Multimodal signal acquisition and data processing using ICM+

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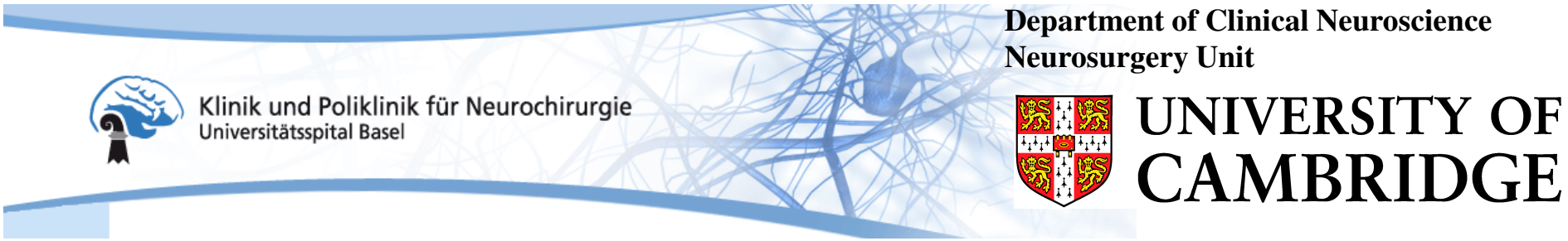
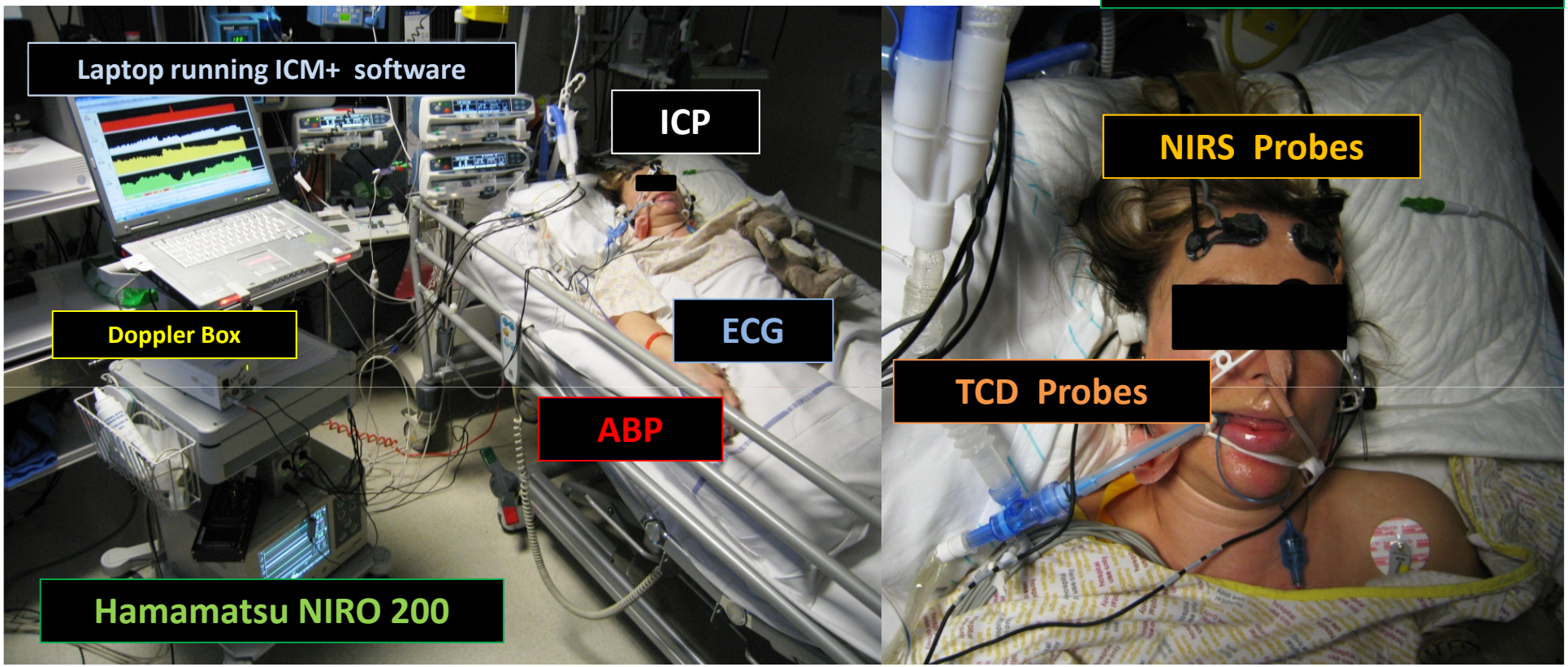


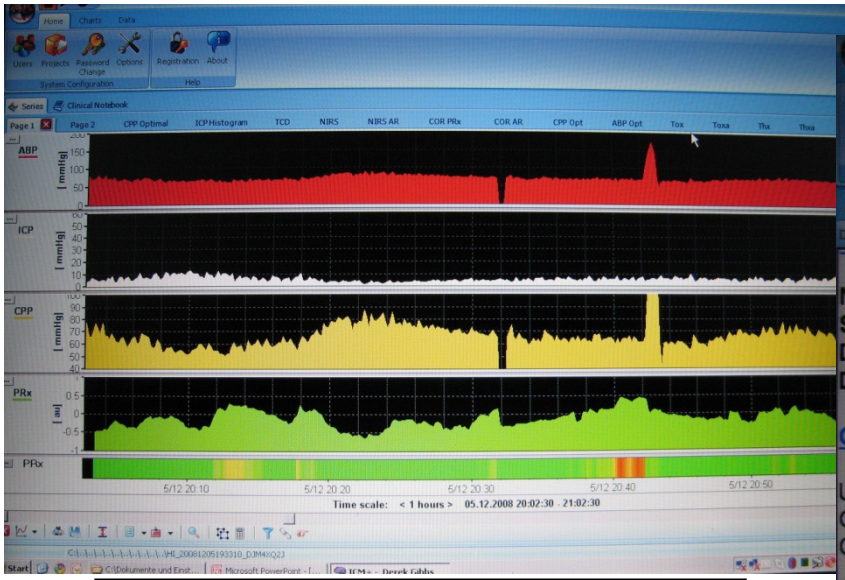
Study of non-invasive monitoring of cerebral autoregulation and cerebrovascular reactivity in patients with head injury and subarachnoid hemorrhage

(June 2008-June 2009)

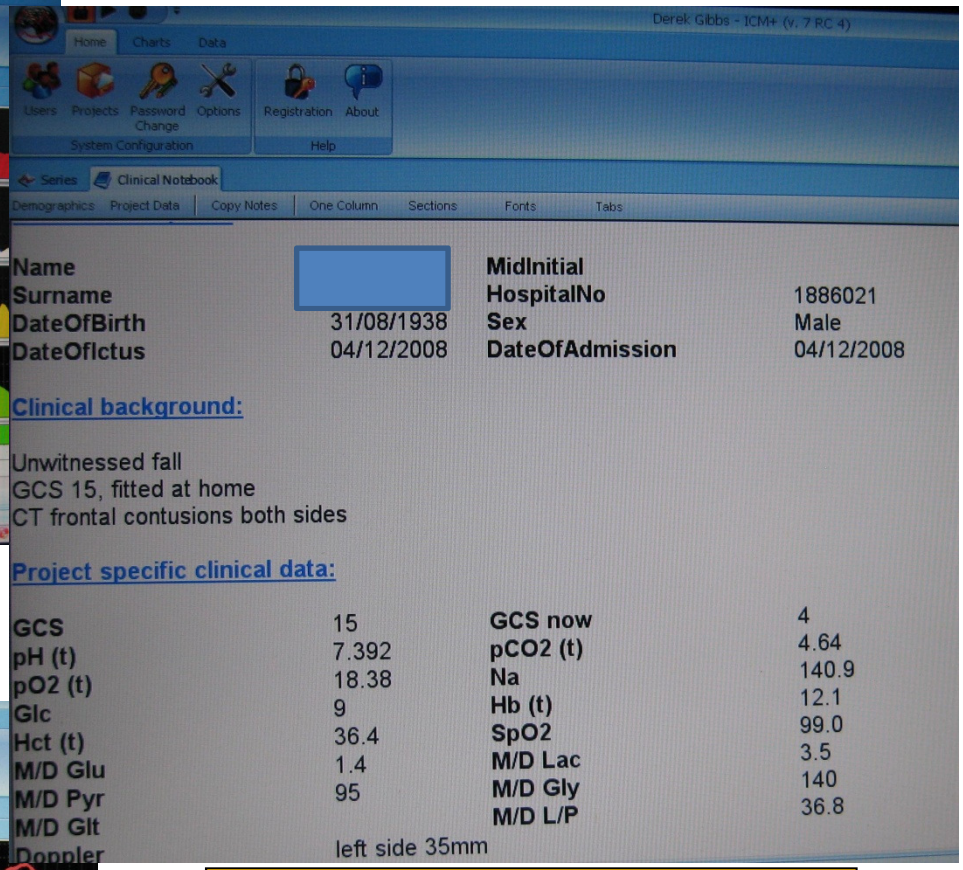


ABP, ICP, ECG, (PtiO2), NIRS, TCD
52 recordings in 27 patients with SAH (total 62.5 hours)
109 recordings in 49 patients with TBI (total 136.2 hours)

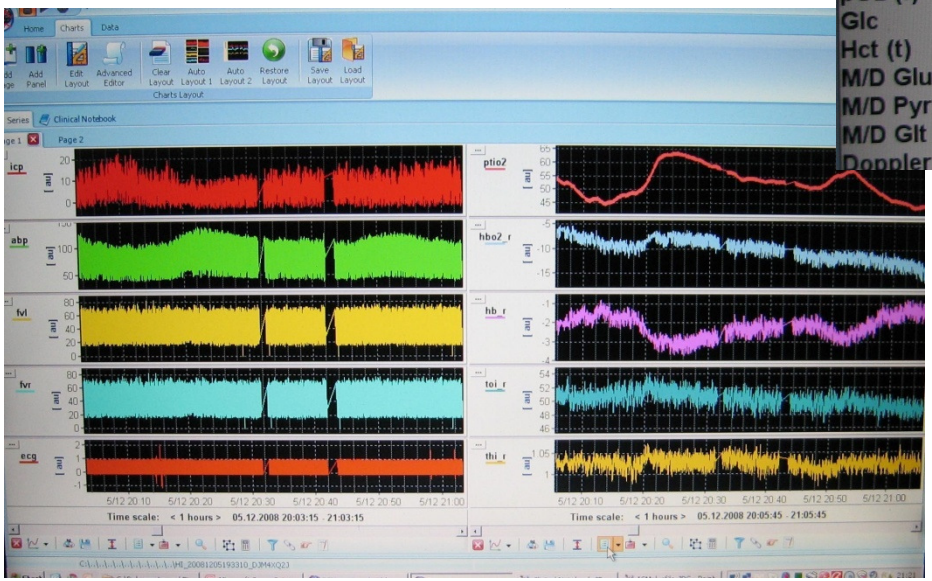
ABP, ICP, ECG, (PtiO2), NIRS, without TCD
120 longtime recordings in 40 patients with TBI (total 1760 hours)



ICM+ file

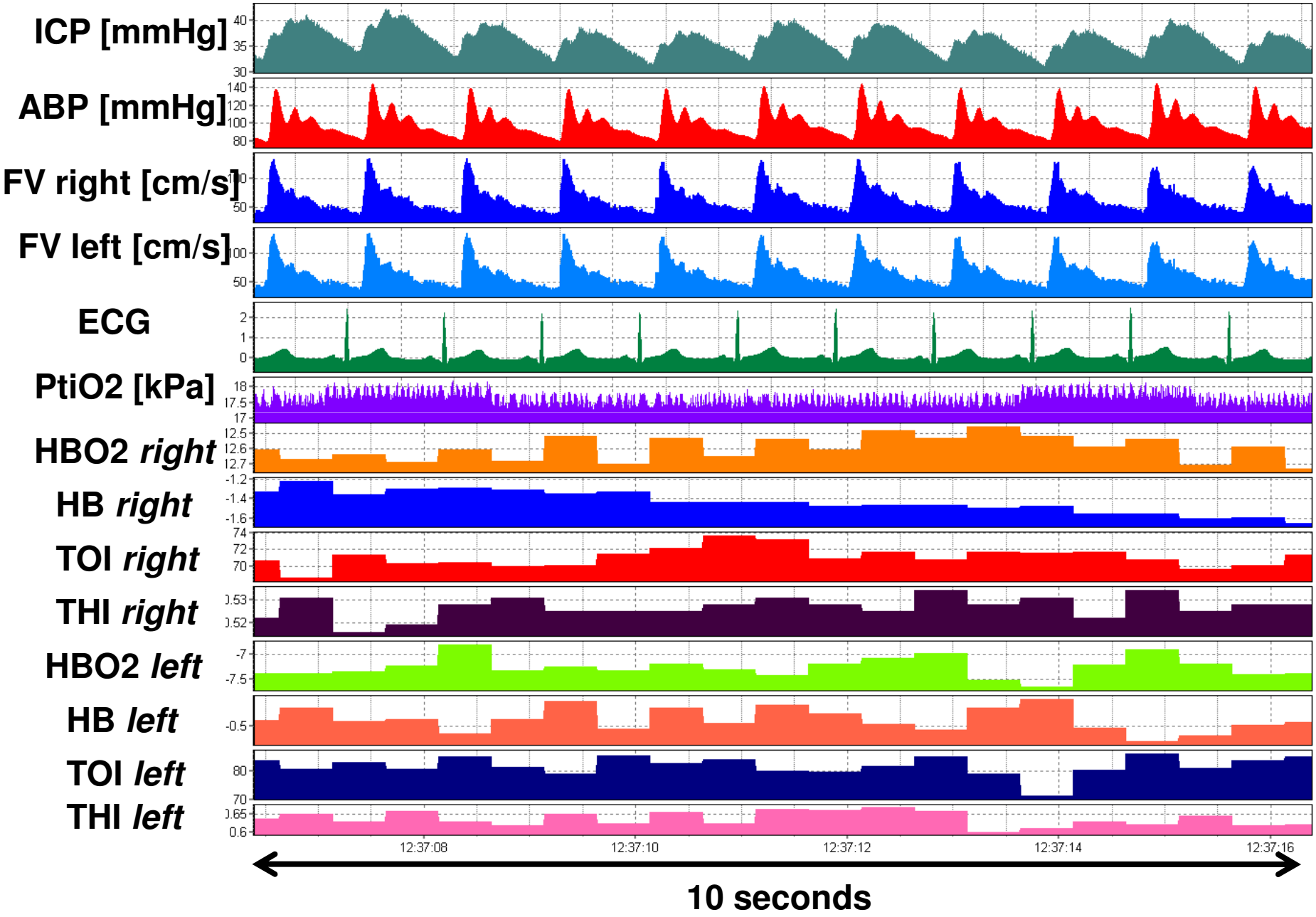


Clinical Notebook



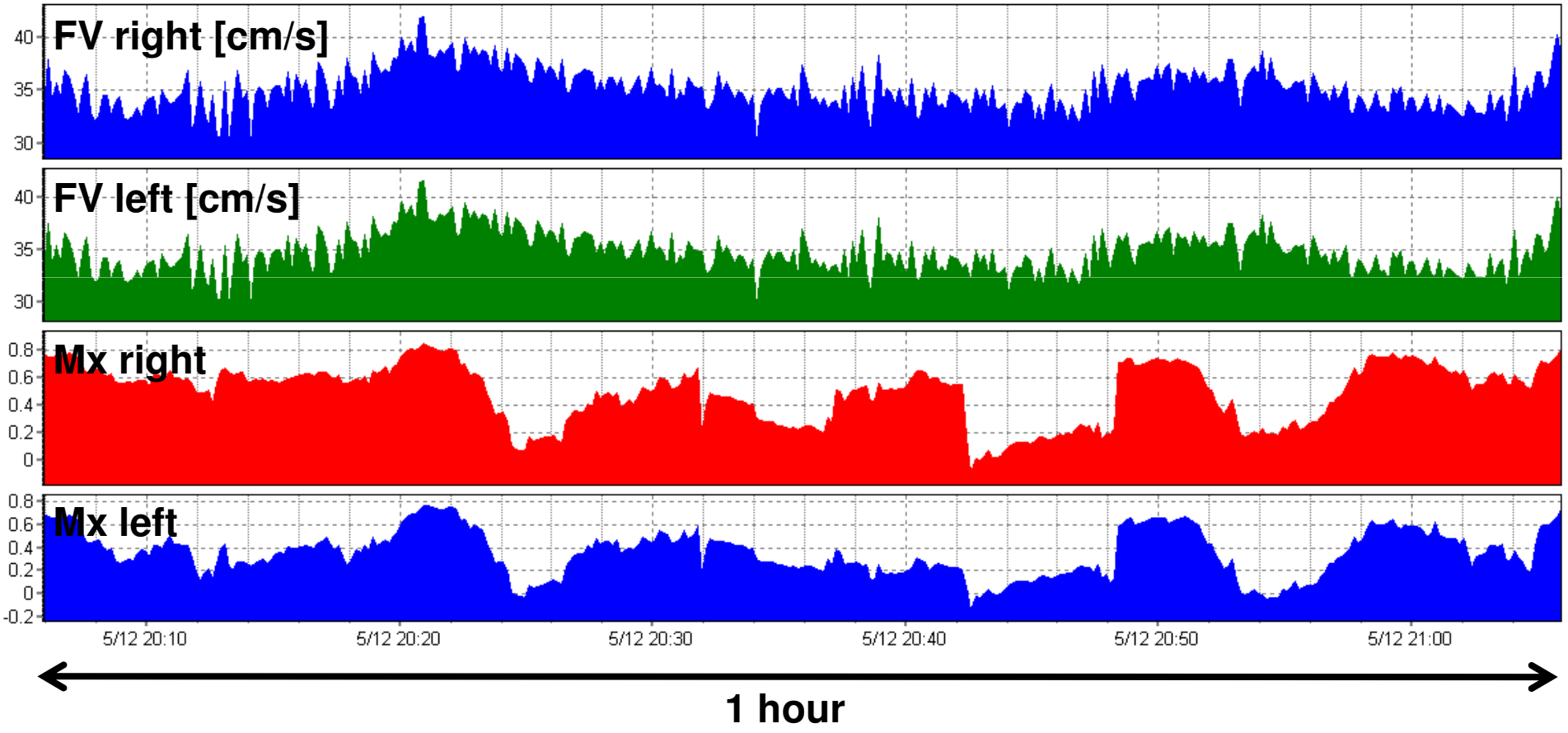
Raw data file

Example of multimodal signal acquisition



Example 1

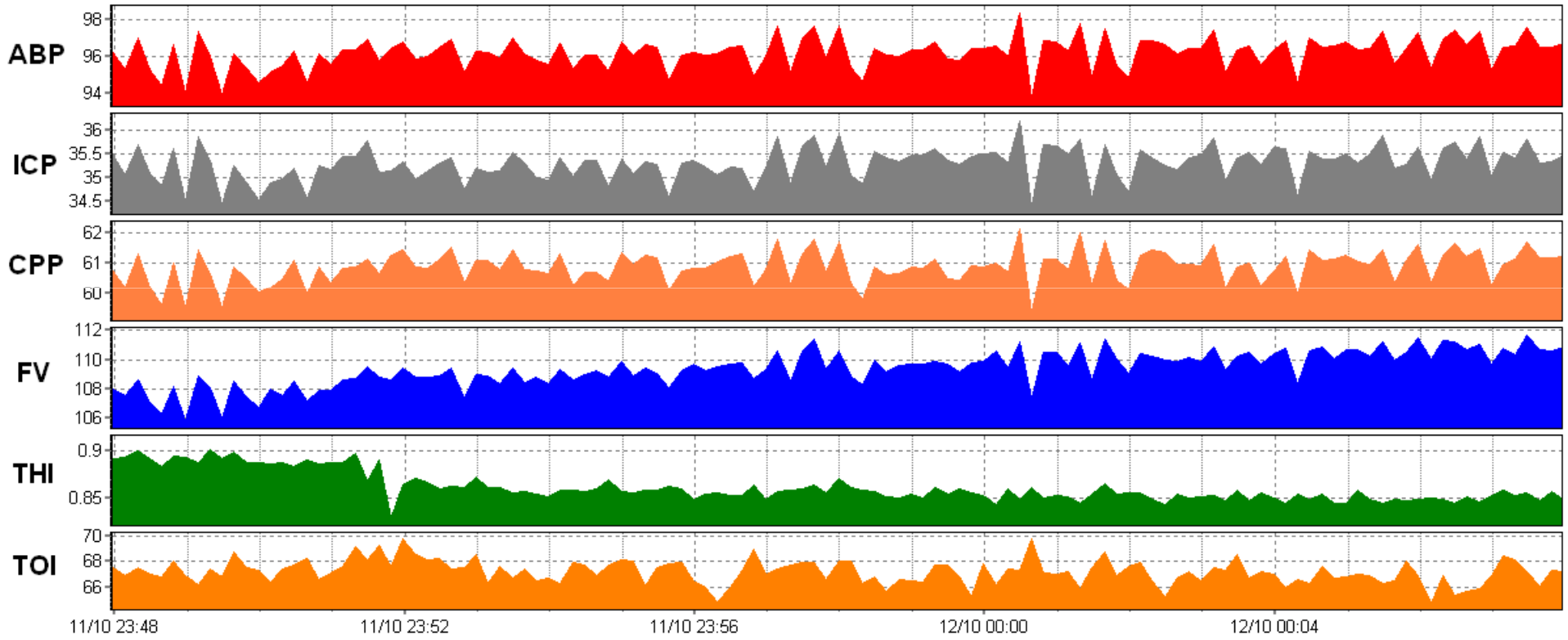
ICM+ file



Duplication of TCD signal

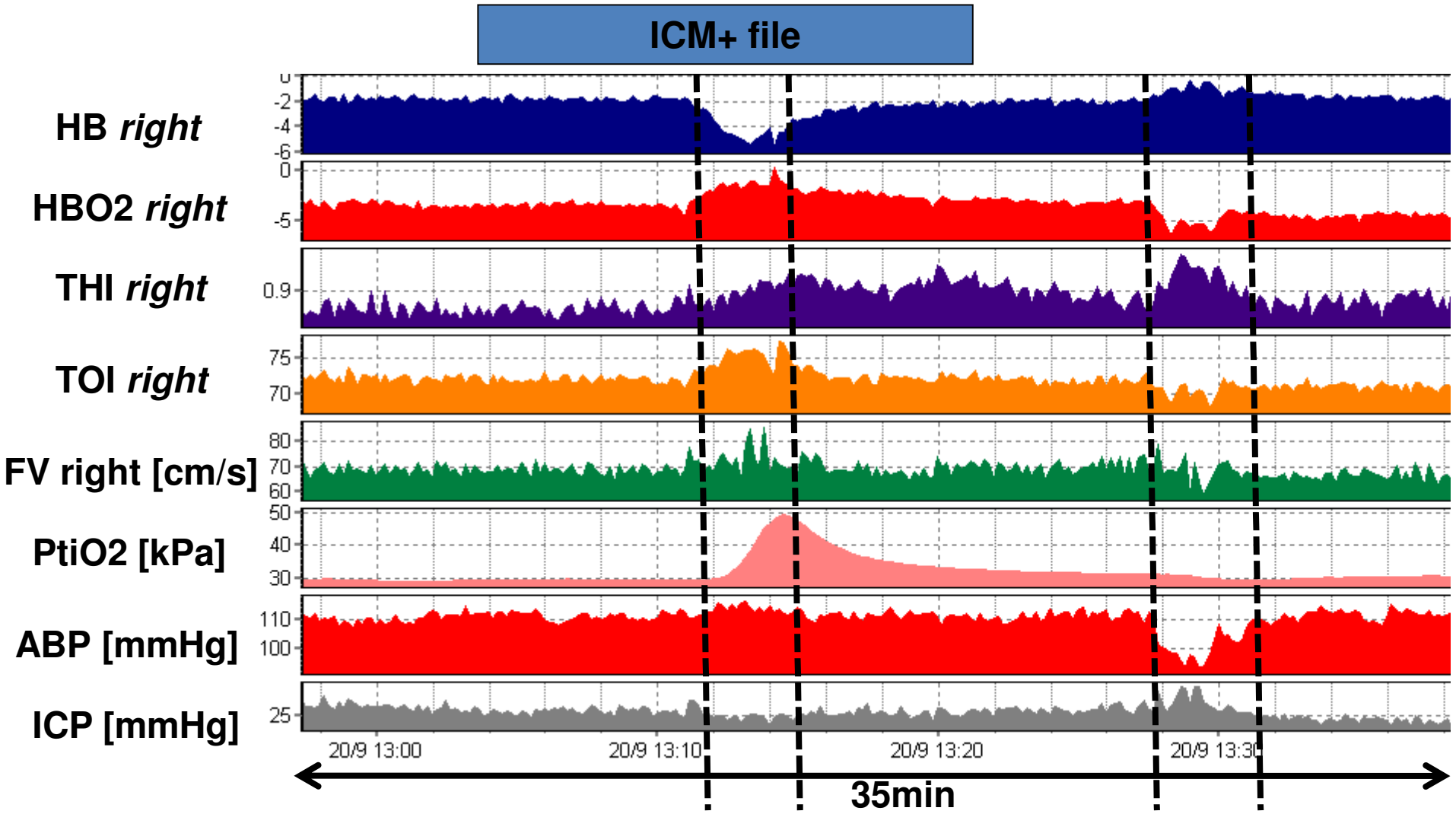
Example 2

ICM+ file



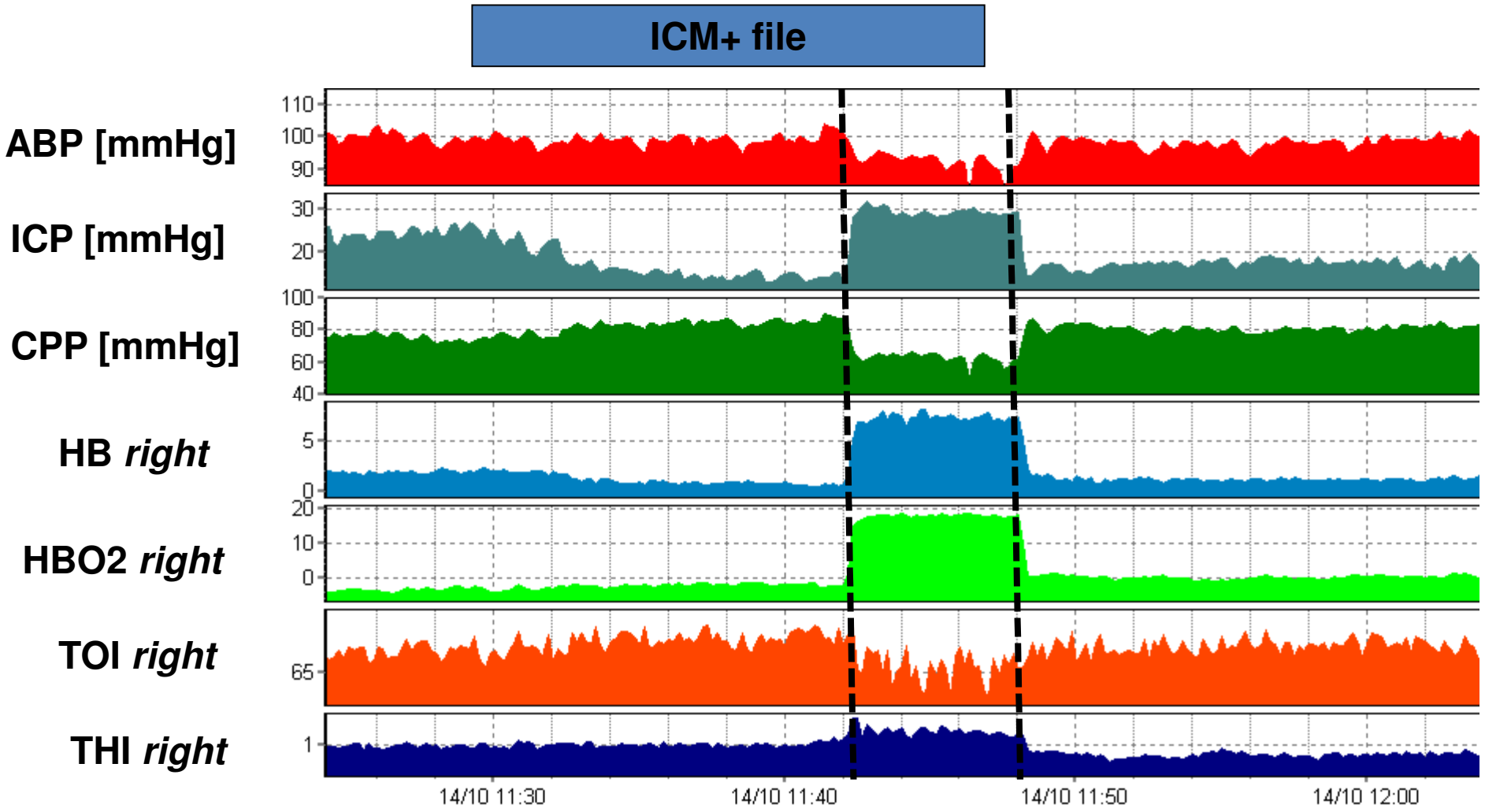
pCO2=10.82, pH=7.117

Example 3



Increase in FiO2 and PEEP

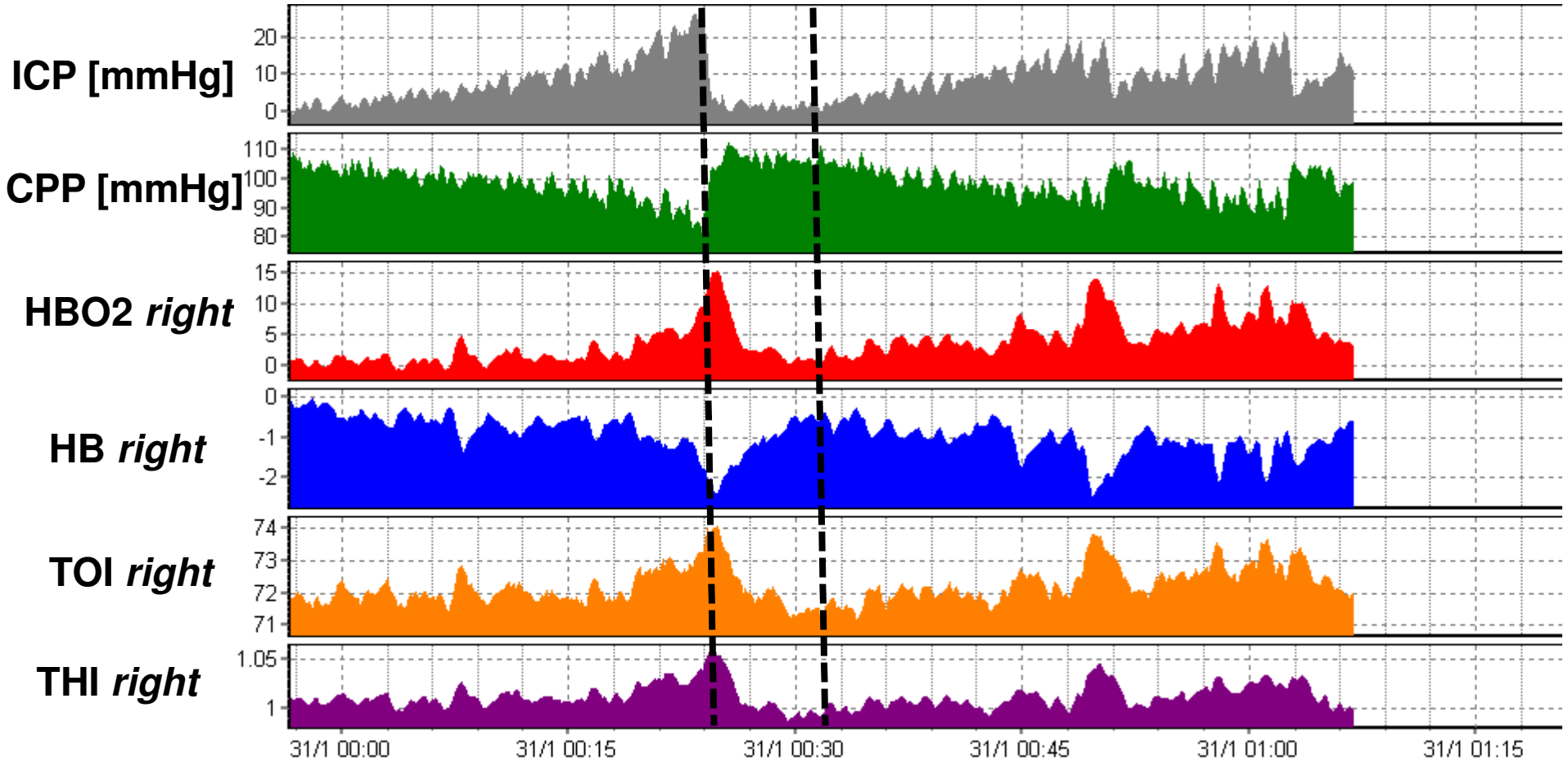
Example 4



Change in head position

Example 5

Raw data file



Occlusive Hydrocephalus

Data acquisition with ICM+

1. Create a mask for the baseline data

2. Before recording start, check the signals

3. Make notes, annotations, mark events

4. Before re-analyzing, cut out artifcats and go through the raw data