

# User experience with Multicare and Lateral Tilt

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## Abstract

This work focuses in more detail on the *lateral tilt* feature on the Multicare automatic positioning bed. The aim is not only to map knowledge of the bed's multi-functionality, but also the actual use of its beneficial features.

By continually using the bed's features during the day, we have recorded great successes, both in the area of prevention, and also in reducing physical exertion on the part of medical staff.

In our department, we also use the lateral tilt to facilitate the treatment of ARDS.

**Key words:** Lateral Tilt, Automatic Lateral Therapy, ARDS, Mobi-Lift®

## 1 Operating the bed

LINET provides a fully automatic adjustable bed for intensive care and anaesthesiology and resuscitation departments, largely for patients under analgosedation.

This bed is highly beneficial both for patients, and for nursing staff who position it. For example, it can be used to help prevent pressure ulcers, ankyloses, pneumonia, pulmonary atelectasis, contractures and other pathological health conditions. It also helps to prevent back pain.

A *lateral tilt* within a specified timeframe, the latest feature, is made possible by a pre-set positioning programme.

## A DETAILED OVERVIEW OF POSITIONING

In light of the patient's medical condition and overall diagnosis, the physician will indicate whether the patient should be rehabilitated, or what degree of rehabilitative care they should receive. The next step is the positioning itself. Every patient is positioned. Specially designed rehabilitation aids are used for this task, which also includes micro-positioning. This method of re-habilitative care is ensured by a slight change in the acral parts of the human body; by, for example, turning the head to the opposite side, or changing the position of the lower or upper extremities. If it is not possible to position and turn the patient from one side to the other due to the diagnosis, the lateral tilt is a great assistance.

### **2 Automatic lateral therapy**

Once our staff were familiar with the positioning bed and its features, they were able to carry out other therapeutic activities more quickly.

Automatic lateral therapy is an indication for the prevention of decubitus, with minimum tilts of up to 10°, mostly in the following cases:

- *Spinal injury*
- *Open abdominal cavity - surgical status*
- *Shortly after a demanding surgical intervention*
- *Acute phase of haemato-oncological diseases*

In addition, the treatment of ARDS is facilitated by lateral tilts of up to 30°.

Throughout the day, the chronological procedure is as follows: morning wash, physician's examination of the patient, individual interventions, then the actual adjustment of the bed with the patient in it. Specifically, the bed should be adjusted with

the patient lying in the middle of the mattress and with the aids placed around him or her. The aids are specially designed and shaped to adapt to the lateral tilt.

Stabilisation aids ensure the safe operation of the set programme and maintain a constant body position in the centre of the bed. On the basis of these aids, patient safety cannot be compromised during the lateral tilts.

When activating the program, the manufacturer's instructions must be followed. If you try to activate the lateral tilt when some of the side rails are not raised, the program will not start. Instructions and warnings are given on the bed's display screen.

Before automatic lateral therapy, a test cycle must always be run. The main purpose of this test is to prevent undesirable situations. Most importantly, the distribution of all invasive protrusive inputs and the hose system must be checked. It is safe to use the ventilator circuit holder sited on each positioning bed to prevent extubation. The holder can be installed from the left, the right or even the top centre of the bed, according to the needs of staff and the requirements of other parts of the bed. Our experience with this system has been very good. Extubation during automatic lateral therapy has never occurred.



### 3 Verticalisation of the patient

Patients can be gradually verticalised in this bed, which is another great benefit. Many patients in our department undergo analgosedation for the acute phase of their condition on and just after admission to hospital. With regard to positioning, the patient needs 24/7 care, so that immobilisation syndrome does not cause any secondary damage.

When the acute phase of the health condition is over, subsequent efforts are made to mobilise the patient in the shortest possible time.

From the rehabilitative point of view, a *passive rehabilitation exercise* is required first. A fully qualified physiotherapist uses this exercise to focus on the ability to restore the normal function of the patient's musculoskeletal system without any effort of his/her will. The patient's ability to assist the physiotherapist or to execute a specified movement independently is called *active exercising*. The patient's active movement with the help of medical staff is followed by verticalisation; this means that the patient is

able to stand on his/her feet next to the bed. The adapted multifunctional bed has helped us greatly to this task. Specifically, the physiotherapist will instruct the patient to sit on the bed with his/her legs hanging down while grasping the side rails, which are there to help the patient stand; firstly, of course with the help of a physiotherapist, later on his/her own.

It is my opinion that the *lateral tilt* and the *Mobi-Lift handle* functions are useful aids to progressive verticalisation. The cardiovascular system of a patient who has not stood up for a long time will naturally weaken. Using the Mobi-Lift handle increases safety levels during the transition to an upright position for both the patient and the staff regarding the possible occurrence of postural hypotension. If the patient is unable to stand up because of low muscle strength, no danger will arise – the patient cannot fall, but would just sit down on the bed again.

A highly positive feature of the LINET positioning bed is the range of positioning programs that contribute significantly to the adaptation of the human body as it gradually starts to verticalise.

*This document has been drawn up under the supervision of MUDr. Michal Otáhal, Prague General University Hospital, Clinic of Anaesthesiology, Resuscitation and Intensive Medicine*

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