



System Unique

Listing of the Current L&D Perinatal Clinical Information Systems

- Philips TraceVue/IntelliSpace
- GE Centricity Perinatal
- CCSI OBIX
- WatchChild V5 (Unix based version)
- Cerner FetaLink **
- PeriGen PeriCALM **

** MDR presently does not provide conversions for these applications

Data that is presently stored in the OBIX Perinatal application can only be retrieved from a functionally active application. Therefore, to provide long-term availability, it is necessary to convert this patient data to an industry standard format

When archiving these applications, there are two data types that are extracted and converted to PDFs

Text / Patient Charting

All the patient health information that was charted in perinatal application. To assure the patient's charting reports accurately represents the patient record, an evaluation must be made of existing charting reports to determine if additional reports need to be developed.

This evaluation is performed by comparing all elements of the patient's charting data dictionary with all the elements represented by the existing inventory of charting reports. If charting data elements are missing, additional reports are developed to capture these missing charting data elements/data dictionary fields. The probability of this happening is usually directly proportional to the length of time the application has been in use and the level of customer charting customizations performed during its use.

Once satisfied, the reports are run for each patient episode/visit, converted to PDFs, named (in a format specified by client), with a csv text file (with all available patient metadata), is appended to each PDF.

Numeric / Fetal Strip:

BY FAR, the most valuable subset of the patient information that is extracted & converted during an archival project.

Fetal strips are stored in all perinatal applications as discrete data points that need to be





converted into a graphical fetal strip during the archival process.

While the waveforms and pictures (some examples: CT, MRI, 12-Lead ECG, UltraSound, X-Ray, PET ..), in all other departmental clinical information systems in the hospital are stored as images, in a very standardized format called DICOM. DICOM = Digital Imaging & Communications in Medicine Therefore, in all other applications only a data extraction & naming/indexing is required during an archival project.

In addition, for some unknown reason, fetal monitor outputs and their clinical system's storage format are not standardized between manufactures, very proprietary.

The output from fetal monitors are mostly numeric:

Fetal Heart Rate = 4 values per second

<u>Uterine Activity</u> = 1 per second

<u>Transducer Status</u> : Present Status & Changes = 1 per 8 minutes Every time a transducer is changed, the fetal monitor outputs the type transducer removed and the type of the new transducer installed/inserted.

<u>Time</u> = generally 1 value every 4 minutes

<u>Date</u> = generally 1 value every 8 minutes

<u>Speed of Paper</u> = generally one 1 every 16 min (3cm/min) Annotations = short nursing notes added to the fetal strip, the only unique text stored with the strip, other than patients name.

Optionally: <u>Maternal Hemodynamic Values</u> (HR, NIBP and SaO2) are stored with the fetal strip

Decimal Representation of the Fetal Heart Rate

 Actually the format of both the fetal monitor output and their values stored in perinatal applications is hexadecimal, I

Represented the monitor output below in decimal format to make it easier to read.

Values for the first two decimal lines below in hexadecimal

FHR 07/23/2003 18:36-1

160 159 159 159 159 159 153 153 152 151 151 151 151 151 151 152









Graphic/Plotted Fetal Strip Data (6 minutes)

- Example of strip generated from data points
- Format the clinical staff is familiar with
- Format required in litigation



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