Improvement in Compliance and Satisfaction Scores Utilizing a Novel Mechanical Compression Device (MCD)

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Background

Current Sequential Compression Devices (SCDs) are widely used for venous thromboembolism (VTE) prevention but are often viewed as unsafe, bulky, uncomfortable, and restrictive, resulting in poor patient compliance and increased staff burden. Patients frequently discontinue therapy due to discomfort, heat, itching, or sleep disturbances from device noise and inflation cycles (1,2). Mobility is also limited, with 47% of patients reporting inability to walk or get up and 25% citing tethering or tangling of tubes (1,3).

Baseline surveys from RF Health National Registry confirm staff concerns, including pump shortages, malfunctions, and workflow challenges related to unplugging and re-plugging tubing. Nurses report that patients often complain that SCDs are noisy, hot, and inconvenient, while staff themselves face increased workload and potential skin injury concerns, sometimes leading to non-application of devices.

The cords and tubes also create tripping hazards for both caregivers and patients, further limiting patient mobility. Collectively, these findings highlight a strong demand for alternative solutions that are lighter, safer, and easier for patient mobilization without compromising VTE prophylaxis.

Purpose

- Use the RF Health National Registry to collect and compare baseline data on current SCD use with post-trial data after utilizing a novel mechanical compression device (MCD) and evaluate the findings

Methods

- Administering a Current Practice Assessment (CPA) to collect baseline data on standard of care SCD use, satisfaction and outcomes through a 12-hour spot check and structured surveys
- Perform a Trial Evaluation to gather prospective data on wear time, mobility and patient/staff satisfaction of the MCD in comparison to the current standard of care SCD.
- Satisfaction surveys are provided to patients and staff at baseline and throughout the trial to assess usability, satisfaction, and likelihood to recommend the use of the product(s)
- Results are compiled from 26 CPAs and 9 Trials between '23-'25 from the RF Health National Registry

Table 1: Pre-Post Evaluation Wear Time Comparison

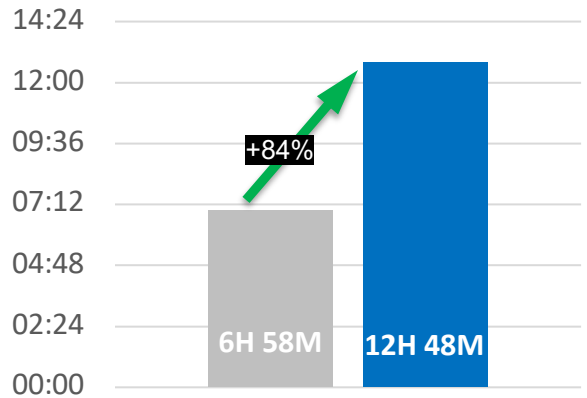
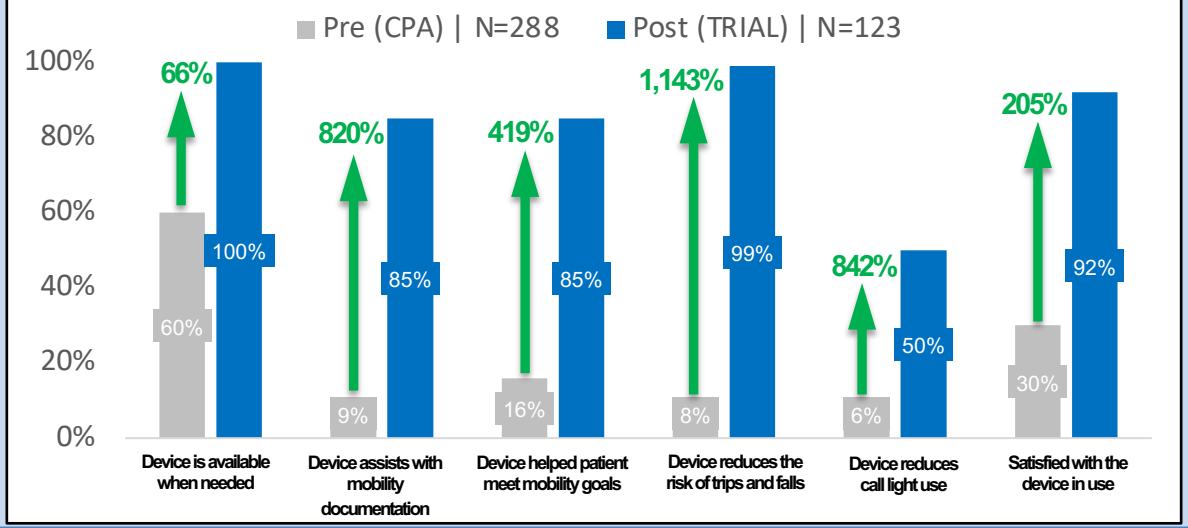


Table 2: Pre vs. Post Satisfaction Ratings



Data/Results

- 200% increase in nurse recommendations compared to the current standard of care SCD ***(Table 2)***
- Patient compliance (wear time) increased 118% during trials while using the MCD ***(Table 1)***
- Across all survey questions, there is an increase in satisfaction with the MCD in comparison to the Current Standard of Care SCD devices across all statements ***(Table 2)***
- Less than 10% of staff disagreed with any of the statements relating to the MCD – a majority remained neutral if not agreeing with the statements

Conclusions

Trial results showed that both staff and patients had highly positive experiences with the MCD compared to traditional SCD. The cordless, tubeless design was consistently recognized as safer, less cluttered, and more supportive in helping patients achieve their mobility goals.

Staff emphasized the reduction in tripping hazards, greater ease of patient ambulation, and improved workflow efficiency. They also valued the system's ability to enhance compliance with prophylaxis and provide real-time mobility data directly on the device. Patients described the MCD as comfortable, lightweight, and quiet, noting that it allowed them to sleep through the night and move independently without restriction. Room-based hardware was a huge bonus, ensuring the product was always available.

Together, this feedback highlights the MCD as a safer, more comfortable, and mobility-friendly solution that addresses the limitations of traditional SCDs and drives enthusiasm for its broader adoption.

References

(1) *Nicholson M, et al. Patient experience with intermittent pneumatic compression devices in hospital: a qualitative and quantitative analysis.* ***(2)*** *Ritsema T, et al. Adherence and barriers to use of mechanical VTE prophylaxis: a review.* ***(3)*** *Akl EA, et al. Intermittent pneumatic compression for VTE prevention: patient perceptions and adherence.*

Mechanical Compression Device (MCD) = *The Movement And Compressions (MAC) System*

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