APPLICATION NOTE

Excel Data Export from EasyWarePro

1 Introduction

This application note explains how to export and transform test results from EasyWarePro software into Excel. The EasyWarePro software is used for the Easy on-PC and EasyOne Pro products; therefore, this application note applies to both products. Export of test results may, for example, be used for analysis of study data.

2 Preparation

Download the following archive from ndd's ftp server:

ftp://nddclient:support79@ftp.ndd.ch/EasyWarePro/EasyWarePro - How to export data to Excel.zip

Uncompress the archive in a local folder on your PC. The folder now contains all the files you need including several export templates.

3 Export data

- Start Easy on-PC software.
- Press Utilities (on EasyOne Pro additionally press Advanced)
- Press "Export XML", select the folder 'XML_Input' that was created as a result of the previous step when the archive was decompressed and choose a filename for the export.

4 Transform XML to CSV

This step uses XSLT transformation. This is a commonly used procedure to define how xml data should be represented.

- Run the batch file, e.g. double click on "Export all test parameters (best value, best trial).bat".
- The converted data is saved in the subfolder CSV_Output.
- Open CSV-Example in Microsoft Excel. It should look similar to the table below. If this is not the case and all numbers seem to be in the first cell, then please refer to the next section.

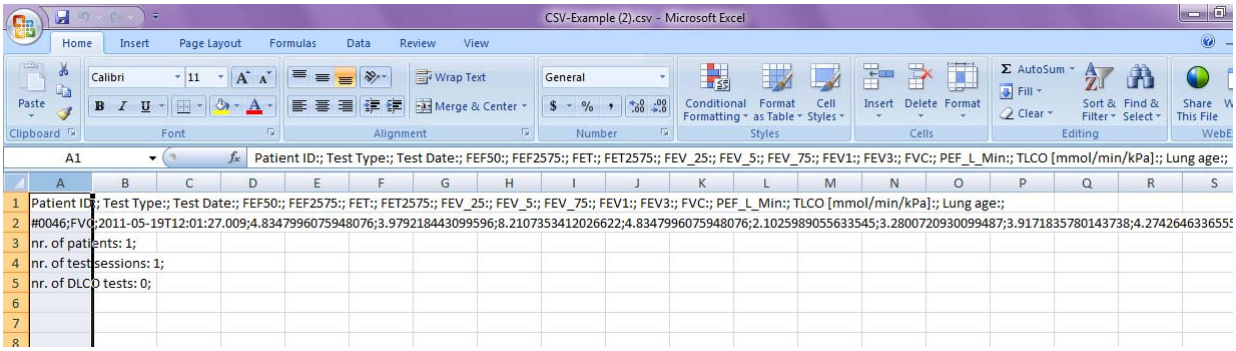
Patient ID	LastName	FirstName	Gender	DateOfBirth	Height	Weight	Ethnicity	Test Type	Test Date	Sequence in session	Stage	NumOfTrials	Accepted Trials	DeviceSerNr	Quality Grade	QualityGrade by System	Amb. Humidity	Amb. Pressure	BEV
PSM-11213	Smith	Peter	Male	08.11.1968	1.82	80	Caucasian	FVL	2009-04-21T18:17:39.328	1	Pre	3	3	EOP-500011/11568	A	A	29	965.06665	0.09298277
PSM-11213	Smith	Peter	Male	08.11.1968	1.82	80	Caucasian	FVL	2009-04-21T18:37:45.921	2	Post	3	3	EOP-500011/11568	A	A	28	965.071411	0.09983349

- The data in Excel can now be filtered or used for further data analysis and statistics.

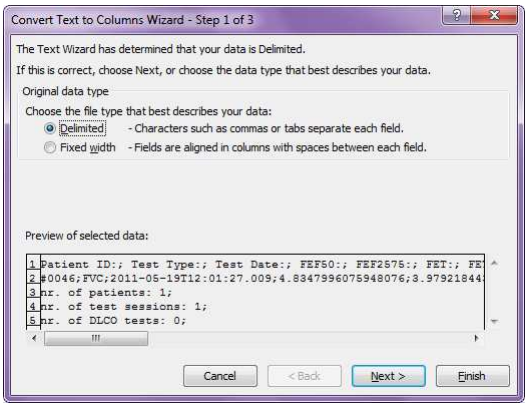
5 Converting Text to Columns in Excel

If the csv file is opened in Excel and the test data is not separated in columns, then an additional step must be performed. The reason for this behavior is that the CSV column separator depends on the computer regional settings. If Excel does not detect it automatically, you can manually split the values into columns using the following procedure:

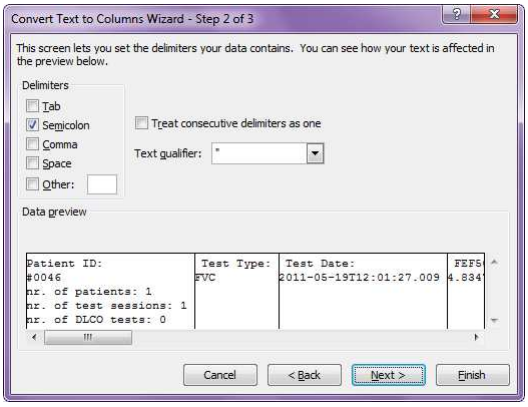
Select the single column that contains the test data.



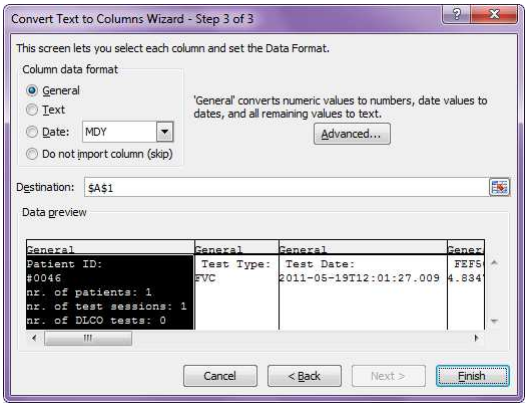
Select the menu Data › Text to Columns and choose ‘Delimited’.



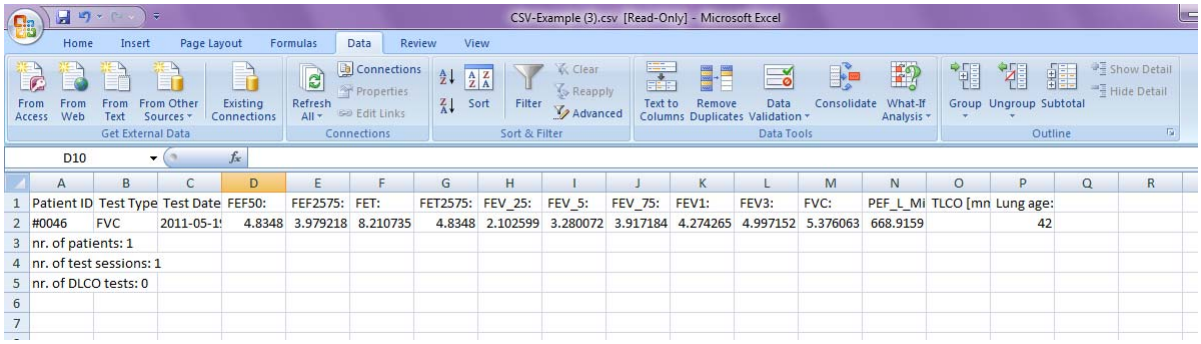
Select the appropriate delimiter. Use the example window to preview your choice.



Select the format. General seems to work most of the time.



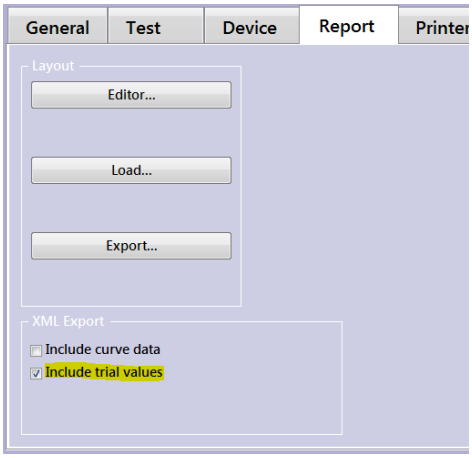
Choose finish and the data is now spread out into columns as shown in the following screenshot:



Please note that the table now contains a lot of columns with all test parameters. The parameters depend on the test type that is also shown.

6 Include trial values

The detail level of the XML export can be configured in EasyWarePro in the Report configuration. If you would like to include trial data, please set the appropriate option; as a result the file size of the export will increase.



7 Adapt the XML to CSV transformation

The XSL transformation file (e.g. XmlToCsv-Example.xsl) defines how the xml file is transformed to the comma separated values file (CSV). By changing the XSL file, the form of the output file is fully customizable. The procedure below describes how additional parameters can be added (in the example below the parameter FEV1/FVC):

- Open the XSL file (e.g. XmlToCsv-Example.xsl) in an editor (e.g. Notepad).
- Add a new header column by inserting `<xsl:text>FEV1/FVC;</xsl:text>`
  In this example we add the FEV1/FVC after the FEV0.5 column.

```
<xsl:text> FEV0.5:</xsl:text>
<xsl:value-of select="$ColumnSeparator"/>
<xsl:text> FEV1/FVC:</xsl:text>
<xsl:value-of select="$ColumnSeparator"/>
<xsl:text> PEF:</xsl:text>
<xsl:value-of select="$ColumnSeparator"/>
```

- In the “for each test section” add the value query by adding the following:

```
<!-- FEV1/FVC: -->
<xsl:value-of select="Tests/Test[1]/BestValues/ResultParameter[@ID='FEV1_FVC']/DataValue"/>
<xsl:value-of select="$ColumnSeparator"/> <!-- the column separator used by default is ';'-->
```

As we added the header after FEV0.5, the same position must be taken for the value query.

```
<!-- FEV0.5: -->
<xsl:value-of select="Tests/Test[1]/BestValues/ResultParameter[@ID='FEV_5']/DataValue"/>
<xsl:value-of select="$ColumnSeparator"/>

<!-- FEV1/FVC: -->
<xsl:value-of select="Tests/Test[1]/BestValues/ResultParameter[@ID='FEV1_FVC']/DataValue"/>
<xsl:value-of select="$ColumnSeparator"/> <!-- the column separator used here is ';'-->

<!-- PEF: -->
<xsl:value-of select="Tests/Test[1]/BestValues/ResultParameter[@ID='PEF']/DataValue"/>
<xsl:value-of select="$ColumnSeparator"/>
```

- Save the changed xsl file.
- Test the new transformation by rerunning Saxon Transform Batch (e.g. double click on “Export all test parameters (best value, best trial).bat”).
- Check the CSV output. It is recommended to crosscheck some parameters. For instance, print in EasyWarePro the test representing the first row. In the example above this would be patient PSM-11213, and from the history the test performed on 2006-03-05T14:09:57. Then compare the parameters on the report with the values in the CSV file.