

THE LINDE GROUP

Linde

REMEO® –

Excellence in patient care.



Linde: Living healthcare

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REMEO. The integrated care path for long-term mechanically ventilated patients.

REMEO integrated care programme

REMEO is Linde Healthcare’s innovative programme for long-term mechanically ventilated patients, offering an integrated care path that bridges the gap between a hospital’s intensive care unit and a patient’s home.

It provides an integrated, standardised, clinical pathway reflecting various levels of complexity in the care continuum.

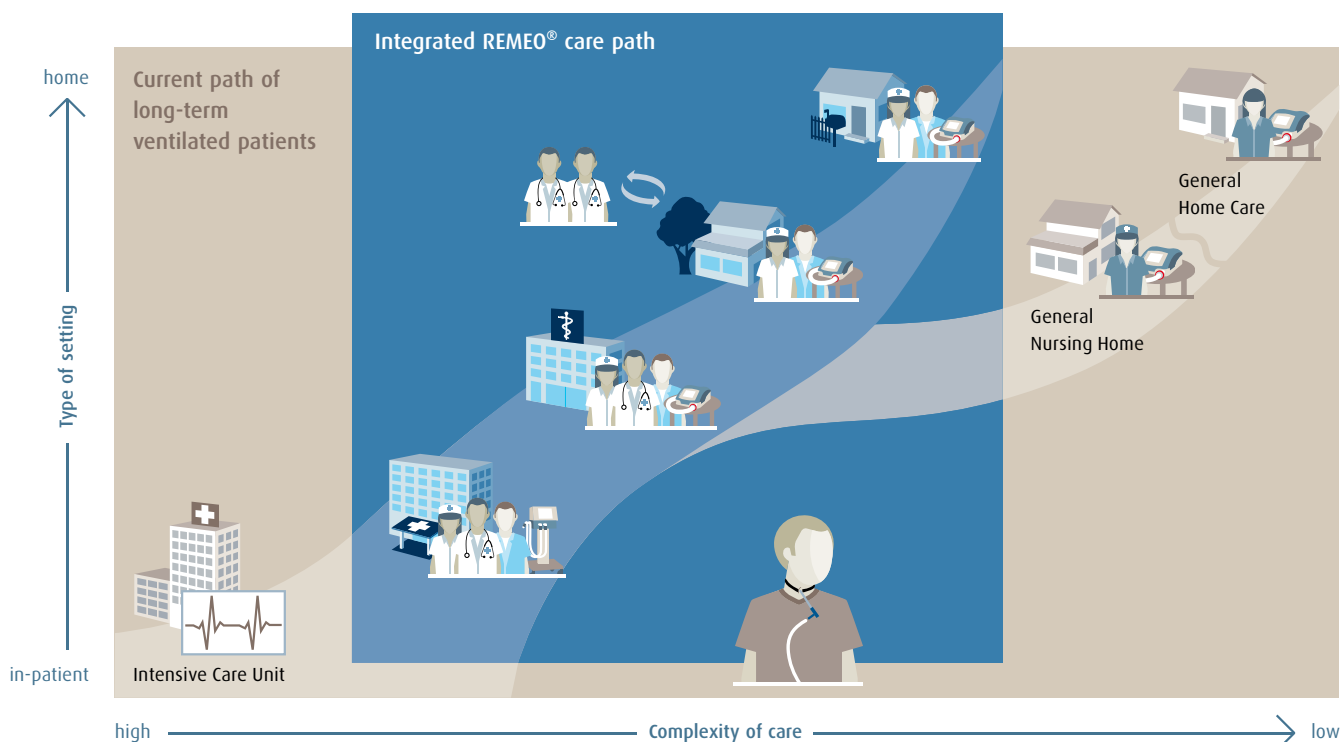
Building on its global commitment to excellence in ventilation care, REMEO combines medical know-how, therapeutic skills and clinical care with state-of-the-art equipment.

REMEO aims for service leadership by focusing on medical and clinical excellence. We achieve this through highly competent, qualified staff, efficient clinical operations, rigorous safety standards and robust quality management processes.

An insight into REMEO

This booklet aims to provide an insight into REMEO and develop understanding by illustrating the benefits of our Good Ventilation Practices which include respiratory care standards and guidelines, performance measuring tools as well as quality and safety processes.

The REMEO concept.



REMEO provides specialised care for long-term mechanically ventilated patients

The name REMEO is derived from the Latin word *remeo* ("I return home"). REMEO combines the expertise, staff, care and equipment to help manage the complex process from when a patient is discharged from hospital until returning home.

REMEO in-patient services

At specialised, dedicated centres, REMEO provides 24-hour care and weaning support for long-term mechanically ventilated patients in a home-like, comfortable environment.

REMEO at home

For patients who need multi-hour or 24 hour specialised care at home, REMEO can provide multi-disciplinary long-term care in a patient's own home.

REMEO integrated care path

Promoting the full care continuum, REMEO integrates various types of care centres and services at home along a standardised care path depending on the needs of the patient.

Equipped with all the technology, medical staff and specialists necessary for ventilation care and rehabilitation, REMEO centres provide a comfortable, home-like environment for patients and family members.

Bridging the gap between the ICU and home

REMEO closes the gap between the ICU and home by bringing together a vast array of clinical and medical specialists and support staff.

REMEO staff include pulmonologists, intensivists, neurologists, physiatrists, respiratory therapists and physiotherapists, as well as specialised nurses and auxiliary nurses.

The four operating models.

REMEO has four operating models that serve the specific needs and requirements of both the patients and the payers.



Advanced medical model

Centre focused on weaning and rehabilitation of high complexity ventilator dependent patients.

Sub-acute hospital-like environment with a high level of medical and clinical care.



Standard medical model

Centre specialising in long-term mechanical ventilation and weaning of medium and high complexity patients. Less specialised equipment than in the advanced medical model – e.g. no critical care equipment.

Full medical staff specialised in long-term mechanical ventilation.



Standard nursing model

Nursing home specialised in care and rehabilitation of long-term mechanically ventilated patients that cannot return home or are in a transition phase from ICU to home.

Home-like environment for patients and relatives to feel “at” home, in addition to 24 hour professional care.



Standard care at home model

Professional nursing, respiratory and medical care in the patient’s home for ventilator-dependent patients.

24 hour care available and professional management of equipment and disposables.



REMEO footprint

Launched in 2005 in Germany, REMEO now spans more than 30 locations and 8 countries offering care services in centres and at home.

North and South America

Centre and home operations in the US and Colombia and home operations in Argentina and Ecuador.

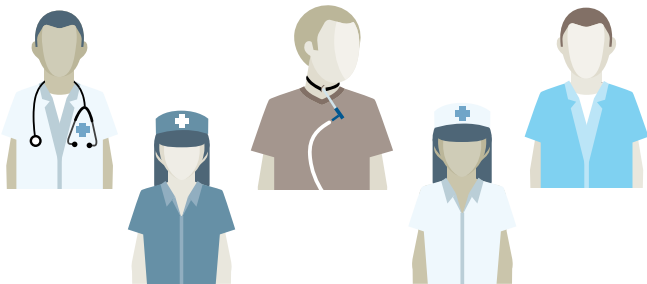
Europe

In February 2013 the new REMEO centre in Stockholm (Sweden) received its first patient.



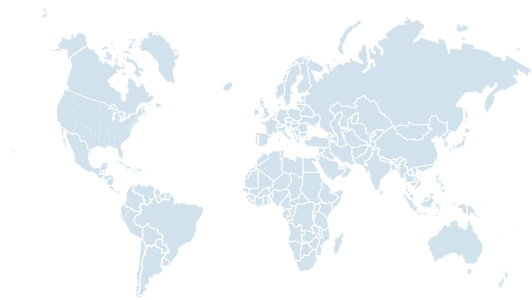
Medical staff

- Qualified medical, therapeutic and nursing staff specialised in long-term ventilation therapy
- Additional specialised care through dedicated medical staff e.g. psychologists, nutritionists
- Case Manager to monitor patient development and secure smooth transition from hospital to home



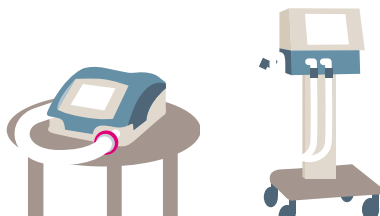
Patient care

- Long-term stay in a home-like and comfortable environment
- Greater independence and quality of life than in the ICU
- Training for the caregiver, which starts before the patient returns home



Global expertise

- The largest medical service provider specialising in long-term mechanical ventilation
- Global standardised medical policies for securing the highest standards in the ventilation care (GVP)



Technology and equipment

- Integrated supply of devices, disposables and furniture
- Respiratory devices e.g. ventilator, secretion clearance devices and monitoring systems
- Disposables e.g. tracheal cannulas, speaking valves, suction catheters and bags
- Furniture e.g. hospital-like beds and wheelchairs



REMEO patient profile

REMEO has a specific focus on invasive and non-invasive mechanical ventilation care for long-term mechanically ventilated patients.

Patient clinical condition

Long-term mechanical ventilation dependency is a condition that can result from a broad spectrum of diseases.

The National Association for Medical Direction of Respiratory Care defined long-term mechanically ventilated (LTMV) patients as the ones dependent on a machine for performing their respiratory function for more than 21 days for at least 6 hours a day.

Epidemiology

- Respiratory diseases
- Neuromuscular diseases
- Neurological diseases
- Traumatic conditions and others

Co-morbidities

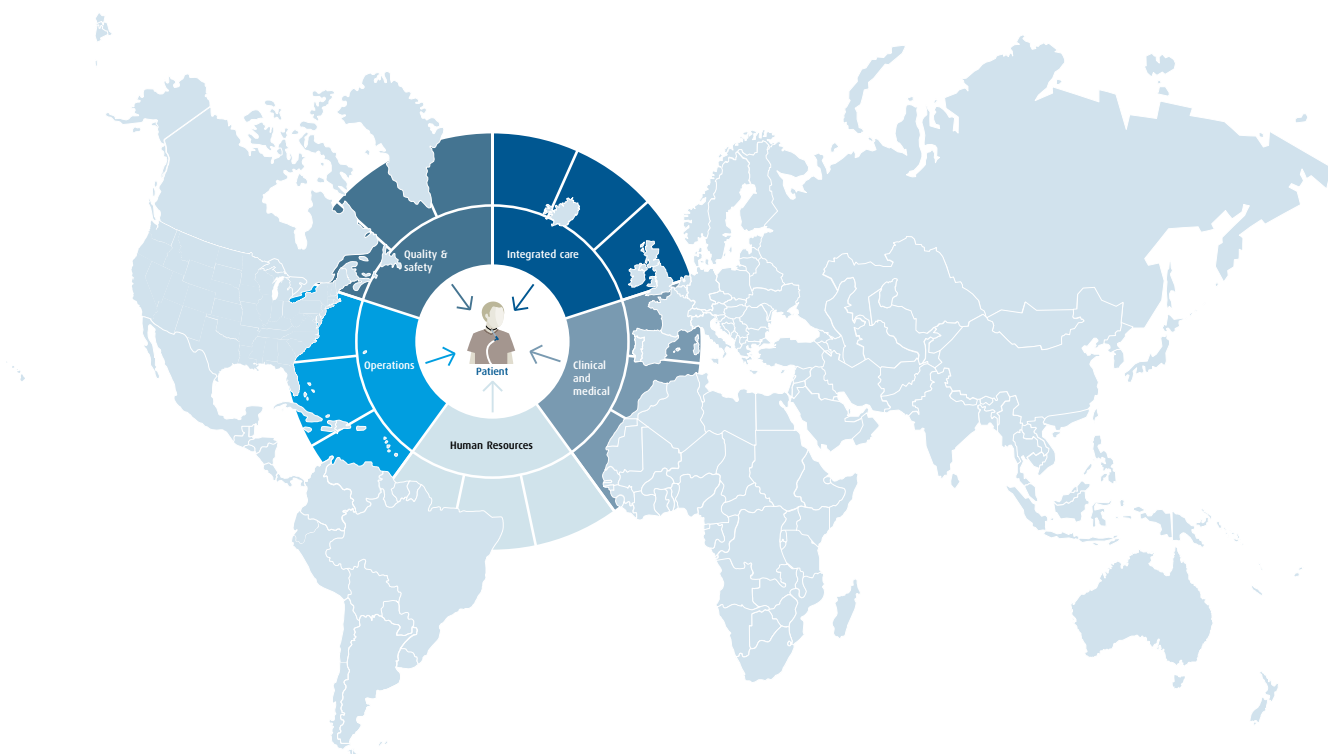
- In addition to the underlying disease, ventilated patients often are co-morbid patients
- Frequent co-morbidities include: cardiac and cerebrovascular diseases, diabetes, obesity and venous insufficiency

Demography

Our patient demographics reflect the multitude of diseases that can lead to long-term mechanical ventilation. Patients include all genders and all ages.

Generally, our patient population with chronic diseases in advanced stages are often geriatric patients and most of our pediatric patients have specific congenital diseases.

GVP –
Good Ventilation
Practices.



REMEO GVP

REMEO GVP is our unique concept that provides a framework to achieve superior results in all areas of clinical and medical excellence, quality and safety, patient care, operations as well as training and qualifications for staff.

Integrated approach

Following an integrated approach across all functions, REMEO GVP aims to provide the highest standards for long-term mechanically ventilated patients.

Excellence programme

Since its development, REMEO GVP aims to establish a global culture surrounding and focusing on excellence in patient care.

All REMEO operating countries are assessed on a yearly basis, individual roadmaps are developed and agreed upon, forming the basis of an on-going action plan.

Five Chapters

The main focus areas of the excellence programme are:

1. Innovative concepts for patient care
2. Medical and clinical excellence
3. Highly motivated and competent staff
4. Efficient operations
5. Highest quality and safety standards

Patient-centred care

REMEO GVP has moved away from the traditional disease-centred model and developed its own concept of a patient-centred care model. This model takes into account the significant role that patients and families have when making clinical decisions. In turn, physicians and staff members have a better understanding of the patients' /families' perspective, thus ensuring the highest quality of care.

Cross-functional and complimentary

REMEO GVP has a multi-disciplinary and cross-functional approach across all functional areas (clinical and medical, HR, management, operations, quality and safety). Each core focus area supports an integrated approach to patient care.

Standards of
practice and
guidelines for care.



REMEO care standards

The REMEO standards of practice and guidelines for care have a clear focus on respiratory care for long-term mechanically ventilated patients.

Main focus

Covering all areas of clinical competency in respiratory care, REMEO standards of practice and guidelines for care have a multi-disciplinary approach.

Highest evidence guidelines for patient care

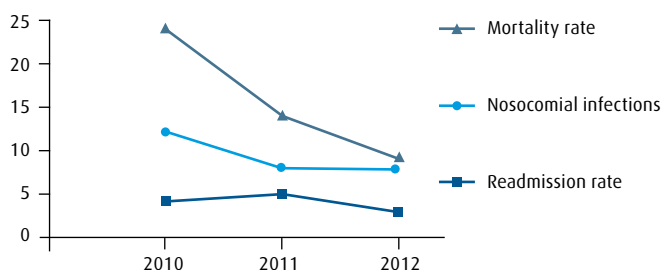
In REMEO GVP, all patient care related guidelines are based on the highest existing evidence.

Following the standards of leading international professional bodies such as the American Association for Respiratory Care, the European Respiratory Society, The American Thoracic Society and the International Council of Nurses, REMEO is also starting to be a reference for long-term ventilation care.

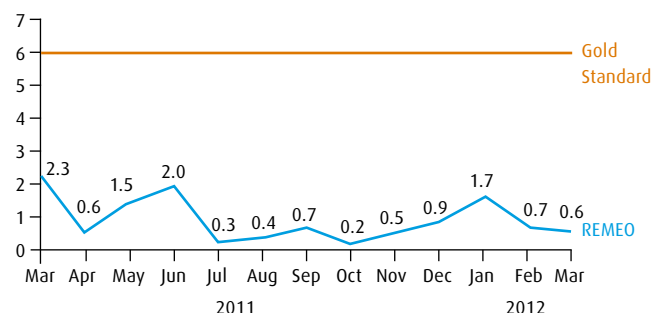
Systematic follow-up
of medical and
clinical performance.

Clinical evidence in REMEO*.

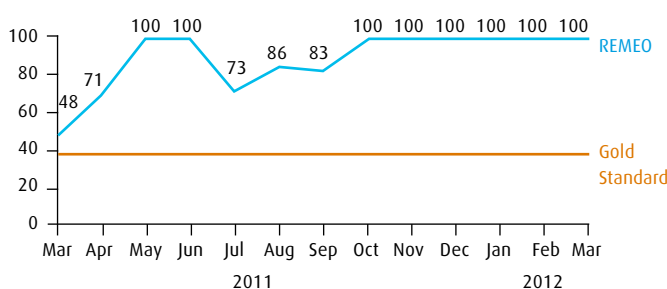
Nosocomial infections, mortality, readmissions



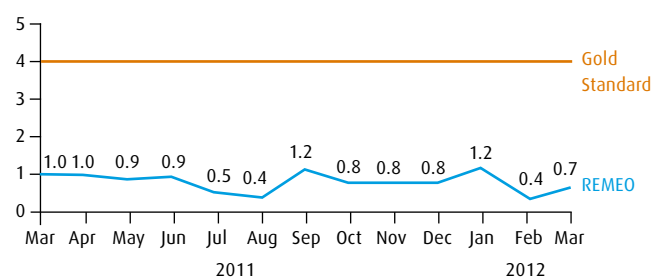
Ventilator-associated pneumonia [%]



Weaning ratio [%]



Pressure ulcers [#]



In REMEO there is a systematic follow-up of medical, clinical, quality and safety key performance indicators to measure the critical success factors, set targets and assess potential risks and improvement areas.

Mortality indicators

The REMEO mortality rate associated with unexpected mortality or adverse events is significantly below many international references.

In REMEO there is a clear patient centered treatment plan to insure that the highest achievable level of independency is reached.

Unplanned readmission to the hospital

One of the consequences for a chronic respiratory failure patient is that, very often they will face many clinical exacerbations and will be referred back to the emergency room in the hospital. With REMEO highly specialised and competent staff, potential acute situations could be foreseen and all necessary steps could be taken to prevent them.

Nosocomial infections

Most REMEO patients have a high number of co-morbidities and therefore have an increased risk of developing multi-resistant and opportunistic nosocomial infections. In REMEO, patient safety is a core focus and our hygiene policy is in accordance with the Robert Koch Institute and other relevant institutions.

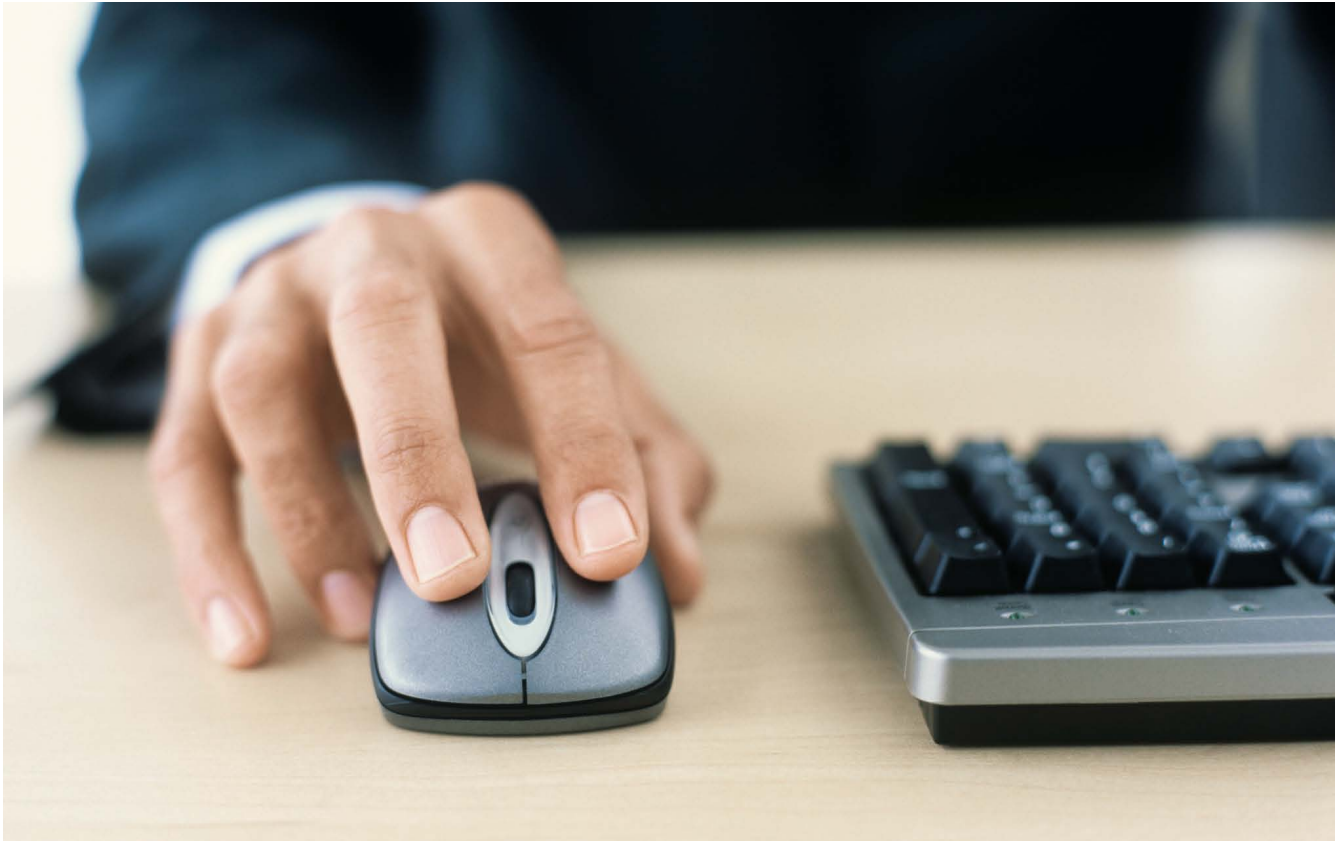
Weaning from mechanical ventilation

There are various reasons why a patient becomes long-term mechanically ventilated but there is still a possibility that a patient can achieve independency or at least decrease dependency on the mechanical ventilator.

Ventilator Associated Pneumonia (VAP)

VAP is often one of the major complications for a long-term mechanically ventilated patient. In REMEO we address this risk by actively conducting clinical procedures to prevent this.

Superior staff
education
programme.



REMEO Academy

REMEO is continuously focused on achieving the highest quality in patient care and has developed a specific educational programme for all staff to become specialised in respiratory care for long-term mechanically ventilated patients – REMEO Academy and E-Learning.

Purpose

This programme has been developed to meet the needs of the REMEO professionals so they can acquire and/or develop the appropriate respiratory therapy skills to guarantee the highest patient quality of care.

Four levels of competency

Covering all clinical areas of competency in respiratory care, REMEO academy has been created to promote professional development and increase competency levels based on four main levels of training:

- Induction training
- Basic training
- Advanced training
- Specialised training

Highest quality
and safety standards.



REMEO Excellent Quality Management

REMEO has implemented a quality management system based on ISO 9001, EN 15224, European Foundation for Quality Management (EFQM) and Joint Commission International Standards.

Our key priority is to ensure that the same principles are applied in all countries, for all REMEO patients. For REMEO this is not only viewed as an ethical responsibility, but it also ensures that patients receive the same quality of care all over the world independent of location, nationality, gender, race or income.

The REMEO Excellent Quality Management programme focuses on continuous quality improvement (e.g. global self-assessments, internal audits, external audits) rather than just focusing on basic compliance with national standards. This is reflected in REMEO's yearly Performance Organization GVP Roadmaps which continually improve REMEO, aiming to be the leading company in the field of long-term mechanical ventilation patient care.

Efficiency
in operations.



REMEO Centre: Impressive facility design with a beautiful garden that offers best conditions for the patient to recover in a shielded environment – internal plus external.

REMEO facility standards

There is a Linde REMEO standard reflecting the highest level of architecture combined with the specific technologies needed in a medical facility.

The design meets global requirements and has the flexibility to incorporate local requirements. It is fundamental to take future flexibility and adaptability into account.

Patient-centered design

Our patient-centered design ensures a home-like environment to the extent possible.

The internal environment in a REMEO centre creates a sense of openness with a light, airy, modern feeling that is efficient and patient-focused, with a high level of attention to detail.

Safety and security

Safety and security are paramount considerations for the whole building.

REMEO centres are equipped with monitoring systems to ensure patients' well-being and safety.

There is a structured building layout to optimise workflow and ensure a private stay for all patients.

Technology and equipment

All medical devices are of the highest standard available, ensuring the best results in care and treatment.

The IT infrastructure offers staff the benefit of mobility.



Patient bedroom: Providing medical care in a home-like environment



Exterior view: Giving every patient access to an outside view from all patient rooms



Social and public space: Promoting social interaction among patients



Bathroom: Assisted bathroom offering a comfortable daily bath to the patient in addition to the possibility of using the patient's own ensuite bathroom

Publications.

Bento, J., et al (2010) "Indications and Compliance of Home Mechanical Insufflation-Exsufflation in Patients with Neuromuscular Diseases", Archivos de Bronconeumologia, vol. 46, no. 8, pp. 420 to 425, DOI: 10.1016/S1579-2129(10)70100-2
Available: www.archbronconeumol.org/en/linkresolver/indicaciones-cumplimiento-con-insuflacion-exuflacion-mecanica/13153919/

Gantt, G. (2010) "Key Determinants of Successful Weaning in Subacute Ventilator/Respiratory Care Centers", Clinical Perspectives – AARC Times, vol. 34, no. 10, pp. 54 to 55
Available: http://mydigimag.rrd.com/display_article.php?id=497323

Gantt, G. (2010) "Raising the Bar in Long-Term Care", Government Advocacy – AARC Times, vol. 35, no. 11, pp. 28 to 29.

Gantt, G. (2009) "Respiratory Care and Health Reform", Respiratory Therapy: The Journal of Pulmonary Technique, vol. 14, no. 4, pp. 55 to 56.

Gantt, G. (2011) "The Future of Prolonged Mechanical Ventilation in the Post-Acute Setting – REMEO Ventilation and Weaning", Linde Healthcare Clinician Folder, November 2011.

Gantt, G. (2009) "Prolonged Mechanical Ventilation in the US", Respiratory Therapy Magazine, vol. 4, no. 2, April–May 2009, pp. 34 to 35
Available: <http://respiratorytherapy.ca/pdf/RT-04-02-AM09-web.pdf>

Gantt, G. (2009) "Respiratory Therapy Takes Root in Europe with German RT Programs", AARC Times, December 2009.

Muñoz, I. and Sarmiento, C. (2012) "Modelo de atención en ventilación mecánica domiciliaria. El mayor anhelo de un paciente con larga estancia en la unidad de cuidado intensivo: regresar a casa", Via Salud, vol. 16, no. 2, pp. 12 to 18.

Sarmiento, C. (2012) "REMEO un modelo de atención integral en casa para pacientes con Ventilación Mecánica Prolongada", ACHC – Hospitalaria, vol. 14, no. 86, November/December 2012, pp. 50 to 51.

Winck, J. (2011) "Weaning from Mechanical Ventilation", Linde Healthcare Clinician Folder, Issue 3, July 2011.

Winck, J. C. Gonçalves, M. R. and Silva, N. (2010) "Oxygen or ventilation during flight for patients with neuromuscular disease?", Thorax, vol. 665, no. 4, pp. 370 to 371
Available: <http://thorax.bmj.com/content/65/4/370.2.full.pdf+html>



Where to find us.

REMEO Global Headquarters

Linde Healthcare
Seitnerstrasse 70
82049 Pullach, Germany
Phone +49.89.7446-0
web-remeo@linde-gas.com
www.remeo.com

REMEO Argentina Headquarters

REMEO Argentina
Crisólogo Larralde 1522
Avellaneda, Argentina
Phone +54.11.4229-1200
Fax +54.11.4229-1228
www.remeo.com.ar

REMEO Colombia Headquarters

REMEO Colombia
Av. 68 No. 11-51
Bogotá, Colombia
Tel +57.1.425-4550
Fax +57.1.425-4585
www.remeo.com.co

REMEO Ecuador Headquarters

Linde Ecuador S.A.
Av. De los Shyris y Av. Eloy Iñaro
Edificio Parque Central
Piso 8 Oficina 801
Quito, Ecuador
Phone +593.2.3998989
www.linde-healthcare.com.ec

REMEO Germany Headquarters

Linde Remeo Deutschland GmbH
Herbert-Tschäpe-Strasse 12-14
15831 Mahlow, Germany
Phone +49.3379.7007-0
Fax +49.3379.7007-57
remeo@linde-remeo.de
www.remeo.de

REMEO Italy Headquarters

REMEO Italy
via Guido Rossa, 3
20010 Arluno (MI), Italy
Phone +39.02.903731
Fax +39.02.90373582
www.remeo.it

REMEO Portugal Headquarters

Linde Healthcare
Av. Infante D. Henrique Lote 21-24
1802-810 Lisboa, Portugal
Phone +351.218.310442
Fax +351.218.595997
remeo.pt@linde.com
www.linde-healthcare.pt

REMEO Sweden Headquarters

REMEO Europe North HQ/
Linde Healthcare
Agavägen 54 (visitors)
18181 Lidingö, Sweden
Phone +46.8.7069500
Fax +46.8.7655287
remeo.stockholm@se.ag.com
www.lindehealthcare.se

REMEO U.S. Headquarters

REMEO U.S.
104b West Court Square
Livingston, TN 38570, USA
Phone +1.931.823-3702
Fax +1.931.823-3712
www.linde-healthcare.us

About Linde Healthcare and REMEO.

Linde Healthcare is a global business unit of The Linde Group. It is present in over 50 countries and focuses on four strategic business segments: Hospital Care, Gas Therapies, Homecare and Care Concepts. Its product and service offering encompasses a wide range of product oriented services such as gas supply and gas therapies, sleep and pain therapies and patient centred services – REMEO: long-term care services for mechanically ventilated patients.

The Homecare division of Linde Healthcare enables over a million people in more than 20 countries worldwide to receive therapy at home. Having always been known for expertise in respiratory homecare, our competencies cover the full spectrum of services and focuses on patients' individual needs. Clinical knowledge and extensive experience across multiple therapeutic areas enable us to support practitioners along every stage of the treatment process. Working in close partnership with patients, practitioners and payers, we help to ensure continuity and efficiency of care.

REMEO as Linde Healthcare's innovative programme goes one step further in long-term mechanically ventilated patient care, offering an integrated care path that bridges the gap between a hospital's ICU and a patient's home. Equipped with all the technology, medical staff and specialists necessary for ventilation care and rehabilitation, REMEO centres provide a comfortable, home-like environment for patients, family members and friends. REMEO staff also provide care in a patient's own home, depending on the patient's individual needs. Patients can gradually enjoy being back in a familiar environment with the knowledge that the highest standards of care and safety are being adhered to.

It provides an integrated, standardised, clinical pathway reflecting various levels of complexity in the care continuum. Building on its global commitment to excellence in ventilation care, REMEO combines medical know-how, therapeutic skills and clinical care with state-of-the-art equipment.

We at REMEO aim for service leadership by focusing on medical and clinical excellence. We achieve this through highly competent, qualified staff, efficient clinical operations, rigorous safety standards and robust quality management processes.

Linde: Living healthcare