

Medical Device

Smart system for adaptive bronchial hygienic therapies for the treatment of chronic respiratory diseases (VITHA-chest)

A research group of the Andalusian Public Health System, in collaboration with the companies Altran Innovación, TicTouch and Sesid, has developed a smart system equipped with technological innovative systems for the treatment of chronic respiratory diseases.

Oficina de
**TRANSFERENCIA
DE TECNOLOGÍA**
Sistema Sanitario Público de Andalucía



Description of the offer

Chronic lung diseases are within the group of the four most important causes of chronic or no communicable diseases. Among these diseases, the most common is the chronic obstructive pulmonary disease (COPD), which affects more than 64 million people worldwide. Nowadays, It is the fourth leading cause of death in developed countries, causing the death of 3 million people every year. Social and healthcare costs associated with COPD represent the 0.25% of GDP which represents 528 million euros per year. In addition, there are other pathologies associated with problems for removing lung secretions, such as cystic fibrosis, bronchiectasis or neuromuscular diseases, which are also limiting the quality of life and survival, have a severe prognosis and also pose a very significant socioeconomic impact.

The standard treatment for patients with problems to eliminate secretions is the external chest physiotherapy, carried out by qualified physiotherapists. However, this therapy has problems of patient compliance. There are various systems of external mechanical chest physiotherapy, but of limited use because: (i) may only be used at home or hospital, provoking confinement of patients; (ii) temporary use; (iii) do not allow personalized treatment; (iv) it is still necessary to visit the hospital for monitorization; (v) high price (€ 10,000- € 25,000).

VITHA-Chest is a vest with a dual purpose: (1) create a customized vibratory field on the chest wall, which fosters the mobilization and expulsion of bronchial secretions; and (2) encourage compliance to treatment by self-control of functional respiratory parameters (VEMS, Sat O₂, metabolic equivalents or METs) that can be telematically monitored by the medical specialist.



Advantages of the offer

Portable: Allows the daily use by the patient.

Versatile: Allows the patient and the physician configuring and adapting the therapy, thus, reducing the activity of the physiotherapist, caregiver, patient and its family. It ensures the patient independence.

Personalized therapy: Massage application depending on breathing state, coughing detection, etc... Capacity to issue an adaptive therapy based on the entries received.

Guidance for the doctor / physiotherapist: Medical record and patient data available and analyzable by the physician/physiotherapist.



Intellectual Property

Technology and operating process are protected by a Spanish patent application, extensible internationally.



Objectives

We seek a partner interested in a license and/ or collaboration agreement for its development and exploitation.



Classification

Area: Medical device/ Technology

Pathology: Respiratory system; Rehabilitation