EP052 The effects of pressure redistribution of an innovative cradle-shaped turning mattress, compared to manual repositioning of bed-ridden patients

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Aim:

The aim of this work was to investigate the pressure distribution in an innovative mattress-system that is automatically shaped as a cradle before it slowly starts the turning process.

Method:

We have tested a system where the base is shaped as a cradle before the turning process starts. Pressure Imaging tests were performed when the test person was lying in different positions on a flat mattress (supine, 30^{o} and 90^{o}) over time and with the automated cradle turning (ACT) program.

Results / Discussion:

Pressure or pressure in combination with shear of the skin and underlying tissues over bony prominences is seen as the main cause of pressure ulcers (EPUAP). The amount of pressure/shear over time is a major factor for cell deformation and cell death. To reduce the time tissues are deformed, repositioning is paramount.
A 30^{o} side-lying position is recommended according to the EPUAP guidelines. However, reposition is seen as a challenge for the patient, i.e. as a disturbance, strongly affecting the sleep pattern and thus their Quality of Life. For caregivers, it is also challenging to reposition the patient in a stable, comfortable and secure 30^{o} side-lying position.
When comparing pressure images of the test person lying in a manual positioned 30^{o} position with cushion support, with images while being rotated by the ACT system, we clearly observed better readings in the cradle system then in the manual positioned situation.

Conclusion:

The CT system had several advantages compared to manual repositioning.