15 Knowledge Articles

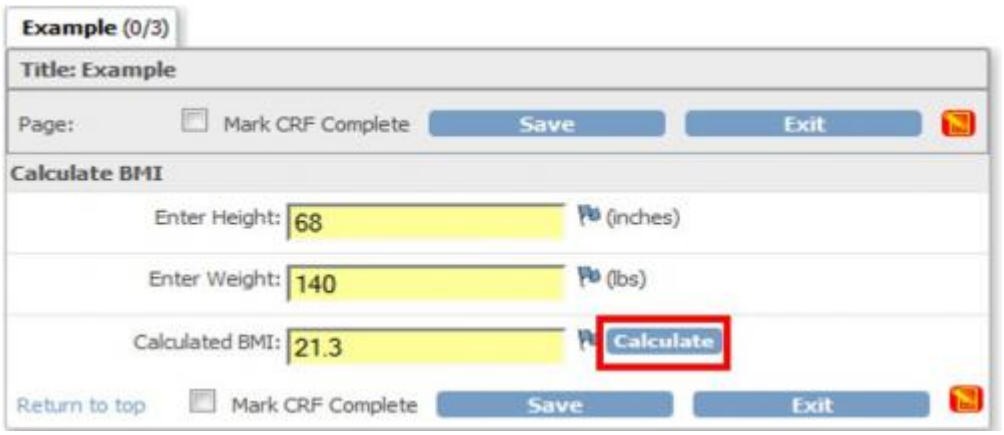
Approved for publication by Ben Baumann. Signed on 2014-03-24 8:50AM

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15.1 Calculate Button

One of the many useful features of OpenClinica is the ability to perform calculations within CRFs. After specifying a calculation in the CRF template, the calculation is automatically performed upon clicking save. Clicking save will either load the next section of the CRF or save the CRF and exit to the Event screen. While the current functionality will suite many needs, it may be desirable to perform the calculation prior to clicking save.

This can be accomplished using the "Calculate" button.



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15.1.1 Creating a CRF

For this example, a very simple CRF was created containing only three fields: Height, Weight, and BMI.

	A	B	C	D
1	ITEM_NAME	DESCRIPTION_LABEL	LEFT_ITEM_TEXT	UNITS
2	HEIGHT	Height	Enter Height:	inches
3	WEIGHT	Weight	Enter Weight:	lbs
4	CALCULATEBMI	Calculated BMI	Calculated BMI: <script	
5				
6				

Notice that the LEFT_ITEM_TEXT contains the text that will be visible (ie Enter Height:) along with **<div ID=> **. This script provides an identifier for each field and will be referenced by the calculation script.

15.1.2 The Calculation Script

A little java-script from the JQuery library will help us perform our BMI calculation. The following should be added to the LEFT_ITEM_TEXT field within your CRF Excel template:

```
<script src="includes/jmesa/jquery.min.js">// for OC versions before 3.1.4, use jquery-1.3.2.min.js
!</script><script>
$.noConflict();
jQuery(document).ready(function($)
{
var heightField = $("#Height").parent().parent().find("input");
var weightField = $("#Weight").parent().parent().find("input");
var bmiField = $("#BMI").parent().parent().find("input");



function getBMI(height1, weight1)
{
//calculate weight portion
var weightLBS = weight1*703;
//calculate height portion
var heightINCH = height1*height1;
//divide weight by height
var bmi = (weightLBS/heightINCH);
//calculate the days
var finalBMI = Math.round(bmi*10)/10;
if (isNaN(finalBMI))
{
return 0;
}
else
{
return finalBMI;
}
}

function calcBMI()
```

```
{
//calculate the BMI given the height and weight.
var bmi = getBMI(heightField.val(), weightField.val());
//write the calculated value to the field.
if (bmiField.val() != bmi)
{
bmiField.val(bmi);
bmiField.change();
}
};
//Calculate will fire upon save or when the calculation button is clicked.
$("#srl").focus(function(){ calcBMI(); });
$("#srh").focus(function(){ calcBMI(); });
$("#calculate1").click(function(){ calcBMI(); });
})
</script>
```

15.1.3 Adding A Fancy Button

The following script, when added to the RIGHT_ITEM_TEXT of the CRF Excel template, will insert a button to the right of the field:

```
<img id="calculate1" src="images/Calculate.gif">
<script src="includes/jmesa/jquery-1.3.2.min.js"></script>
<script lang="Javascript">
$.noConflict();
</script>
```

The button has the ID "calculate1" which is referenced in the first calculation script above:**$("#calculate1").click(function(){calcBMI(); });**

Notice that the source of the image is **images/Calculated.gif**. This refers to the standard images folder of the OpenClinica interface. This example uses a custom image. To use a custom image, drop the file in the /oc/tomcat/webapps/OpenClinica/images folder. Alternatively, the OpenClinica images below already exist in the images folder:

Path	Image
images/bt_Restore.gif	
images/bt_Edit.gif	
images/bt_EnterData	
images/bt_Portal	

15.1.4 Example Files

Try it yourself!

Example CRF: Click to download

Custom "Calculate" Button Image: Click to download

15.2 Bulleted List

OpenClinica offers a number of options for displaying information in a CRF. For example, the Left Item Text, Right Item Text, and Header for any Item can contain up to 2000 characters. Additionally, the Instructions for a Section can contain up to 2000 characters. That is a lot of text to display! In some cases, it is useful to use a bulleted list.

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15.2.1 Creating a Bulleted List

A bulleted list is created using the HTML <ul> tag. Each element in the list is separated using the <li> tag. For example, the following code

**
List Title
Item1
Item2
**

will create the following...

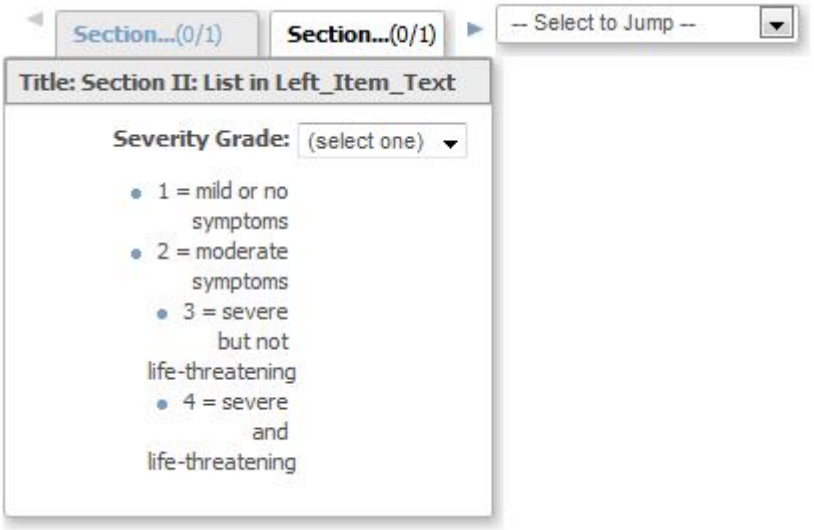
List Title

- Item1
- Item2

A bulleted list can be inserted into the Left Item Text, Right Item Text, Header, or Instructions. Theoretically, a bulleted list could exist in the Subheader, but the Subheader can only contain up to 240 characters, resulting in a very short list.

15.2.1.1 Additional Tips

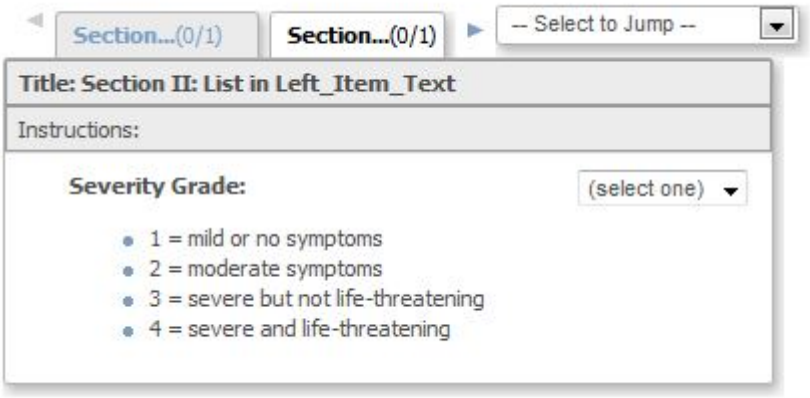
Adding a bulleted list to the Left Item Text may result in spacing issues, as shown below.



JQuery can be used to avoid a spacing issue. The following JQuery, when added to the Instructions column of the Section, will increase the width of the Left Item Text and set the text to left-alignment:

<style type="text/css">.aka_text_block{width:200px;text-align:left;}</style>

After making this chance, the list is much easier to read:



15.2.1.2 Example Files

Try It Yourself!

Example CRF: Click to Download

15.3 Using the Decode() Function

In OpenClinica, one useful feature of CRF Excel templates is the ability to create calculations. There are a number of supported functions, including sum(), min(), and max(). There is also an interesting function call the decode() function, which allows you to essentially create an IF-THEN-ELSE type of statement.

To learn more about the decode() function and it's uses, please visit this OpenClinica blog post.

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15.4 Partial Dates in OpenClinica

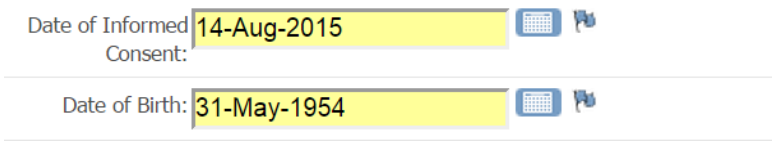
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15.4.1 Introduction to Partial Dates in OpenClinica

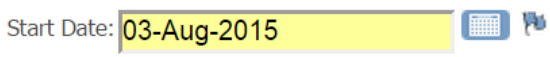
When creating an eCRF, you may want to create an item to capture a date: date of birth, date an event occurred, or date of informed consent. In OpenClinica, you can capture a date by defining an item using either the Date data type or the PDate data type.

If you define an item as a Date in the CRF Excel template, the OpenClinica user interface will accept a date in the format DD-MMM-YYYY during data entry. In this format, DD represents two integers for the day, MMM represents the three letter abbreviation for the month, and YYYY represents four integers for the year:



Another option is to define your item in the CRF Excel template as a PDate, or partial date. If an item is defined as a PDate, the OpenClininica user interface will accept any of the following date formats during data entry:

- A Full Date (example: 03-Aug-2015)



- Month and Year Only (example: Aug-2015)

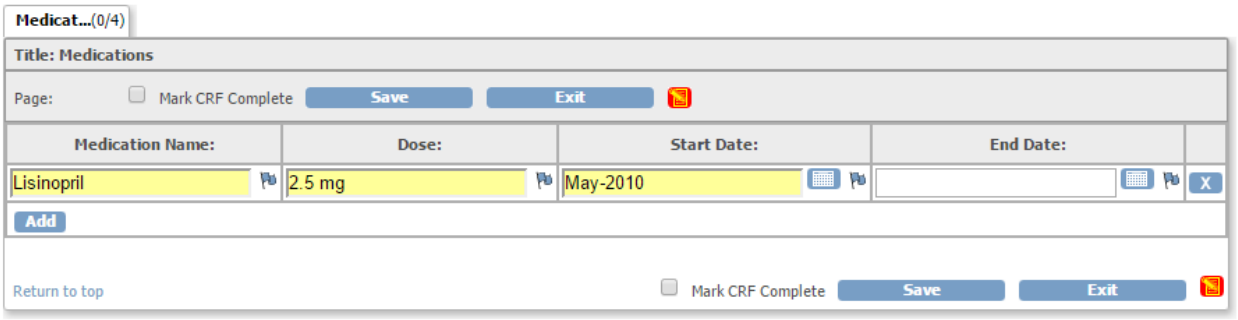


- Year Only (example: 2015)



If you are collecting a concrete date, such as the date that the patient provided informed consent, then you would likely want to define the item as a Date in the CRF Excel template.

Alternatively, you may want to provide the option to collect a full date *or* an incomplete date, such as the date that a patient began taking a particular medication. In this case, you could define the item as a Pdate because the date a patient began taking a medication may not be known in full. Instead, a patient may just recall that they began taking the medication sometime in June of 2010, which can be collected as a partial date.



15.4.2 Extracting Partial Dates in Data Mart

Once data has been entered into the eCRFs, OpenClinica offers a variety of different extract types from Excel and HTML to CDISC ODM XML. In these extracts, OpenClinica uses the ISO 8601 standard date format to represent dates and partial dates. The ISO 8601 standard date format is a string with the year, month, and day, separated with a - (i.e. 2015-08-15).

One particular extract type, Data Mart, is available with an OpenClinica Enterprise subscription.

If you are new to Data Mart, there may be a few things that are unfamiliar to you. In particular, PDates extract in a different format in Data Mart than they do in other OpenClinica extract formats.

PDates in Data Mart extract as a range of dates. This range of dates is specified using a minimum and a maximum value. Therefore, for one PDate data field in Data Mart, two columns are generated:

cm_std_min date	cm_std_max date
2010-05-01	2010-05-31
2013-10-01	2013-10-31
2001-01-01	2001-12-31
2014-08-14	2014-08-14
1990-01-01	1990-12-31
2015-08-14	2015-08-14

{PDate Item Name}_min {PDate Item Name}_max For example, lets say you have a PDate item in your CRF with an Item_Name of STARTDATE. When you run a Data Mart extract, the following columns will be generated in Data Mart to account for this item:

startdate_min startdate _max

As mentioned above, if an item is defined as a PDate, the following would be accepted by the system

during data entry:

- A Full Date (example: 12-Jan-2015)
- Month and Year Only (example: Jan-2015)
- Year Only (example: 2015)

Each of the above options would extract in Data Mart as follows:

1. If a full date, such as 12-Jan-2015, is entered during data entry, then the following would be extracted in Data Mart:

- in the {PDate Item Name}_min column the value would be the full date: "2015-01-12"
- in the {PDate Item Name}_max column the value would be the full date: "2015-01-12"

In this case, the {PDate Item Name}_min and {PDate Item Name}_max values are the same because the full date was provided.

cm_stdt_min date	cm_stdt_max date
2010-05-01	2010-05-31
2013-10-01	2013-10-31
2001-01-01	2001-12-31
2014-08-14	2014-08-14
1990-01-01	1990-12-31
2015-08-14	2015-08-14

2. If only the month and year, such as Jan-2015, is entered during data entry, then the following would be extracted in Data Mart:

- in the {PDate Item Name}_min column the value would be the first day of the month: "2015-01-01"
- in the {PDate Item Name}_max column the value would be the last day of the month: "2015-01-31"

The event could have occurred on any date within the provided month. This means that the date could fall between the first day of the month, 01-Jan-2015, and the last day of the month, 31-Jan-2015.

cm_stdt_min date	cm_stdt_max date
2010-05-01	2010-05-31
2013-10-01	2013-10-31
2001-01-01	2001-12-31
2014-08-14	2014-08-14
1990-01-01	1990-12-31
2015-08-14	2015-08-14

3. Lastly, if only the year, such as 2015, was provided during data entry, then the event could have occurred on any day in any month of the provided year. The values would therefore extract as follows:

- in the {PDate Item Name}_min column the value would be the first day of the year: "2015-01-01"
- in the {PDate Item Name}_max column the value would be the last day of the year: "2015-12-31"

The date could have occurred at any point between the first day of the year, 01-Jan-2015, and the last day of the year, 31-Dec-2015.

cm_stdt_min date	cm_stdt_max date
2010-05-01	2010-05-31
2013-10-01	2013-10-31
2001-01-01	2001-12-31
2014-08-14	2014-08-14
1990-01-01	1990-12-31
2015-08-14	2015-08-14

To learn more about PDates and/or Data Mart, please visit the following resources:

OpenClinica Enterprise Data Mart Guide

Date Formats in OpenClinica

15.5 HTML Tips to Enhance Your eCRF

In an OpenClinica eCRF, information can be displayed to a data entry person in a variety of different ways: using the left item text, right item text, headers, subheaders, and instructions. However, you may want to add emphasis or highlight certain phrases or even insert a URL or image into your eCRF.

You can accomplish this using HTML, or Hyper Text Markup Language. To learn more about using HTML in your OpenClinica eCRF, please visit the following OpenClinica blog post.

Approved for publication by Jessica MacMinn. Signed on 2015-08-19 8:26AM

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