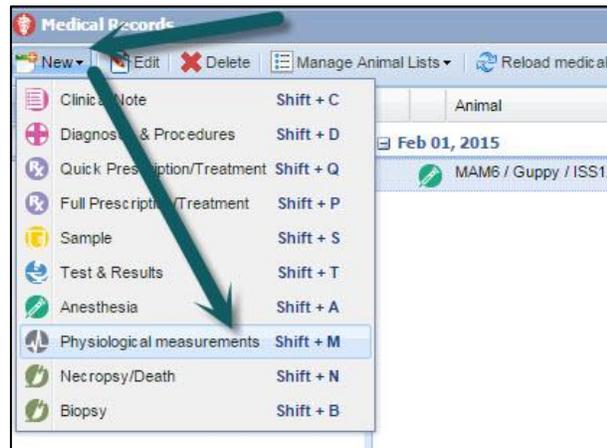# Physiological Measurements

## Recording measurements of physiological data
Contact Species360 Support

There is a growing list of measurements types found under Physiological Measurements module, including:

- Body temperature
- Capillary refill time
- Diastolic direct blood pressure
- Diastolic indirect blood pressure
- Diastolic indirect blood pressure
- Diastolic indirect blood pressure
- End tidal carbon dioxide
- End tidal carbon dioxide
- End tidal carbon dioxide
- End tidal carbon dioxide
- Heart rate Intraocular pressure
- Mean direct blood pressure
- Mean indirect blood pressure
- Mean indirect blood pressure
- Mean indirect blood pressure
- Oxygen saturation
- Respiratory rate
- Systolic direct blood pressure
- Systolic indirect blood pressure
- Systolic indirect blood pressure
- Systolic indirect blood pressure



To add a new Physiological Measurement, select the New button on the left hand side at the top of the Dashboard.

If the animal record is in focus (highlighted), the GAN will prefill in the Animal ID field on the next screen. If it is not, you will need to find the appropriate animal by entering an identifier in the Animal ID field.
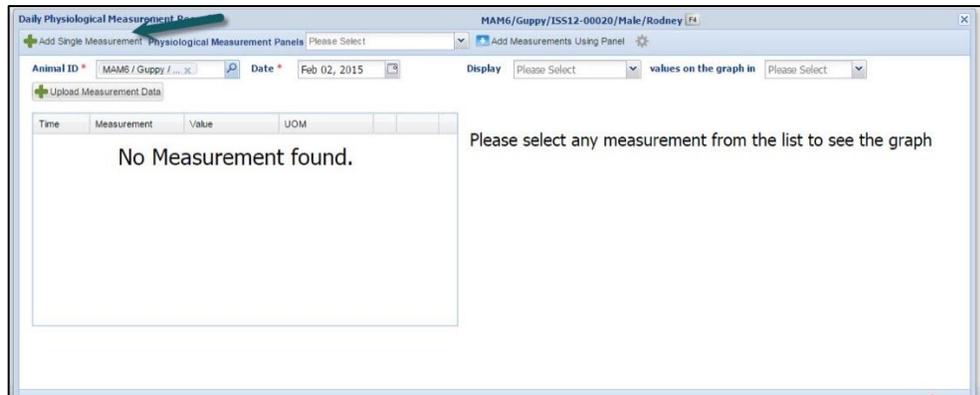
You can add a single Physiological Measurement by selecting the Add Single Measurement button.
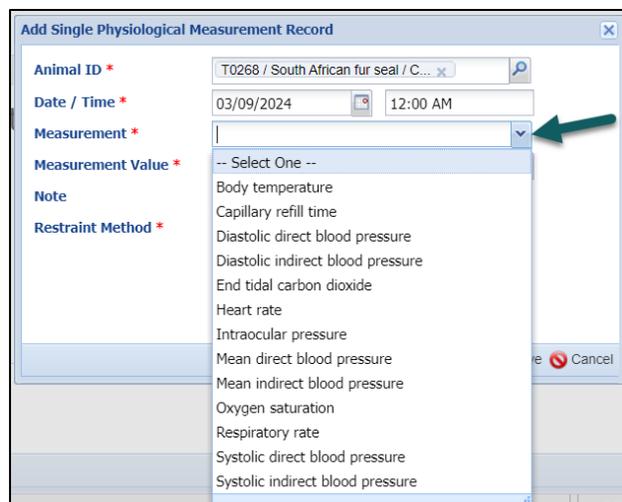


If more than one of the same measurement is taken the same day, recording the time becomes important. Select the desired Physiological Measurement.
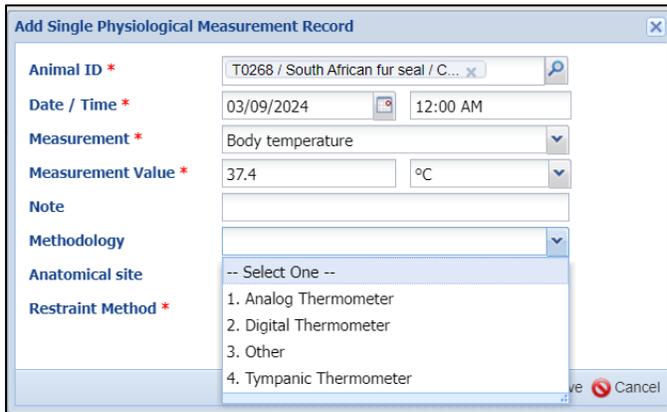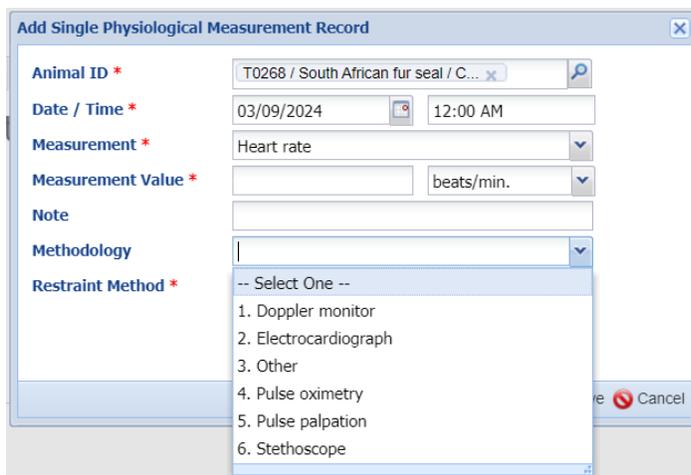
What is selected for the Measurement field will filter what is available to select from for the Methodology. Above we have selected Body Temperature so the Methodology is various types of thermometers.
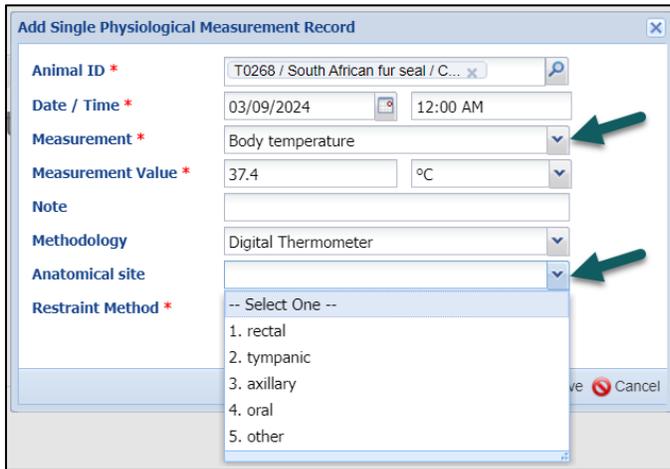


Above we have selected Heart Rate so the Methodology is a different selection of devices that measure heart rate.

For measurements that require noting where on the animal the measurement was taken, a field titled Anatomical Site is activated. The Above example is Anatomical Sites for measuring Body Temperature.
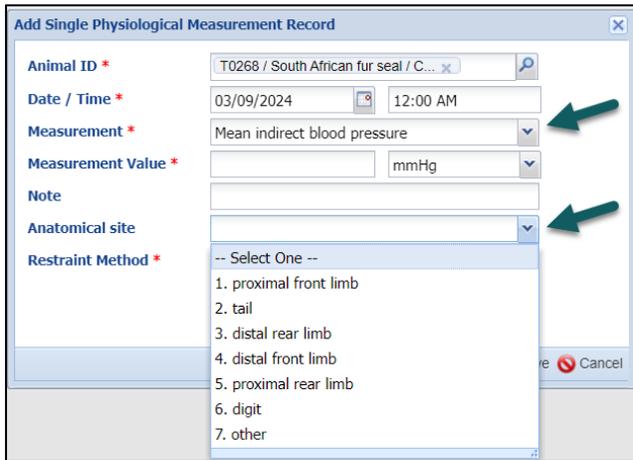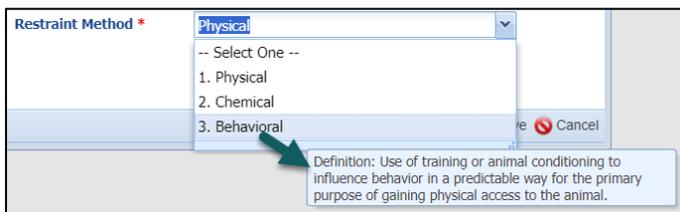


The above example is Anatomical Sites for measuring Mean Indirect Blood Pressure.



The Restraint Method field is active for all types of measurements. Hovering over the term will display the definition of the method of restraint.

You also have the ability to exclude the measurement from being included in reference intervals that are a compilation of data recorded in the Species360 database. The reference intervals gather information on measurements that are considered normal and various reasons may cause you to wish them to be excluded.



When a record is highlighted in the middle dashboard the lower part of the screen becomes a preview pane. This is where you would choose to Export to pdf, Edit the record, or Maximize it to view the details recorded.
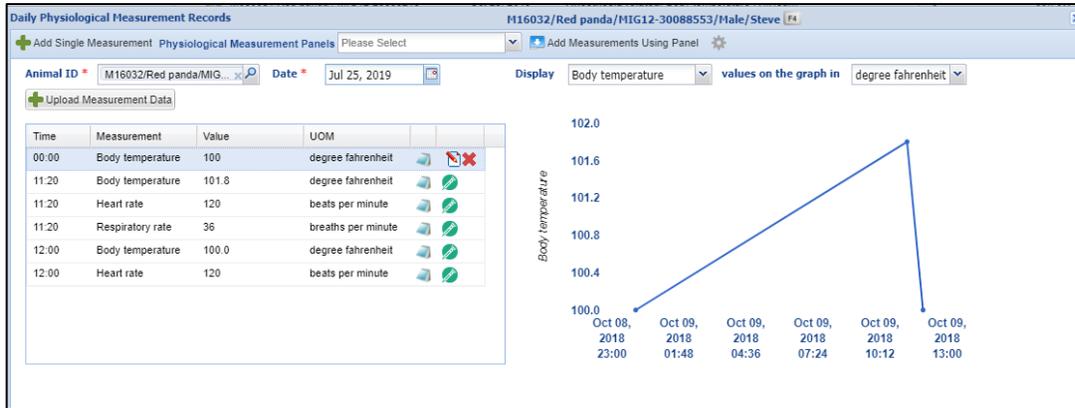
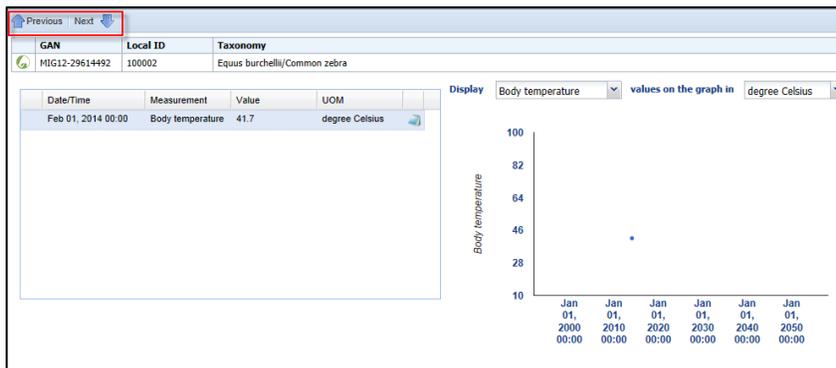To edit a record, you must do so from the source of the data. The top Body Temperature was recorded in the Physiological Measurements module, so you can edit or delete it here. The other measurements were recorded in the Anesthesia module. Selecting the icon will open the tab in the Anesthesia module were it was recorded and you can edit or delete it from there.



The maximized view will display the measurement recorded and the measurement in a graph. Using the Previous and Next arrows, you can quickly move to measurements taken on other dates.

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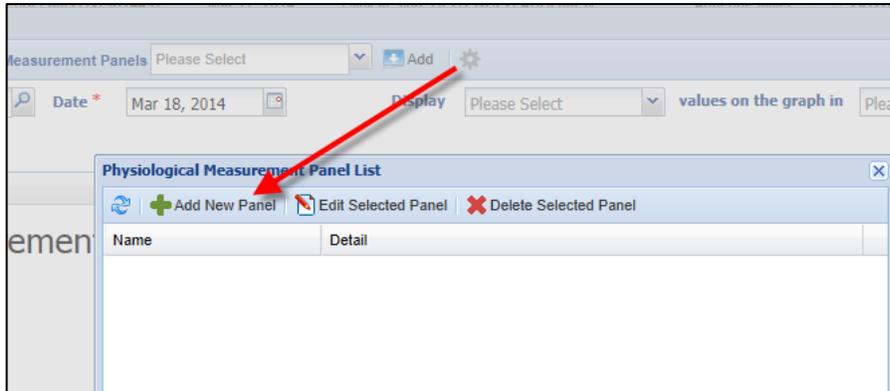
To save data entry time, you can create a Panel for the Physiological Measurements that are commonly recorded simultaneously. A Panel fills multiple data fields and can create multiple records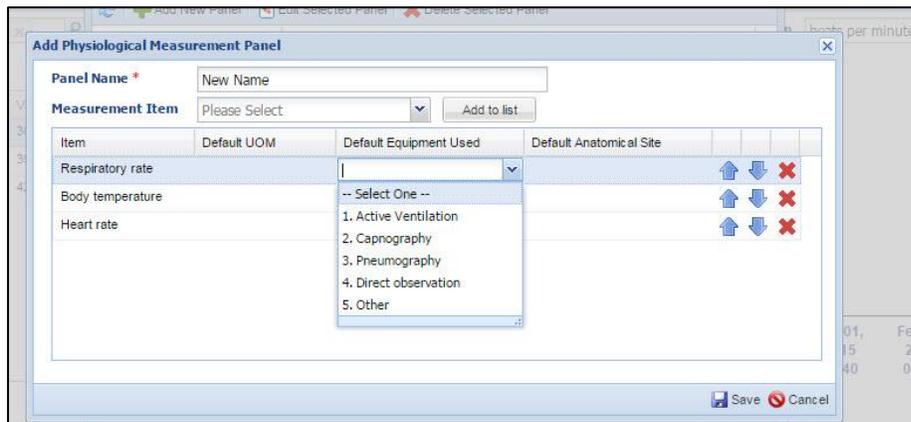 with a single selection. Open the Add New Physiological Measurements screen. Select the wheel icon to bring up the Panel List screen and select Add New Panel.
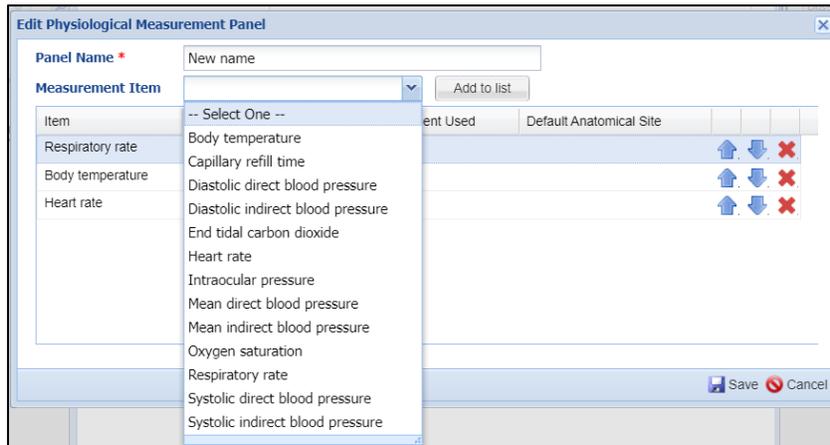


The Panel Name must be unique within your facility. Use the dropdown arrow to select the Measurement Item you want to have in the Panel. Then select the Add to List button.

We have selected three measurements to include in our Panel. To select the Defaults double click in the space to bring up the dropdown list to select the desired Default. You can use the arrows to arrange the measurements in the order that you want them to appear when using the Panel.

To delete a measurement from the panel use the red "X" You can add new Measurement Items anytime by selecting the measurement and then "Add to List" button.
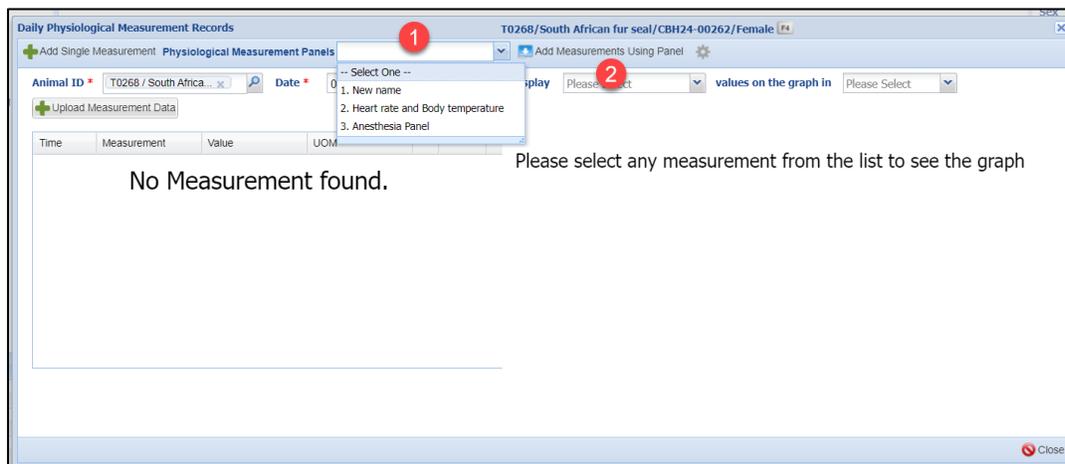


To use the Panel 1) select it from the dropdown list and then 2) select the "Add Measurements Using Panel" button

You will need to select the Restraint Method from the dropdown list and you should enter a measurement collection time. The measurements will appear in the order that you selected in the Panel. Any defaults that you selected in the Panel will prefill but they are editable. If you did not collect a measurement that is part of the Panel, you can leave the result value blank and no measurement record will be created when the rest of the Panel is saved. If you want to add notes, select the Note icon. If a note has been added this icon will display as green instead of blue. We have added notes to the Heart Rate and the Body Temperature. If you do not want the measurement included in the Reference Intervals then check the Exclude box.



When entering data using the panel option from either a Physiological Measurement record or from the Physiological Measurements tab on a Clinical Note or in an Anesthesia record, you will be presented with a Save and Repeat option.
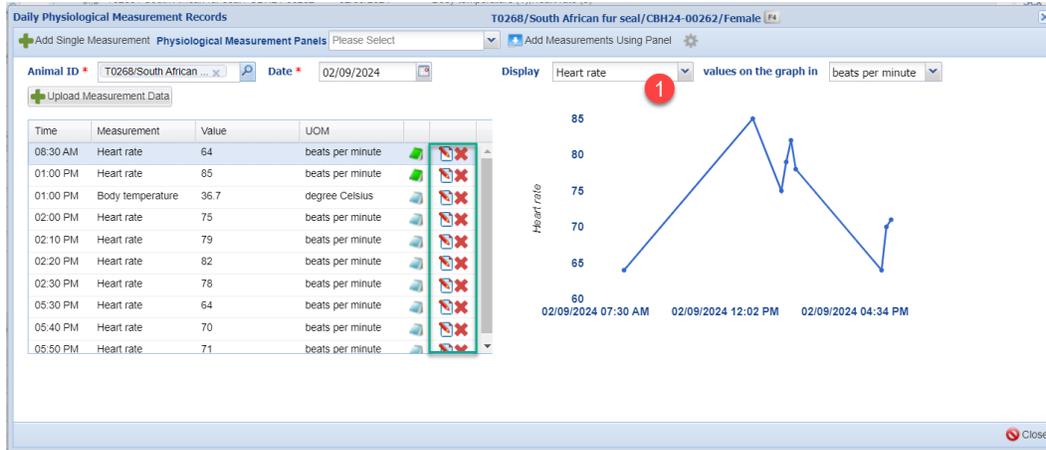
Once you Save the information will display. You can edit or delete individual measurements by selecting the Edit 📝 or Delete ❌ icons. You can change what is displayed in the graph by selecting from the (1) display dropdown which includes any measurement types recorded. You can also highlight a record in the grid on the left and the graph will switch to the measurement type of the highlighted record.
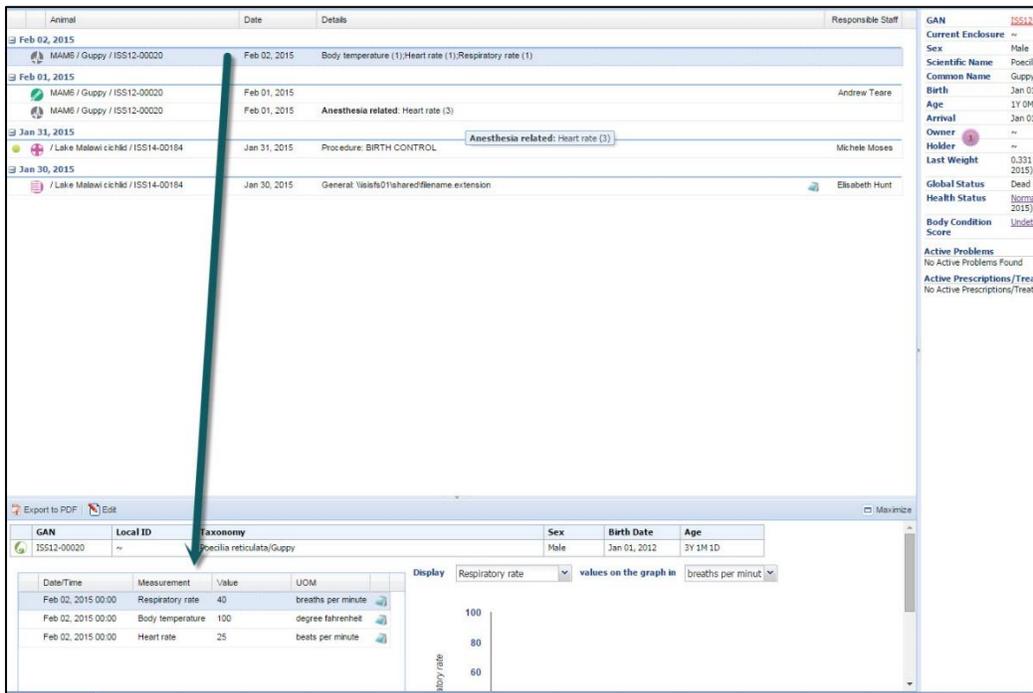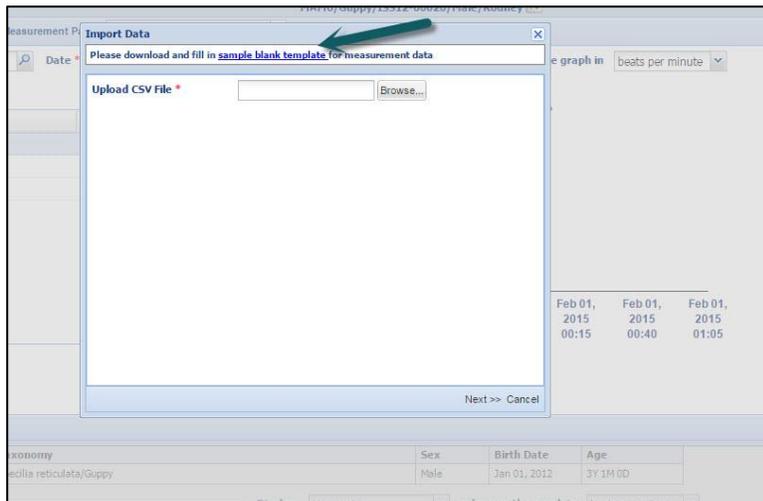


The measurements recorded using a Panel will display in the Dashboard just as single measurements will display.
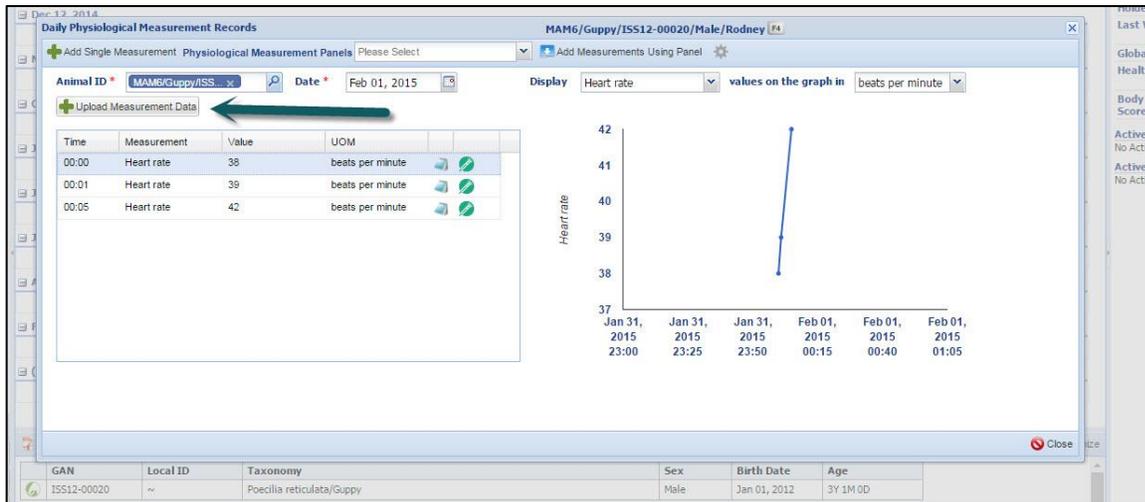
If you have measurement data recorded in an Excel file or you would prefer to have staff enter data into an Excel file, you can upload it into the animal record. Select the Upload Measurement Data button.



You will then need to download a sample blank template. You can save this template somewhere so you do not need to download it every time.

The download will look like this:

You will need to complete it using the terms as they are found in ZIMS.

| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Date | Time | Measurement | MeasurementValue | UnitofMeasure | RestraintType | Methodology | AnatomicalSite | ExcludeFromRI |
| 2 | 11/03/2014 | 03:30 | Body temperature | 40.2 | degree C | Physical | Digital thermometer | rectal | No |
| 3 | 12/03/2014 | 15:00 | Body temperature | 42.1 | degree C | Physical | Digital thermometer | rectal | No |
| 4 | 13/03/2014 | 20:00 | Body temperature | 43 | degree C | Physical | Digital thermometer | rectal | Yes |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |

You can make template files where only the date and measurement value need to be entered. Make sure the date is entered in the format that is your default date entry format for ZIMS. Save this file.
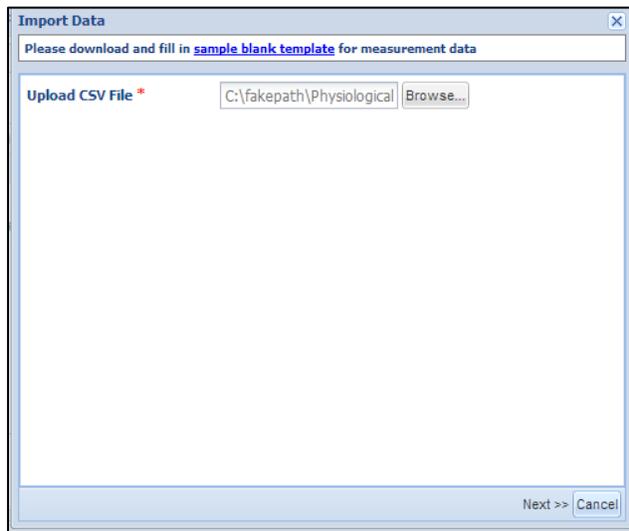


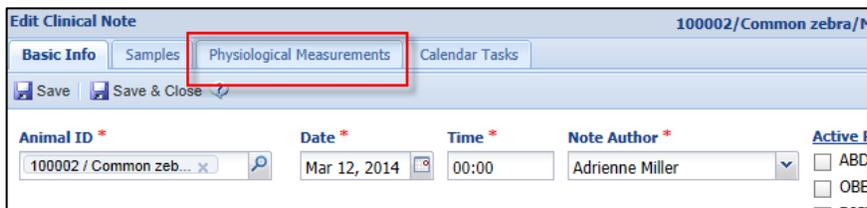Browse to the appropriate file and select it. The select the Next button.
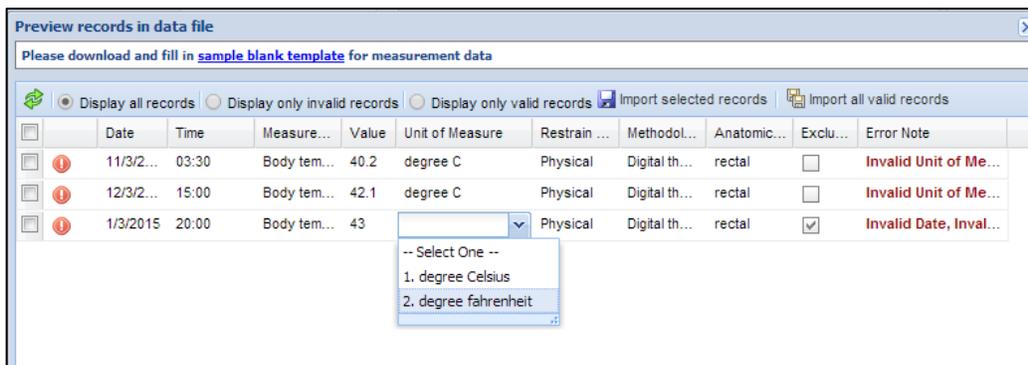


Details about what is invalid will display under the Error Note column. In this example we have Invalid Units of Measure and an Invalid Date. To correct the invalid entries simply click on the entry and the valid information will appear in the dropdown list where it can be selected.
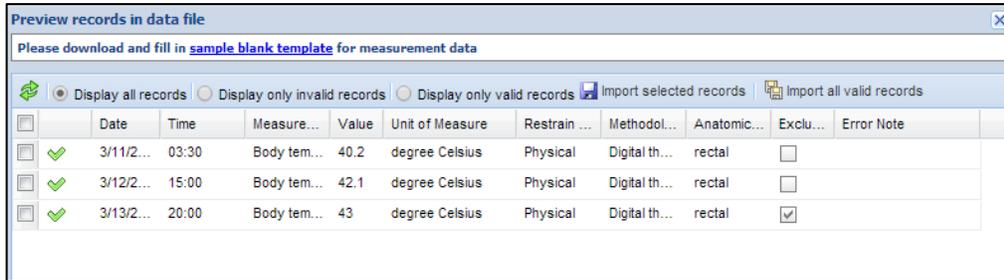
Once you have corrected your entries the red "!" will turn into a green check. You may need to refresh the grid. You can also choose to display all records, display only invalid records or display only valid records by selecting the appropriate radio button above the grid. If you want to import only some of the records you can check the boxes to the left of the entry for those that you want to enter and select Import Selected Records. If you want to import all of your valid records you can select to Import All Valid Records.



The imported information will display in the record.



You can record Physiological Measurements from within the Clinical Note module.

You can also record Physiological Measurements from within the Anesthesia module. The difference is that the Restraint Method is pre-filled with Chemical and is not editable. Remember, measurements recorded in these modules can only be edited or deleted from within these modules.



Selecting Physiological Measurements from the lower left panel will open a screen where you can search for measurements recorded. There is no Simple or Advanced search options as some other searches provide.

*Revised 1/13/202513 January 2025*