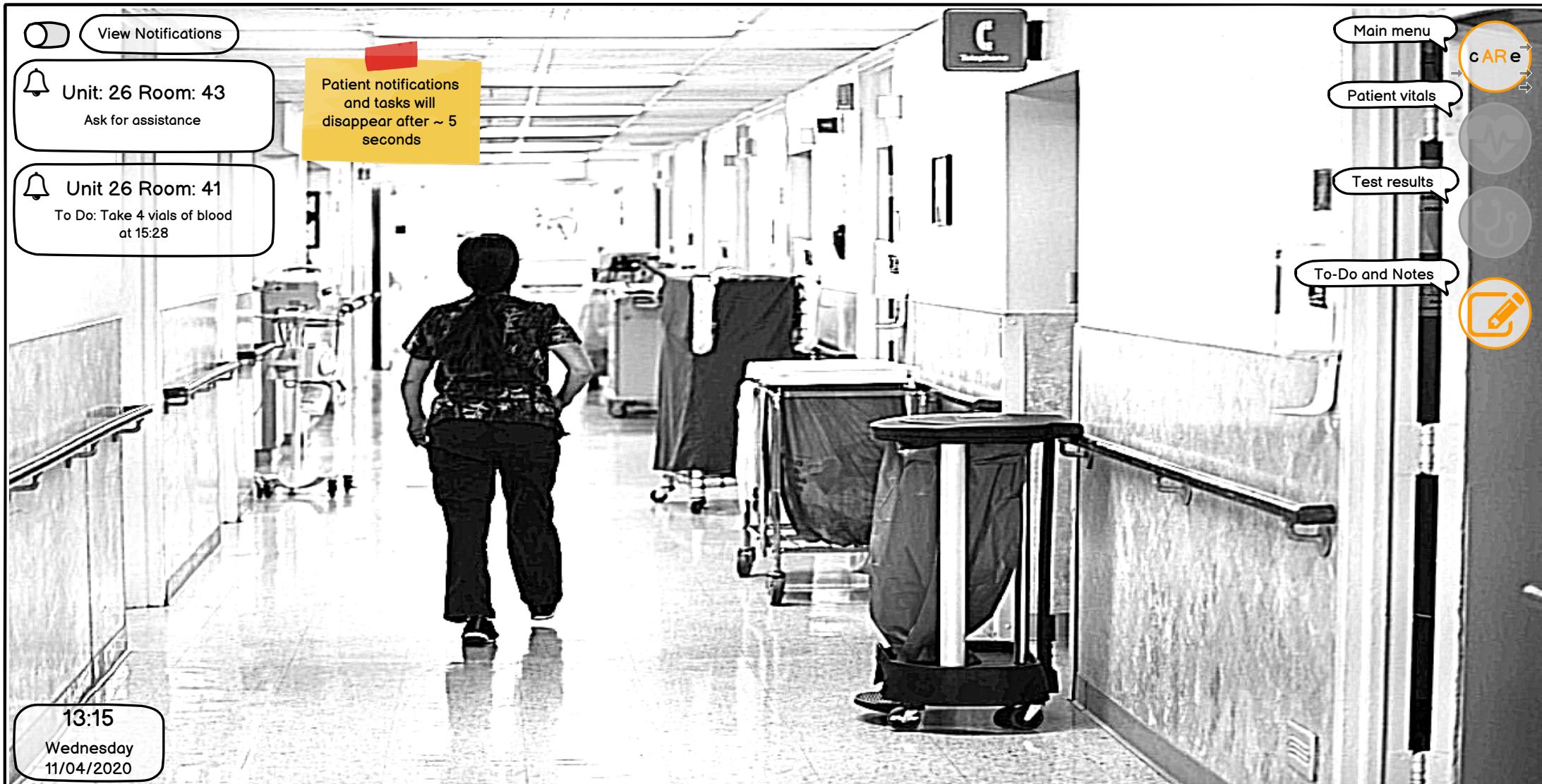




This is the main screen upon opening the app. Using the HoloLens camera, users can login by scanning their work ID.



This is the initial main screen before scanning the patient's ID. The clock, notifications and main menu bar remain static throughout the app.

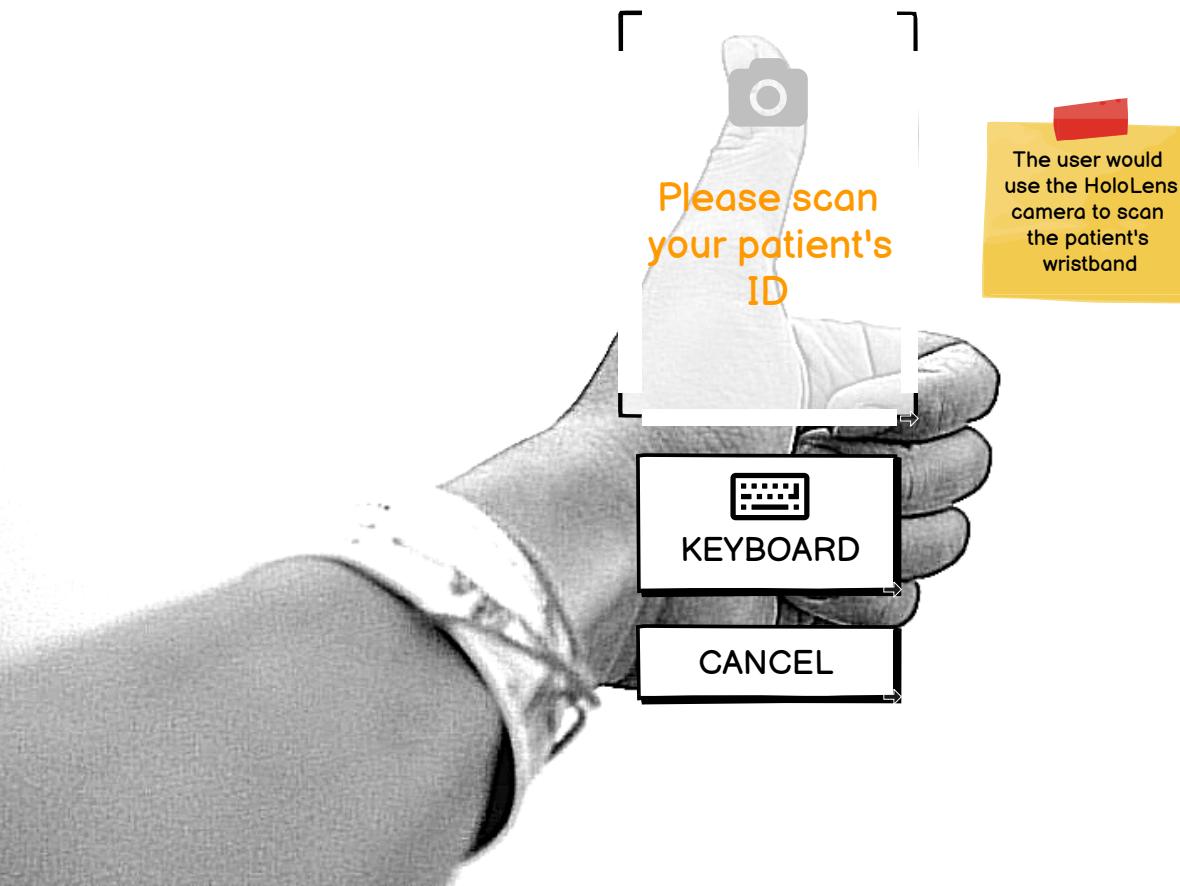
#### Horizontal task: Visual notifications

You can use the notification toggle to view all notifications. Otherwise, notifications will eventually fade away after some time. Notifications include patients calling for assistance and tasks created through the To-Do List modal.



This wireframe shows the options of the Care Menu. The main menu has more functionality once a patient has been scanned or selected. From this page you can add personal notes and tasks, view 3D surgeries and utilize the security clearance function.

Please scan the patient's ID or use the keyboard...



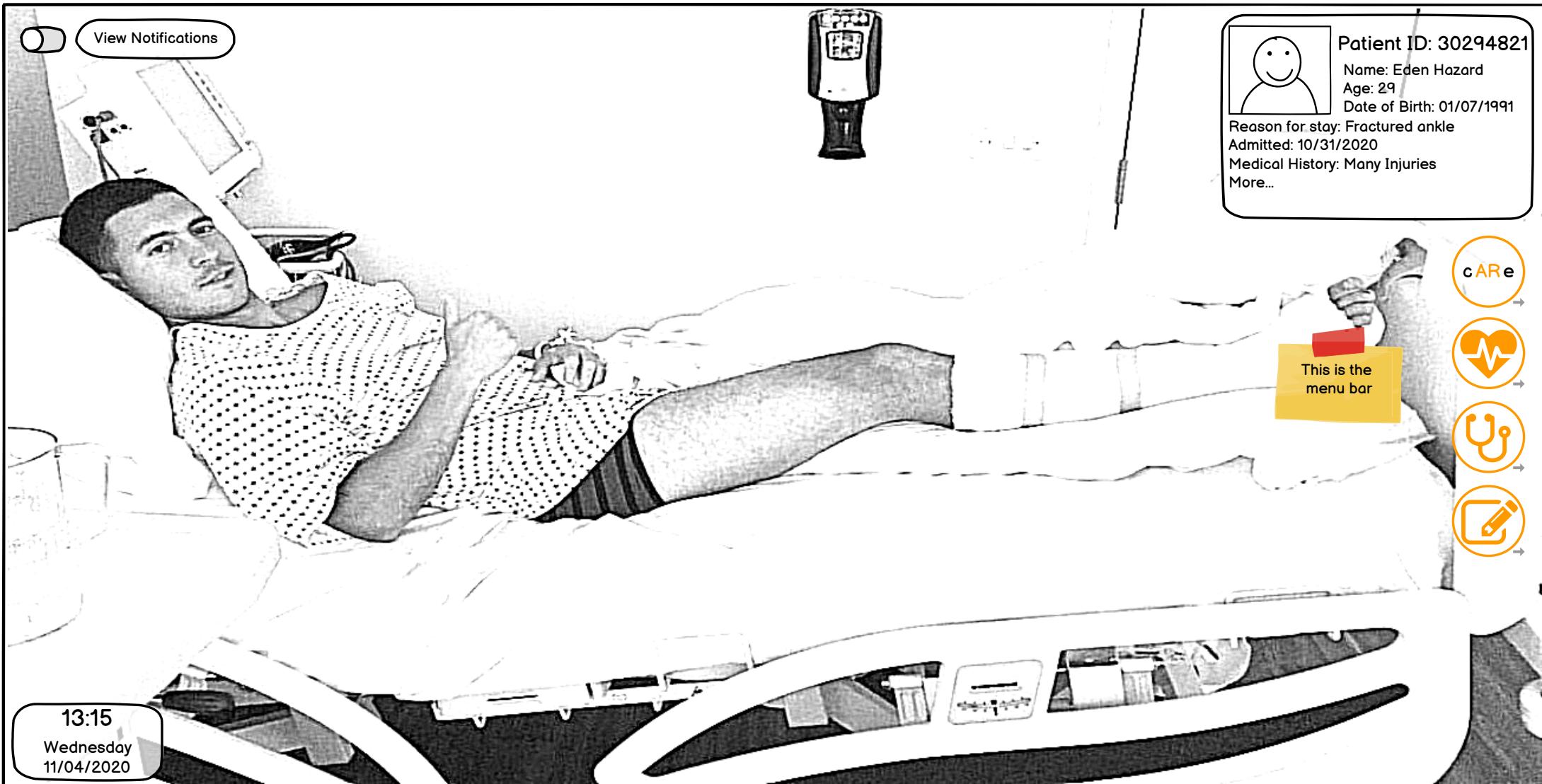
After selecting Scan button, the app prompts the user to scan the patient's hospital band or to use the keyboard to enter their unique patient ID. Once scanned, the user will be taken to the Main Patient View.

## Search Results:

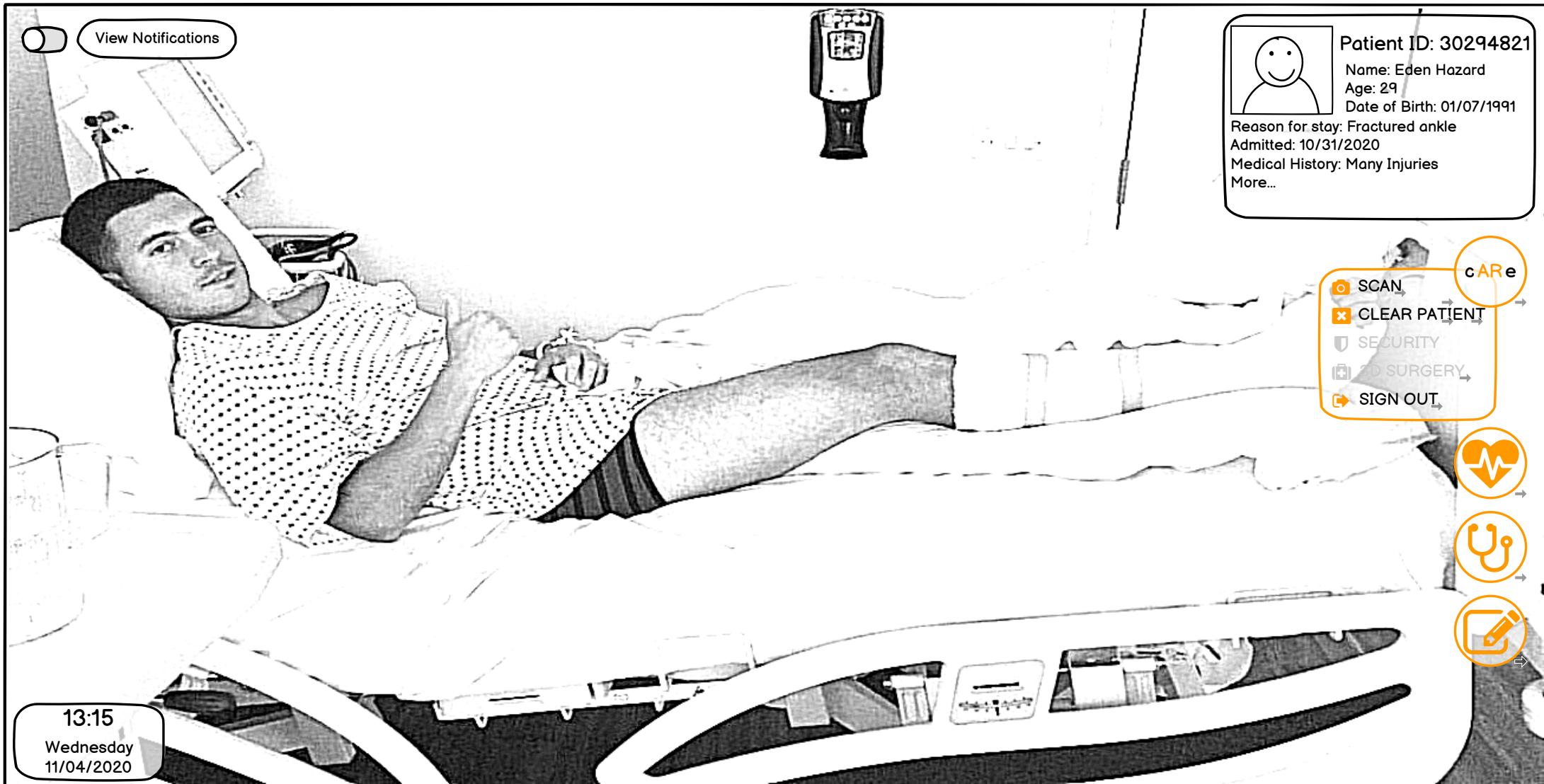
HAZARD, EDEN (29M)



Using the built-in Microsoft keyboard, users can enter the unique patient ID to find their patient. Once ready, they can press Select to proceed.

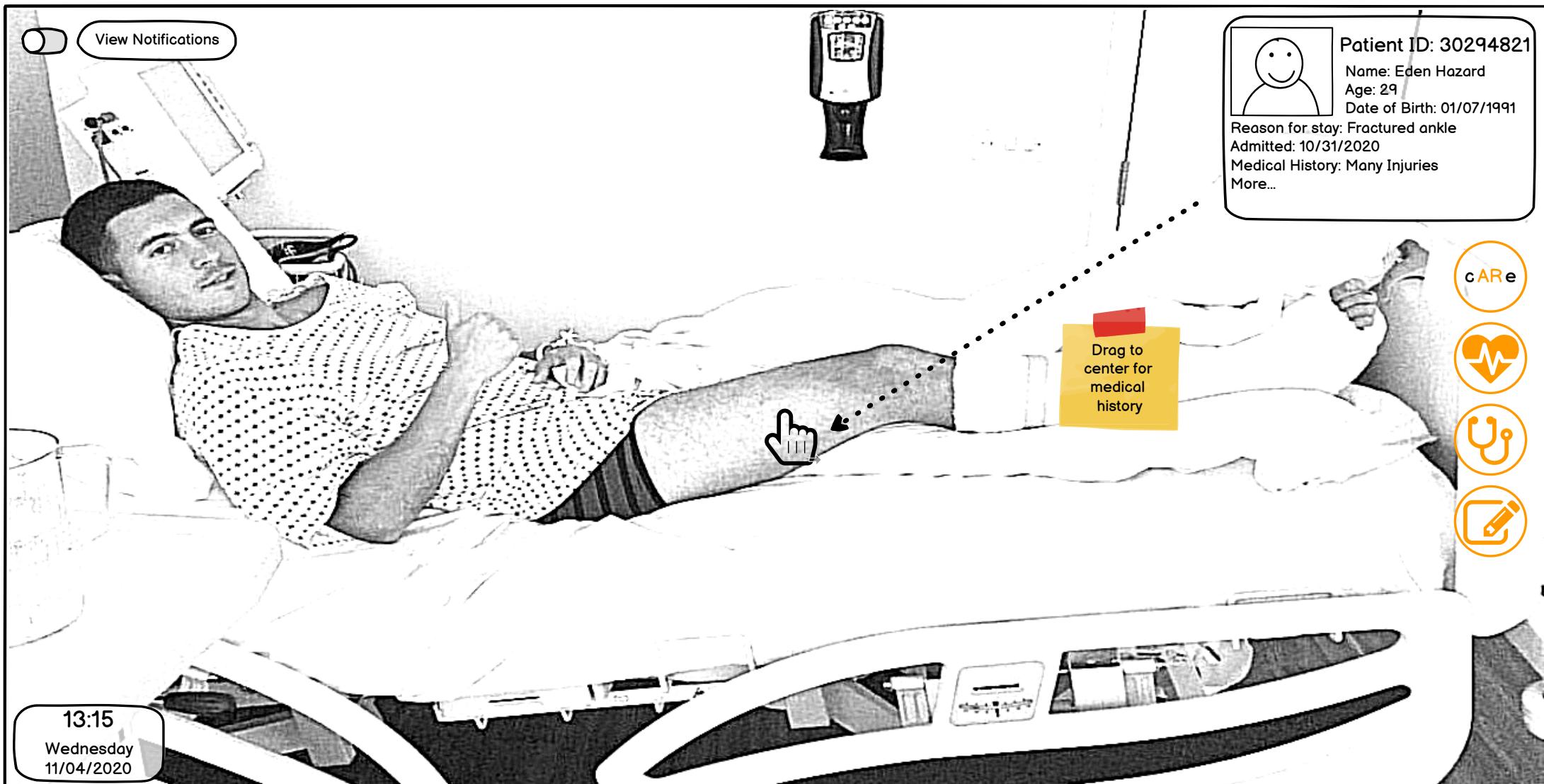


This is the main screen for the user. From here they have exclusive access to patient information.



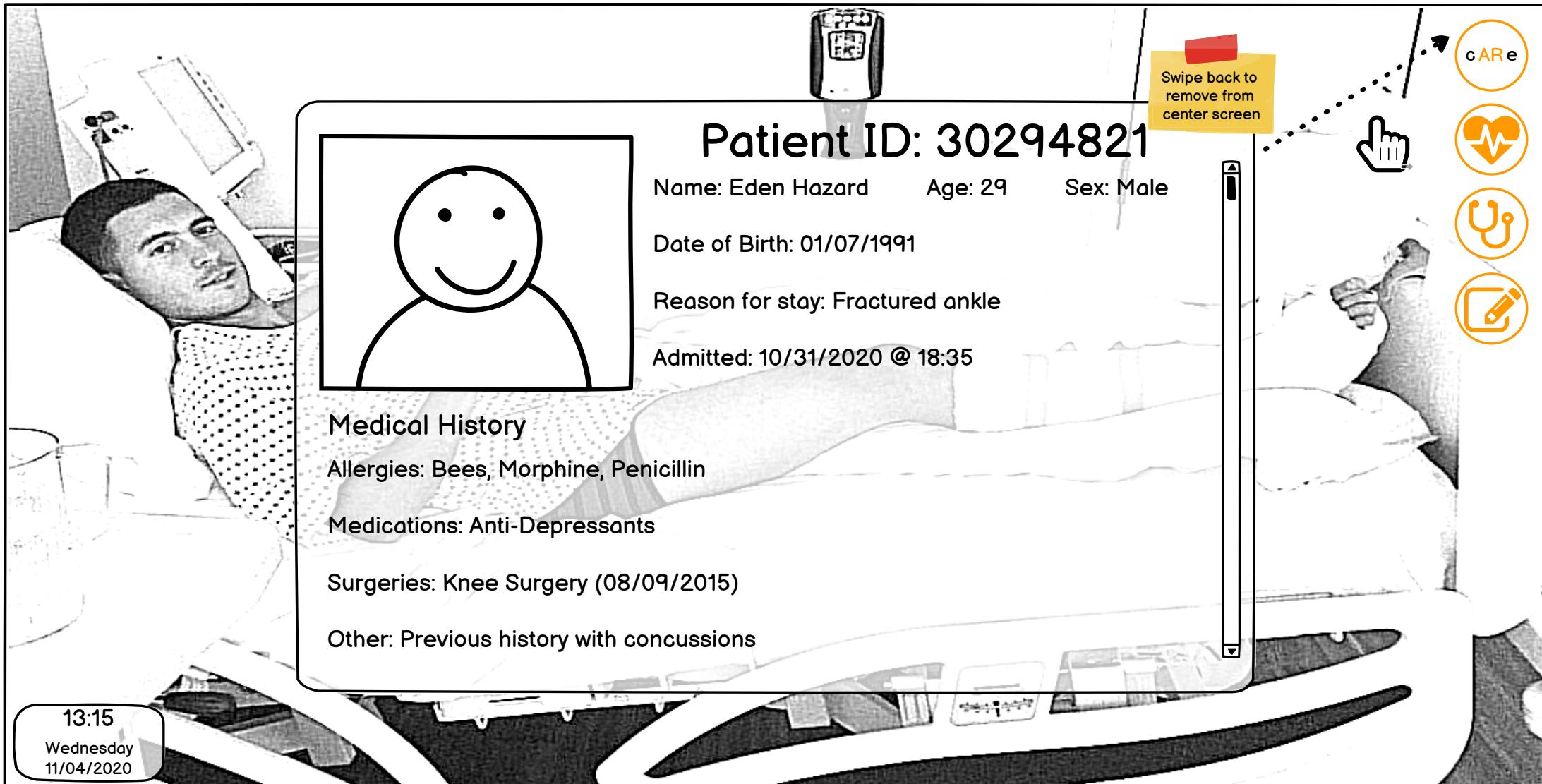
The main menu bar has more functionality. This includes:

- Leaving this patient's file
- Scanning a new patient
- Patient vitals
- Patient information and medical history
- Patient diagnostic test results
- Adding patient-related notes and tasks



Vertical Task: View patient information

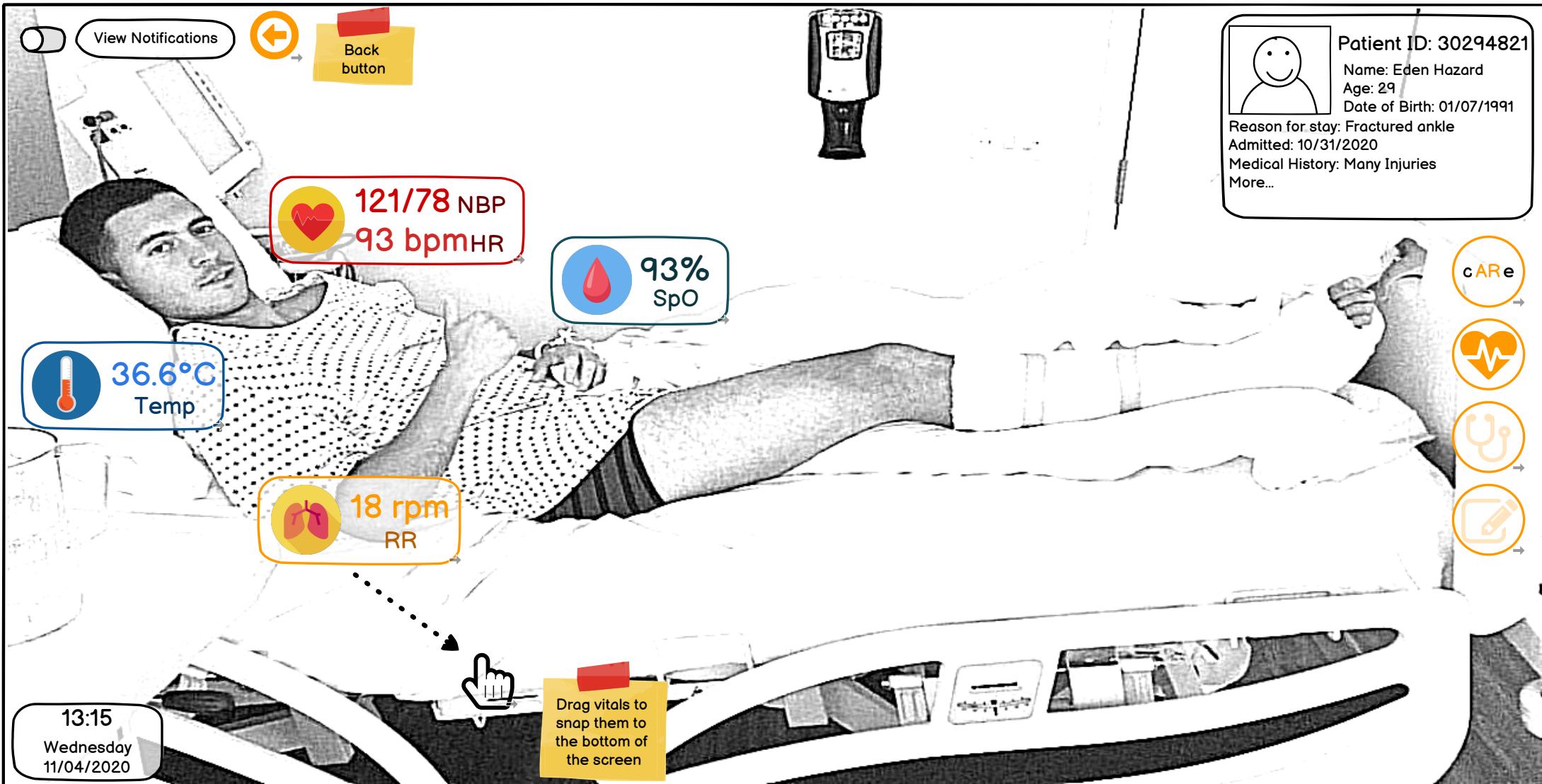
For more information on the patient, such as medical history, allergies, etc., the user can tap and drag the patient information tile to the center of the screen.



Vertical Task: View patient information

This will expand the patient information modal and allow the user to gain more insight on their patient.

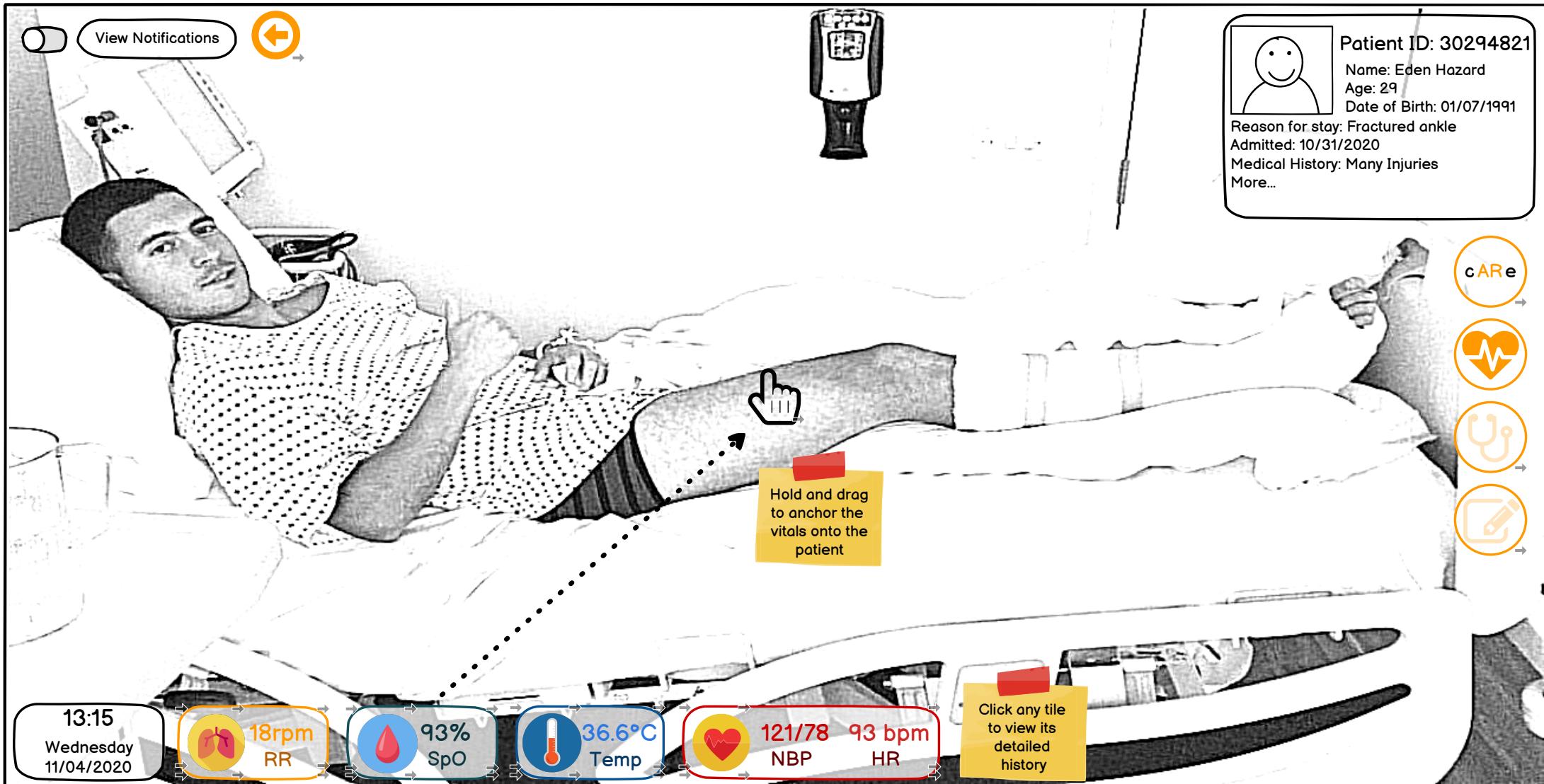
You can swipe the modal towards the upper right corner to close the modal.



Vertical Task: Viewing patient vitals in real-time

You can view real-time patient vitals by clicking the patient vitals (heartbeat) button. By default, the patient's vitals will be anatomically anchored.

To clear your HoloLens view, you can tap and drag the vital tiles to the anchor the vitals to the bottom of the screen.



Vertical Task: Viewing patient vitals in real-time

The vitals remained anchored to the bottom of the screen until the user drags the tiles onto the patient.

To view more details on the patient's vitals, users can click any of the tiles. This will be displayed onto the center of the screen.

A patient is lying in a hospital bed. Four vital signs tiles are floating above the patient's torso. From left to right: 1) SpO2 tile showing 93.2% with a blood drop icon; 2) Temperature tile showing 36.6°C with a thermometer icon; 3) Respiratory Rate (RR) tile showing 18 rpm with a lungs icon; 4) Blood Pressure (NBP) and Heart Rate (HR) tile showing 121/78 mmHg and 93 bpm respectively, with a heart icon. A yellow callout box points to the RR tile with the text "Clicking the tiles will anchor the vitals back onto the patient". In the top right corner, there is a patient summary box containing the patient's ID, name, age, date of birth, reason for stay, admission date, medical history, and a "More..." link. On the far right, there are five circular icons with arrows pointing to the right: "cARe", a heart with a pulse, a stethoscope, and two other icons whose meanings are not clear from the image alone.

View Notifications

13:15  
Wednesday  
11/04/2020

You can snap the vitals back to the bottom of the screen

Patient ID: 30294821  
Name: Eden Hazard  
Age: 29  
Date of Birth: 01/07/1991  
Reason for stay: Fractured ankle  
Admitted: 10/31/2020  
Medical History: Many Injuries  
More...

SpO<sup>2</sup>  
93.2%  
91.3% @ 1730  
92.5% @ 1630  
89.6% @ 1530

Temp  
36.6°C  
36.1°C @ 1730  
35.7°C @ 1630  
36.8°C @ 1530

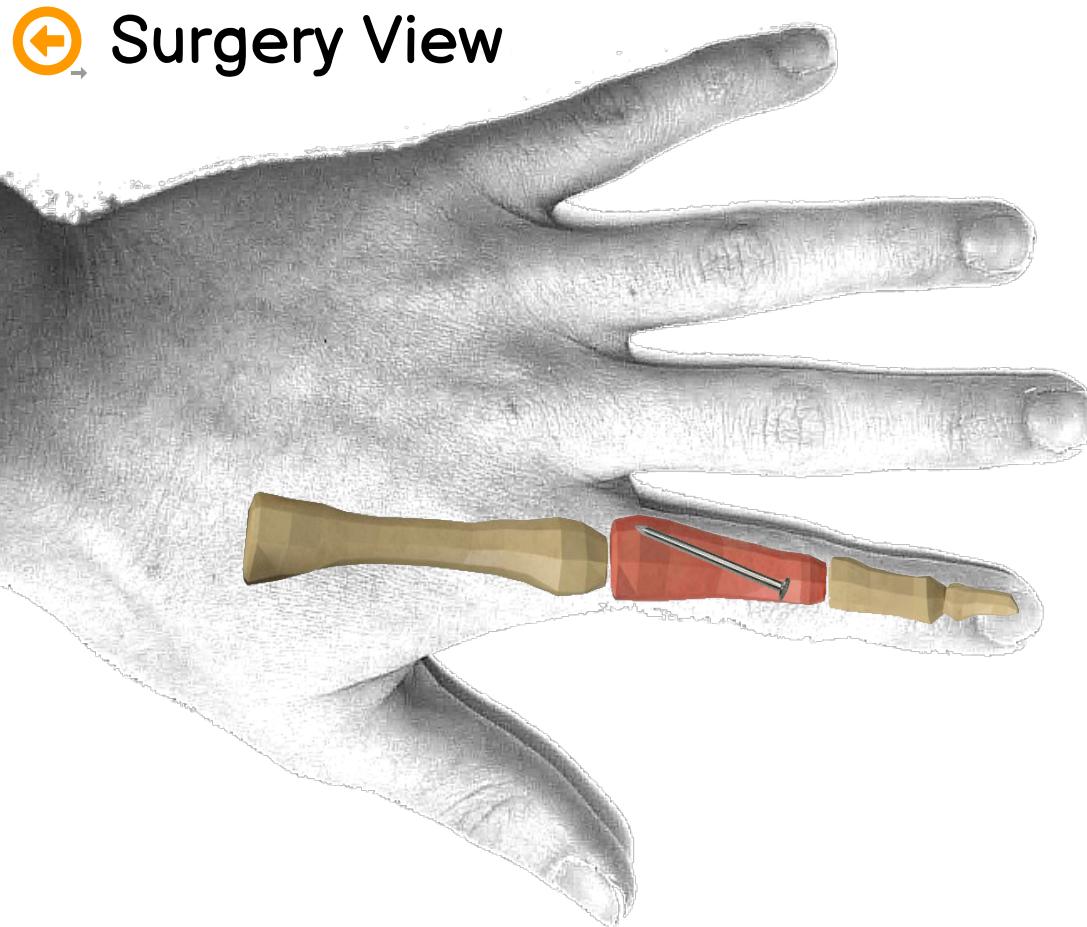
RR  
18 rpm  
24 rpm @ 1  
16 rpm @ 1  
14 rpm @ 1

NBP      HR  
121/78 93 bpm  
121/78 @ 1730 92  
125/85 @ 1630 94  
131/65 @ 1530 89

Clicking the tiles will anchor the vitals back onto the patient

Vertical Task: Viewing patient vitals in real-time

Clicking on the vital tiles will re-anchor the vitals on the patient. Alternatively, the user can snap the vitals back to the bottom of the screen.



13:15

Wednesday  
11/04/2020

Surgery view displays  
images of organs  
through skin and  
tissue mid-surgery.



Patient ID: 30294821

Name: Eden Hazard

Age: 29

Date of Birth: 01/07/1991

Reason for stay: Fractured ankle

Admitted: 10/31/2020

Medical History: Many Injuries

More...

cARe

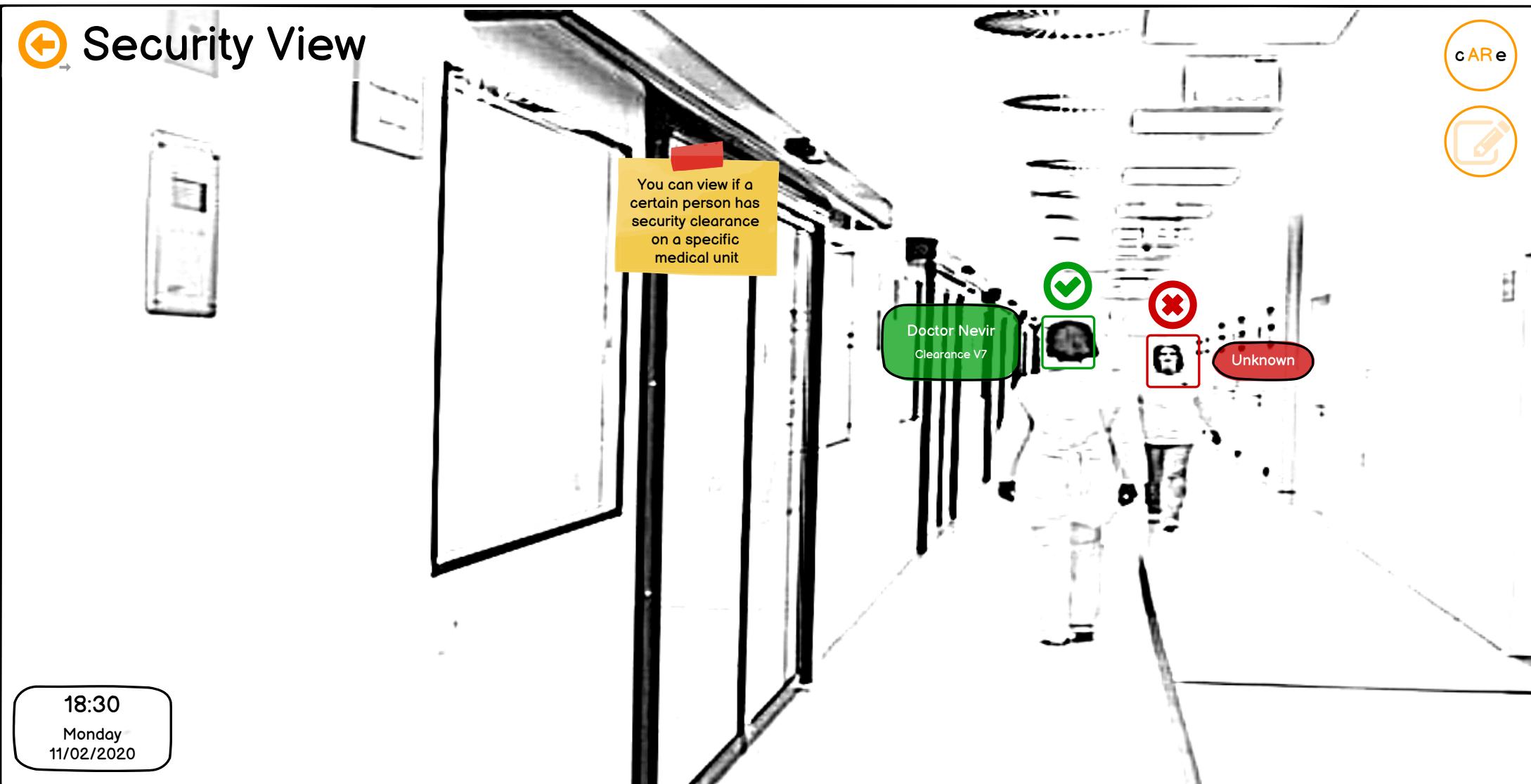


Nail-lodged-in-bone Syndrome

## Horizontal Task: 3D Surgery View

Surgery view can be accessed through the Care menu. This view displays images of organs through skin and tissue mid-surgery.

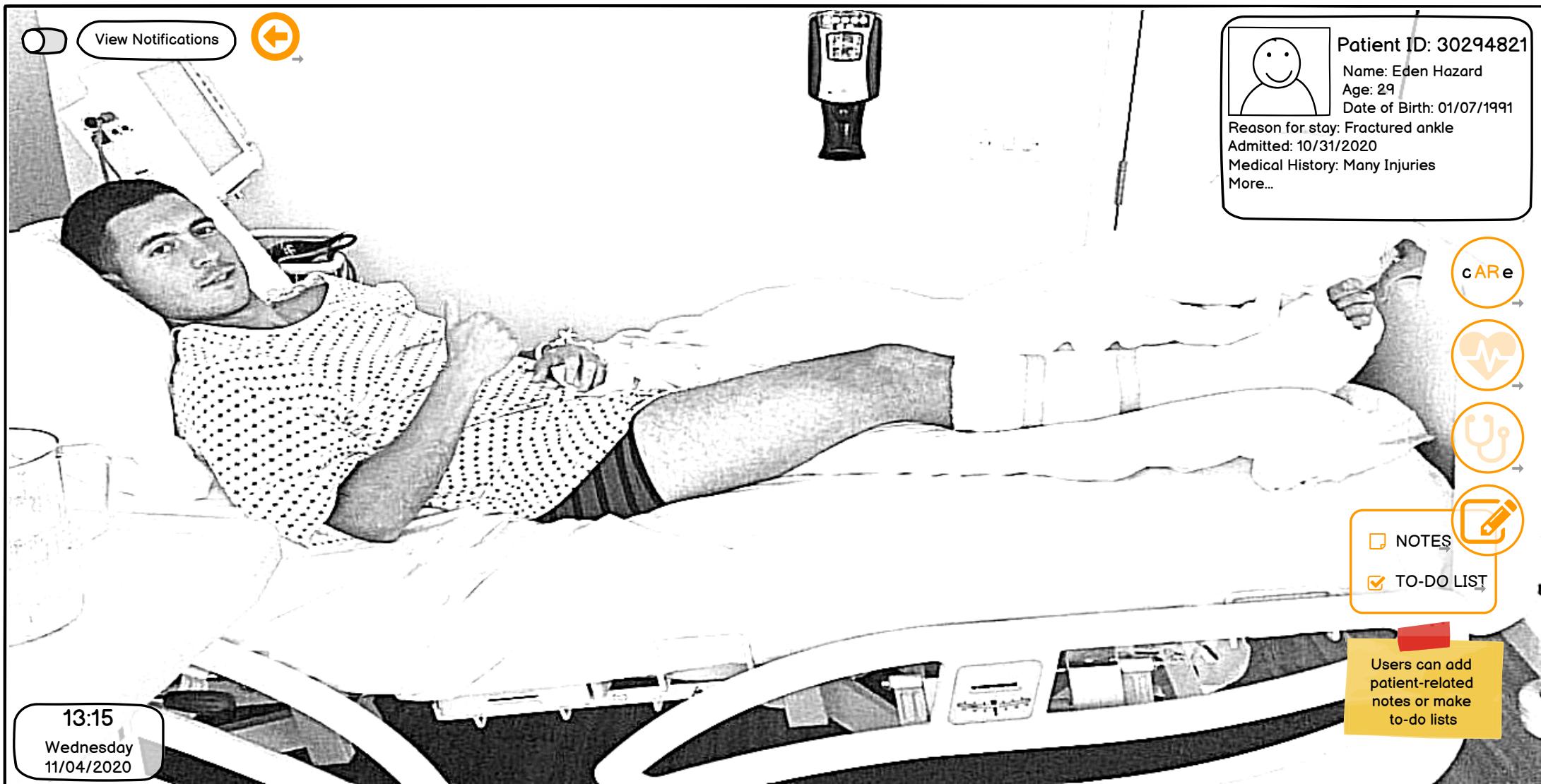
Note: Due to scope creep, this task will no longer be implemented in future stages of this project.



### Horizontal Task: Security Clearance View

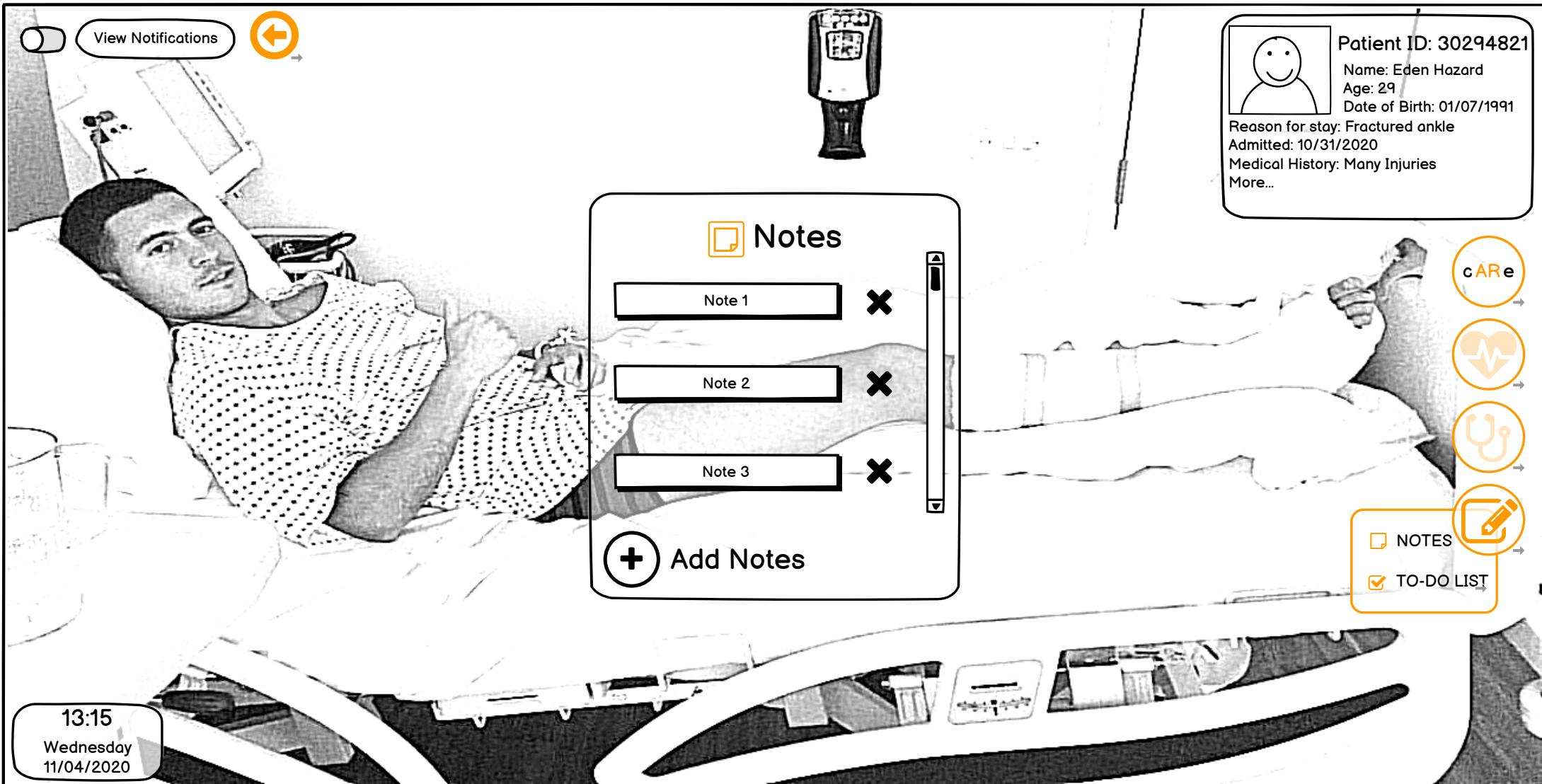
This feature can be accessed through the Care menu. This allows the user to view clearance levels of any visitors on a specific medical unit.

Note: Due to scope creep, this task will no longer be implemented in future stages of this project.



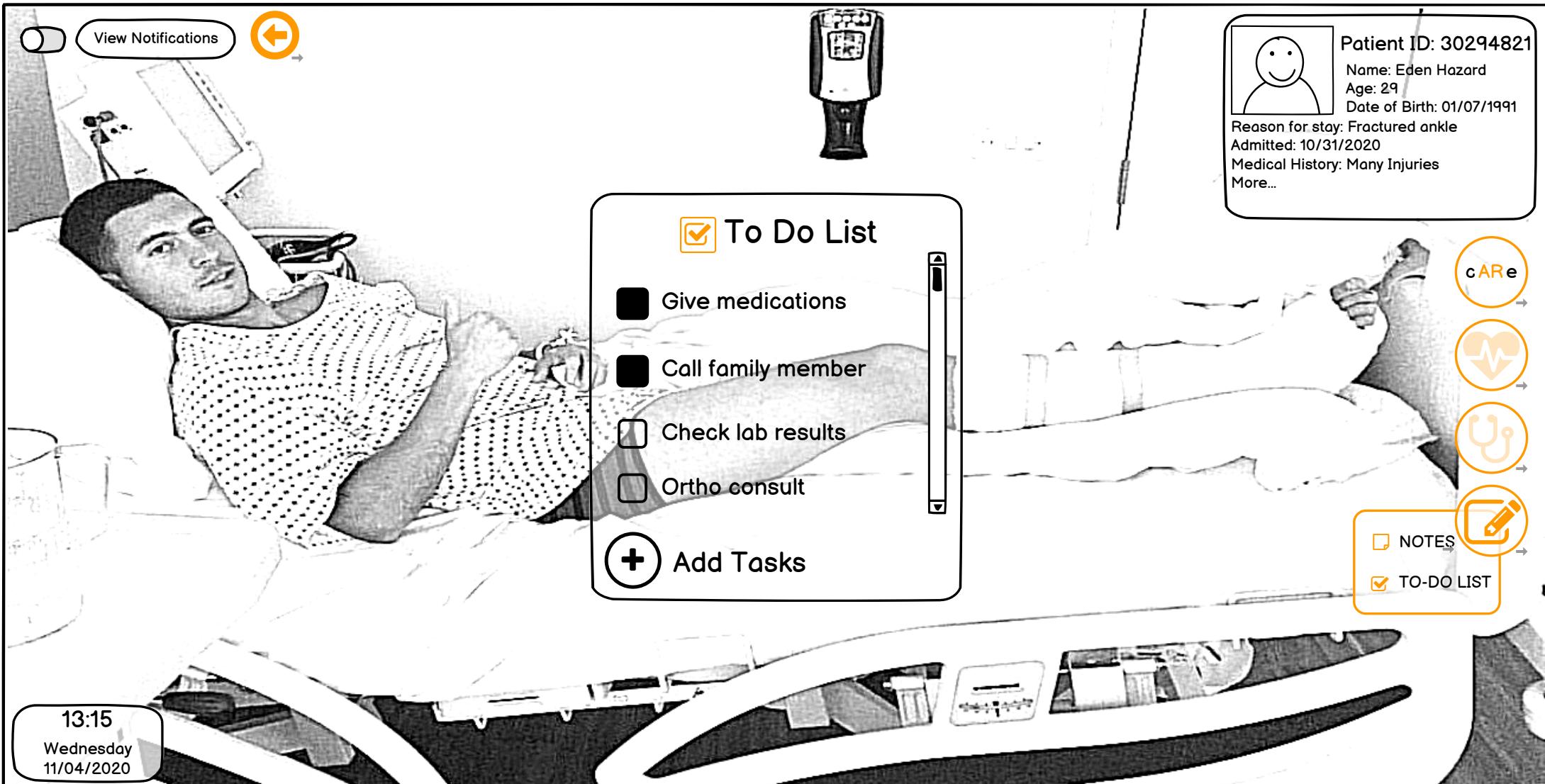
Horizontal Task: Adding notes and tasks

By clicking the notes button, the user can add notes for the patient for other users to see as well as add tasks.



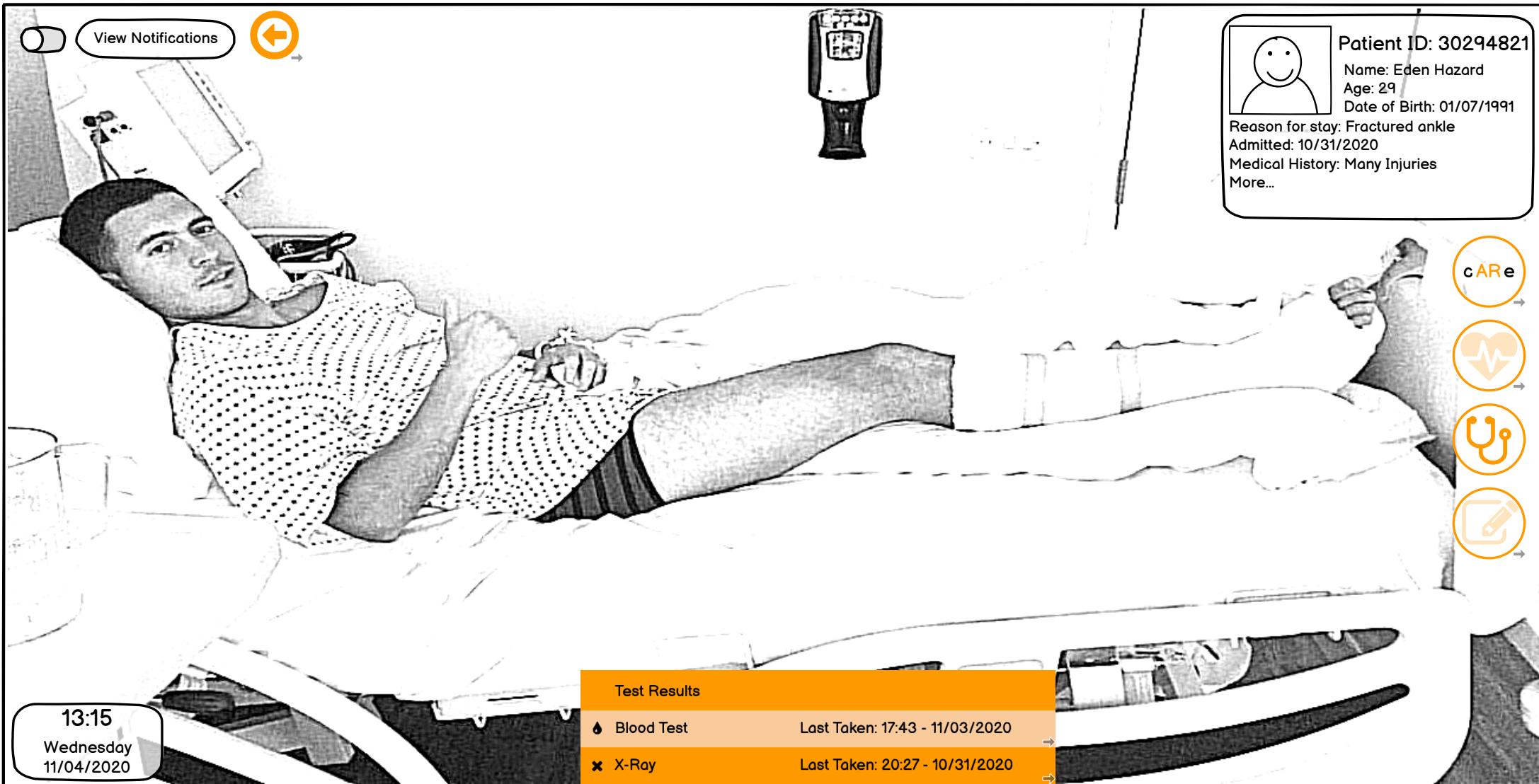
Horizontal Task: Adding notes and tasks

By clicking the Notes button, users can add notes related to the patient. These notes can be viewed by other Care users.

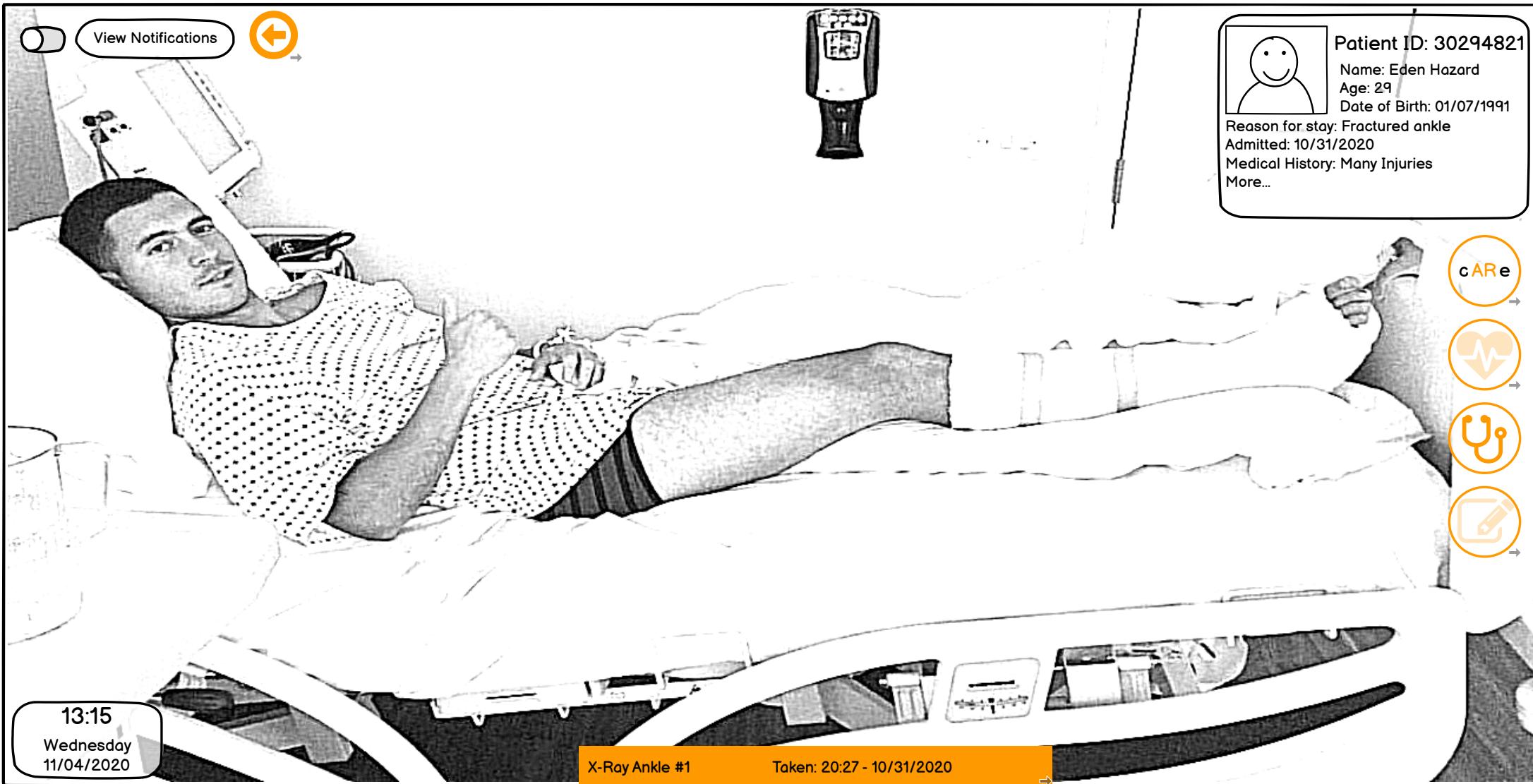


Horizontal task: Adding notes and tasks

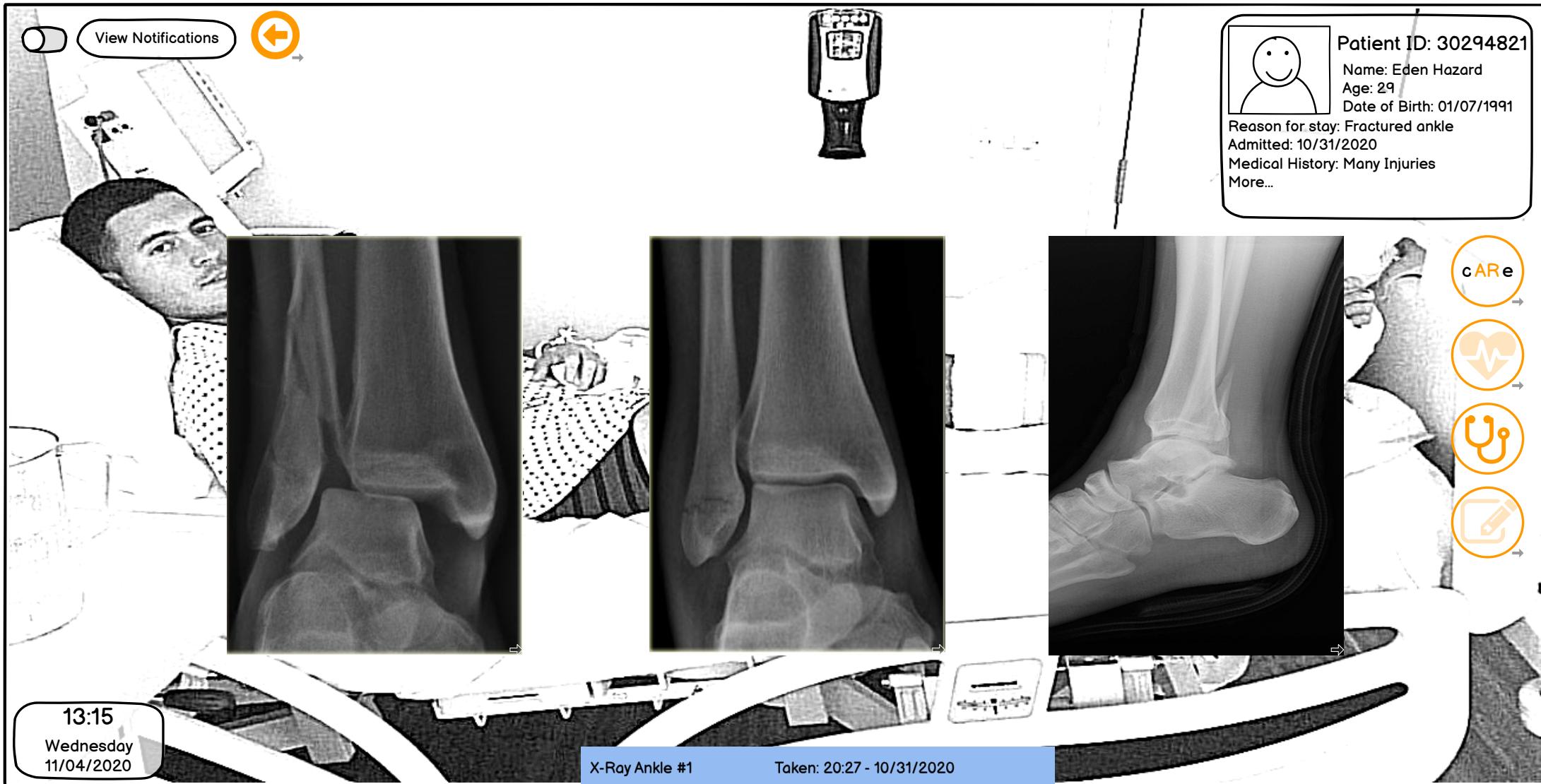
Similar to notes, users can create tasks based on their patient's needs. In the future, we plan to make these tasks display as visual notifications.



The List of available test results appears here. If a test is not an available option it means the patient has not undergone that set of tests. Simply tap on a test option to view the results.



The menu now shows the x-ray tests the patient has gone through



The X-Ray images of the test now appear on the vision of the view.

If user wishes to view a single image in more detail they can tap on the one they wish to view.



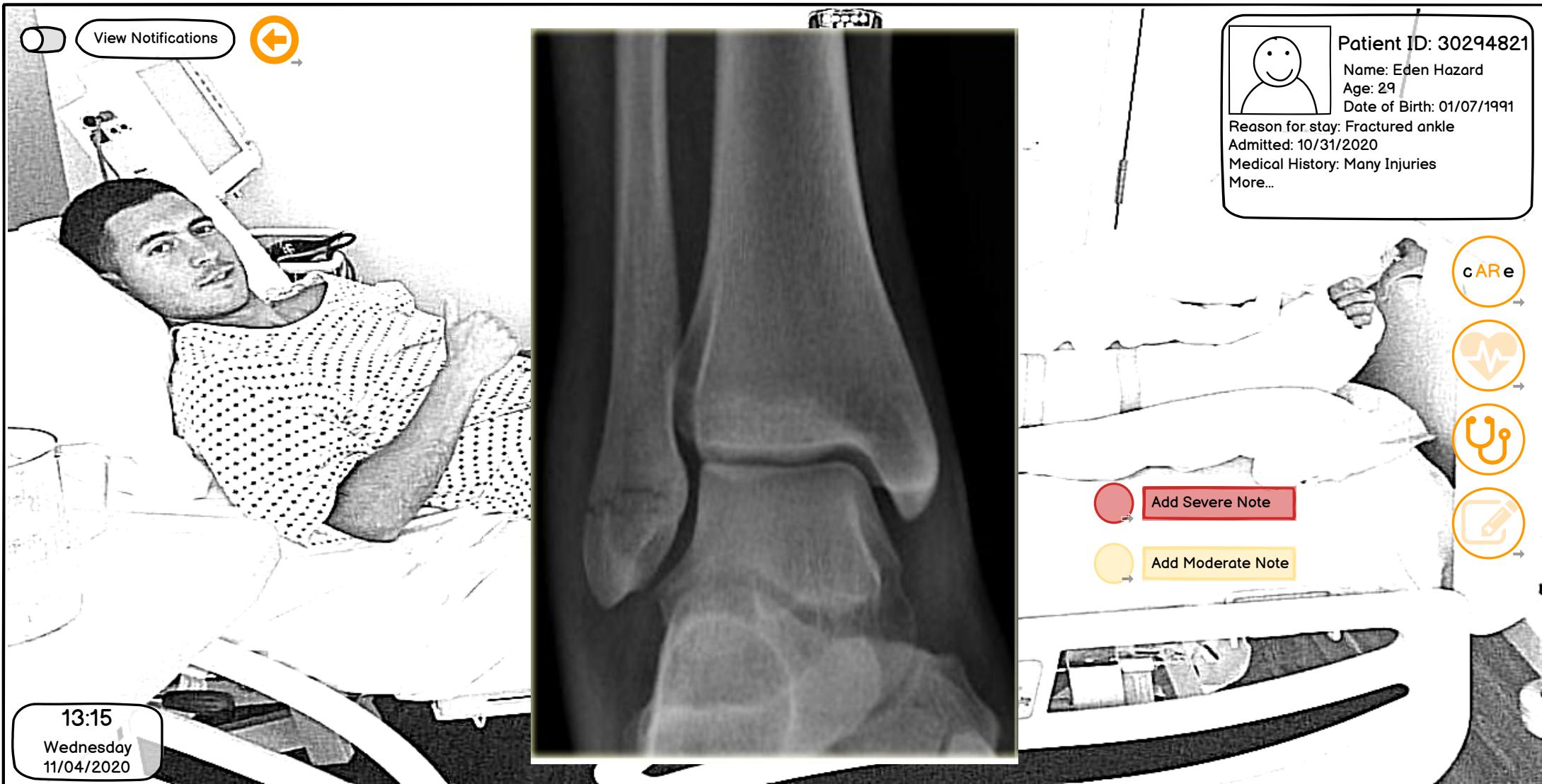
This single x-ray image with no notes added.

Tap on the plus button at the bottom right to add a note.

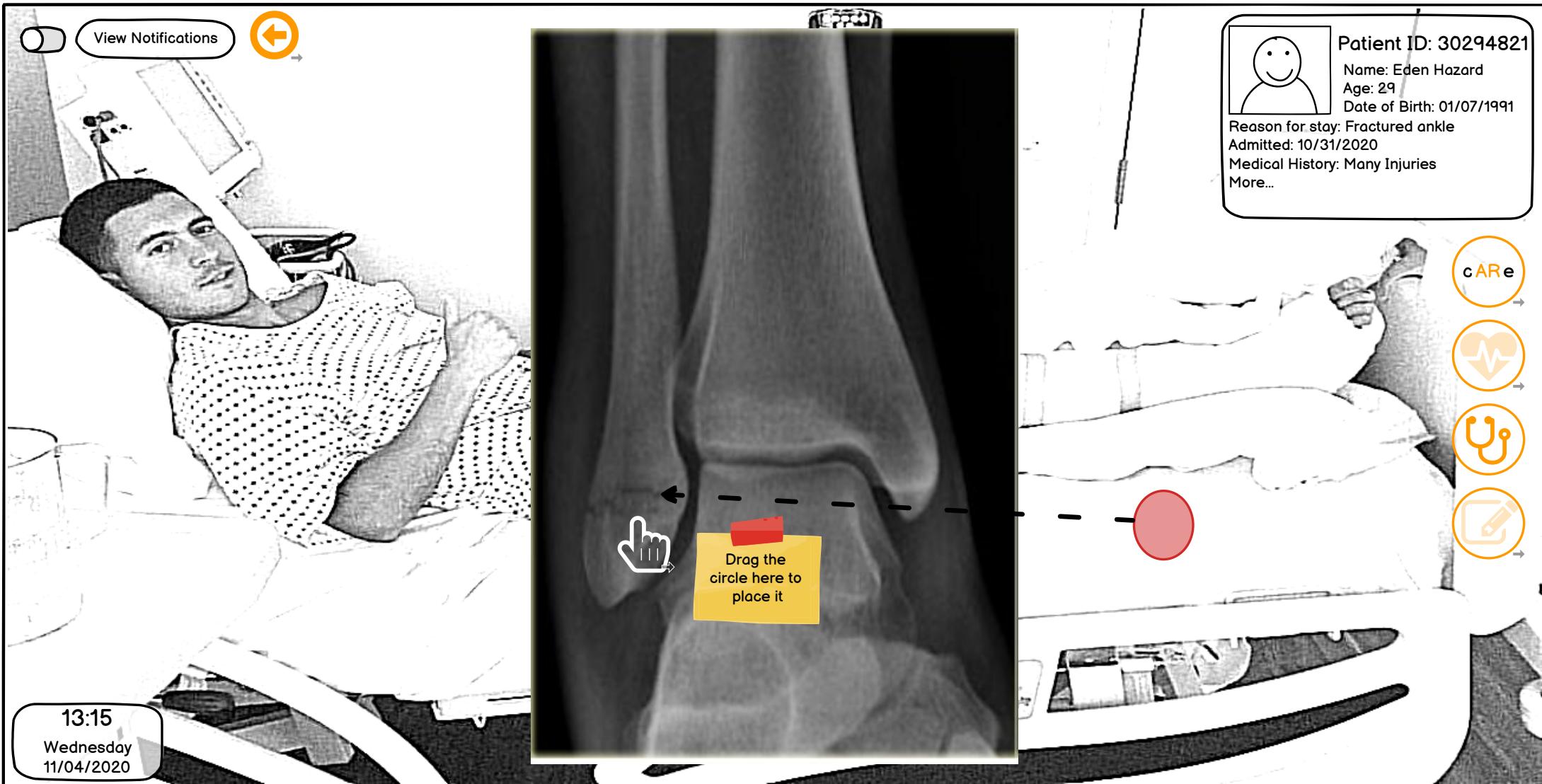
THIS IS THE ONLY SLIDE WHERE YOU CAN ADD TEST NOTES. ADDING NOTES TO OTHER TESTS FOLLOWS THE SAME PROCEDURE AS THIS ONE.

IT WOULD BE VERY VERY REPETITIVE TO SHOW THE SAME FUNCTIONALITY ON OTHER TEST IMAGES.

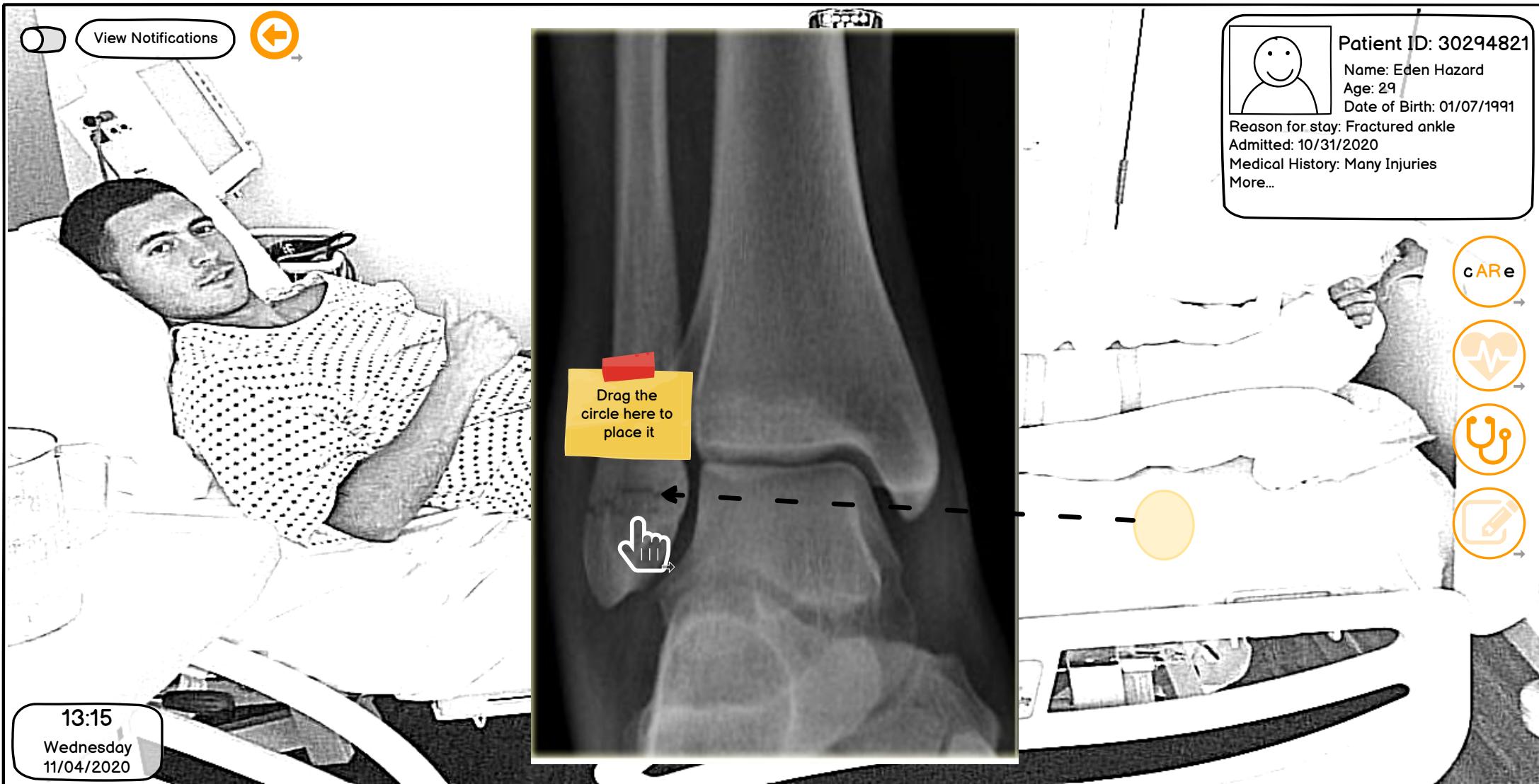
Approximately adding 10 wireframe slides per test image.



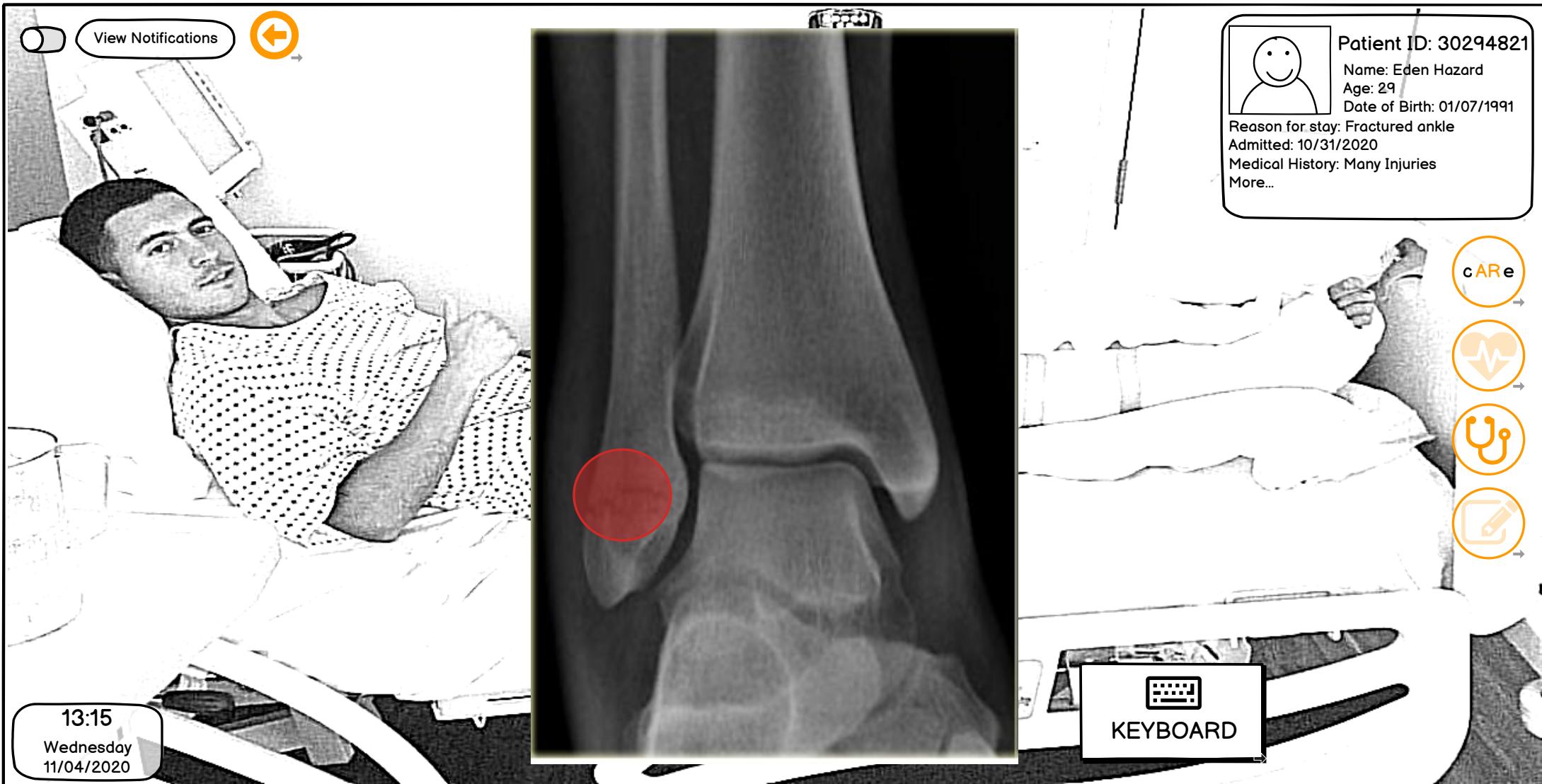
You have the option to add a severe red note. Or the moderate yellow note.



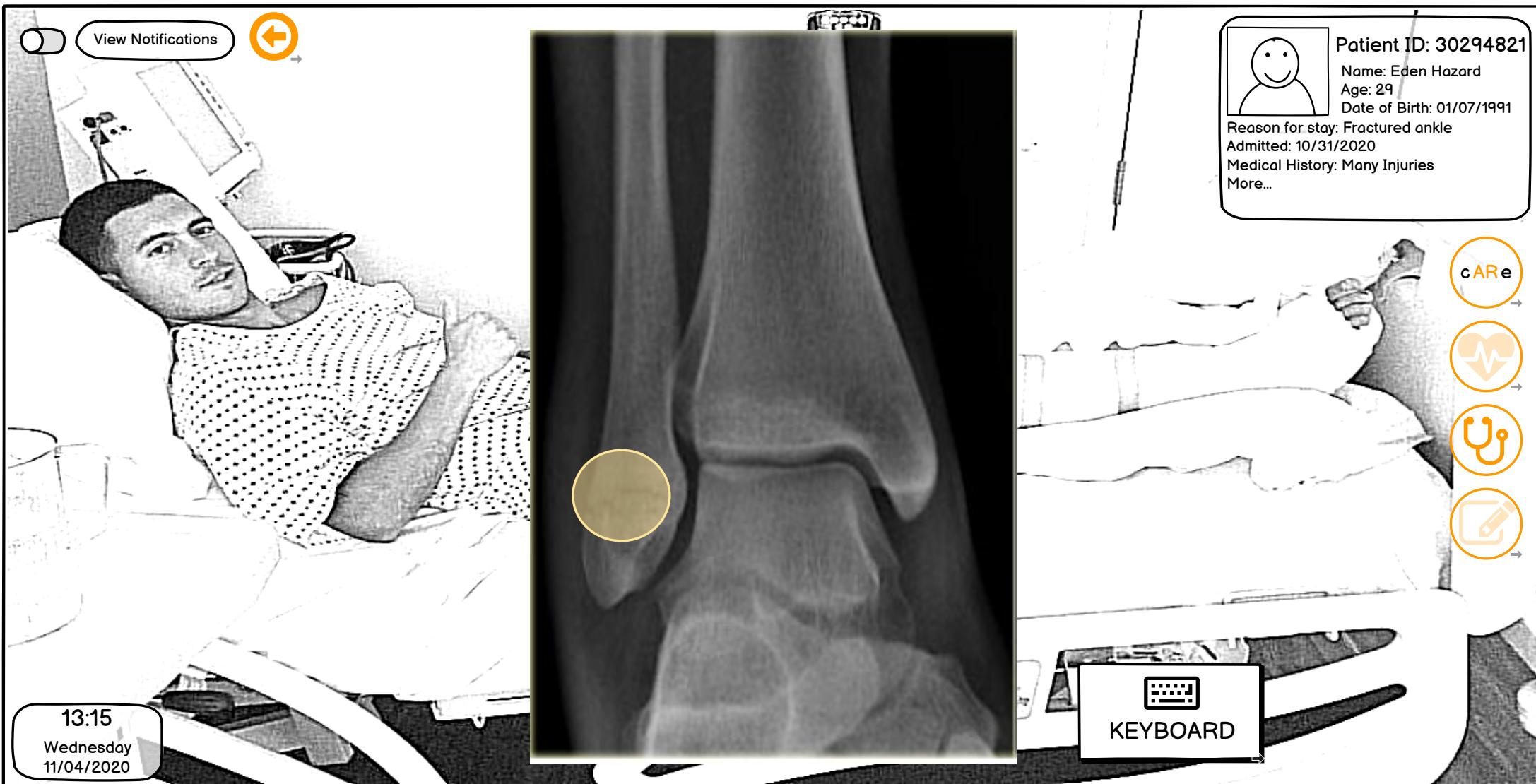
Drag the red circle note to the place you want.



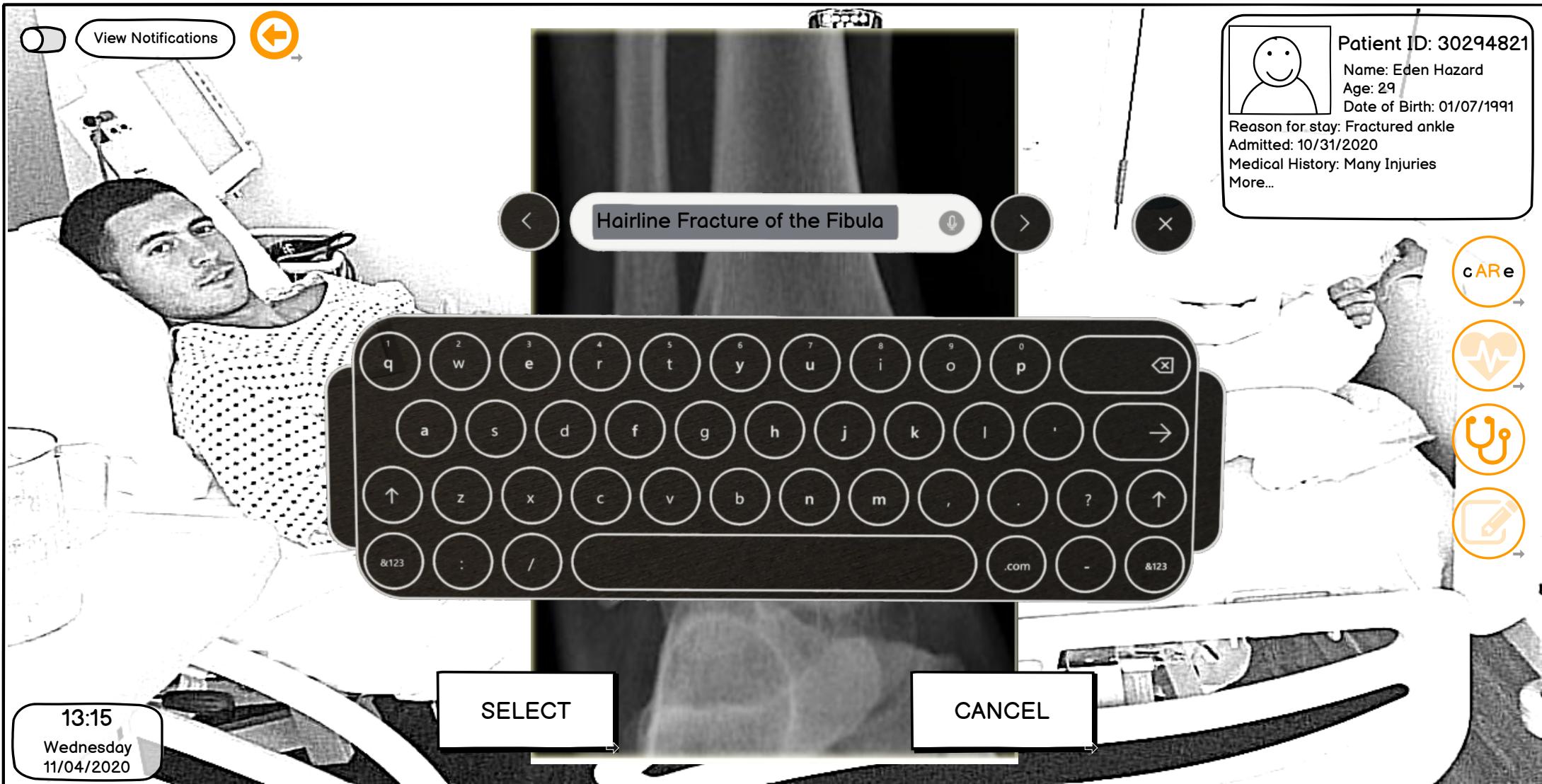
Drag the yellow circle note to the place you want.



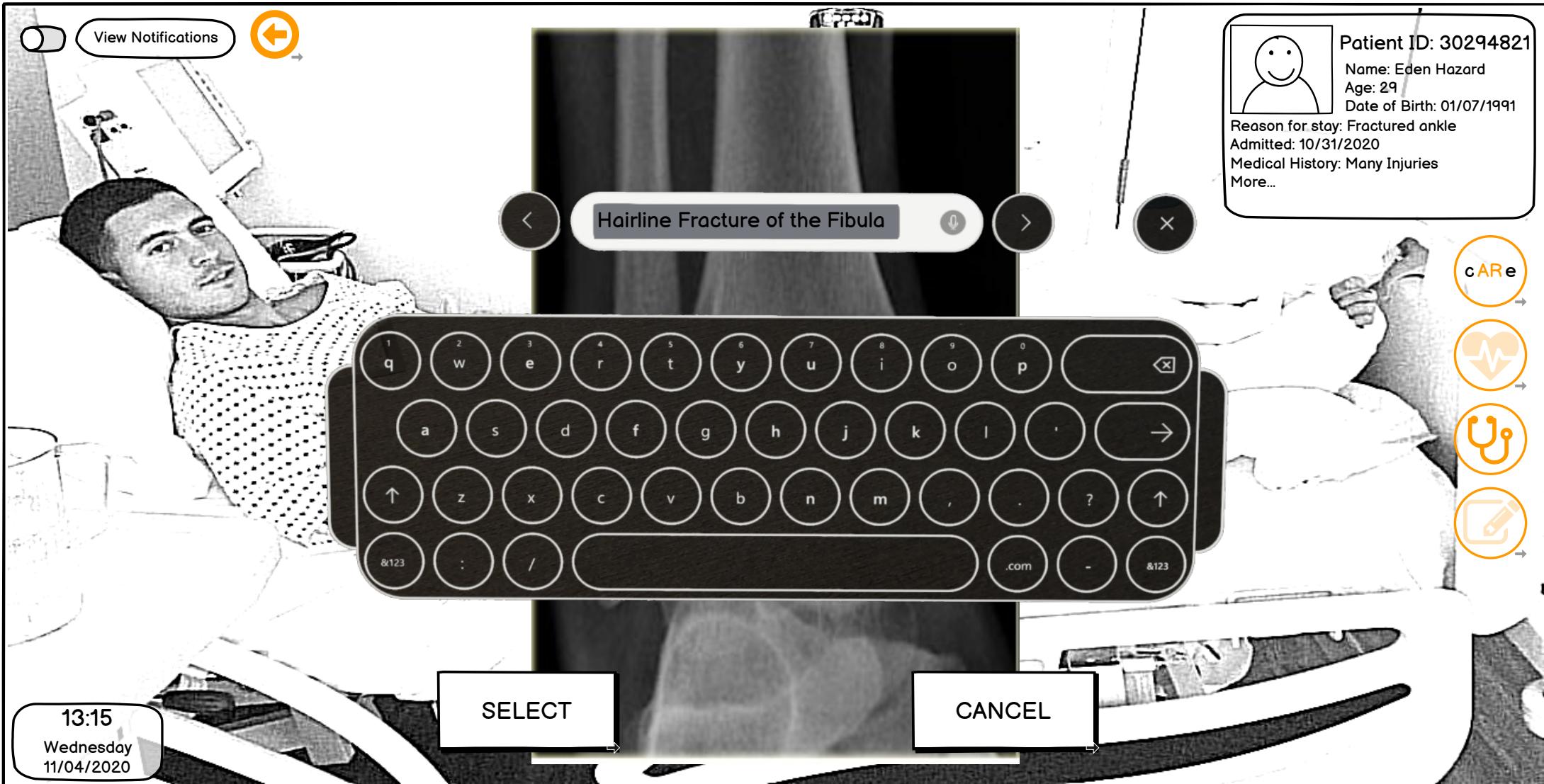
Tap on the keyboard to add the note description.



Tap on the keyboard to add the note description.



Keyboard pops up and you can add the content of the note.

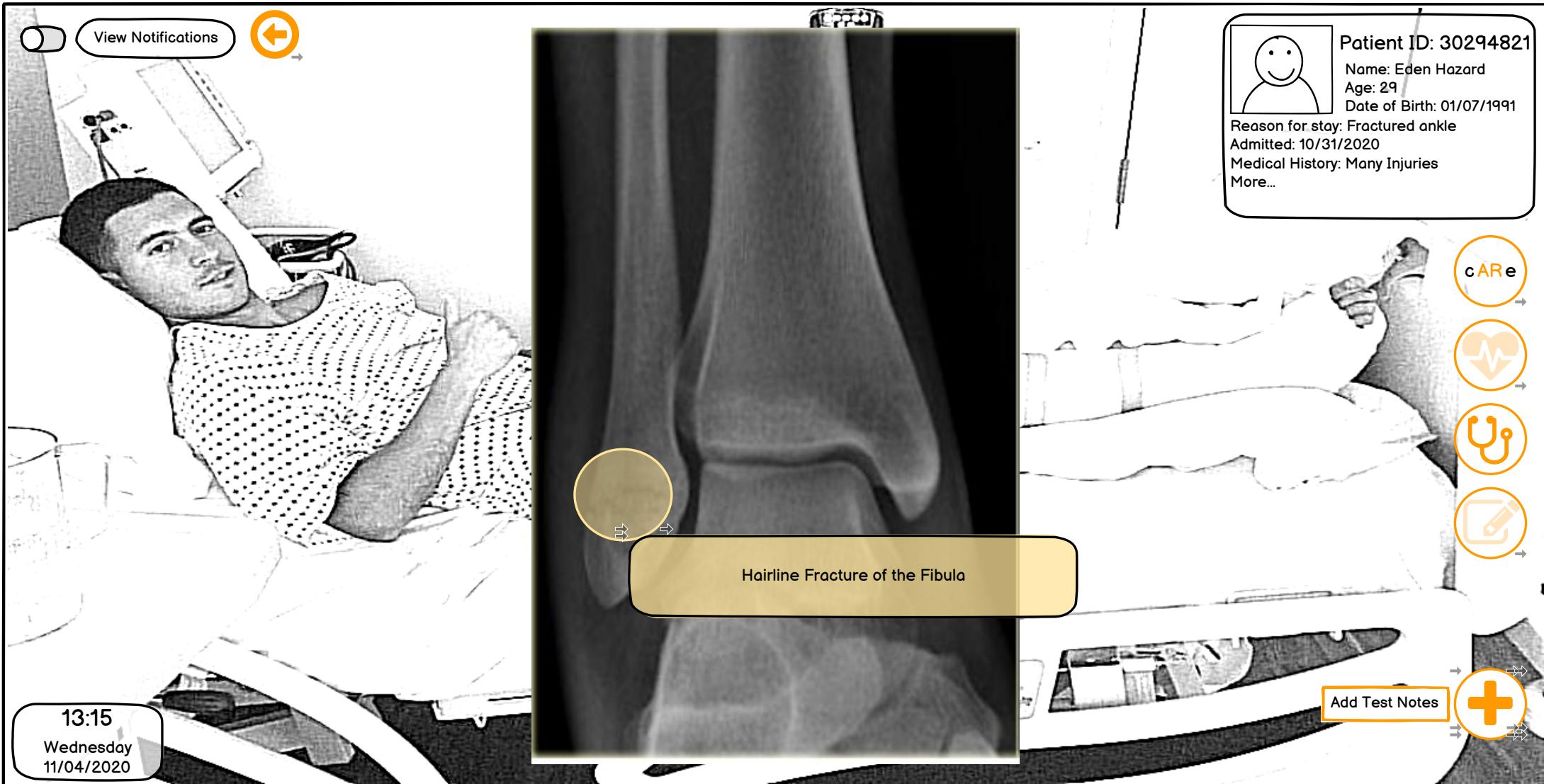


Keyboard pops up and you can add the content of the note.



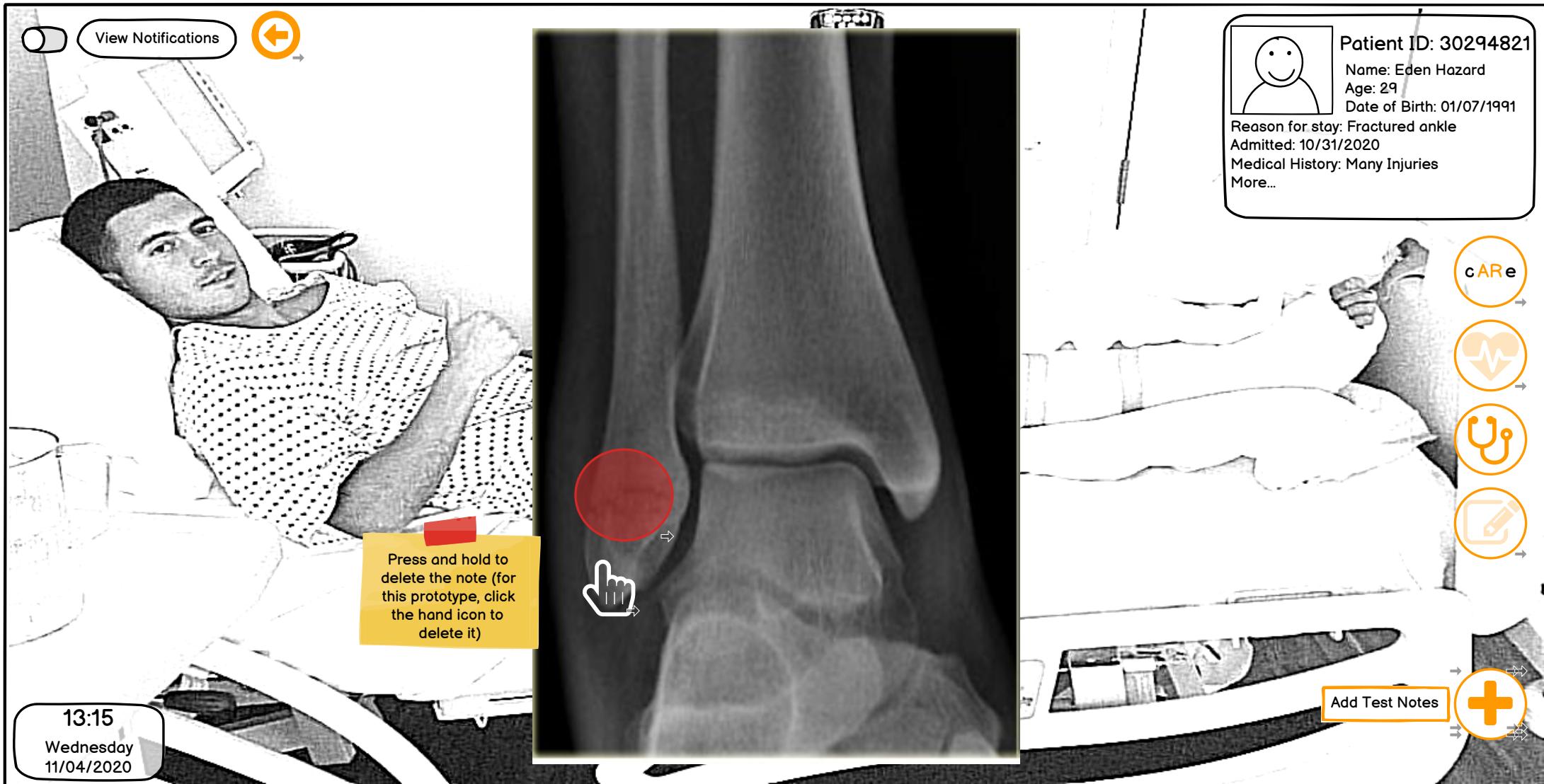
The red note has been added.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.



The yellow note has been added.

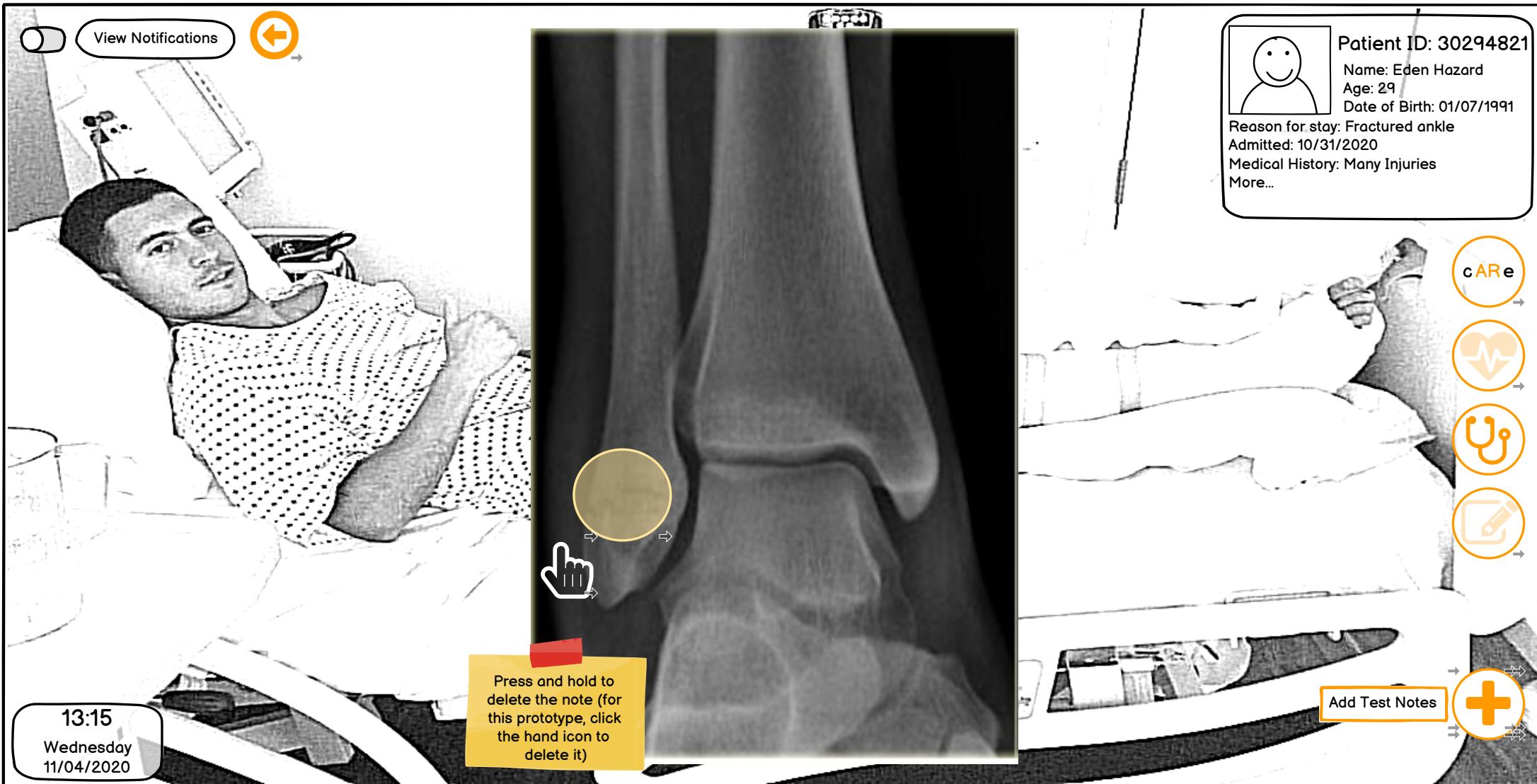
Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.



Closing out the content of the red note.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added

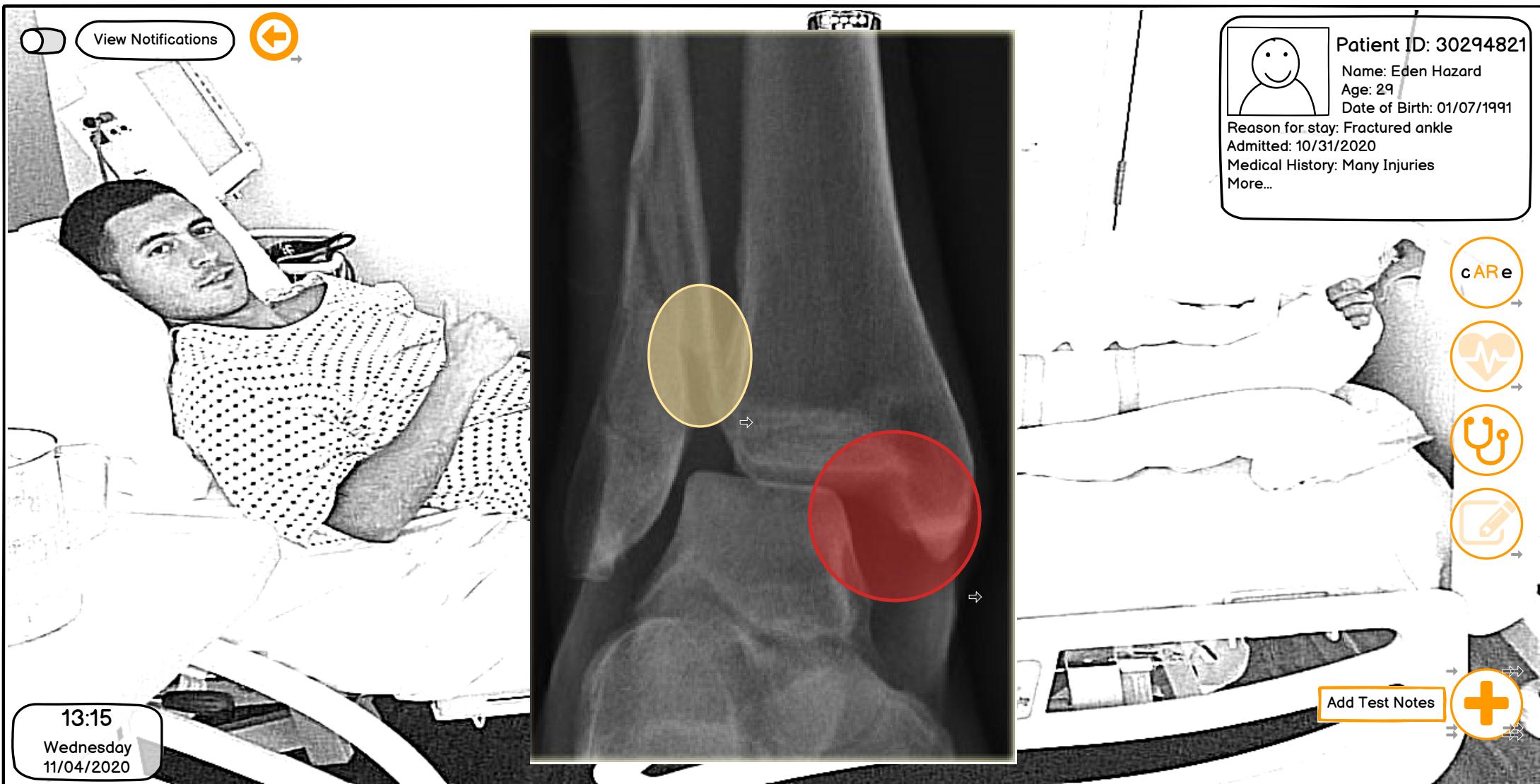
To delete a note you can tap and hold the red circle. For the purposes of this lo-fi prototype clicking the hand icon will represent note deletion.



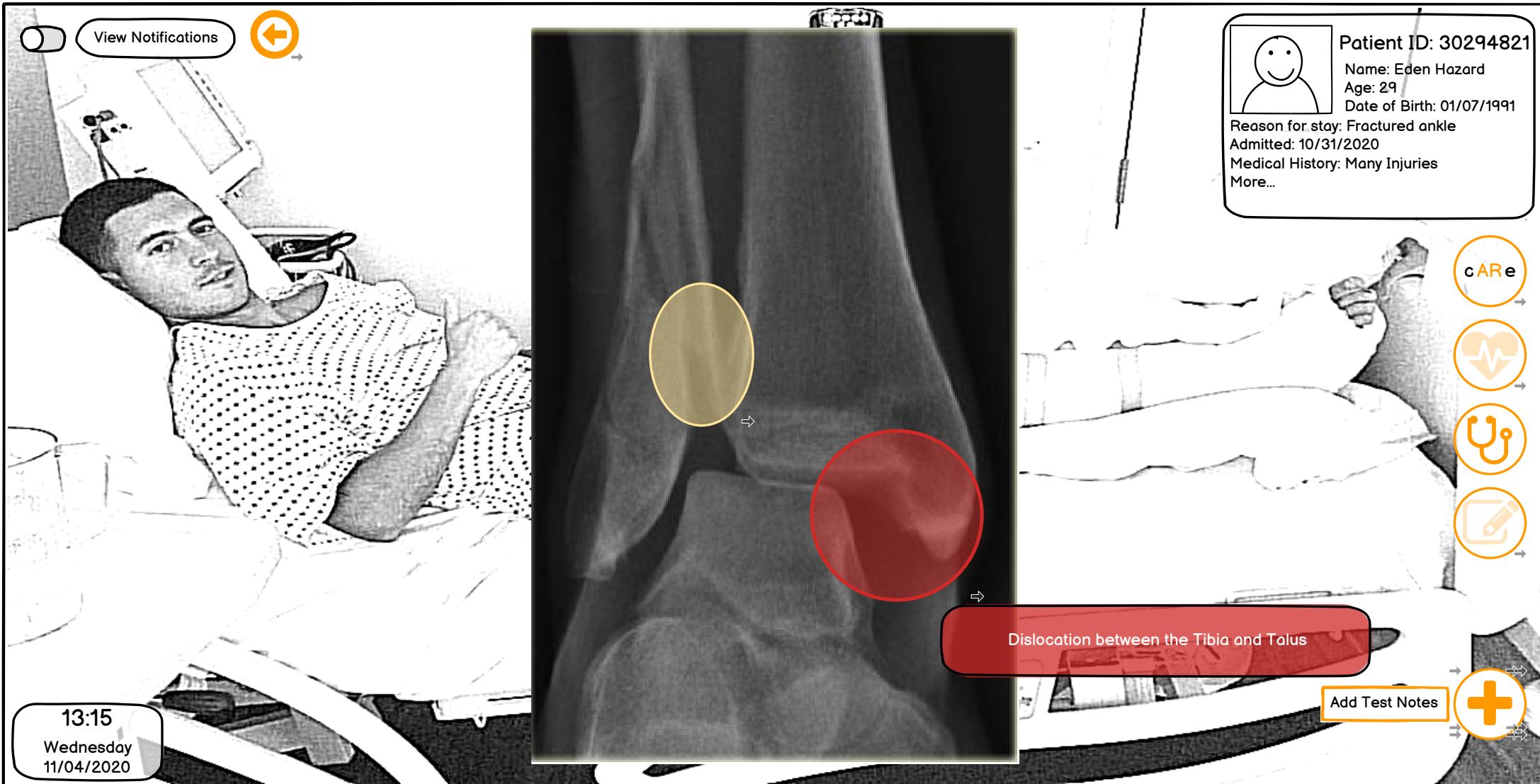
Closing out the content of the red note.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.

To delete a note you can tap and hold the red circle. For the purposes of this lo-fi prototype clicking the hand icon will represent note deletion.

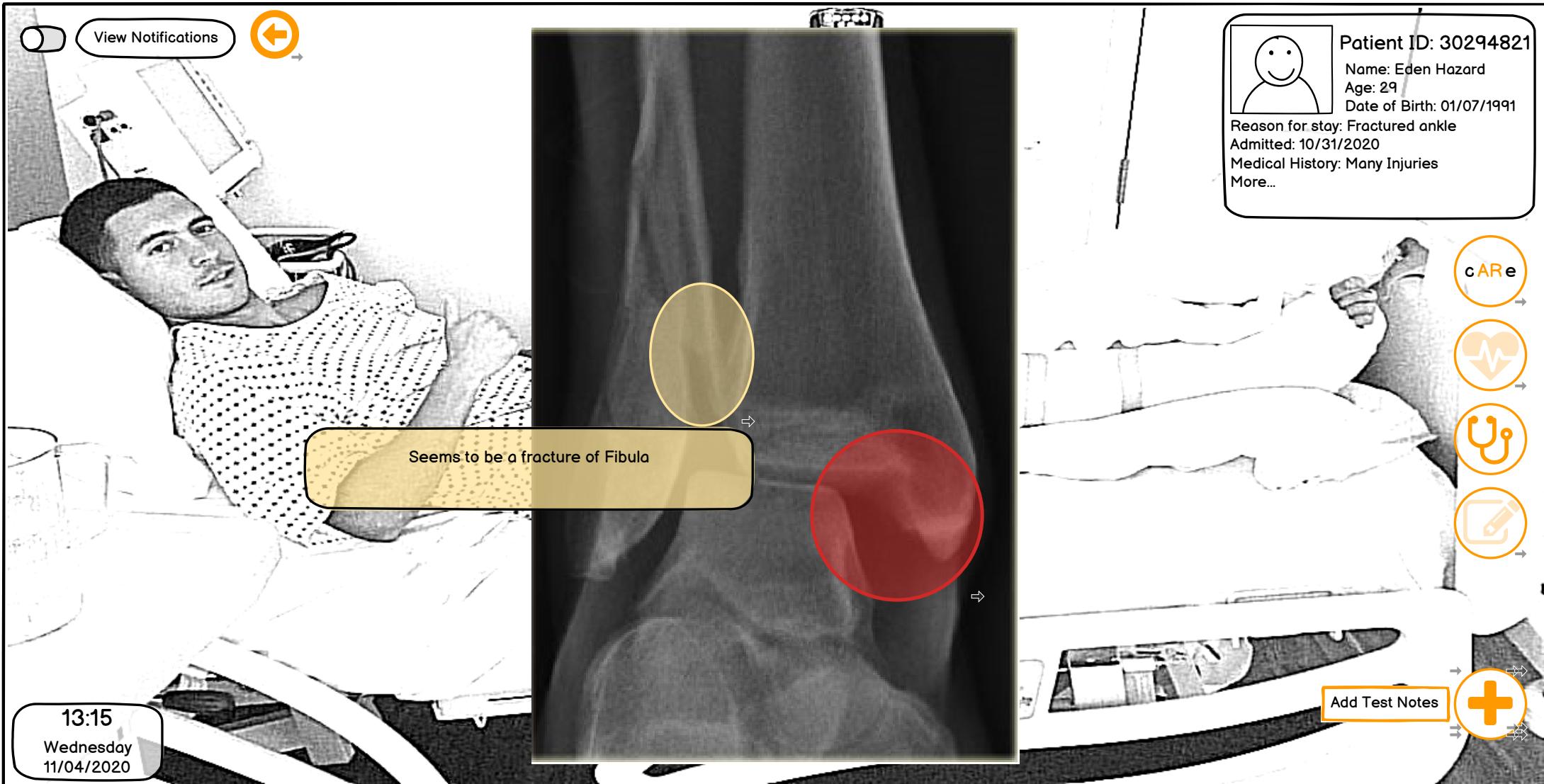


View of the more severe x-ray image. There is a severe note (red) and a less severe/moderate note (yellow).



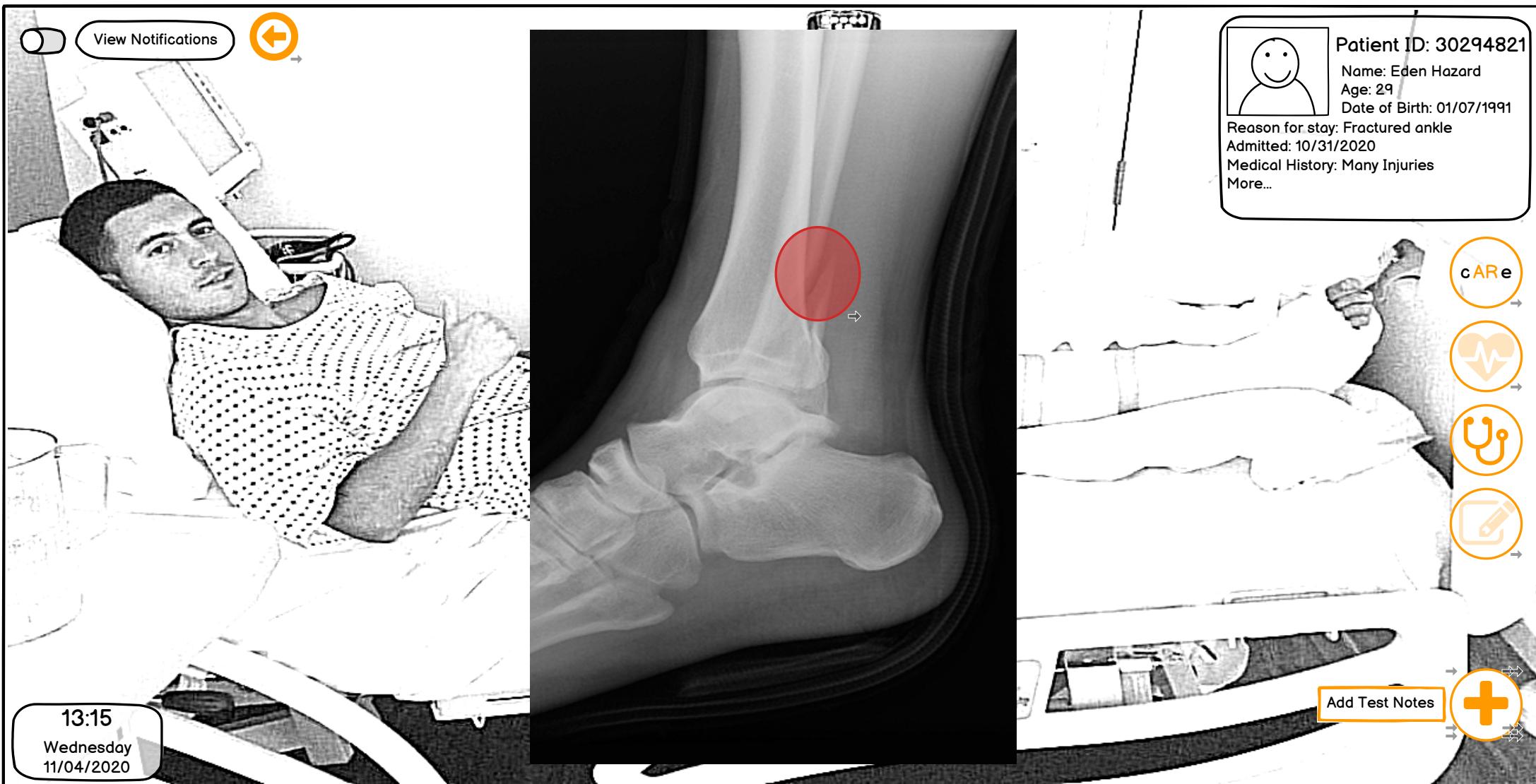
Viewing the severe red note.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.



Viewing the moderate note.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.



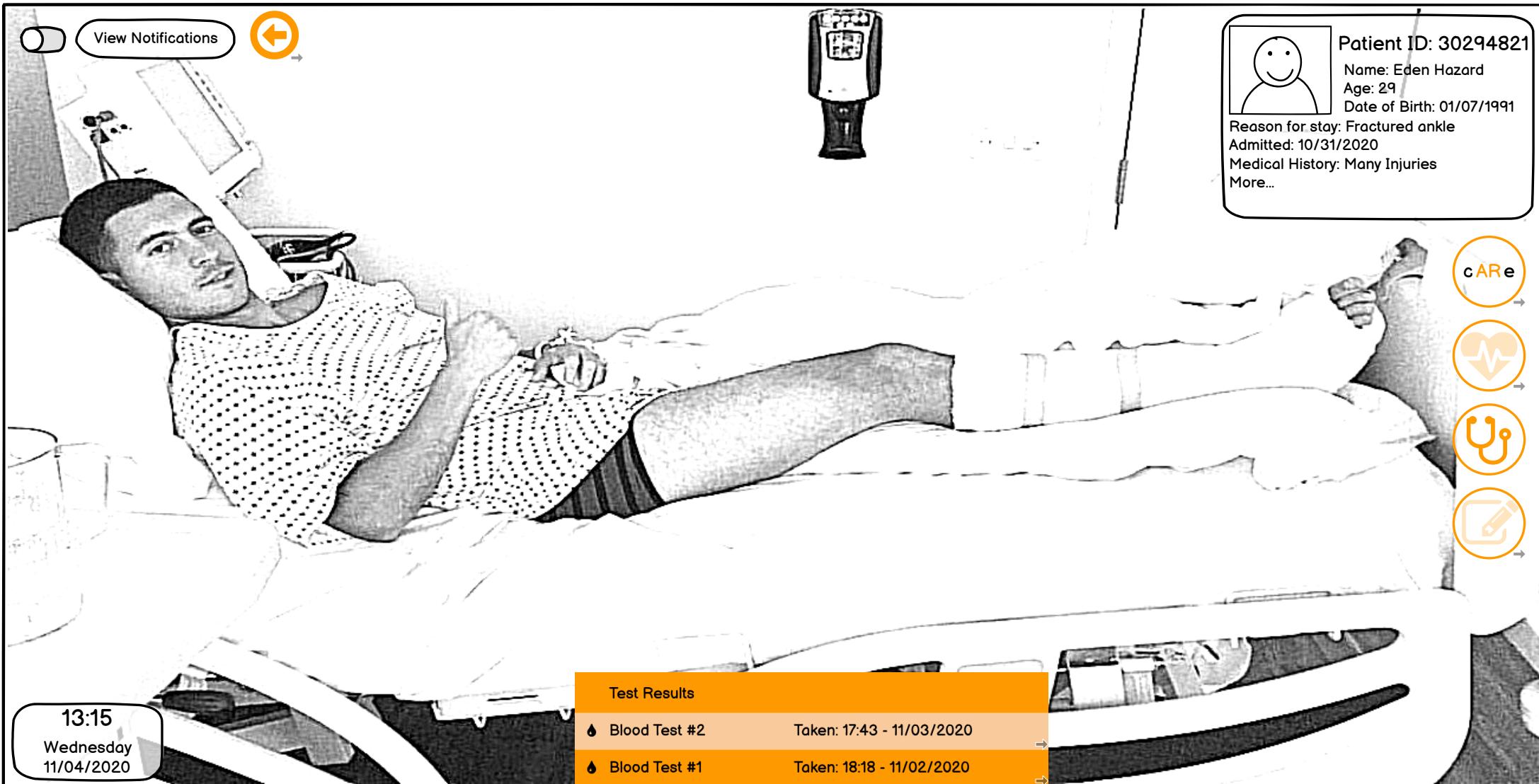
X-ray of the ankle from a different angle. There is a severe red note.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.



Viewing the content of the red note.

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.



The blood test result menu. Notice how the patient has taken two blood tests. You can tap on whichever test user wishes to see.

The image is a composite of several panels. On the left, a black and white photograph shows a patient lying in a hospital bed with a white head brace and a white support under their head. A small orange circle with a white arrow points from the top right towards this image. In the top right corner, there is a box containing patient information: Patient ID: 30294821, Name: Eden Hazard, Age: 29, Date of Birth: 01/07/1991, Reason for stay: Fractured ankle, Admitted: 10/31/2020, Medical History: Many Injuries, and a 'More...' link. Below this box, there is a vertical stack of four orange circular icons with arrows pointing right: 'cARe' (with a person icon), a heart rate monitor icon, a stethoscope icon, and a clipboard with a pencil icon. At the bottom, there is a timeline with two entries: 'Blood Test #2' taken at 17:43 - 11/03/2020 and 'Blood Test #1' taken at 18:18 - 11/02/2020. A yellow callout box with a red arrow pointing to it contains the text: 'Adding notes are identical to the flow shown in x-ray results'. To the right of this, another orange button says 'Add Test Notes' with a large orange plus sign icon.

Data	Mean value (n = 17)	Standard deviation (range)
HGB (g/dL)	13.34	$\pm 1.72$
Cystatin C (mg/L)	1.82	$\pm 0.64$
CRP (mg/dL)	m. 0.24	(0.02–12.8)
UA (mg/dL)	7.91	$\pm 1.13$
Creatinine (mg/dL)	2.04	$\pm 0.86$
CKD-EPI(Crea) (mL/min/1.73 m <sup>2</sup> )	48.71	$\pm 30.76$
CKD-EPI(Cys) (mL/min/1.73 m <sup>2</sup> )	46.59	$\pm 26.46$
CKD-EPI(Crea-Cys) (mL/min/1.73 m <sup>2</sup> )	46.53	$\pm 28.01$
Troponin I (ng/mL)	m. 0.015	(0.002–0.390)
NT-proBNP (pg/mL)	m. 82.80	(10.60–11799.00)

m.: median.

13:15  
Wednesday  
11/04/2020

Blood Test #2 Taken: 17:43 - 11/03/2020

Blood Test #1 Taken: 18:18 - 11/02/2020

Viewing the results of the first blood test. (Image is the same as the second one since there wasn't another image with the same format and different numbers).

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.

**View Notifications**

**Patient ID: 30294821**  
Name: Eden Hazard  
Age: 29  
Date of Birth: 01/07/1991  
Reason for stay: Fractured ankle  
Admitted: 10/31/2020  
Medical History: Many Injuries  
More...

**cARe**

**13:15**  
Wednesday  
11/04/2020

**Data**

	Mean value (n = 17)	Standard deviation (range)
HGB (g/dL)	13.34	±1.72
Cystatin C (mg/L)	1.82	±0.64
CRP (mg/dL)	m. 0.24	(0.02–12.8)
UA (mg/dL)	7.91	±1.13
Creatinine (mg/dL)	2.04	±0.86
CKD-EPI(Crea) (mL/min/1.73 m <sup>2</sup> )	48.71	±30.76
CKD-EPI(Cys) (mL/min/1.73 m <sup>2</sup> )	46.59	±26.46
CKD-EPI(Crea-Cys) (mL/min/1.73 m <sup>2</sup> )	46.53	±28.01
Troponin I (ng/mL)	m. 0.015	(0.002–0.390)
NT-proBNP (pg/mL)	m. 82.80	(10.60–11799.00)

m.: median.

**Blood Test #2** Taken: 17:43 - 11/03/2020

**Blood Test #1** Taken: 18:18 - 11/02/2020

**Add Test Notes**

Adding test notes is identical to the flow shown in x-ray results

Viewing the results of the second result test. (Image is the same as the first one since there wasn't another image with the same format and different numbers).

Tapping on "Add Test Notes" button would take you back to the x-ray image with no notes added.