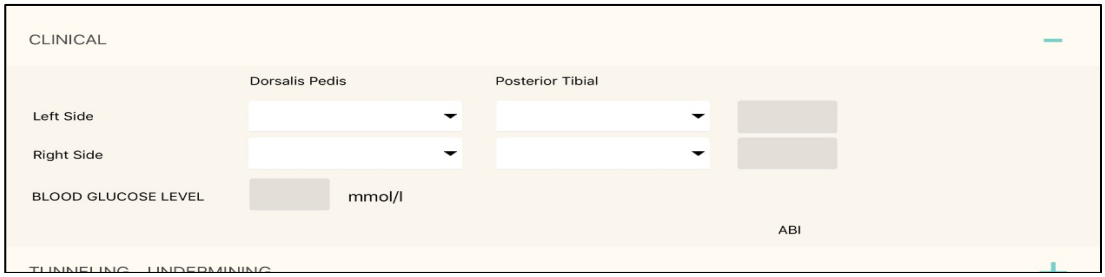
You can manually alter the tissue classification pie chart and provide notes once you have measured the wound and circled and marked it. You do this by selecting the pencil icon to the top, right of the tissue classification pie chart. You then follow the on-screen prompts to record the reason for the amendments and use the sliding scale on the tissue classification chart to correct the proportions of each classification type.

8| Assessment

To enter the clinical assessment, go to the “Assessment” tab next to “Wound summary”.



1. Press the “+” icon to enter a new assessment. Fields marked with an * are not mandatory.
2. You can enter the results of the ABPI by using the field “Clinical”.

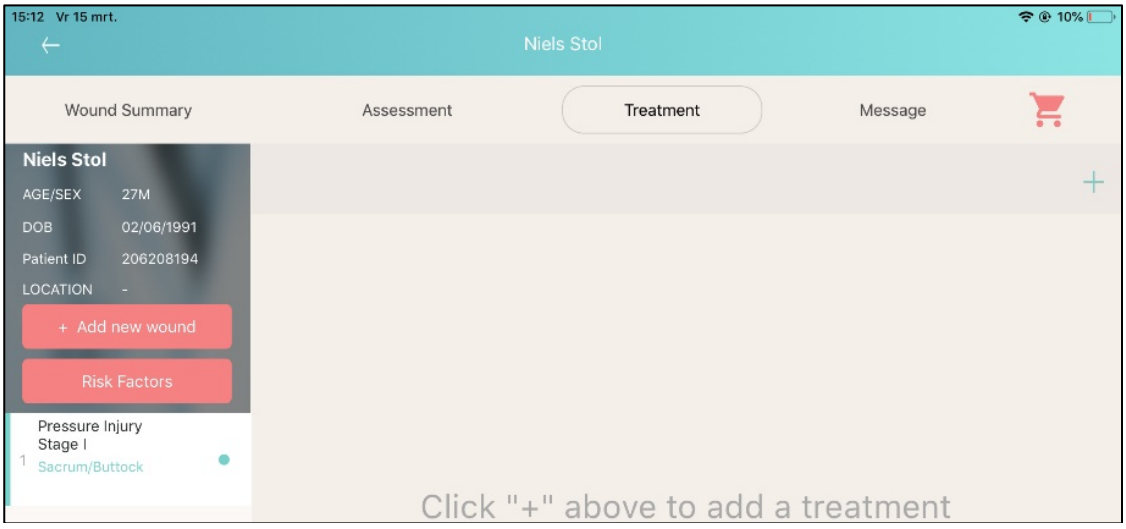


3. The camera can't recognize tunneling or undermining. You can still enter this information manually. Select the location by using the clock like image. Then enter the measurements in centimeters.

4. When you press "Summary, a plain text field will appear. By pressing "Generate", a summary of the assessment will appear in plain text. By pressing "Copy" you can copy and paste this text in any other system you use.

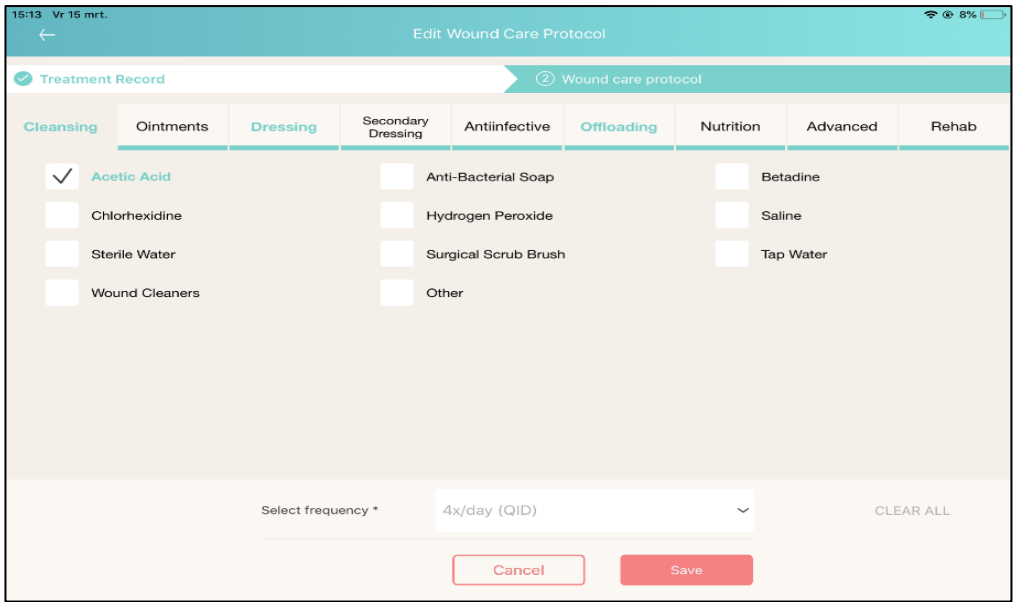
9| Treatment

To enter a new treatment, go to the "Treatment" tab.



1. Press the “+” icon the upper right corner to enter a new treatment.
2. Similarly, to add a new wound, the date of treatment will by default state today’s date.

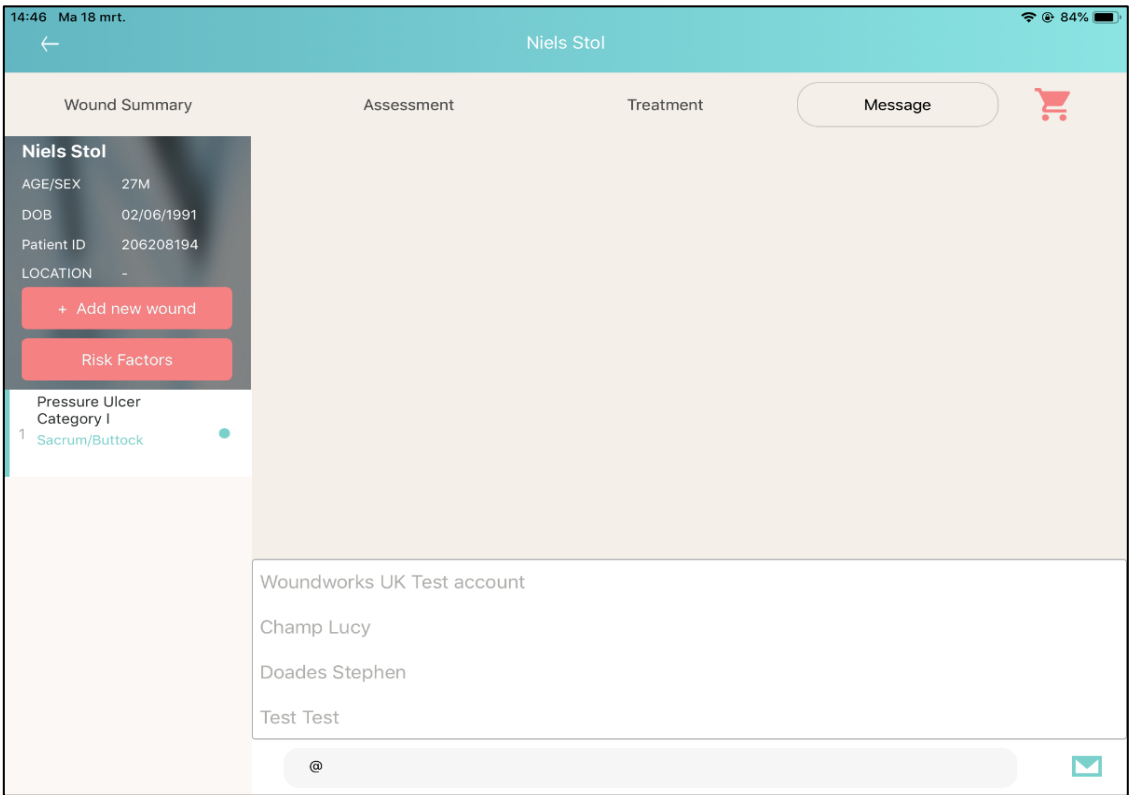
3. Select “Next” in the top right corner to proceed to the wound care protocol.
4. In the wound care protocol you can select the type of products to treat the wound through the different categories. Simply tick the box of the product you’d like to use. When you select a product, you also have to select a frequency in the bottom of the screen. When a product is selected, the name of the category will light up. This way you can immediately see what kind of products are being used.



10| Securely communicate directly

To securely communicate directly with your team, go to the “Message” tab.

1. You can type a message without specifically directing it at someone. The message will be visible to everyone, but no one will get a notification.
2. You could also directly communicate to one of your team members, by starting your message with an "@". This will prompt a window where you can select one or multiple team members. Type the message you want and press the "Envelope" icon to the right. The recipients will get a notification by e-mail. It's not possible to read the message in the e-mail, or reply. They'd have to log in to the app.



11| Activating Offline/Online Mode

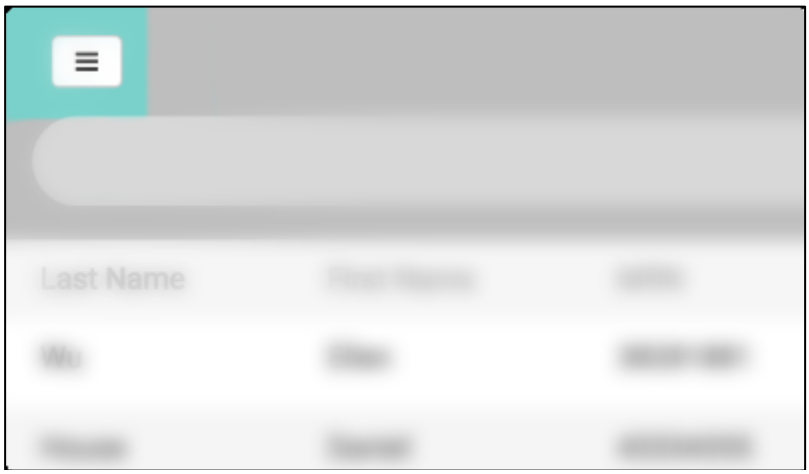
The Offline mode allows inSight users to work without a WiFi or 4G network connection. Users can view all patients in a clinic and see the wound's last measurement photograph and all measurement graphs. They can also add any new data, which will be synchronized and updated when switching back to online mode.

Please note;

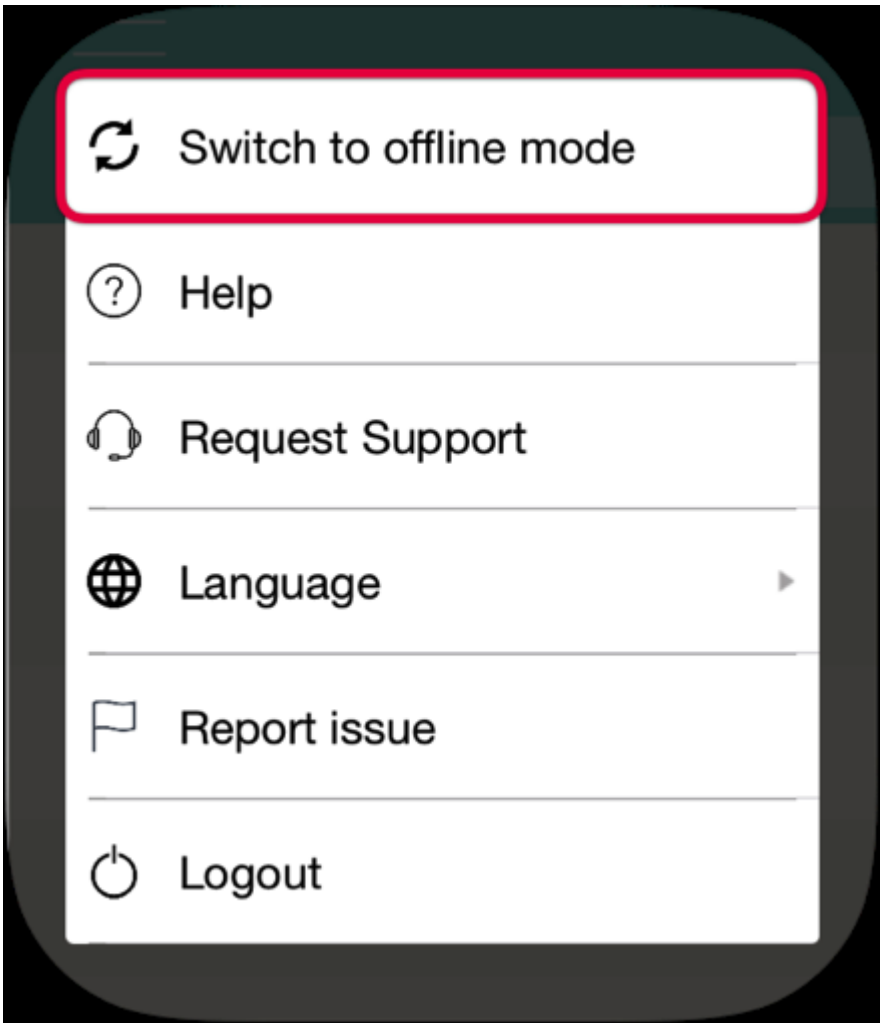
- **• You MUST have a network connection to enable the offline mode. This is so that you can log into the data storage cloud and the most recent patient's information can be downloaded to the device.**
- **• Offline mode is limited to a total of 50 measurements. A prompt to switch the device to online mode will be displayed on the device as this limit is approached. This is done to ensure the device remains responsive during use and to minimize synchronization issues.**
- **• The user who logged in to turn a device offline must be the same user who logs in to use the device and to synchronize and go back online after offline use. This is because without**

a network connection the insight App can only remember and recognise the most recent user log in details used.

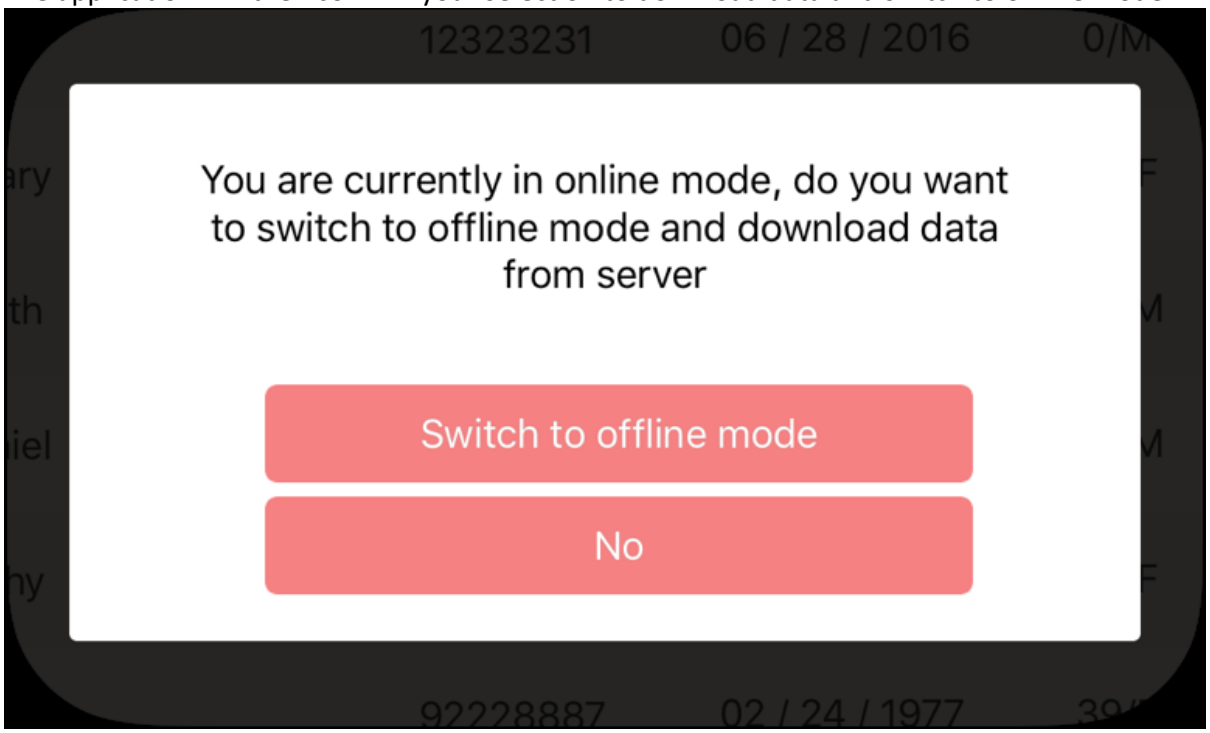
- 1. After successfully logging in to the inSight application, you can activate the “offline” mode, if it is required.
- 2. To activate offline mode, open the menu in the top left corner of the screen.



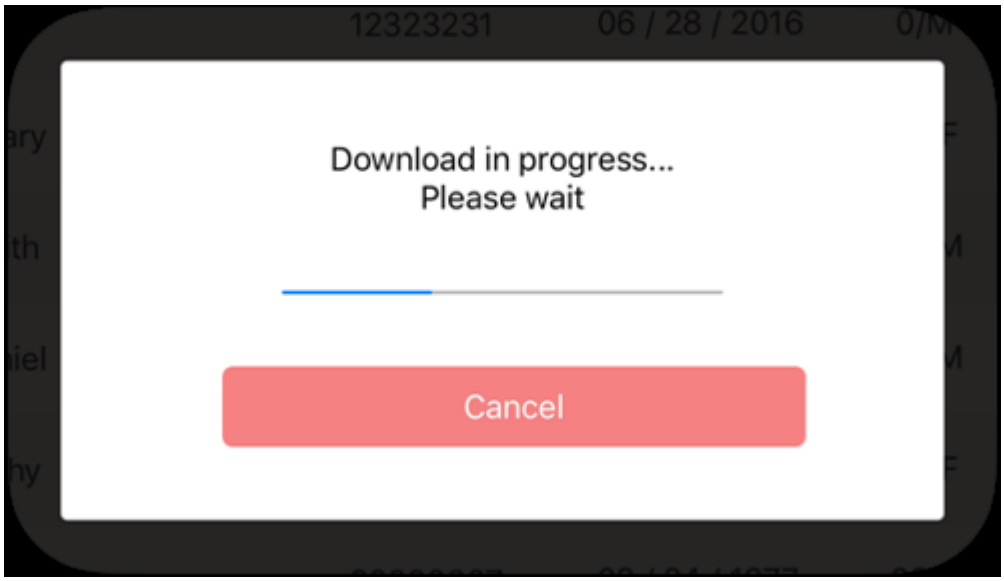
3. Select “Switch to offline mode.”



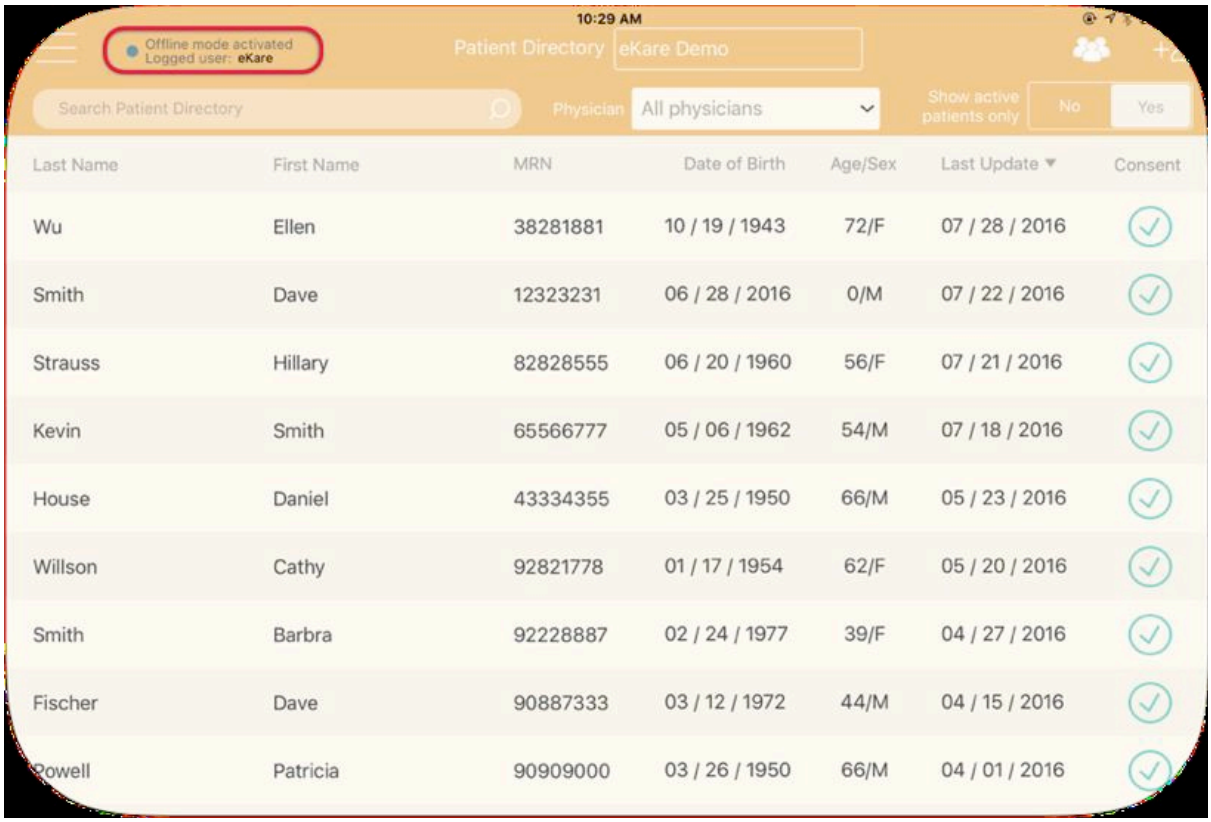
The application will then confirm your selection to download data and switch to offline mode.



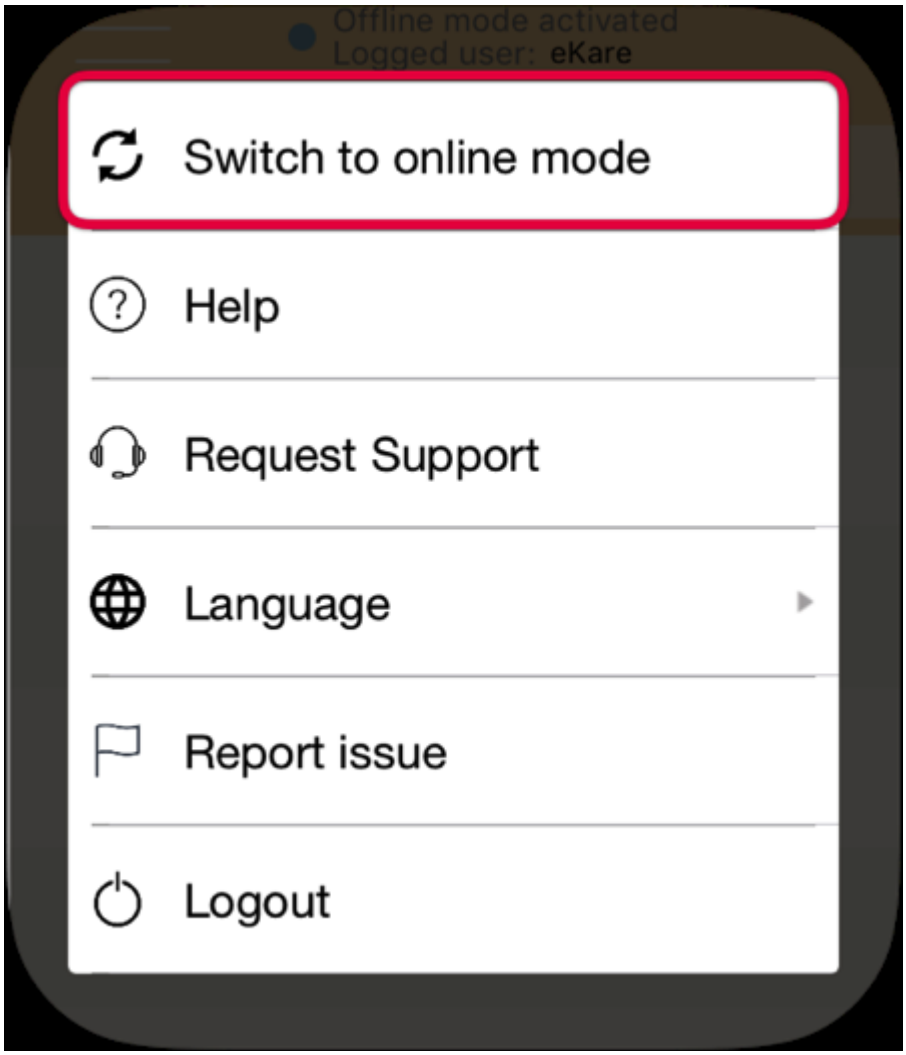
5. The application will then download the measurement data for your patients and download the latest measurement for each wound.



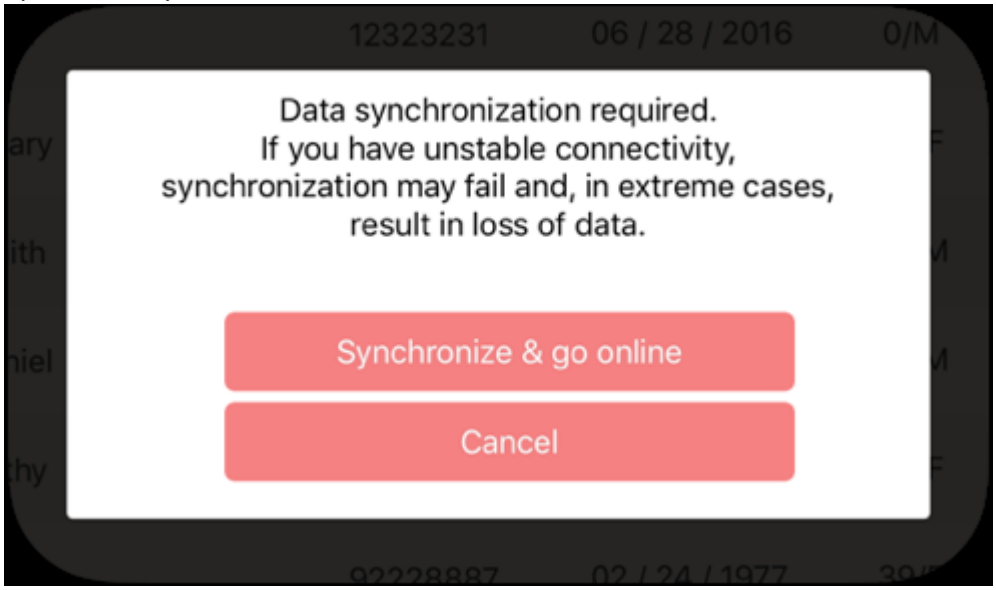
While offline mode is activated, the user interface will have an alternate (orange) colour scheme, and a specific indication that offline mode has been activated will be present.



7. Exit offline mode by selecting the option from the menu.



8. Select the “Synchronize & go online” option to sync your data to the server, or the “Cancel” option to stay in offline mode.



9. Once synchronization is complete, the app will provide a summary of synchronization wherever data was added or changed.