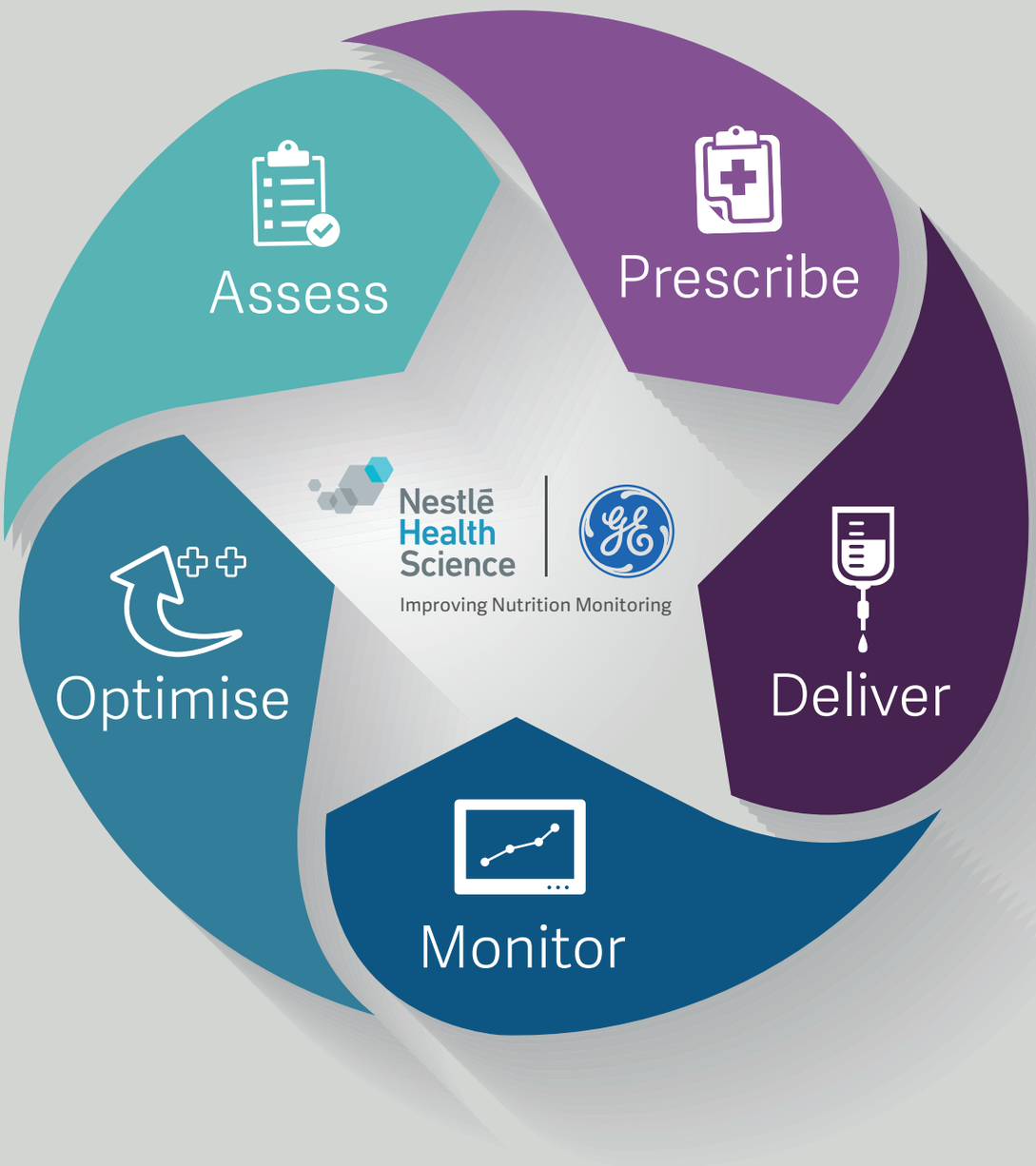
DO YOU KNOW THAT PATIENTS IN THE ICU RECEIVE ONLY 59% OF THE PRESCRIBED NUTRITION PLAN?[1]

Introducing a collaboration between GE Healthcare and Nestlé Health Science to help simplify and improve nutrition monitoring.



NUTRITION INTERVENTION IS CRITICAL IN IMPROVING PATIENT OUTCOMES

2,772 mechanically ventilated patients:

- in 167 ICUs
- in 37 countries

Received on average only:

59,2% of energy prescribed[1]

56,2% of protein prescribed[1]

Caloric deficit was associated with an increase[2] in:

- Ventilator days
- Complications
- Length of stay

MONITORING NUTRITION CAN IMPROVE PATIENT OUTCOMES

Greater nutritional intake received during the first week in the ICU were associated with **longer survival time** and **faster physical recovery up to 3 months** in critically ill patients requiring prolonged mechanical ventilation[3]

OUR FIVE-STEP APPROACH HELPS TO ENSURE PROPER NUTRITION AND MAY SUPPORT POSITIVE OUTCOMES IN THE ICU

ASSESS

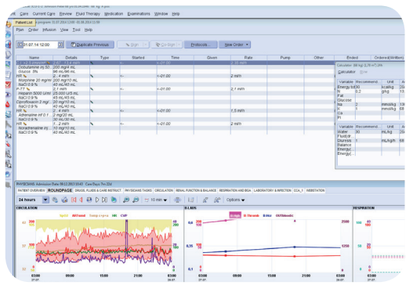
- Estimate the patient's energy expenditure through indirect calorimetry, correlated to the exact needs of 80% of patients[4]
- Measure and calculate the nutrition needs with the GE CARESCAPE™ Respiratory module, integrated in the GE CARESCAPE ventilator and patient monitors

Determine nutrition needs based on the patient

PRESCRIBE

- Define a tailored nutritional plan based on patient needs and visualise delivered nutritional and non-nutritional energy
- Deliver nutrition with Nestlé Health Science enteral nutrition formulas combined with visualisation on the GE Centricity™ Critical Care patient data management system

Define a precise tailored therapy



DELIVER

- The PDMS connection of Nestlé Health Science Compat Ella® allows real-time tracking of the prescribed nutritional formula dose to be given to the patient by the GE Healthcare Centricity Critical Care PDMS.
- Precise delivery of the prescribed enteral nutrition via Nestlé Health Science's Compat Ella® pump with +/- 5% accuracy

Administer accurate nutrition delivery[5]

MONITOR

- Capture real time energy consumed with GE Healthcare CARESCAPE Respiratory module
- Identify quickly nutrition gap delivered versus prescribed with GE Healthcare Centricity Critical Care and improve traceability through vital patient information capture throughout entire care stay

Visualise the impact of the prescribed nutrition therapy

OPTIMISE

- Adjust adequate nutrition and non-nutritional delivery, using iterative reassessment and nutrition plan adjustment, based on information received from the combined nutrition monitoring solution
- Enable retrospective view, standardised protocols and trends analysis and reports allowing practice improvements, through GE Healthcare Centricity Critical Care Analytics capabilities

Ensure continuous improvement of patient nutrition plan

Nestlé Health Science | GE Healthcare

Improving Nutrition Monitoring

AN INTEGRATED AND SIMPLE NUTRITION MONITORING APPROACH

NUTRITION MANAGEMENT FOR DAILY BENEFITS:
simplify and optimise nutrition monitoring

- **STANDARDISING** and **AUTOMATING** data handling
- **MAXIMISING** time for patient and quality of care
- **ALLOWING** more informed clinical decisions
- **PROVIDING** efficient clinical workflows and protocol adherence using flexible and open treatment protocols
- **IMPROVING** communication, collaboration, task priorisation

GE HEALTHCARE SOLUTIONS

GE's CARESCAPE Respiratory module for continuous non-invasive monitoring of patient oxygen consumption (VO2), carbon dioxide production (VCO2), energy expenditure (EE) and respiratory quotient (RQ) supports:

- assessment of patient oxygen consumption and oxygen delivery
- nutritional assessment and therapy decisions
- optimisation of patient ventilation management, lung protection, work of breathing and weaning process

GE HEALTHCARE CENTRICITY CRITICAL CARE

Clinically-focused patient-centric information system gives you the:

- ability to quickly and effectively collect, simplify and analyse data to support informed clinical decisions
- capacity to highlight allergy risks and drug contraindications
- flexibility to create your own efficient workflows and protocols
- opportunity to reduce unwanted events, complications and human errors

NESTLE HEALTH SCIENCE SOLUTIONS

Compat Ella®

- PDMS connectivity for real-time delivered dose tracking
- precise delivery with +/- 5% accuracy
- intuitive design and easy to use

Peptamen AF®

designed for better tolerance for early and adequate feeding in ICU[6-9]

Impact®

decreases postoperative complications in surgical patients[10]

Nestlē Health Science

Improving Nutrition Monitoring

1. Alberda C, Gramlich L, Jones N, et al. The relationship between nutritional intake and clinical outcomes in critically ill patients: results of an international multicenter observational study. Intensive Care Med 2009; 35:1728 – 1737. **2.** Villet S, Chiole ro RL, Bollmann MD, et al. Negative impact of hypocaloric feeding and energy balance on clinical outcome in ICU patients. Clin Nutr 2005; 24:502–509. **3.** Wei X, Day AG, et al. The Association Between Nutritional Adequacy and Long-Term Outcomes in Critically Ill Patients Requiring Prolonged Mechanical Ventilation: A Multicenter Cohort Study. Crit Care Med. 2015 Aug;43(8):1569-79. **4.** Fraipont V, Oreiser JC, Energy estimation and measurement in critically ill patients. JPEN 2013 **5.** RJM Strack Van Schijndel et al. Computer-aided support improves early and adequate delivery of nutrients in the ICU. The Netherlands Journal of Medicine 67: 388-393 2009 **6.** Zaloga G. Physiologic effects of peptide-based enteral formulas. Nutr Clin Pract. 1990;5(6):231-237. **7.** Tappenden K et al. Peptide-based diet with low amount of free amino acids enhances gastrointestinal structure and function in piglets with compromised gastrointestinal tract. JPGN. 2005;41(4):552. **8.** Calbet Ja, holst JJ. Gastric emptying, gastric secretion and enterogastrone response after administrations of milk proteins or their peptide hydrolysates in humans. Eur J Nutr. 2004;43:127-139. **9.** Meredith, et al. Visceral protein levels in trauma patients are greater with peptide diet than intact protein diet. J Trauma. 1990;30:825-829. **10.** John W. Drover, Rupinder Dhaliwal, Lindsay Weitzel, Paul E. Wischmeyer, Juan B. Ochoa, Daren K. Heyland; Perioperative Use of Arginine-supplemented Diets: A Systematic Review of the Evidence. Journal of the American College of Surgeons, Volume 212, Issue 3, March 2011, Pages 385-399.