

Evaluation of the Ambu® aScope™ 3 System for Broncho-alveolar lavage and bronchial wash: Preliminary Evaluation

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Summary

The 5.0mm external diameter Ambu® aScope™ 3 connects to a separate, portable aView™ monitor. Together, the system was used and evaluated in 20 procedures carried out in invasively ventilated patients in whom either broncho-alveolar lavage (BAL) and/or bronchial wash (BW) was clinically indicated. Our aim was to evaluate the functionality and ease of use of the aScope™ 3 system.

All procedures (7 BW only, 4 BAL only, 9 both BW and BAL) were carried out by one of 2 experienced

bronchoscopists. A 5-point Likert scale was used (1: fully disagree, 3: neutral, 5: fully agree) to evaluate functionality and ease of use of the system. All 6 segments of the bronchial tree were visualised for all endoscopies. Overall functionality and performance was rated as satisfactory in all procedures and the system was evaluated to be able to replace the existing non-disposable system in 19 procedures.



Table 1. Mean Likert scores for functionality and ease of use

	Mean	Trimmed 95% CI
Easy to advance the scope	4.9	4.6 - 5.1
Easy to inject via working channel	4.6	4.3 - 4.8
Ease for performing suctioning	4.4	4.1 - 4.8
Suction return volume adequate	4.5	4.2 - 4.7
Suction capability adequate	4.4	4.1 - 4.7
Functionality of working channel satisfactory	3.7	2.9 - 4.5
Ergonomics satisfactory	3.7	3.5 - 3.9
Lightweight handle is a benefit	3.2	2.0 - 3.4
Image quality adequate to perform procedure	4.7	4.4 - 4.9
Easy lens clearing	4.3	4.0 - 4.6
Intuitive to navigate aView™ monitor	3.7	3.0 - 4.3
Easy to record images	2.7	1.7 - 3.6

Our evaluation by 2 independent, experienced clinicians has demonstrated that the Ambu® aScope™ 3 system is easy to use and performs well for BAL and BW in invasively ventilated critically ill patients. The system is portable and easy to assemble and position at the bedside of the ICU patient, and although the monitor display is smaller and of lower resolution than our non-disposable 'stack' system, image quality was good enough to perform the procedures. The suction capabilities were evaluated to be comparable to our non-disposable bronchoscope. The lowest score was in relation to the functionality of the monitor, which had pre-release software installed that presented challenges when recording images. Finally, the disposable nature of the system may have infection control and cost advantages.