FORUM
The Stiegelmeyer-Group's company magazine



How can hospital beds support nursing staff in the ICU?

30. April 2021 // **Articles & Reports**

The ICU is one of the most challenging places to work in a hospital. Caring for and treating critically ill patients is as emotionally demanding as it is physically straining. Burdened with serious illnesses, patients in the ICU often need more attention than patients on regular wards. The nursing job has been complex and stressful before the Covid-19 pandemic started. However, since 2020, the challenges faced by ICU staff have increased exponentially.

How can hospital beds support nursing staff in the ICU?

Our Sicuro tera ICU bed is ideally equipped for many challenges

The ICU is one of the most challenging places to work in a hospital. Caring for and treating critically ill patients is as emotionally demanding as it is physically straining. Burdened with serious illnesses, patients in the ICU often need more attention than patients on regular wards. The nursing job has been complex and stressful before the Covid-19 pandemic started. However, since 2020, the challenges faced by ICU staff have increased exponentially.

While the number of Covid patients in ICUs across the world has been rising, especially during the 2nd and 3rd waves this past winter, staff still has to care for their "usual" patients with strokes, heart attacks, etc. on a daily basis as well. Many challenges in the ICU are based on the shortages of staff and protective gear and a hospital bed can not solve these fundamental problems. However, a hospital bed with the right functions can relief nursing staff of some of the physical strain and stress in their day-to-day tasks surrounding the patient in bed.

Calculating the correct medication for the patient's weight

Before administering medication to a patient, it is imperative to calculate the correct dose. For this, nursing staff needs to know what the different measurements used for drug dosages in healthcare are and how to convert between different units. However, that is not all, as medications can also be prescribed according to

a patient's weight.[1] This will require additional calculations, but first poses the question: How much does the patient weigh?

A 2016 study showed that almost 20 % of patients are given a dose of medication that deviates from the recommended dose due to their body weight being incorrectly estimated.[2] It would, therefore, be helpful to be able to determine the patient's weight quickly and without strenuous repositioning. The new ICU bed Sicuro tera by Stiegelmeyer offers an optional integrated scale that determines the patient's weight to the nearest 200 grams, if needed even to the nearest 100 grams. Treatment can progress unhindered, and the appropriate medication can be determined without any time-consuming weighing procedures or rough estimations.



The new Sicuro tera ICU bed from Stiegelmeyer offers an optional integrated scale that determines the patient's weight to within 200 grams.

Placing machines, wires and tubes where they are needed

In most cases, a patient in the ICU is connected to several different machines and devices with wires, tubes and cables to allow staff to monitor and track his/her progress, and to keep the patient alive. These may include ventilators, ECG devices, dialysis machines, monitors and syringe pumps, for example. And while some procedures take place in the patient's ICU room, there are also incidents where a patient must be transported for a test, such as a CT or an MRI. Here it is important that portable devices that are critical for the patient's treatment can be attached directly to the bed.

Stiegelmeyer's ICU bed Sicuro tera has standard sliding rails almost all around the bed's frame. Thus, attaching the needed equipment is not a problem. Numerous Stiegelmeyer accessories are also available to further assist with the attachment of medical equipment.

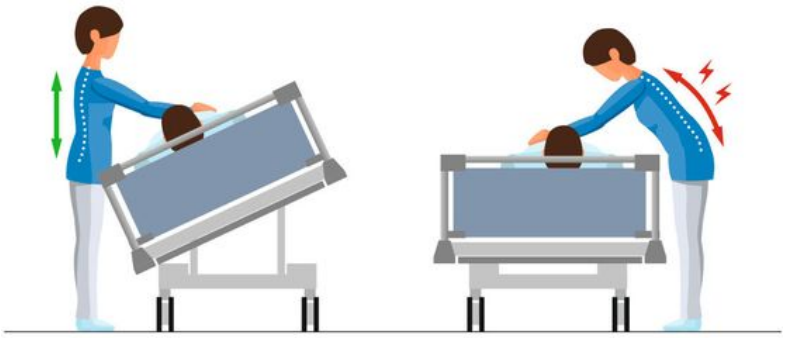


Thanks to the standard sliding rails on almost all sections of the bed frame, attaching required equipment to the Sicuro tera is no problem.

Physical strain

Positioning patients appropriately, especially if they are immobile, can be extremely strenuous for nursing staff. The most time-consuming task might be turning the patient from one side onto the other, to relieve the lungs and prevent pressure sores. In difficult cases, this may require up to five nurses and take several minutes – especially when numerous tubes and cables have to be attended to in the process.

In order to turn an immobile patient on a horizontal surface, nursing staff have to bend forwards and apply a great deal of force to either pull the patient towards them or push the patient away. The resulting strain applied to the nurse's spine and back muscles is very unhealthy. Nurses suffer more from back disorders than any other occupational group – up to 75 % of those questioned in studies complained of pain. And the 2019 Health Report of the German health insurance company Techniker Krankenkasse stated that 20 % of sick days among nursing staff are due to disorders of the musculoskeletal system.[3]



With the Sicuro tera, nursing staff can work more back-friendly and efficiently, as the laterally tilting mattress base almost completely relieves them of the exertion.

However, the lateral tilting capability of the Sicuro tera ICU bed allows ideal positioning of the patient. Nursing staff can work in a more back-friendly and efficient way as the tilting mattress base takes over the task almost completely. It helps to turn the patient, even if he/she weighs up to 250 kg. If equipped with the optional double foot switch, the Sicuro tera bed makes positioning an ICU patient even more comfortable. While the nurse is adjusting the bed position, e. g. height or lateral tilt, with the foot, he or she has the hands free to look after any tubes and cables and to support the patient's body if needed.



While the caregiver adjusts the bed height or the lateral tilt of the Sicuro tera with the foot, their hands are free, for example, to support the patient's body if necessary.

Emergencies

The day-to-day work on the ICU involves many stressful and emergency situations. A patient's condition may deteriorate quickly at any moment, calling for almost immediate action. According to the current European Resuscitation Council Guidelines "defibrillation within 3–5 min[utes] of collapse can produce survival rates as high as 50–70%".[4] When the alarm sounds, it is therefore important that staff can quickly start CPR.

"The American Heart Association (AHA) 2010 guideline prioritizes placing the patient in the supine position to perform optimal CPR."[5] The mattress base of the ICU bed, therefore, has to be brought into a flat horizontal position with the safety sides lowered to grant optimal access to the patient. The Sicuro tera ICU bed allows staff to react in a rapid manner without much effort. The Protega safety sides can be lowered with one hand without any complicated mechanisms or catches. The mattress base automatically moves into the resuscitation position when the CPR buttons are pressed – almost twice as quickly than conventional hospital beds. Alternatively, it is also possible to lower the backrest manually by operating the emergency

lever. The quickly removable headboard allows unencumbered access to the patient.



The easily removable headboard of the Sicuro tera allows rapid, unhindered access to the patient in an emergency.

References

1 Wright K, Shepherd E (2017) How to calculate drug doses and infusion rates accurately. Nursing Times [online]; 113, 10, 31-34.

2 Barrow T, Khan MS, Halse O, Bentley P, Sharma P. Estimating Weight of Patients With Acute Stroke When Dosing for Thrombolysis. Stroke. 2016 Jan;47(1):228-31. doi: 10.1161/STROKEAHA.115.011436. Epub 2015 Nov 10. PMID: 26556826.

3 Dr. Thomas Grobe, Susanne Steinmann, aQua – Institut für angewandte Qualitätsförderung und Forschung im Gesundheitswesen GmbH, Göttingen. Gesundheitsreport 2019 – Pflegefall Pflegebranche? So geht’s Deutschlands Pflegekräften. Published by Techniker Krankenkasse

4 Gavin D. Perkins, Anthony J. Handley, Rudolph W. Koster, Maaret Castrén, Michael A. Smyth, Theresa Olasveengen, Koenraad G. Monsieurs, Violetta Raffay, Jan-Thorsten Gräsner, Volker Wenzel, Giuseppe Ristagno, Jasmeet Soar, on behalf of the Adult basic life support and automated external defibrillation section Collaborators. European Resuscitation Council Guidelines for Resuscitation 2015 Section 2. Adult basic life support and automated external defibrillation

5 Anez, Cristobal MD, PhD*,†; Becerra-Bolaños, Ángel MD‡; Vives-Lopez, Ariadna MD*,†; Rodríguez-Pérez, Aurelio MD, PhD‡,§ Cardiopulmonary Resuscitation in the Prone Position in the Operating Room or in the Intensive Care Unit: A Systematic Review, Anesthesia & Analgesia: February 2021 - Volume 132 - Issue 2 - p 285-292. doi: 10.1213/ANE.0000000000005289