

Safety and simplicity for lung recruitment in the OR

Lung recruitment fact

5–10 %

of all surgical patients develop Post-operative Pulmonary Complications (PPCs). In thoracic or abdominal surgeries even up to 30–40% develop PPCs¹.

Visualize hemodynamic conditions

Fluid management fact

37%–55 %

of postoperative complications can be prevented through perioperative goal directed fluid therapy^{2,6}.



»A good ventilatory strategy involves a good hemodynamic strategy«

Carlos Ferrando MD, PhD, EDAIC, Dept of Anesthesiology,
Clinic Hospital, University of Valencia, Spain

Hand in hand for better patient care

FLOW-i® and ProAQT®

Lung protective ventilation helps

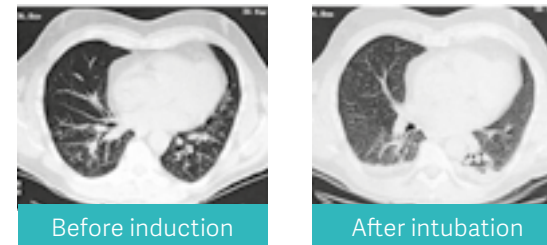
In a stepwise recruitment maneuver there will be less hemodynamic compromise.

Lung recruitment with Maquet FLOW-i allows you to choose between an automatic or manual maneuver. Whichever you choose, the recruitment will be stepwise.

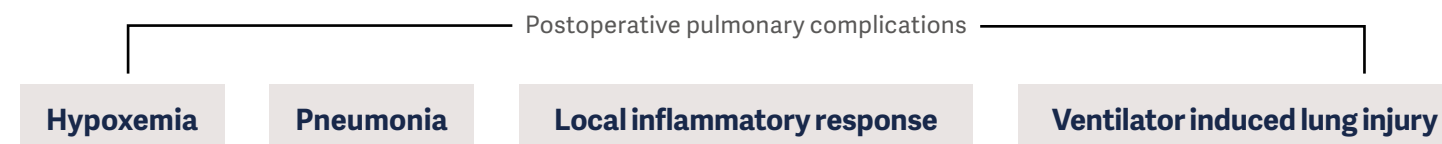
FLOW-i measures and displays the dynamic compliance in real time, which is used to find the optimal lowest PEEP that keeps the lungs open.

Did you know that atelectasis affects over 90% patients undergoing surgery?³

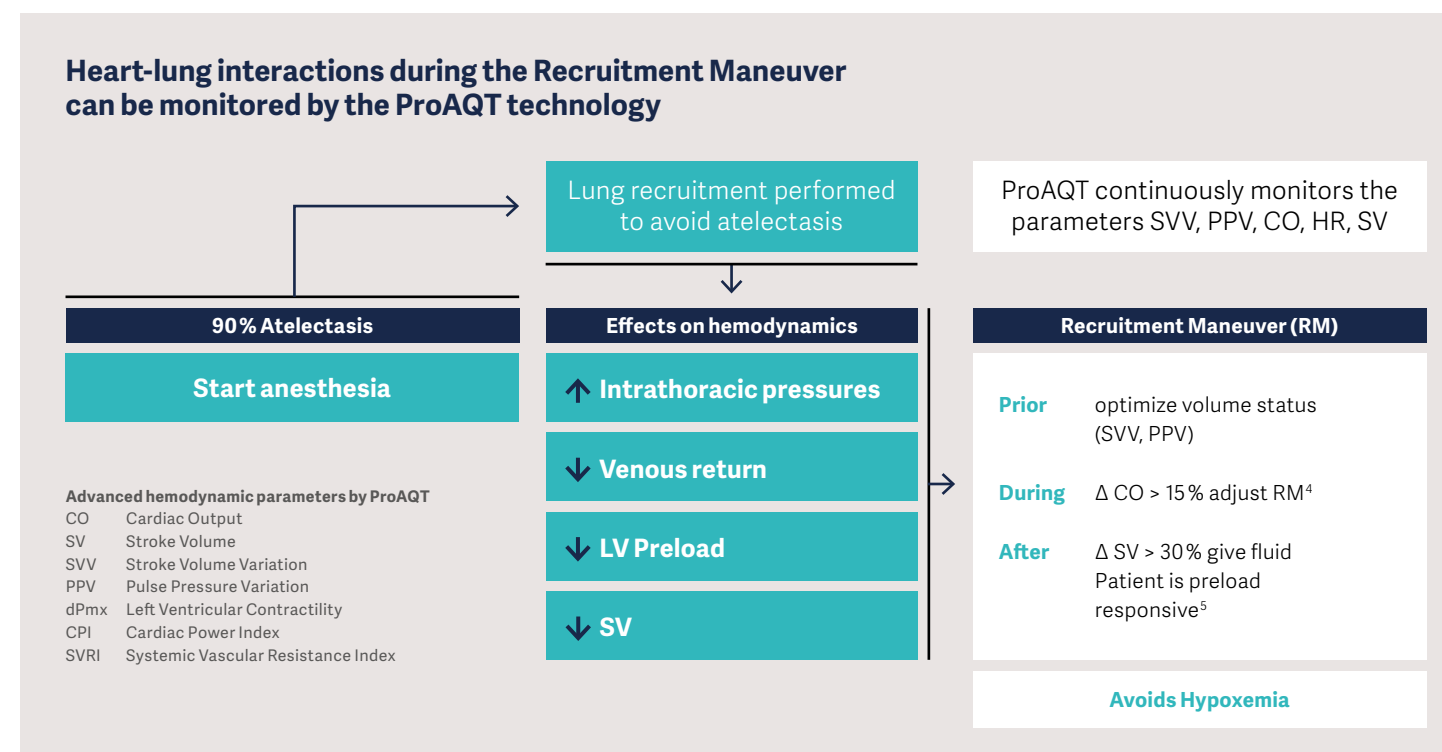
Anesthesia-induced lung collapse is a well-known entity which can be avoided by a good ventilatory strategy. FLOW-i's new lung recruitment maneuver aims to gently open the alveoli to make a lasting difference for your patients.



Close relationship between atelectasis and PPC³



In the automatic recruitment maneuver, a stepwise increase in pressure is applied for a time period set by the user. It's designed to reduce the occurrence of hemodynamic compromise. In combination with the ProAQT technology it is possible to detect any hemodynamic changes automatically, continuously and in real time – prior, during and after a recruitment maneuver.



Advanced hemodynamic monitoring helps

Use of Advanced Patient Monitoring shows the response of your patient to lung recruitment.

The change of CO and SV is detected in real-time. Also Preload (SVV, PPV), Afterload (SVRI) and Contractility (dPmx, CPI) parameters provide clinicians better insights.

Occult hypovolemia can be detected prior to the recruitment maneuver followed by appropriate perioperative fluid management that will decrease post-surgical complications.

FLOW-i Recruitment Maneuver (RM)

- Stepwise
- Automatic
- Dynamic compliance continuously displayed



FLOW-i Monitor

ProAQT Sensor and PulsioFlex Monitor

- Minimally invasive
- Easy to attach to arterial line
- Continuous trend monitoring



ProAQT Sensor

PulsioFlex Monitor

Hand in hand for better patient care

FLOW-i® and ProAQT®



Literature

- 1 Khuri SF, Henderson WG, DePalma RG, Mosca C, Healey NA, Kumbhani DJ. Determinants of long-term survival after major surgery and the adverse effect of postoperative complications. *Ann Surg* 2005, 242: 326-41.
- 2 Goepfert M, et al. Individually optimized hemodynamic therapy reduces complications and length of stay in the intensive care unit. *Anesthesiology* 2013, 119(4):824-36.
- 3 Tusman G, Bohm SH, Warner DO, Sprung J. Atelectasis and perioperative pulmonary complications in high risk patients. *Curr Opin Anesthesiol* 2012, 25:1-10.
- 4 Tusman G, Belda JF. Treatment of anesthesia-induced lung collapse with lung recruitment maneuvers. *Current Anesthesia & Critical Care* 21 2010, 244-249.
- 5 Biais M, Lanchon R, Sesay M, Le Gall M, Pereira B, Futier E, Nouette-Gaulain K. Changes in Stroke Volume Induced by Lung Recruitment Maneuver Predict Fluid Responsiveness in Mechanically Ventilated Patients in the Operating Room. *Anesthesiology* 2016, V 126: 1-8.
- 6 Cecconi M, Fasano N, Langiano N, Divella M, Costa M, Rhodes A, Rocca G. Goal-directed haemodynamic therapy during elective total hip arthroplasty under regional anaesthesia. *Critical Care* 2011, 15:R132.

This document is intended to provide information to an international audience outside of the US.

The views, opinions and assertions stated by the physician are strictly those of the physician and their practice and do not necessarily reflect the views of Maquet Critical Care.

Manufacturer PulsioFlex & ProAQT · PULSION Medical Systems SE · Hans-Riedl-Str. 17 · 85622 Feldkirchen, Germany · +49 (0)89 459 914 0 · info@pulsion.com

Manufacturer FLOW-i · Maquet Critical Care AB · Röntgenvägen 2 · SE-171 54 Solna, Sweden · +46 (0)10 335 730 0

www.getinge.com

GETINGE 