

# EOLife®

## Perfect your **Tidal Volume** delivery and improve survival

EOLife is the only ventilation feedback device to measure the actual volume of gas reaching the patient's lungs (tidal volume)



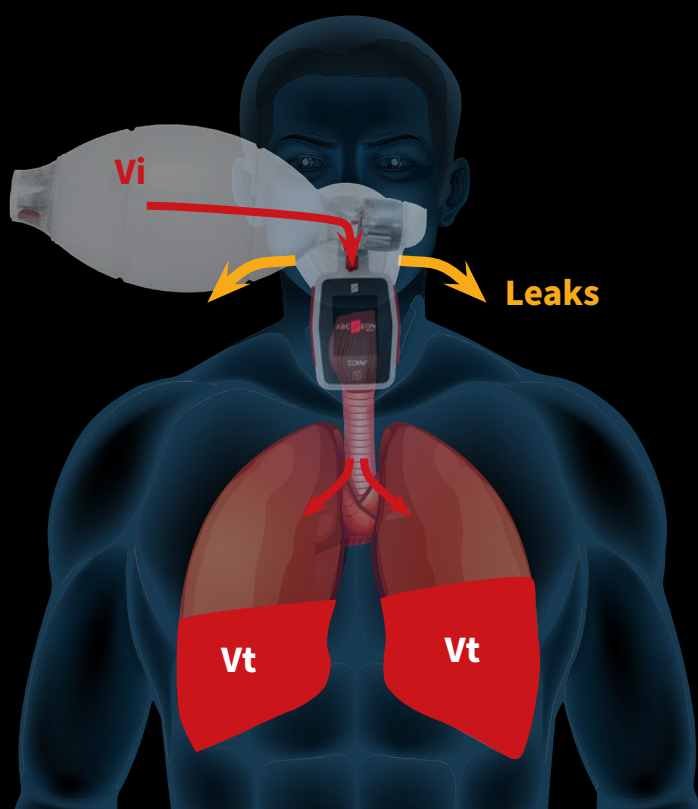
## WHY IS TIDAL VOLUME IMPORTANT ?

**3x**

A better **tidal volume** triples survival to discharge.<sup>(1)</sup>

**4x**

A better **tidal volume** quadruples the number of patients discharged in a good neurological state<sup>(1)</sup>



**Tidal Volume ( $V_t$ )** is the volume of gas that actually reaches the patient's lungs and is based on the measurement of expiratory volume, inspiratory volume and leaks calculated during both phases. ERC and AHA Guidelines recommend that adult cardiac arrest patients should be ventilated with a tidal volume of 6 to 8ml/kg of body weight. Insufflated Volume ( $V_i$ ) cannot represent tidal volume as it does not take leaks into account.



**60% of patients received less than 250ml of Tidal Volume** in more than half of the compression pauses, mainly due to leakage <sup>(1)</sup> resulting in a significant negative impact on survival.

# EOLife®

The only ventilation feedback device (VFD)  
to measure the volume of gas reaching  
the patient's lungs (**TIDAL VOLUME**)

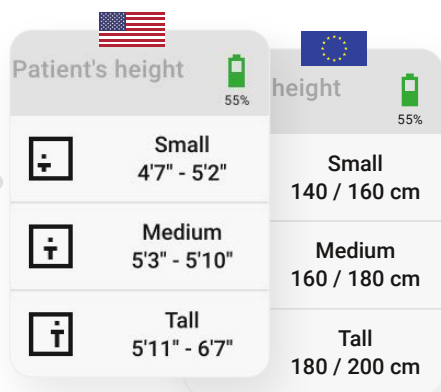


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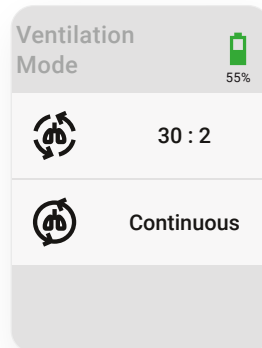
# EOLife®

CE-marked and FDA-cleared medical device enabling real-time measurement of insufflated volume, **tidal volume**, and ventilation frequency, along with **visual feedback** to **deliver ventilation in accordance with ERC or AHA recommendations**.

**EASY TO USE.** OPERATIONAL  
IN A FEW SECONDS.



Selection of patient height



Selection of ventilation mode



EOLife is ready to use

1

Real-time measurement of the following parameters:  
Insufflated volume (Vi)  
Tidal Volume (Vt)  
Ventilation frequency (Freq.)

2

Visual guide on the adequacy of insufflated volume

3

Intelligent alarm prioritization system

# ACCURATE MEASUREMENTS. MONITOR THE QUALITY OF YOUR VENTILATIONS IN REAL TIME.



## Vi

**Vi** is the insufflated volume of air/oxygen measured at the output of the bag when you compress it.

## Vt

**Vt** is a precise estimation of the **tidal volume**, meaning the amount of air/oxygen that has entered the patient's lungs.

## Freq

**Freq** is a calculation of the ventilation frequency based on the trend of the latest ventilation cycles.



The tricolor bar graph indicates in real time whether each ventilation if the Vi is between 6 and 8 ml/kg



In 'continuous' mode, a countdown timer guides the user to maintain a frequency of 10/min



If the parameters are outside the tolerances, a visual alarm activates at the bottom of the screen

## THE ULTIMATE CONNECTION. RECORD & TRANSFER YOUR DATA, MANAGE YOUR UPDATES .



**EOLife Connect MD** app allows the recording and transfer of data with EOLife Medical Device. Ideal for event review, clinical trials and research.



### **Robustness and reliability.**

Meeting the needs of healthcare professionals worldwide.

Ventilation data ( $V_i$ ,  $V_t$ , frequency) is recorded cycle by cycle, allowing for unmatched analysis of manual ventilation.



### **Compatibility and simplified**

**updates.** Export and visualize your ventilation data on every OS.

**EOLife Connect MD** is compatible with Mac, PC, and Linux, enabling the export and visualization of EOLife data. Additionally, it offers quick updates in just one minute, significantly simplifying the user experience and ensuring your EOLife device is always equipped with the latest enhancements and innovations.

# EOLifeX<sup>®</sup>

The ultimate **tool** for  
High Performance Ventilation training

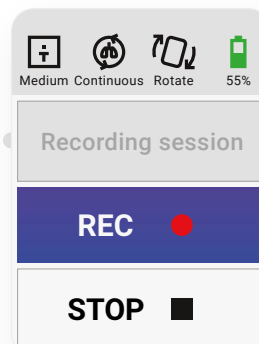


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# EOLifeX<sup>®</sup>

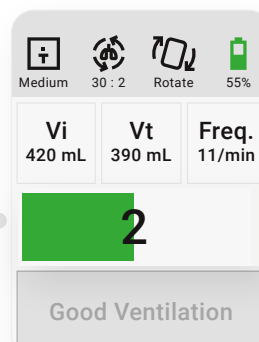
Training tool allowing measurement and recording of insufflated volume, **tidal volume**, manual ventilation frequency, **in real time**, to practice ventilation in accordance with ERC and AHA recommendations. **EOLife X enables training on adult and pediatric (> 1 year) manikins.**

**TWO TRAINING MODES.** FOLLOW THE GUIDE OR TEST YOUR SKILLS.



### **Blind mode.**

This mode records your ventilation sessions without visual guidance. Export your ventilation data via Bluetooth to measure your progress\*.



### **Monitored mode.**

This mode visually guides you through your ventilation sessions. Practice as if using an EOLife.



# ADULT AND PEDIATRIC. DISCOVER WHY VENTILATION FEEDBACK DEVICES ARE NEEDED: PUBLISHED DATA

Joseph Finney's 2024 poster presentation describes the quality of EMS-provided pediatric ventilation in a simulated respiratory arrest scenario. <sup>(2)</sup> **The primary outcome was the proportion AHA guideline compliant ventilations.**



## Unblinded

Responders assisted by visual feedback from the EOLife VFD



EMS Provided pediatric ventilation



## Blinded

Responders without visual feedback from the EOLife VFD

**TIDAL VOLUME** delivery % meeting AHA Guidelines

73.3%

13.5%

Fausto D'Agostino et al; compares the Instructor's ability to assess ventilation competency in 20 ACLS Course candidates versus actual ventilation performance data as recorded by the EOLifeX Ventilation Feedback Device. <sup>(4)</sup>



## EOLifeX measured results



Healthcare professional Provided ventilation











## Instructor assessment

% of ventilations meeting current Tidal Volume guidelines :  
Actual versus Instructors visual assessment<sup>(4)</sup>








5%

100%



Patient's height 		Patient's height 	
	Small 4'7" - 5'2"		Small 140 / 160 cm
	Medium 5'3" - 5'10"		Medium 160 / 180 cm
	Tall 5'11" - 6'7"		Tall 180 / 200 cm



Patient's age 	
	1 - 2y
	2 - 3y
	3 - 4y
	5 - 6y
	7 - 9y
	10-11y

### Pediatric Patients

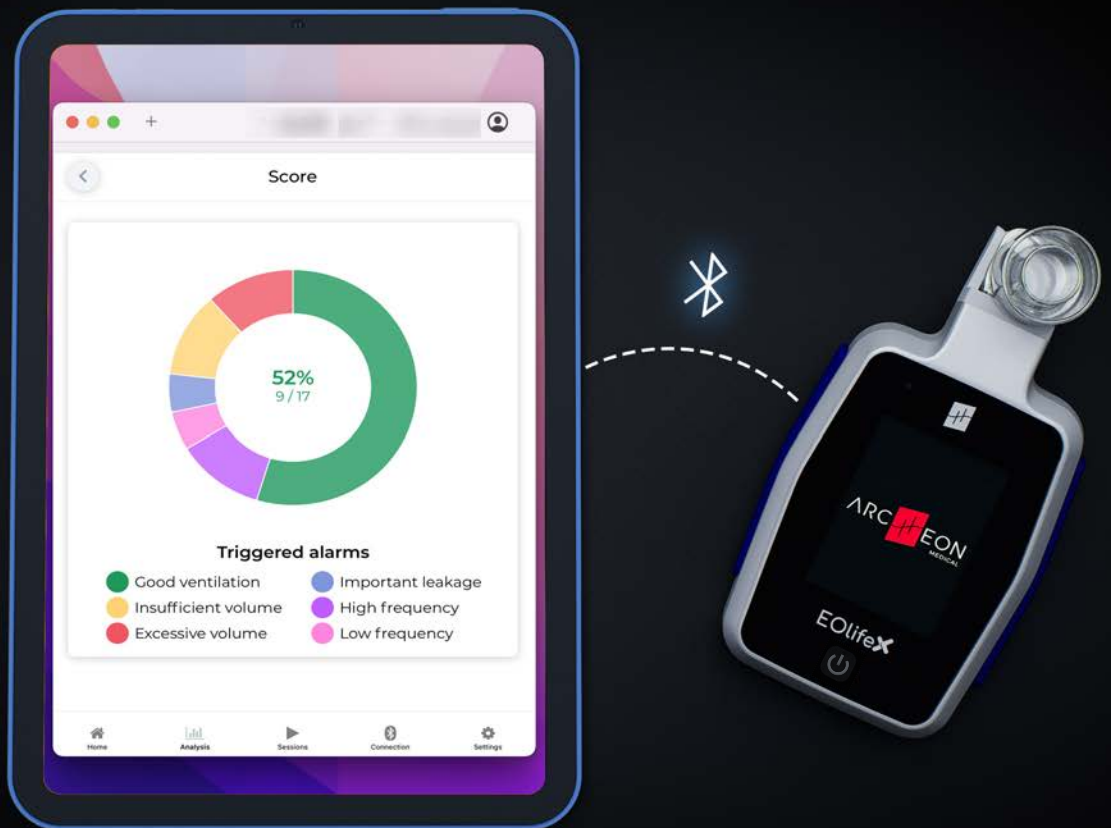
The integrated pediatric ventilation function in EOLife X defines target ventilation criteria based on six age categories. The color code follows that of the Broselow<sup>®</sup> tape.

TRACK YOUR **SKILLS PROGRESS** OVER TIME.



Thanks to the EOLife® Connect app, you can download and save each of your Training sessions to allow **Booster Training and Spaced Learning** as recommended by AHA to improve CPR skills retention. <sup>(3)</sup>

EOLife® Connect app is the only solution that offers a detailed analysis of the ventilation parameters, thus allowing to focus on the areas to correct and improve.



# COMPARISON MATRIX



**EOLIFE®**



**EOLIFE X®**

Can be used on patients (CE marked, FDA cleared)	YES	NO
Can be used on a manikin	YES	YES
Possible deactivation of the leakage alarm	NO	YES
Type of patient / manikin	Adult	Adult / Child (> 1 year)
Selection of ventilation mode (CPR/Continuous)	YES	YES
Recording and data export	YES (requires the EOLife Connect MD application) see page 6	YES (Requires EOLife Connect on Apple Store or Google Play Store.) see page 10
Type of sensor	Single-use (Flowsense)	Reusable (Flowsense X)
Accessories	Battery and charger included. (transport case and sensor to be purchased separately)	Battery, charger, trans- port case, and 1 sensor included

## TECHNICAL SPECIFICATIONS

<b>Dimensions (L x W x D)</b>	130 mm x 75 mm x 30 mm (5.11 in x 2.95 in x 1.18 in)
<b>Weight</b>	170 grams $\pm$ 5 grams (5.997 oz $\pm$ 0.176 oz)
<b>Operating conditions</b>	<ul style="list-style-type: none"><li>• Temperature from 0°C (32° F) to +40°C (104° F)</li><li>• Relative humidity from 15% to 95% (non-condensing)</li><li>• Atmospheric pressure from 620 hPa (altitude of 4000 m) to 1060 hPa (altitude of -500 m)</li></ul>
<b>Transient operating conditions (up to 20 minutes maximum)</b>	<ul style="list-style-type: none"><li>• Temperature from -20°C (-4° F) to +50°C (122° F)</li><li>• Relative humidity from 15% to 90% (non condensing)</li></ul>
<b>Run time</b>	min 5 hours
<b>Ingress Protection against solids, dust, and water intrusion</b>	IP44 (configuration in use, meaning the device connected to its battery and sensor)
<b>Measurement accuracy</b>	<p>Volume measurements are based on FlowSense® sensor measurements and are expressed in mL for the BTPS (Body Temperature and Pressure, Saturated). The measurement accuracies of the parameters displayed on the screen are as follows:</p> <ul style="list-style-type: none"><li>• Vi (insufflated volume): <math>\pm</math> 4.9% of the actual measured value under normal conditions of use</li><li>• Vt (tidal volume): <math>\pm</math> 5.5% of the actual measured value under normal conditions of use</li><li>• Freq (ventilation frequency): <math>\pm</math> 1 cycle per minute</li></ul> <p>FlowSense® data:</p> <ul style="list-style-type: none"><li>• Flow range: <math>\pm</math> 250 slm (standard liters per minute)</li><li>• Dead space: &lt; 10 ml</li></ul> <p><b>Note :</b> Some types of BVM may affect the measurement accuracy due to their design (non-laminar outgoing airflow). A slight measurement deviation may be observed but has no impact on compliance with regulatory requirements.</p>

# EOLIFE DEVICES ARE USED WORLDWIDE BY :

## EMERGENCY MEDICAL SERVICES

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### USA/CANADA

Seattle King County Medic One  
Tualatin Valley Fire and Rescue  
(Greater Portland, Oregon)  
Rochester Ambulance Services, NY  
Bradford Fire and Rescue, Florida  
Boulder EMS Services, Colorado  
Los Angeles County EMS  
Cleveland Clinic EMS  
John Hopkins Howard County EMS  
Palo Alto EMS / Fire Department  
Huntington Beach Fire / EMS, CA  
South County Fire / EMS, WA  
Region Hospital EMS, MN  
Long Beach Fire Department, CA  
Saskatoon Fire Department

### EUROPE

Fire Fighters of Paris (BSPP), France  
Fire Fighters Besançon, France  
Fire Fighters of Reims, France  
Ambulance l'Hom & Fils (Bleurville), France  
Ambulance Petain, France  
Ambulance of 56 (Baud), France  
Group Buttgen Ambulance (Mondelange), France  
North West Ambulance Service, UK  
East of England Ambulance Service, UK  
Fire Fighters of Bologna, Italy  
EMS of Geneva University Hospital, Switzerland

## HOSPITAL

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### USA/CANADA

Rush University Hospital, Chicago  
Harborview Medical Center (University of Washington)  
UT Southwestern Medical Center, Dallas  
UF Health Jacksonville, Florida  
UC Davis Sacramento, CA  
Stanford's Children Hospital, CA  
Hennepin Medical Center, MN  
LA Harbour – UCLA Department of Emergency Medicine

## HOSPITAL

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### EUROPE

University Hospital CHU (Besançon), France  
General Hospital Center CHG (Jura), France  
General Hospital Center CHG (Bar-le Duc), France  
University Hospital of Strasbourg, France  
Great Ormond Street Hospital (London), UK

### RoW

Al Kuwait Hospital Sharjah, UAE

## UNIVERSITY/COLLEGE/TRAINING ORG.

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### USA/CANADA

St Louis School of Medicine (Washington University)  
State of Virginia – EMS Education Department  
Airway Management Education Center ('The Difficult  
Airway Course')  
University of Arizona College of Medicine, AZ  
The Lundquist Institute  
Saskatchewan Polytechnic, Saskatoon

### EUROPE

University of Santiago de Compostela, Spain  
University of Madrid, Spain  
Higher Ambulance School (Lausanne), Switzerland  
Dublin University, Republic of Ireland  
Liverpool John Moores University, UK  
Edge Hill University, UK  
Christ The King University, UK  
York St John University, UK  
Greenwich University, UK  
Sheffield Hallam University, UK  
Buckinghamshire University, UK  
University of Bristol, UK

### RoW

Higher Colleges of Technology, UAE  
National Taiwan University, Taiwan



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## ACCESSORIES



US : AUS00055  
EUR : A0000055  
**EOLife®**



A0000051  
**EOLife® battery**



A0000044  
**Flowsense® sensors**



A0000033  
**EOLife® carry bag**



A0000089  
**EOLife X®**



A0000110  
**EOLife X® battery**



A0000095  
**FlowsenseX® sensors**



A0000090  
**EOLife X® carry bag**



A0000029  
**EOLife / EOLife X® charger**



A0000117  
**EOLife® data transfer cable**

## References

- (1) Idris, A. H., Aramendi Ecenarro, E., Leroux, B., Jaureguibeitia, X., Yang, B. Y., Shaver, S., ... Wang, H. E. (2023). Bag-Valve-Mask Ventilation and Survival From Out-of-Hospital Cardiac Arrest: A Multicenter Study. *Circulation*, 148. DOI: 10.1161/CIRCULATIONAHA.123.065561.
- (2) J. FINNEY. PREVENT: The Pediatric EMS Ventilation Pilot Simulation Trial. Presented at : PAS 2024, Toronto, 05-05-2024.
- (3) Raina M. Merchant, Alexis A. Topjian, Ashish R. Panchal, Adam Cheng, Khalid Aziz, Katherine M. Berg, Eric J. Lavonas, David J. Magid, «Part 1: Executive Summary: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care», 2 pages, 2020.
- (4) D'Agostino, F., Agrò, F. E., Petrosino, P., Ferri, C., & Ristagno, G. (2024). Are instructors correctly gauging ventilation competence acquired by course attendees?. *Resuscitation*, 200, 110240. <https://doi.org/10.1016/j.resuscitation.2024.110240>



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H01-BC-Rev02EN-26JUNE2024

