

Risk assessment of side rail height in combination with Turn All automatic lateral turning system and mattress

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LEVABO®

Guideline according to International Standard on requirements for the basic safety and essential performance of medical beds (IEC 60601-2-52)



1. The Turn All System operating underneath the mattress

The Turn All automatic lateral turning system can be installed onto any medical bed with any mattress type atop.

The system alternates between lifting the right and the left side to a 30 degree side position. The opposite side of the primary lifting side lifts to a 5 degree position to provide support for the user.



2. Measure from top of mattress to edge of side rail

According to subclause **201.9.101**, in the standard, the top edge of the side rails shall be minimum **220 mm** above the mattress.

Where a specialty mattress or mattress overlay is used and the side rail does not meet the requirement of 220 mm, a risk assessment shall be performed to assure equivalent safety.



3. The most accurate measure is the midline on top of the mattress

When measuring the height from the top of the mattress to the edge of the side rail you need to measure from the lowest point on the mattress when the Turn All system is placed underneath and is operating.

This is the most accurate measure because the user is nested in the midpoint of the mattress with a 30 degree angle on one side and a 5 degree angle on the other side.



4. The midline is the lowest point when Turn All is operating

In cases where the minimum height requirement of the side rail is not met a risk assessment based on the particular users level of functioning and disability must be performed.

If the user is immobile there is expected to be low risk of accidental falls from the medical bed.



5. The Turn All System operating with side rails with extra high

If the user is somewhat mobile and has **NO** cognitive disabilities or reduced cognitive functioning there is expected to be low risk of accidental falls from the medical bed.

If the user is somewhat mobile and has cognitive disabilities or reduced cognitive functioning it is recommended to use side rails with extra height or height extension rails on the medical bed to meet the minimum requirement.