

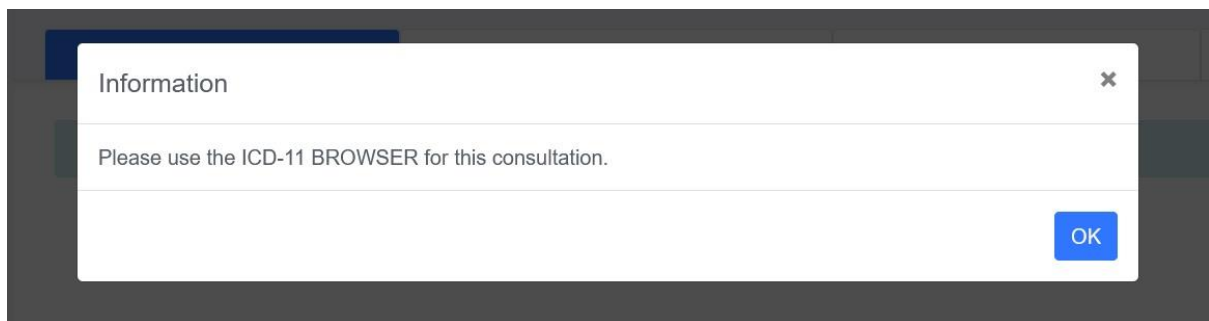
Instruction

In the following study, we will ask you to carry out patient consultations with four virtual patients. For ethical reasons, these patients are fictitious, but with lifelike pain complaints. It will be your aim in each consultation to reach the correct chronic pain diagnoses. The consultations will take place one after the other: Once you finished your consultation with a patient, you will be able to begin the next one.

In each consultation there will be three phases:

- (1) getting to know the patient and reviewing the pain chart they have answered before entering your consultation room.
- (2) A conversation with the patient where you will be able to ask as many questions as you need to reach a diagnosis.
- (3) A documentation chart, in which we would like you to enter the correct diagnosis / diagnoses and record your judgement about the diagnostic process.

We will explain the three phases in more detail later. We will ask you to diagnose two patients with the help of our classification algorithm, the other two with the help of the ICD-11 browser. At the beginning of each consultation, a message appears indicating if you should use the algorithm or the ICD-11 Browser:



Conversation with the patient:

Regarding the conversation with the patient, you will have to use a chat to ask the questions. You will be able to ask the patient any questions about his/her symptoms, medical history and relevant living circumstances, just like you would a real patient sitting in front of you. Sometimes, the patient may not understand your question. We hope this will not happen too often, but if it does, the patient will ask you to rephrase it. It could also help to check for typos in relevant keywords.

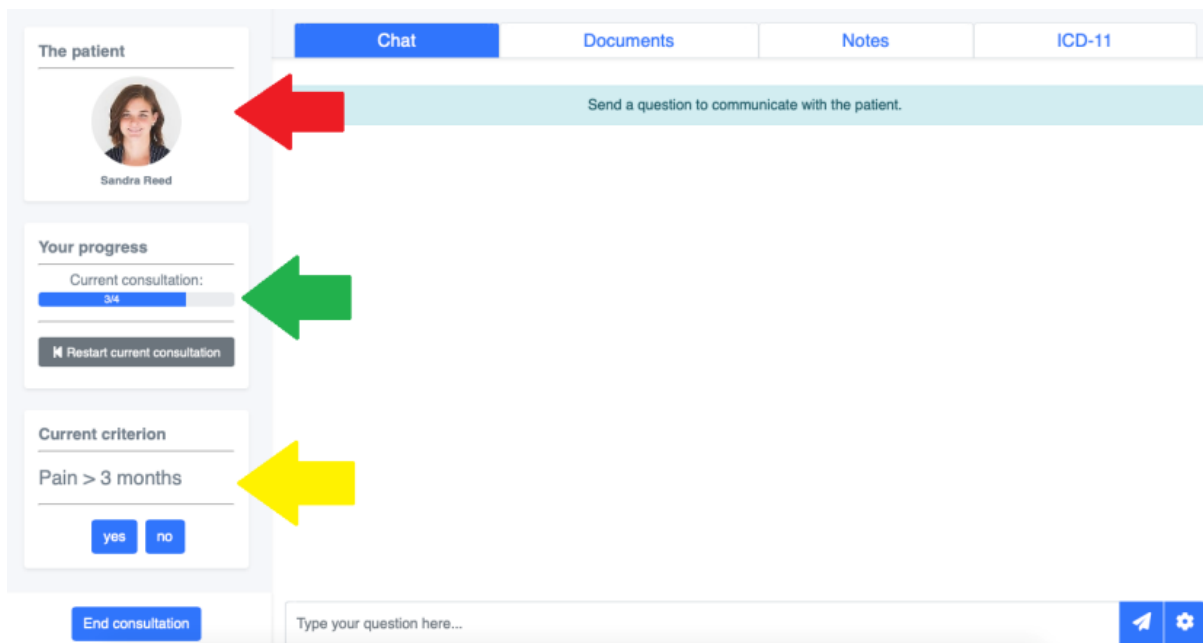
Generally, the virtual patient is very well informed about the medical findings in his case, will be able to produce relevant material if asked and to answer questions about things you may normally judge from the clinical examination. Please note, however, that the patient is not able to keep track of the conversation like a real person would (i.e. if you ask "have we spoken about all of your problems?" he/she will not be able to answer because they cannot recount the conversation in their "minds").

Interaction with the patient:

Rule	✘	✔
The patient is not able to keep track of the conversation. This also means, s/he cannot understand pronouns. Please use nouns so that the sentence can be understood on its own.	And does it help?	Was your pain better after treatment ?
	When did it start?	When did your pain start?
	Does it have patterns?	What is the pattern of your pain ? What is the temporal pattern of your pain?
This is a natural question to ask real patients to make sure you have covered everything. The virtual patient cannot process this question as s/he does not know which problems were discussed. Therefore we provided each patient with a pain chart to help you with this type of assessment. So you should be able to ask directly for the pain marked in the chart	Do you have any other problems?	<i>Look in the pain chart</i>
Please use complete sentences. If you just use one word, the patient does not know what you mean.	Rheumatism?	Do you suffer from rheumatism?
The patient cannot calculate or answer questions about particular years.	You said your pain started in 2018, has anything happened in 2018?	Did anything stressful happen before the pain started?

Once you have registered with your personal code, the program starts immediately with the first consultation.

This is what you will see:

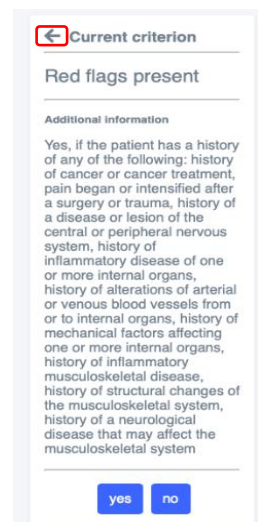
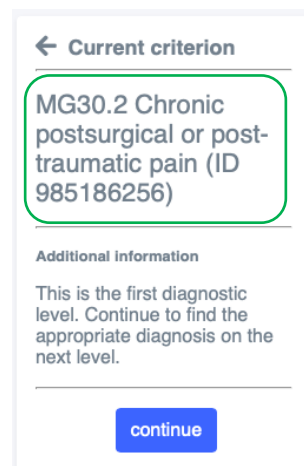


In the top left you see a picture and the name of the patient. The progress of the consultations is shown below. If you would like to restart the consultation, you can do so by pressing the button. It is possible to take a break between the individual consultations and continue later by logging in again. Just close the browser window, when you've finished the current consultation. (Please do not take a break during a consultation.) The next time you log in with your personal code, the program starts with the next consultation.

If you are currently in the condition of the diagnostic algorithm, the current criterion of the diagnostic algorithm is displayed on the bottom left side of the page. You can navigate through the diagnostic algorithm during the consultation by clicking on the buttons displayed (yes / no). You will have to judge on the basis of your questions and the patient's answers whether the criterion is fulfilled (yes) or not (no). The diagnostic algorithm will then take you to the next criterion and thereby guide you through the diagnostic process. In the end, it will display the correct diagnosis and a numerical ID. **Please make sure to note both down as you will need it later.**


You may also copy and paste the name and the ID of the diagnosis to the notes tab (the notes tab is explained further down.) Copy-paste is even easier.

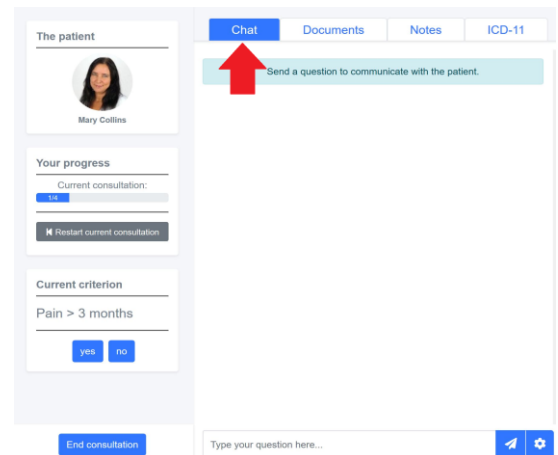
If you accidentally clicked on the wrong button, you can go back with the arrow in the left top corner.



On the top of the page you will see four tabs that you can click on.

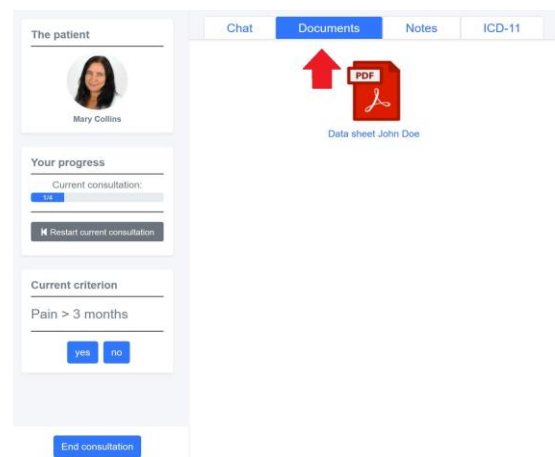
1. „Chat“ Tab

The “Chat” Tab leads you to the chat section. Here you can communicate with your patient. To ask a question just type it in and press “Enter” on your keyboard or click the symbol with the paper plane . Please note that you should ask questions that you would’ve asked in a real-life clinical routine. Be aware that your virtual patients know a lot about their condition.



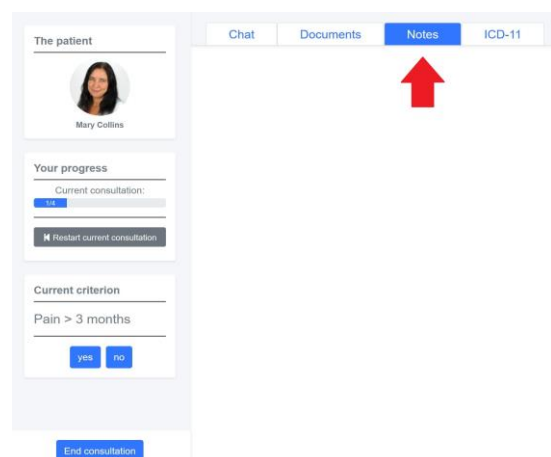
2. „Documents“ Tab

Here you can find important documents of your patient as a PDF file. You can read it by clicking on it. The file will open automatically. Some basic information (including a pain chart) are accessible throughout the consultation. If your patient has an additional finding (such as a blood test or an x-ray) he or she will offer the document when you request it. Then the result will be added as another PDF file within the chat. These documents will also be available in the “Documents” tab so you can access them whenever needed.



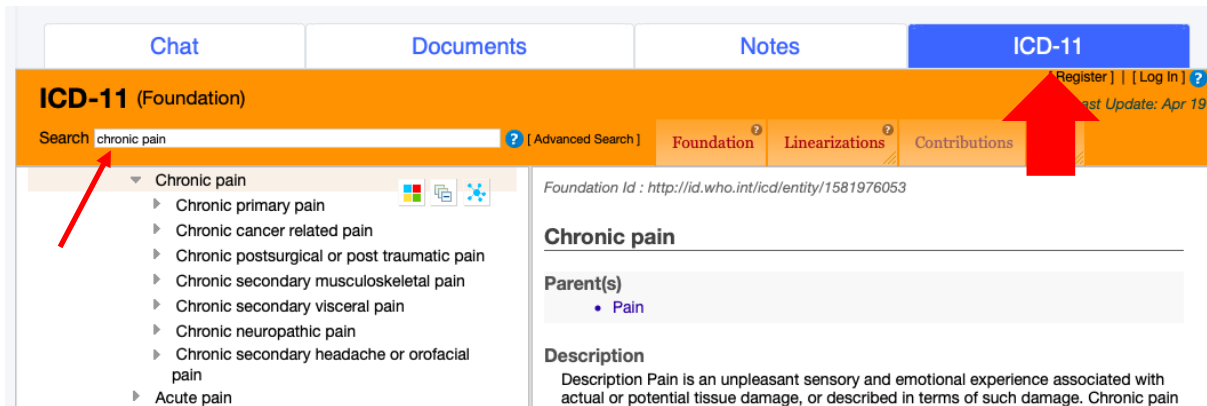
3. „Notes“ Tab

The note tab is there for your convenience. You can note down anything important during the consultation here. We encourage you to use it to copy-paste the name and the numeric ID of the diagnosis in this tab to have it available later. Your entries will be saved automatically for the duration of the consultation. Once you start a new consultation all tabs are reset.



4. “ICD-11” Tab

In two of four consultations you will have to use the tab “ICD-11” on the top right side of the screen. If you click on it, the ICD-11 Browser will open in the current browser window. You will see the structure of the ICD-11 Foundation with all diagnoses. You can open the structure by clicking on the ▾.



To navigate to the chronic pain conditions you can enter “chronic pain” into the search field on top of the page.

When opening the chronic pain category with the ▾, you will see the first diagnostic level of the chronic pain classification *as is shown in this screenshot*. If you open more levels of the structure you will get to the diagnostic sublevels two and three etc. Please try to make the diagnosis as specific as possible (meaning to make a diagnosis at level three is better than a diagnosis at level one).

If you click on the title of a diagnosis in the structure, the description of the condition will appear on the right side of the screen. It includes **information** regarding the diagnosis as well as **diagnostic criteria** and **inclusion and exclusion terms**.

As soon as you have found the right chronic pain diagnosis for your patient, please copy the **full title and the Foundation ID** (e.g. “Chronic secondary musculoskeletal pain due to disease of the nervous system; ID 2019368323”) into the “Notes”-section. The ID is the number behind the link right above the title of the diagnosis. Copying it into the “Notes”-section will help you later to remember and write down the correct diagnosis when you’ve finished the consultation. The number is important because it uniquely identifies the diagnosis (a bit like a DOI number).

The screenshot shows the ICD-11 search interface. On the left, there is a patient profile for Mary Collins and a progress bar for the current consultation (2/4). The main area is titled 'ICD-11 (Foundation)' and contains a search bar with 'chronic pain' entered. A dropdown menu shows a list of categories under 'Chronic pain', with 'Chronic pain' selected. The right panel displays the details for 'Chronic pain', including its Foundation ID (http://id.who.int/icd/entity/1581976053), parent(s) (Pain), and a detailed description. A red arrow points to the 'End consultation' button at the bottom left of the screen.

End of consultation

When you feel satisfied that you have completed the diagnostic process and are ready to document the diagnosis / diagnoses for your patient, you can click on the blue button “End consultation” on the left bottom of the screen.

The screenshot shows the ICD-11 search interface for patient Sandra Reed. The progress bar indicates the current consultation is 3/4. The 'Current criterion' section shows 'Pain > 3 months' with 'yes' and 'no' buttons. A red arrow points to the 'End consultation' button at the bottom left of the screen. The right panel shows a search bar with 'Type your question here...' and a search icon.

The screen will change, and you will see your notes on top of the page. Below, you will then be asked to enter all chronic pain diagnoses and IDs that apply to the current patient. Please make your diagnosis as specific as possible (meaning that you should always try to make a

diagnosis at level three). If you arrived at the diagnosis with the help of the diagnostic algorithm, you only have to enter the final diagnosis, not every diagnosis on the way (e.g. if you made a diagnosis at level three you don't have to enter the diagnoses you passed at level one and two). If the patient in your view has more than one diagnosis, you can add more text fields by clicking on "+ Add diagnosis" (blue button). If you want to delete a diagnosis, you can click on the red button with the trash can. Please note that – just like in real life – some patients may just have one diagnosis while some may have comorbid diagnoses. Please enter all you think apply. After inserting all chronic pain diagnoses you will be asked to answer a few questions by dragging the slider to the right point on the scale.

When you've finished all questions click "Submit evaluation" (blue button) on the bottom right side of the page.

Now you have finished the consultation for this patient! The next consultation will begin. If you want to take a break, this is a good time! You can just close the browser window. To continue you just have to log in again with your personal code and the study will continue right at the point you paused.

At the end of all consultations

After you have finished all four consultations, we would be very interested in your experience. Therefore we will ask a few general questions regarding the diagnostic process and what you think about the algorithm. Since we are aware that a virtual patient is a new experience, too, we would also like you to answer a few questions about the virtual patient

system. Some of those will have open text fields to insert your answers, others again sliders or just multiple-choice answers. When finished, you can click on the button “Submit evaluation” again and the study is finished. You can then close the browser window.

Thank you very much for taking part in this study!