



Hillrom™

Clinical Study Summary:
JAVANBAKHT STUDY

AIRWAY CLEARANCE COST- EFFECTIVENESS ANALYSIS¹

The Vest® High-Frequency Chest Wall Oscillation System Compared with Manual Chest Wall Physiotherapy for Managing Airway Clearance in Patients with Complex Neurological Disorders: A UK-based Cost-Effectiveness Analysis

OVERVIEW

In a 2018 UK based National Institute for Health and Care Excellence (NICE) cost effectiveness analysis, Javanbakht et al. assessed the cost-effectiveness of The Vest® Airway Clearance System compared to manual chest wall physical therapy as a primary modality for airway clearance in patients with complex neuromuscular disease.

PATIENTS

- 19,000 non-elective ED admissions for patients with neuromuscular disease (NMD) with respiratory related conditions
- 4,400 non-elective ED respiratory-related admissions for patients with cerebral-palsy
- These admissions consumed 120,000 bed days
- Total cost to UK National Health Service (NHS) of £60 million

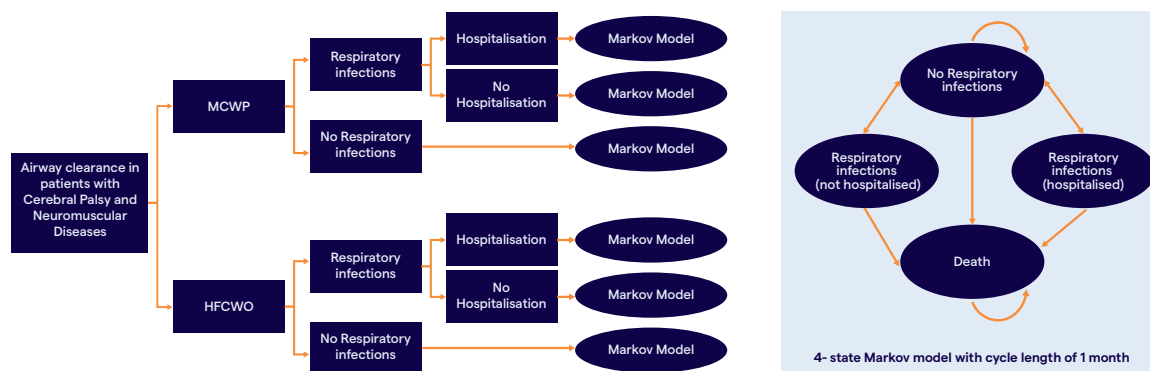
A decision analytic Markov model (Figure 1) was developed to estimate the cost and effectiveness of each airway clearance strategy over 5- and 10-year time horizons.

The model was used to simulate airway clearance in patients with cerebral palsy and other complex neurological disorders

MAIN CLINICAL INPUT PARAMETERS

- Retrospective data collected on 8 patients
- Prospective, randomized, controlled trial
- Cohort study comparing healthcare claims before and after initiation of HFCWO with The Vest® System

Figure 1: Markov model



MAIN INPUT PARAMATERS

- Rates of incidence of respiratory infection
- Respiratory-related hospitalization and antibiotic use due to respiratory infections
- The cost of therapy using The Vest® System
- NHS resource use for treatment of the respiratory infection

RESULTS

The study demonstrates that over 5- and 10-year time horizons, usage of The Vest® System as a primary airway clearance modality results in:

- Fewer costs per patient 14,176£ vs 20,211£
- More quality adjusted life-years gained per patient (QALY of 1.72 vs 1.65)

Results also indicate that this intervention has > 98% probability of being cost-effective at willingness-to-pay thresholds £20,000 and £30,000.

Results indicate that The Vest® System is a cost-effective strategy, with significant cost savings being made primarily due to a reduction in the number of hospitalizations that treated patients experience and a reduced length of stay in hospital.



For more information or to place an order, please contact your local Hillrom sales representative or call Hillrom Customer Service at 1-800-426-4224.

hillrom.com

References

¹ Javanbakht M, Mashayekhi A, Montazeri M, Hemami MR, Branagan-Harris M. The Vest® High-Frequency Chest Wall Oscillation System Compared with Manual Chest Wall Physiotherapy for Managing Airway Clearance in Patients with Complex Neurological Disorders: A UK-based Cost-Effectiveness Analysis. The Open Pharmacoconomics & Health Economics Journal. 2019;7(1):1-8.

The Vest® is a registered trademark of Hill-Rom Services PTE Ltd. Hill-Rom reserves the right to make changes without notice in design, specifications and models. The only warranty Hill-Rom makes is the express written warranty extended on the sale or rental of its products.