

Effects of therapeutic positioning on vital parameters in patients with central neurological disorders: a randomised controlled trial.

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Aims and objectives

To investigate the effects of positioning on heart rate, breathing frequency and blood pressure in postacute, severely disabled patients with central neurological disorders.

Background

Positioning patients is part of the regular nursing routine in the care for severely disabled patients. Positioning can be done in a conventional way or in Lagerung in Neutralstellung (Engl.: positioning in neutral), which has recently been shown to have better effects on the passive range of motion and comfort than conventional positioning. While it is thought that positioning influences vital parameters, so far no study has investigated this for a clinically relevant observation period, and no study has compared different positioning concepts in this respect.

Design

A multicentre, randomised, controlled, single-blind clinical trial.

Methods

Two hundred and eighteen patients were randomly assigned to positioning in neutral or conventional positioning. For two hours, they were lying in one of five positions (supine, 30° and 90° side lying on the right or left side) according to the respective positioning concept. Heart rate, breathing frequency and blood pressure were measured before and after positioning in a supine lying position (i.e. not positioned according to any concept). It was investigated if the interventions influence vital parameters and whether there are differences between positioning in neutral and conventional positioning, or between the different positions.

Results

In neither of the groups did heart rate, breathing frequency and blood pressure change significantly after the intervention compared to before ($p \leq 0.01$).

Conclusion

Positioning does not influence heart rate, breathing frequency and blood pressure when patients are lying for a clinically feasible length of two hours.

Relevance to clinical practice

This study shows that nurses can apply both positioning concepts according to their patients' preferences or to address problems like pressure sore prevention. There is no risk of influencing basic vital parameters.