Abstract: **P2178**

**Wearable multi-sensor platform with 7 days-ECG**

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**Topic(s):**
Remote Patient Monitoring and Telemedicine

**Citation:**

**Background**
Today you either get a fitness tracker out of the consumer health products’ world easy to apply but with seriously limited informative value, or you go for a medical product like a traditional Holter ECG with proven validity but limited suitability for daily use. There is a need for serious monitoring of vital data beyond pulse rate and counting steps, data which could be integrated in a professional setting.

**Approach**
As a spin-off of the digilog ('Digital and analog companions of an ageing society') project (funded by the Federal State of Brandenburg, Germany), we developed a wearable multi-sensor platform with a 7 days-ECG implemented. The device is glued to the thorax and does not have any cables; you even can have a shower with it. You get a full-disclosure ECG with 3 leads. We tested validity and reliability with 200 patients and compared the results in a subset to a simultaneously applied conventional (24 h) Holter ECG.

**Results**
Drop-out rate (mainly due to operating errors or technical problems) was 3% (6/200). Acceptance by patients and referring doctors was excellent. Atrial fibrillation was detected in the 7 days-devices more often and more reliable than in the 24 h-Holter ECGs. Detected heart rates, ectopic beats and atrial fibrillation were comparable. The rate of artifacts was significantly lower in the wearable group.

**Conclusions**
A wearable multi-sensor platform with a 7 days-ECG implemented was successfully tested as proof-of-concept and compared to conventional Holter ECG.