

Video Tilt Table Test

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The importance of video recording during Tilt Table Testing (TTT)

- Recent guidelines on syncope and on TTT recommend video recording, integrating video with non-invasive beat-to-beat monitoring.
- Objective and playable review of clinical signs in relation to hemodynamic patterns.
- Increase the reliability of clinical observation of induced events.

A novel and practical method to add video monitoring to tilt table testing

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Received 1 August 2022; accepted after revision 5 October 2022

Advantages of Video recording during TTT

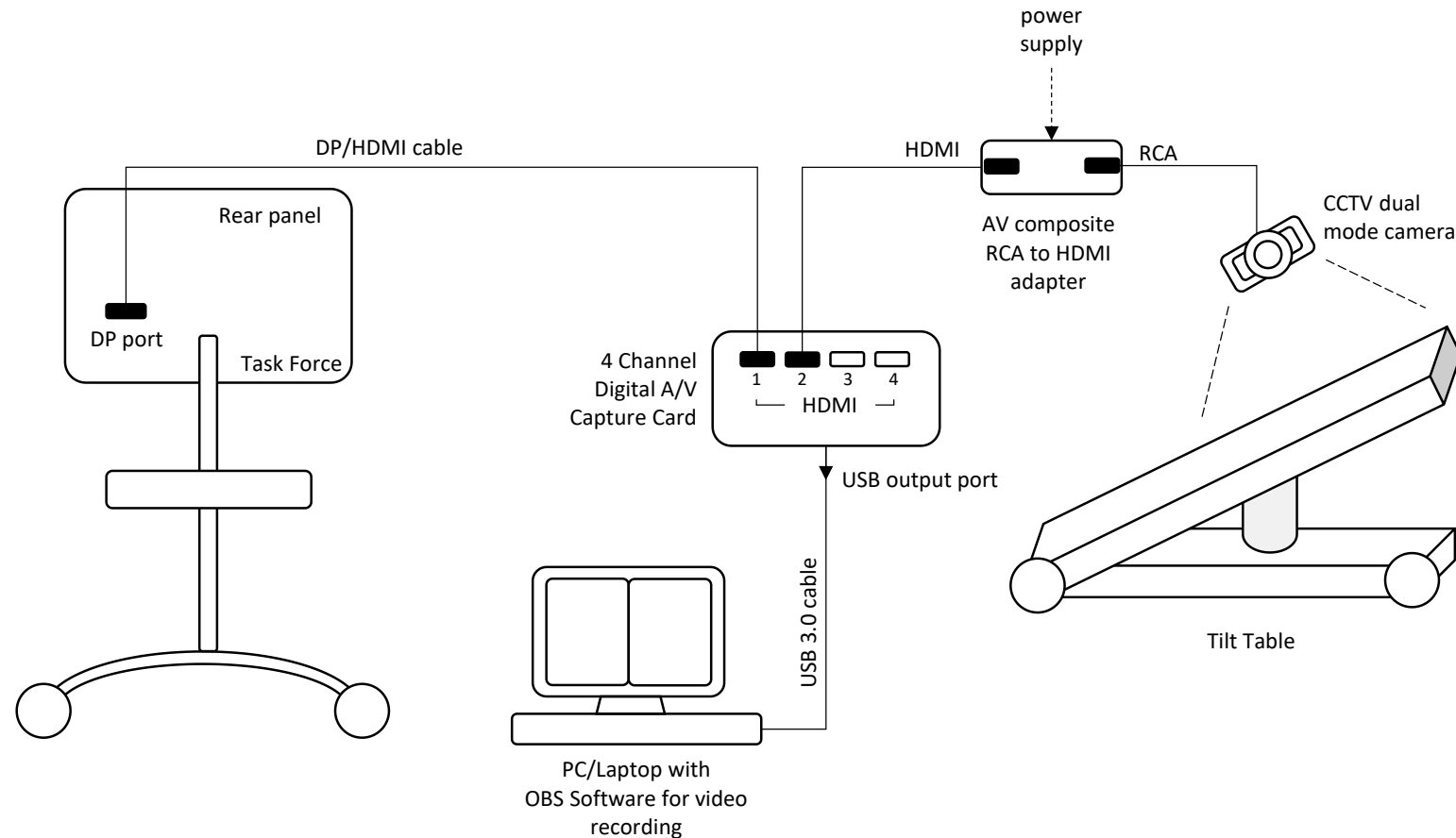
	TTT with video	TTT without video
Repeatable and objective review of clinical signs/ T-LOC	Very easy	Impossible
Increase reliability of clinical observation	Very easy	Impossible
Timing of T-LOC with respect to haemodynamic parameters	Almost guaranteed	Very difficult
Diagnosing combined PPS and WS	Very easy	Very difficult ^a
Establish diagnosis without physician attending TTT	Easy	Very difficult ^a
Assessing semiology of T-LOC	Possible	Difficult ^a
Biofeedback/professional education	Patients' motions can be included	Patients' motions cannot be included



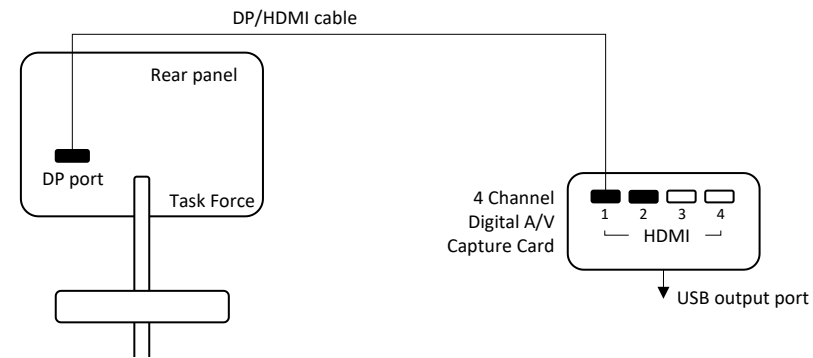
The Open-Access- Video TTT

- A novel, practical, not expensive method for video recording during TTT
 - Basic requirements: a PC, a video camera, and open-source video recording/live streaming software (e.g., Open Broadcaster Software, OBS Project <https://obsproject.com/>)
 - Applicable to all available non-invasive beat-to-beat monitoring systems:
 - Task Force[®] Monitor (CNSystems, Austria);
 - Finapres Nova[®] (Medical Systems, the Netherlands)
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The setup of TTT video recording with the Task Force[®] Monitor systems



1. Connect the rear DP1 port of the Task Force with the INPUT1 of the Video Capture Card

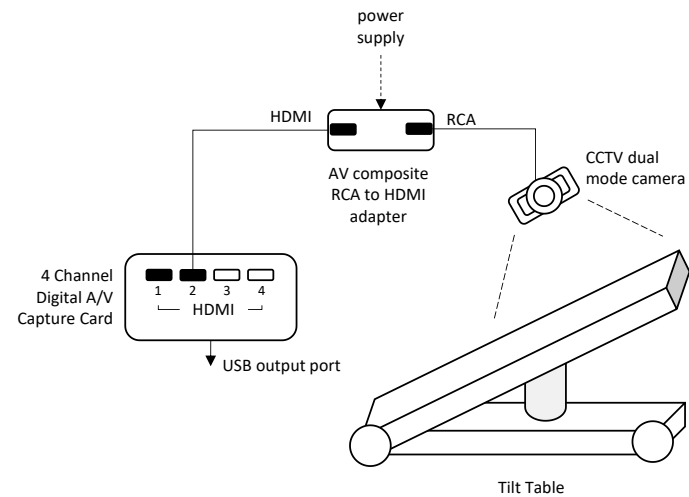


DP port of the Task Force



4 channel video capture card

2. Connect the Camera output to the INPUT2 of the Video Capture Card using the RCA/HDMI adapter (if needed).



There should be no need for high performance/resolution camera. At least 2 MPx (1080 Px) is recommended if installed sufficiently close to the HUTT. Infrared light spectrum option is needed if the test is performed in a dark room

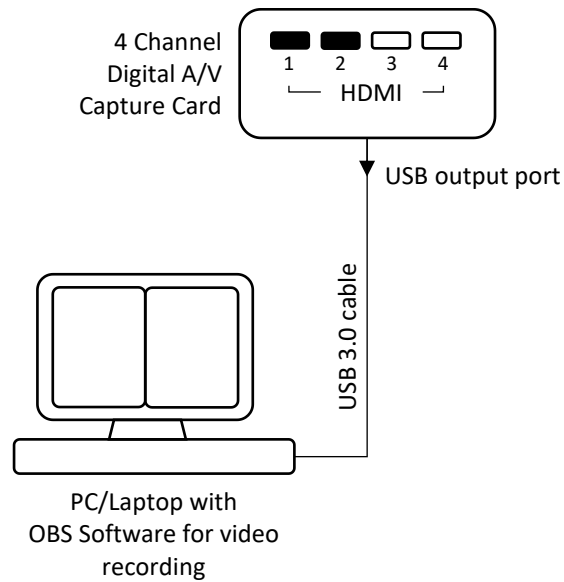


Camera

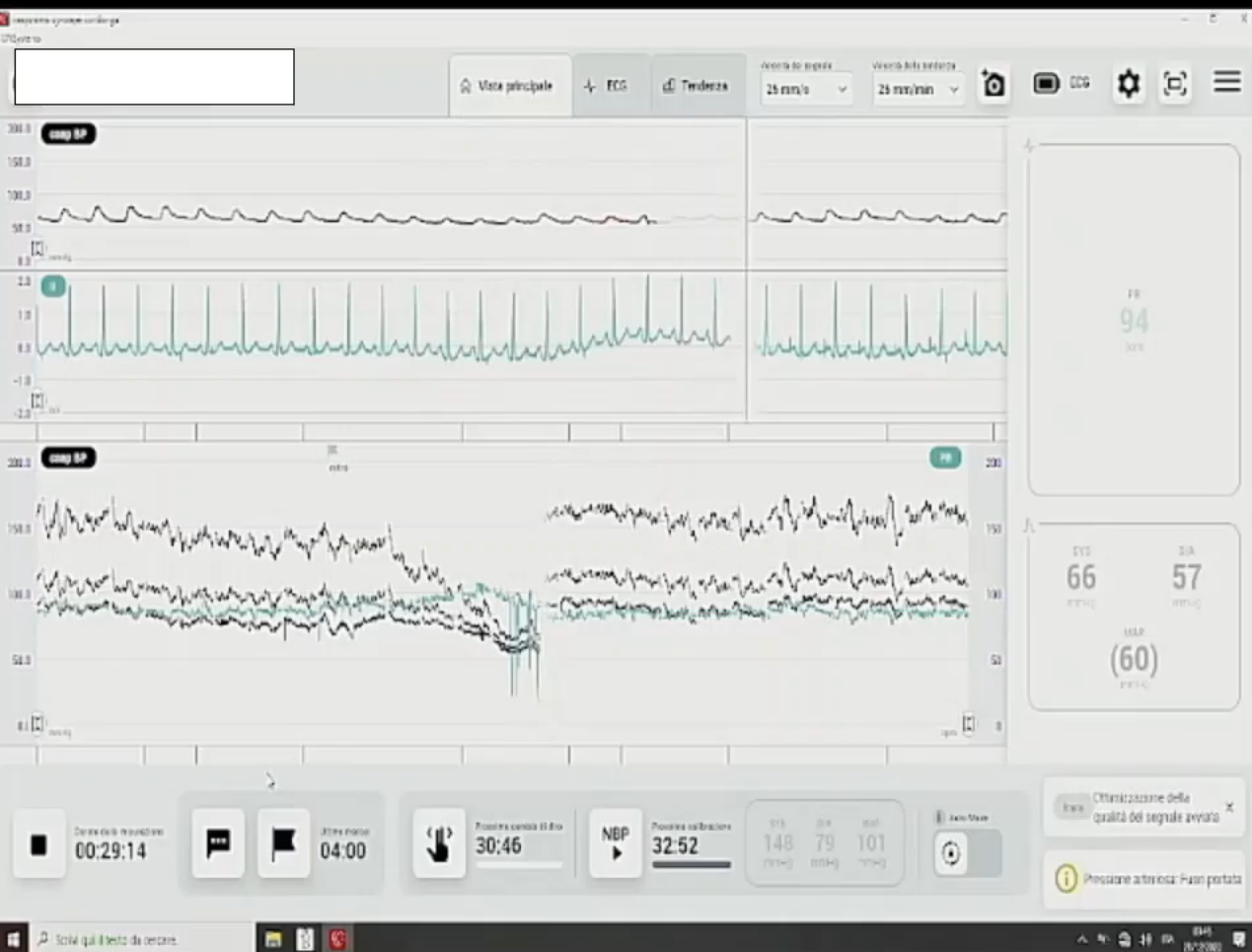


RCA/HDMI adapter

3. Connect the 4 channel video capture card to the laptop







Issue 3 : 2-year syncope rate 25%

With 32% absolute risk reduction

Biosync: 2-year syncope rate 22%

With 46% absolute risk reduction

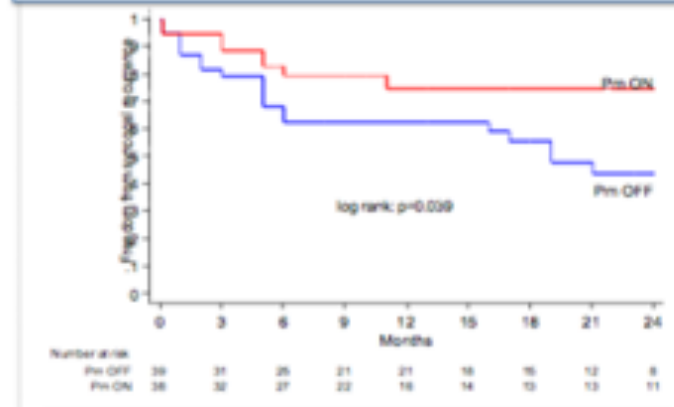
Cardiac pacing in severe recurrent reflex syncope and tilt-induced asystole

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International Study on Syncope of Uncertain Etiology 3

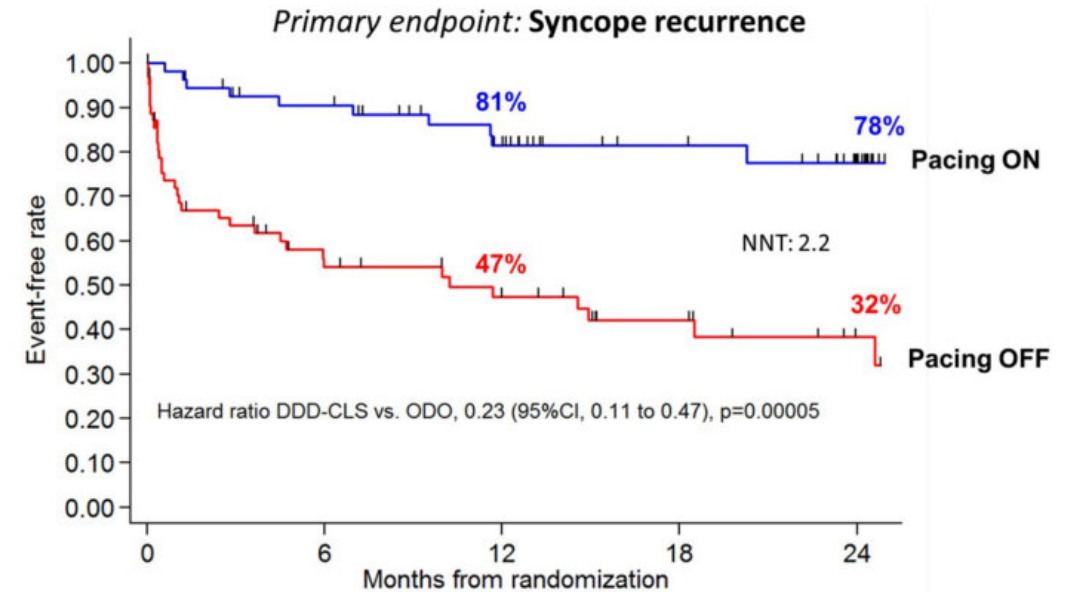
M.Brignole, C.Menozzi, A.Moya, D.Andresen, J.J.Blanc, A.D.Krahn, W. Wieling, X.Beiras, J.C. Deharo, V.Russo, M.Tomaino, R.Sutton

Pacing is effective in reducing recurrence of syncope in patients >40 years with severe asystolic NMS (ILR). There was 32% absolute risk reduction and 57% relative risk reduction

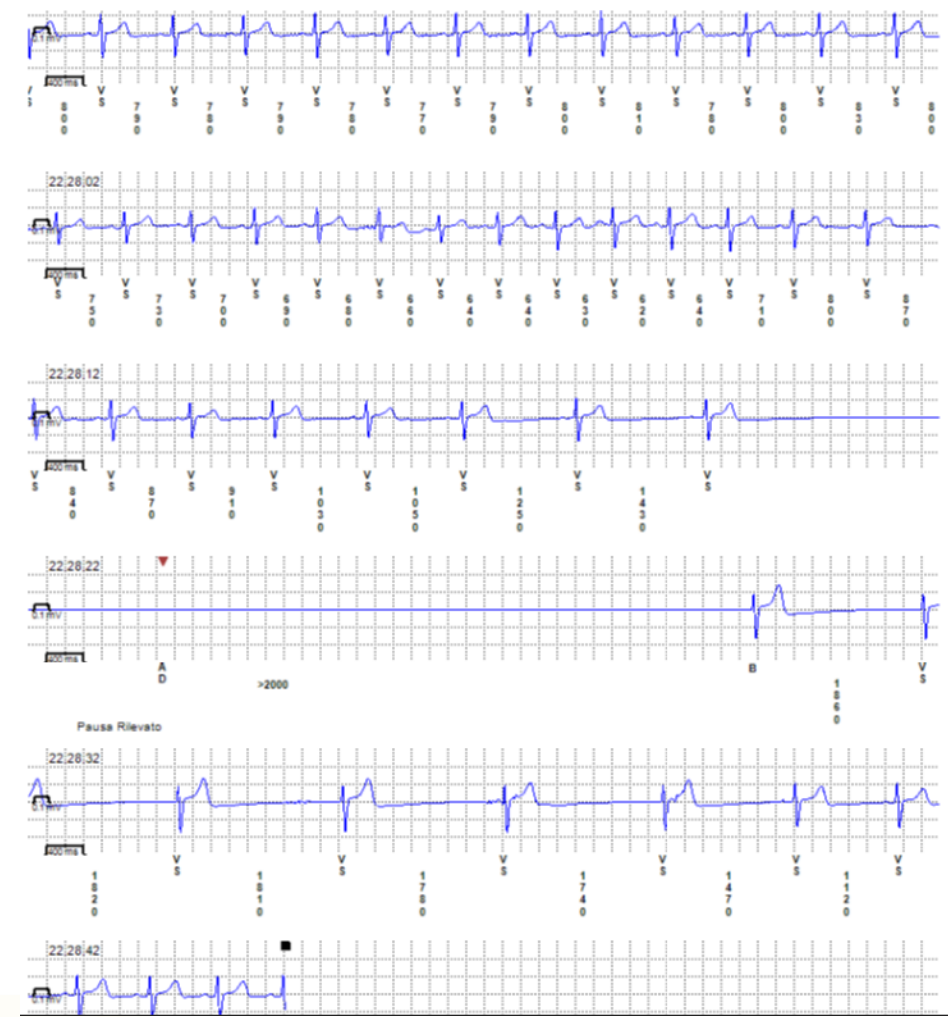
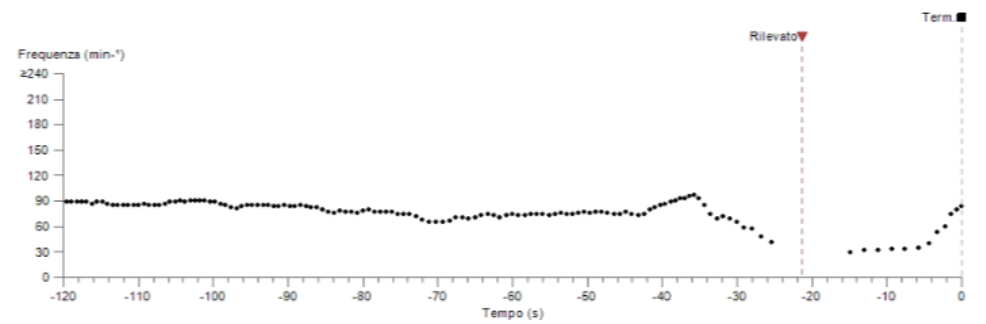


**25%
Recurrence of
syncope despite PM
implantation**

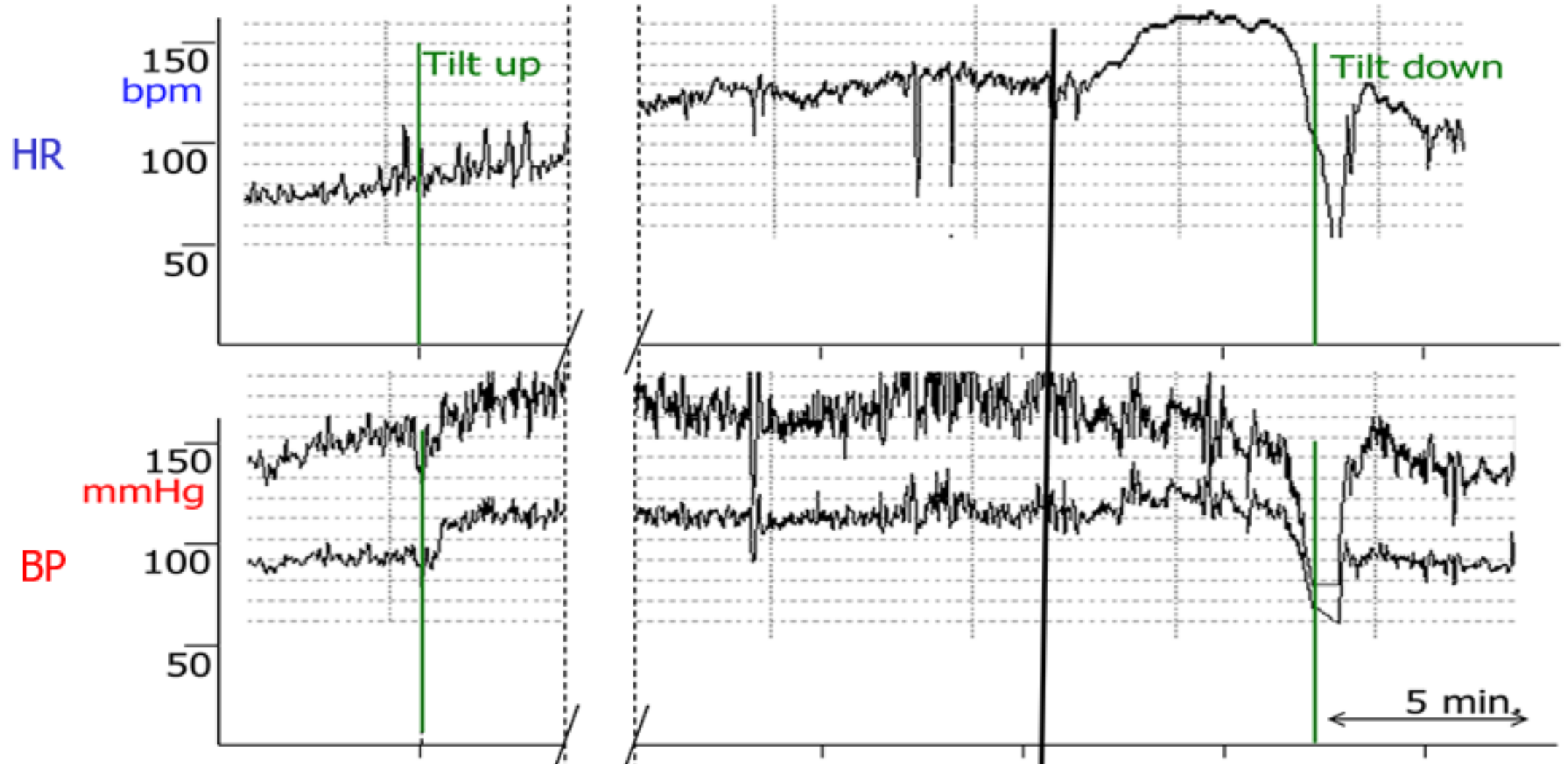
Circulation May 7, 2012

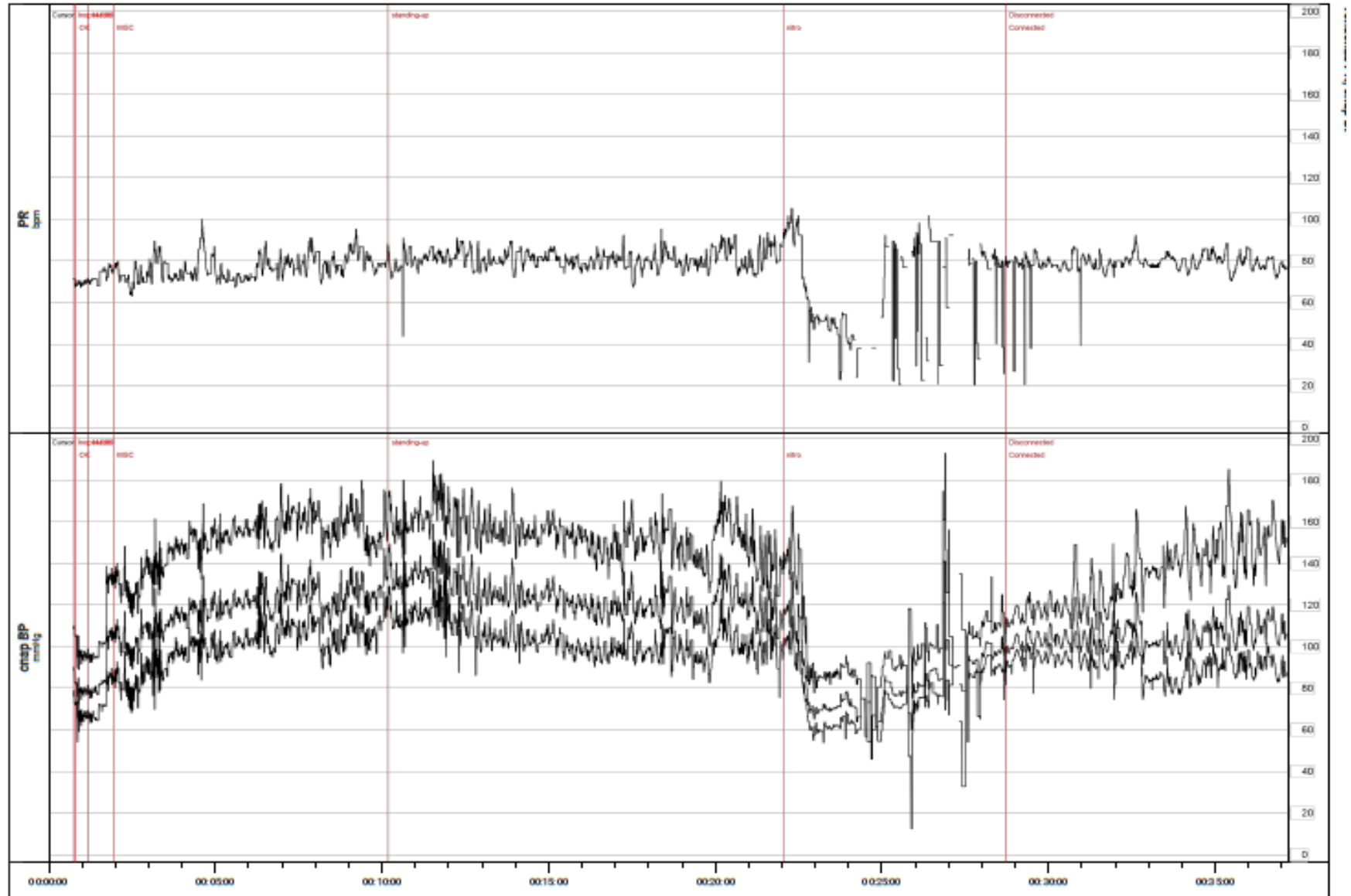


When did syncope exactly occur?



Time of syncope: @tilt down





Conclusions

- Reflex syncope with asystole is an indication for cardiac pacing
- Accurate clinical follow-up is crucial
- Video recording of TTT is essential to investigate the latency of syncope with respect to timing of asystole
- Should we pay more attention to subjects with syncope occurring after asystole with respect to those with syncope occurring at the same time or before asystole?
- A clinical study investigating syncopal recurrence rate in correlation with a latency between syncope and asystole may be worth conducting