Correlation between electronically generated nurse feedback and the frequency of position changes

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Background

The Deventer Ziekenhuis is a acute care hospital in the Netherlands of 380 beds. There is an ongoing awareness in the importance of Pressure Ulcer prevention since 1994. This resulted in a year average P.U. incidence of 0,39 (category 1 - 4).

Introduction

A key item in pressure ulcer guidelines and protocols is the limitation of the time a patient stays in one position. To achieve that, most protocols advise repositioning of patients every 3 hours.

A recently introduced pressure sensor-based device (Mobility Monitor®, Compliant Concept) is able to measure the time intervals between relevant position changes of patients. It can be connected to the nurse call and allows to set a warning if a patient did not change position for a certain time (2, 3 or 4 hours), indicating the nurse the need to perform a repositioning of the specific patient.

Aim

The aim of our research was to determine whether the use of the Mobility Monitor effectively helps nurses to reduce the maximum time a patient stays in one position

Materials and methods

A pressure sensor-based device (Mobility Monitor®, Compliant Concept) was used. Two groups of surgical patients with impaired mobility were selected. To calculate the median time and the maximum time spent in one position in the control group, the device is placed under the mattress, but is not connected to the nurse call.

In the intervention group the device is connected to the nurse call system in order to signal a nurse if a time of >3 hours in one position is exceeded.

Control: 6 patients without alarm
Intervention: 6 patients connected to alarm

Results

Out of 14 nurses interviewed, 13 nurses said they considered the Mobility Monitor® a very useful tool, relieving them of the burden considering which patient to turn. One nurse considered the nightly alarms as undesirable.

The average time without relevant position change was reduced by 57%

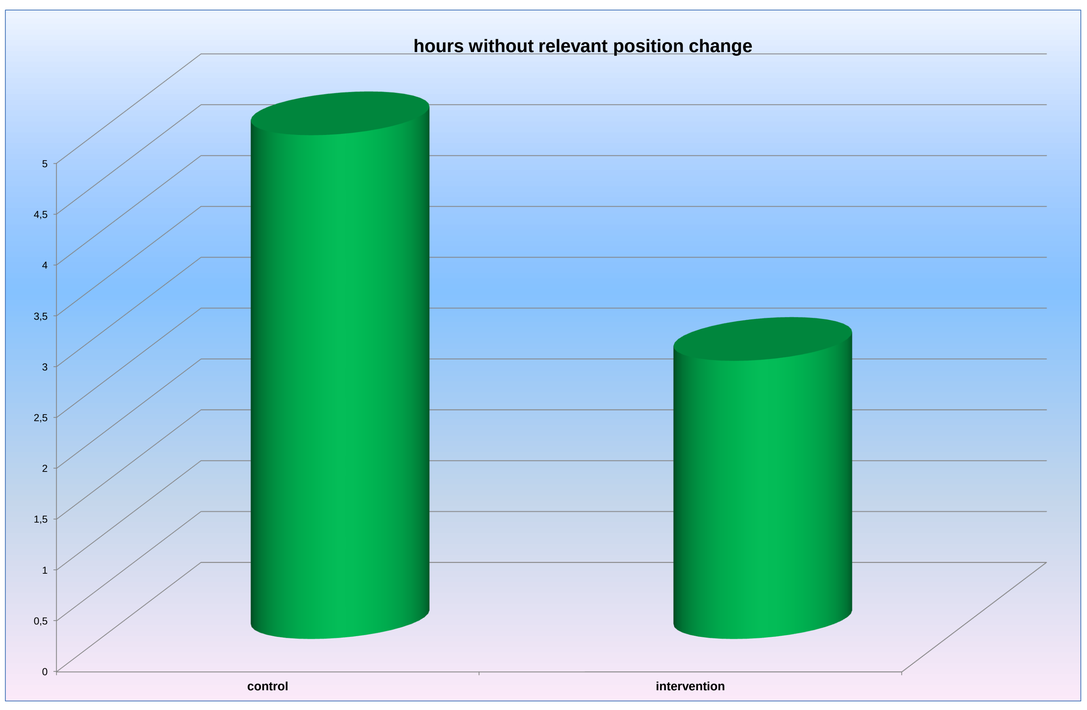

Figure 3. Time interval between relevant position changes

The device was used for 61 days with 12 patients. Figure 3 shows an average time of 4.9 hours without relevant position change in the control group and an average of 2.8 hours in the intervention group.

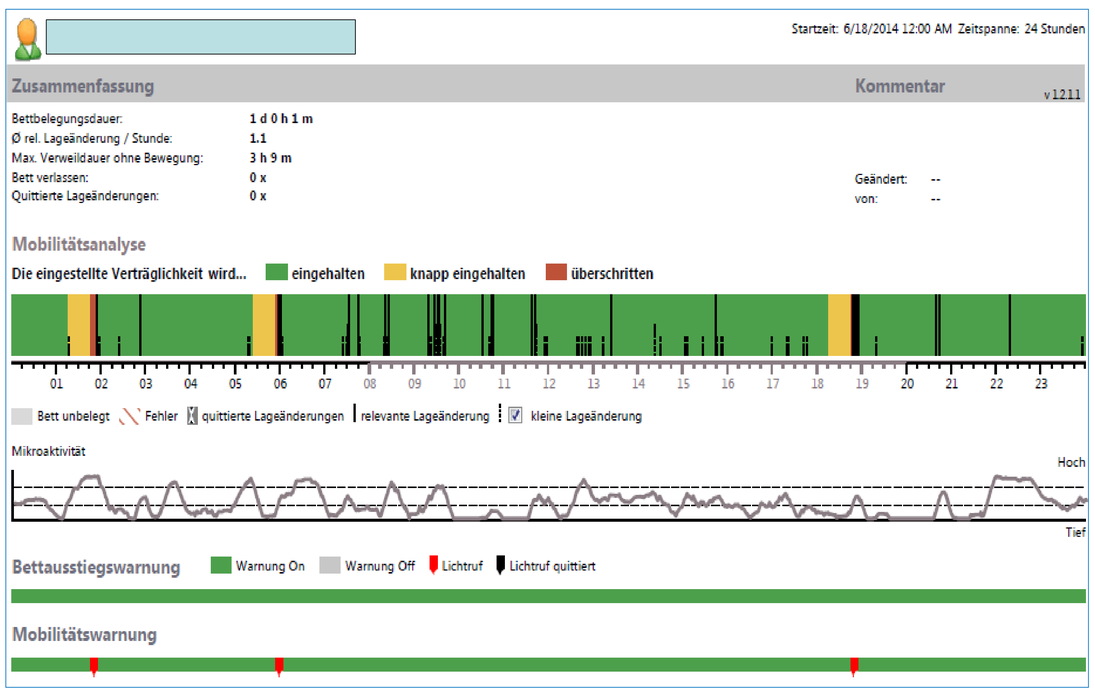

Figure 2. The mobility analysis of a patient with the nurse calls in the bottom line.

Conclusion

Despite the small sample size, the Mobility Monitor® reduces the average time a patients stays in one position. Therefore it is a valuable tool in improving the effectiveness of nursing care.

Further research is needed to see if the use actually reduces the number of new pressure ulcers.

Figure 1 (left). A patient with a Mobility Monitor® control unit attached to the side of the bed, connected to the nurse call.