



# medstrom aria PRO

## Evaluating the performance of the Aria PRO mattress on a patient with Motor Neurone Disease in a Ventilation Ward

For several years, Aintree Hospital has delivered a ventilation service. The ventilation unit (VIC) is a large, modern, eight bedded facility. The ventilation team is a multidisciplinary group of experts which includes specialist Doctors, highly trained Nursing Staff, Speech and Language Therapists, Physiotherapists, Matrons and a Ventilation Business Manager. As well as inpatient beds, the unit has approximately 700 patients using long term NIV in the community.

Patients requiring this specialist support may have a variety of health concerns such as: Duchene Muscular Dystrophy, Myotonic Dystrophy, Motor Neurone Disease, Spina Bifida and Post-Polio Disorders in addition to restrictive respiratory disorders such as Kyphoscoliosis and Post Tuberculosis Thoracoplasty<sup>1</sup>.

Evidence shows us that patients with Motor Neurone Disease (MND) are at greater risk of skin damage due to progressive muscle weakness<sup>2</sup>. As muscles become weaker, there is more strain on the ligaments and tendons around the joint. This can cause pain and occasionally can result in a joint dislocation. Furthermore, reduced movement can result in stiff joints and potentially painful contractures. If the skin is placed under pressure, for example by sitting on a chair or lying in bed for too long, the blood supply can be reduced. This can cause the skin to breakdown very quickly. Often, patients with MND can be immobile and are therefore at high risk of developing pressure-related skin damage and pain.

### Patient Background Information

**SE** is a 47-year-old male who had been a patient in the ventilation unit since September 2019. His reason for admission to VIC ward was an unfortunate deterioration of Motor Neurone Disease, with additional underlying comorbidities such as Sepsis and Asthma.

It was documented by staff that skin integrity was a concern, relating to various factors that put SE at very high risk, such as:

- Immobility and only able to communicate with eyes and via a speaking computer.
- Nutritionally compromised and is RIG fed.
- Development of Sepsis.
- Poor concordance with repositioning regimes.

SE has been bedbound since his admission and had only been hoisted twice in three months to sit in a chair for periods up to an hour as he is unable to tolerate and prefers to be in the supine position.

Staff encourage SE to reposition 3-4 hourly, however, he will often refuse to change position as cannot tolerate being on his side. Staff can roll him briefly for skin inspection 4-6 hourly, yet he will often not move overnight and has been known to stay in the same position from 10pm – 10am.

From point of admission in September 2019 to December 2019, SE was nursed on the ward's higher specification of dynamic mattress. This protocol had been in place for a number of years, and due to SE's condition and risk factors, the higher therapy was chosen.

## Introduction of Aria PRO

For purposes of the evaluation, when the patient was hoisted out of bed, the existing high specification of dynamic mattress was swapped with Aria PRO. In total, SE was on the Aria PRO for 55 days, until he was discharged in February 2020.

At the end of the patient's placement, staff reported that there had been no skin breakdown and ***"remarkably his skin is fully intact and healthy."***



From a pressure area care perspective, staff noted the performance of the Aria PRO was equal to that of their existing high specification of mattress for this complex patient. They also noted additional benefits after using the Aria PRO including:

- Much lighter, which staff felt was better for moving and handling
- Secures firmly onto the bedframe which stops the mattress moving around
- Transport mode was effective and easy

Staff commented that they had not utilised the heel off-loading feature, and although this was perceived as a positive feature, did not feel they needed to implement it as the Aria PRO was performing high enough to protect the vulnerable heel area.

## Conclusion

This case study demonstrates the performance of Aria PRO as a high specification dynamic mattress. By utilising the Aria PRO for a complex patient, staff felt their objectives of prevention of skin damage had been achieved and commented on the effectiveness given the patient's underlying conditions. Furthermore, staff noted they would recommend the Aria PRO and commented the surface would be suitable for:

- Patients who need to be medically bedbound for various reasons
- Patients with reduced/limited mobility
- Patients with complex medical needs
- Low Glasgow Coma Scale

### Get in touch

If you would like to discuss how the Aria range could benefit your patients, please call us and ask to speak to one of our RN/RGN-qualified Clinical Advisors.

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## References

1. (<https://www.aintreehospital.nhs.uk/our-services/a-z-of-services/sleep-and-ventilation/ventilation-service/>)
2. Chen et al. 2018. Risk of developing pressure sore in amyotrophic lateral sclerosis patients – a nationwide cohort study. Journal of The European Dermatology and Venereology. Vol 32. Issue 9. Pgs 1589-1596 (ALS is the most common form of MND; <https://www.mndassociation.org/about-mnd/what-is-mnd/basic-facts-about-mnd/>)