

# RESMON PRO

V3

## TESTING AND RESULTS EVALUATION



### WHAT IS THE RESMON PRO FULL?

It is a device based on the Forced Oscillation Technique (FOT), offering a complete functional assessment of the respiratory system, through simple measurements performed at tidal breathing.



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Designed, developed, manufactured by:



RESTECH is an ISO 3485, ISO 9001 and MDSAP certified company.

Part# 032036-001 RevC

## PROPER POSTURE DURING THE TEST

Maintain a sitting position, with a **straight back** while leaning against the seat back and with a relaxed, **slightly overextended neck**.

1. Wear the noseclip.
2. Breathe in a relaxed way through the mouthpiece, keeping the tongue below, avoiding leaks.
3. Support from behind the patient's cheeks and the soft tissue under chin during the test with the patient arms falling on the sides to obtain a relaxed shoulders posture, see figure below (suggested technique). Alternatively, the patient may support his/her cheeks ensuring that the elbows are slightly detached from the chest.

### SUGGESTED TESTING TECHNIQUE



### ALTERNATIVE TECHNIQUE



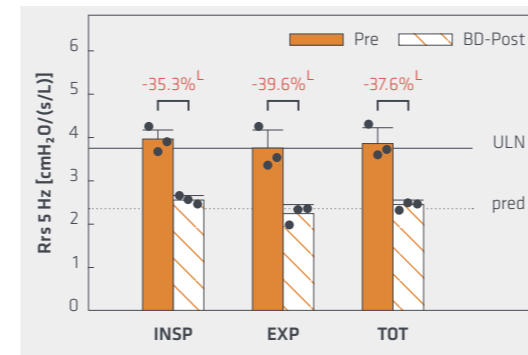
#### IMPORTANT NOTE

Validity of results depends from good data quality and correct testing procedure, patient head/neck, relaxed shoulders position, and supported cheeks. The Resmon Pro's sophisticated software breath-reject algorithms will minimize artifacts such as glottis closure, coughs, and irregular breathing.

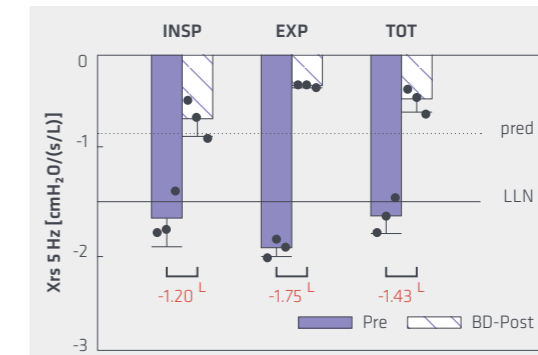
## TEST EVALUATION

### 1. PRESENCE OF RESPIRATORY IMPAIRMENT AND REVERSIBILITY

5 Hz 8 Hz 5, 11, 19 Hz



**Resistance (Rrs)** graphs for Inspiratory, Expiratory and Total inspiratory cycle parameters at the lowest measured frequencies (for adult and pediatrics). Predicted dotted line and ULN (Upper Limit of Normality).



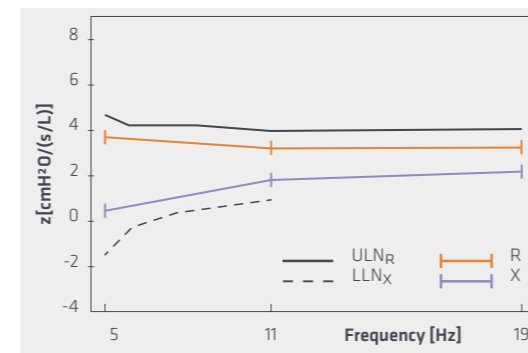
**Reactance (Xrs)** graphs for Inspiratory, Expiratory and Total inspiratory cycle parameters at the lowest measured frequencies (for adult and pediatrics). Predicted dotted line and LLN (Lower Limit of Normality).

**RRS > ULN and/or XRS < LLN are indicative of an anomaly in respiratory mechanics.**

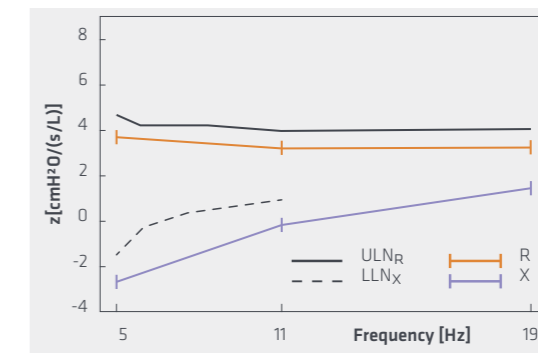
Differences between tests that are above those expected in a reference healthy population are highlighted in red.

### 2. LOCALIZATION

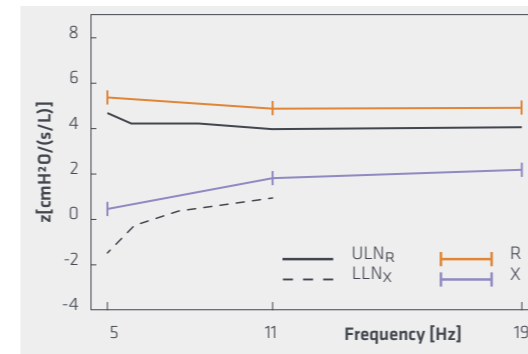
5, 11, 19 Hz



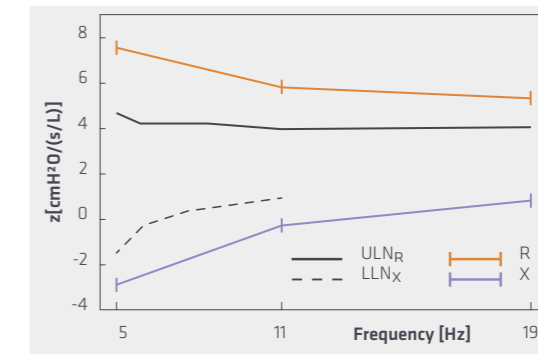
**NORMAL**  
 Both Resistance (Rrs) and Reactance (Xrs) do not present anomalies (Rrs < ULN and Xrs > LLN).



**PERIPHERAL DISEASE**  
 Resistance (Rrs) does not present anomalies (Rrs < ULN), Reactance (Xrs) is below its lower limit of normality (Xrs < LLN), for possible small airway obstruction, excluded alveoli, disomogeneity of ventilation, or possible restriction.



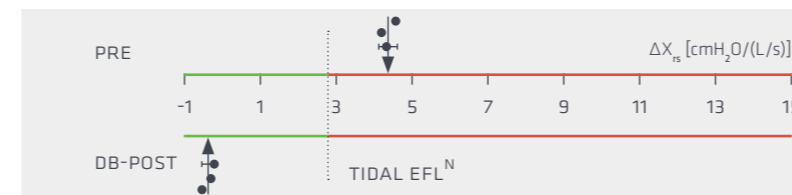
**CENTRAL OBSTRUCTION**  
 Resistance (Rrs) is above its upper limit of normality (Rrs > ULN) and Reactance (Xrs) does not present anomalies (Xrs > LLN) for diseases affecting central airways.



**SEVERE OBSTRUCTIVE DISEASE**  
 Both Resistance (Rrs) is above its upper limit of normality (Rrs > ULN) and Reactance (Xrs) is below its lower limit of normality (Xrs < LLN). Resistance (Rrs) tends to decrease at higher frequencies (i.e. severe asthma, severe COPD).

### 3. TIDAL EXPIRATORY FLOW LIMITATION, ΔXRS INDEX

5, 11, 19 Hz 5 Hz



ΔXrs is the patented index of expiratory flow limitation during tidal breathing.\*

**ΔXrs > 2.8 → LIMITATION**

\* Dellacà et al. Eur Resp J 2004, Eur Respir J 2007.