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1.0 USING RAW DATA

SmartMan produces raw data points every time an activity is performed. These data points are stored on the local hard drive.

It is possible to examine each individual compression in succession and each individual ventilation in succession. These raw data points are NOT the information that is examined by the QCI Module. You can access the raw data by opening each activity file.

If when you are logged into SmartMan you are able to view results, then the data file for that activity is on your hard drive. SmartMan does not store the graphics, but builds the graphics from the raw data each time it is loaded.

It is important to data is only produced if subjects complete an activity. If the activity terminate because they have taken too long to begin or if they exit the activity before it is completed, no results will be saved.

1.1 UNDERSTANDING RAW DATA

1.1.1 What is Raw Data

Manikins are analog devices. As you perform some skill on the manikin, an analog to digital converter provides digital data points of that performance. SmartMan provides a rich data flow of digital information. This means that it is accurate and that it is possible to process the data in many different ways.

SmartMan has a built in priority for accuracy of the data points. Also, it only plots real data points. Unlike other manikins which use extrapolated information, SmartMan only plots real data.

1.2.2 Data Points and Sub-Skills

SmartMan collects real data points and thus every graph in a display directly relates to a real point. That is every bar drawn on the SmartMan screen is drawn from real data points that were produced during the skill performance.

These real data points relate to various parameters related to how people perform CPR. The data points are stored on the computer where the skills were performed.

NOTE: The QCI Module does NOT give you access to each individual data point for each skill, but instead provides summaries of those data points. It will have a complete score for a single compression rather than individual points during that compression. If for research purposes you wish to analyze individual points you can open the raw data files and convert them into a format where they can be analyzed.

1.2.3 Where is the Data

Each time a practice or a test is performed, the real data points collected are stored on the hard drive of the machine where it is performed. You can find this data on C:\V4EMS_DATA\records\name of login

1.2.4 Naming of data files

In each login there are 4 directories:

ALS = This contains all of the results for activities completed on an Advanced Airway Manikin under the Advanced Airway Activity Button on the Actions Menu..

Compressions = This contains all of the results for activities completed on the Compression Button on the Actions Menu..

CPR = This contains all of the results for activities completed on the CPR Button on the Actions Menu.

Vents = This contains all of the results for activities completed on the Ventilations Button on the Actions Menu.

The extensions will have the following names

C:\V4EMS_DATA\V4EMS_5.3\records\loginname

SmartMan Ventilations = .smv

SmartMan Compressions = .smc

SmartMan CPR = .smcpr

SmartMan ALS = smcpr

Each file contains data points. These are the data points that are recorded for each activity. These are in text format in a comma delimited file. They can be directly copied.

1.2.5 File Format

Each file is in text format and is comma delimited. With the copy of the file you can simply open it in any text editor.

1.2.6 Working with Raw Files

Make a copy of all of the files you want to use.

Then open the copy with any text editor such as Notepad or word.

NOTE: DO NOT SAVE the when you open it. Even if no changes are made, SmartMan will no longer be able to read the file.

1.2 FILE STRUCTURE AND CONTENTS

1.2.1 The File Header

29/2/2012, 9:53, Name = This is the date and time (as set on the local machine) when this file was recorded. It is also the name of the person registered for this login.

Tare1: 56, Tare2: 59 = This is the offset to interpret the digital readings.

50mm: 674,674,674 = This is the raw digital reading for this depth. It was repeated 3 times with the same score each time. Sometimes you will get a slight variation and the average is then used.

30mm: 405,405,405 = This is the raw digital reading for this depth. It was repeated 3 times with the same score each time. Sometimes you will get a slight variation and the average is then used.

Max: 939,939,939 = This is the raw digital reading for the maximum chest depth. It was repeated 3 times with the same score each time. Sometimes you will get a slight variation and the average is then used.

06L: 233,233,233 = This is the raw digital reading for this volume of air. It was repeated 3 times with the same score each time. Sometimes you will get a slight variation and the average is then used.

Mode: CP30.5.3.1.1.a = This is the activity which produced the results, the version number and whether the activity was done with the visual feedback showing or not.

Range: 1024 = This is the maximum digital range available for recording of data points for this activity at this time.

Stats: 5.3.1.1 = This is the version of the software that was used to produce the results.

1.2.2 Data Contents Compressions

Data points will exist under the following headings. Remember that the data points for performance are related to the data points on time as all points are collected in real time. To get an accurate picture of what is happening you must link the times to the points.

NOTE: The headings of the data will change according to which activity results are recorded.

Here are the headings for a compression activity

Durations:

Depths:

All Depths:

Min Depths:

All Times:

Health Array:

Health Array Index

1.2.3 Data Contents CPR

NOTE: The headings of the data will change according to which activity results are recorded.

The headings for an ALS CPR activity would be as follows

CPR Durations:

CPR Depths:

CPR Array:

All CPR Depths:

Min CPR Depths

All Times:

CPRVArray:

Breath Depths

Breath Peaks:

StartOfPeak:

EndOfPeak:

All Vent Depths:

All Vent Durations:

Health Array:

Health Array Index

alsSyncTimes:

alsGapTimes:

alsCompressNo:

intubation time: