

vitaLung®

**Measurement, evaluation and
optimization of respiratory
performance.**



Measurement, evaluation and optimization of respiratory performance.

vitaLung®, is an innovative system for systematically boosting the strength of the respiratory muscles. The functionality is based on a unique, sensor-free sound analysis: a specially developed mouthpiece transmits the breath-air sounds to an external microphone system, eliminating the need for traditional pressure or flow sensors.

All training data and sound recordings are visualized in real time via the accompanying app and documented in the cloud. AI can be used to derive individual health indicators in the future, e.g. for the early detection of infections, leaks or other lung diseases.

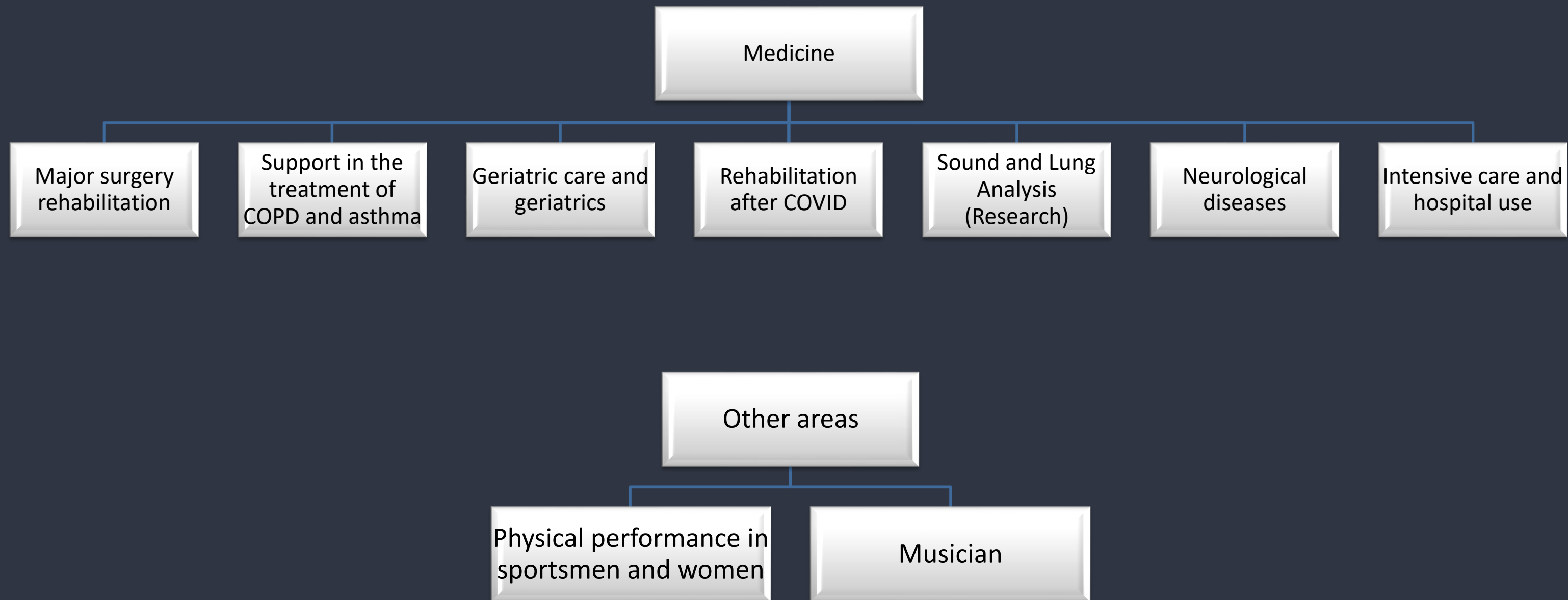
In this way, vitaLung® offers continuous monitoring of lung function and enables early detection of potential problems.



LINUS

SOUND OF HEALTH

vitaLung® Kullanım Alanları



vitaLung® Areas of Use

Postoperative rehabilitation :

Fast recovery of reduced respiratory capacity after pulmonary surgery. Through the reinforcement of the respiratory musculature, it accelerates the healing process and reduces the risk of complications

Aid in the treatment of COPD and asthma:

Increasing breathing capacity in conditions like COPD and asthma. To improve the quality of life through targeted breathing exercises.

Elderly and geriatric care:

Strengthens the weakened respiratory muscles of the elderly in a simple and effective way. Supports age-related lung function and increases comfort during daily activities.

Post-COVID rehabilitation:

Corrects respiratory dysfunction after COVID-19 by increasing lung capacity.
Contributes to the full recovery process by increasing the flexibility of the lungs.

Breath sound and lung analysis (research):

The recording and storage of breath sounds in the cloud to enable the early diagnosis of infections, leaks or problems in the lungs. This data can then be used for early diagnosis and therapy.
for early diagnosis and treatment.

Neurological diseases:

Help with breathing difficulties due to neurological conditions like Parkinson's and ALS.
Easy-to-follow breathing exercises help to reduce the complications associated with the disease.



vitaLung® Areas of Use

vitaLung for players of brass wind instruments

Improving breathing control and lung capacity:

vitaLung helps to improve the strength and control of the lung capacity through exercise. This enables musicians to play longer passages and achieve richer musical expression.

Increased performance capacity and endurance:

The device ensures sustained performance during daily practice, rehearsals and concerts by improving lung capacity and reducing fatigue.

Improved intonation and sound quality:

A larger and more controllable volume of breath increases the richness of sound and conditioning and expands the possibilities of musical expression. During intense rehearsals and concerts, it helps prevent problems such as shortness of breath and fatigue. At an advanced age, VitaLung helps to maintain the strength and mobility of the lungs for a long and healthy musical career.



vitaLung® Anwendungsbereiche

Benefits of vitaLung for the physical performance of athletes

1- Respiratory capacity

vitaLung increases lung capacity by strengthening the elasticity of athletes' respiratory muscles. This optimises oxygen uptake and utilisation and increases endurance..

2- Increasing training performance

The device optimises respiratory support during intensive training sessions, enabling longer periods of energy saving and high performance.

3- Fast healing process

It helps athletes recover faster after hard training by increasing lung capacity.

4- A competitive advantage

Better control of breathing and increased stamina will give the athlete a clear advantage in terms of physical performance.



vitaLung[®] Common problems that patients face when using conventional breathing exercise devices

Common problems experienced by patients using Triflo and similar breathing machines include constant, non-personalised resistance levels, loss of motivation due to monotony, lack of feedback, risk of misuse and difficulty cleaning. These devices often fail to track how the user is performing and do not provide a goal to guide treatment, which can reduce adherence. In addition, physical discomfort in the early stages of treatment and the inability to apply breathing techniques correctly also have a negative impact on the effectiveness of the treatment.



VitaLung: Advantages

1- Adjustable level of resistance

vitaLung offers adjustable resistance levels based on the patient's physical capacity.

2- Increased patient motivation

Patients are motivated by the app's modern design and user-friendly interface. In addition, progress tracking encourages patients to use the device regularly.

3- Data based feedback

vitaLung provides feedback on the patient's lung capacity, respiratory effort and other parameters by recording the data generated during breathing. This makes treating more transparent and effective.

4- Easy to use

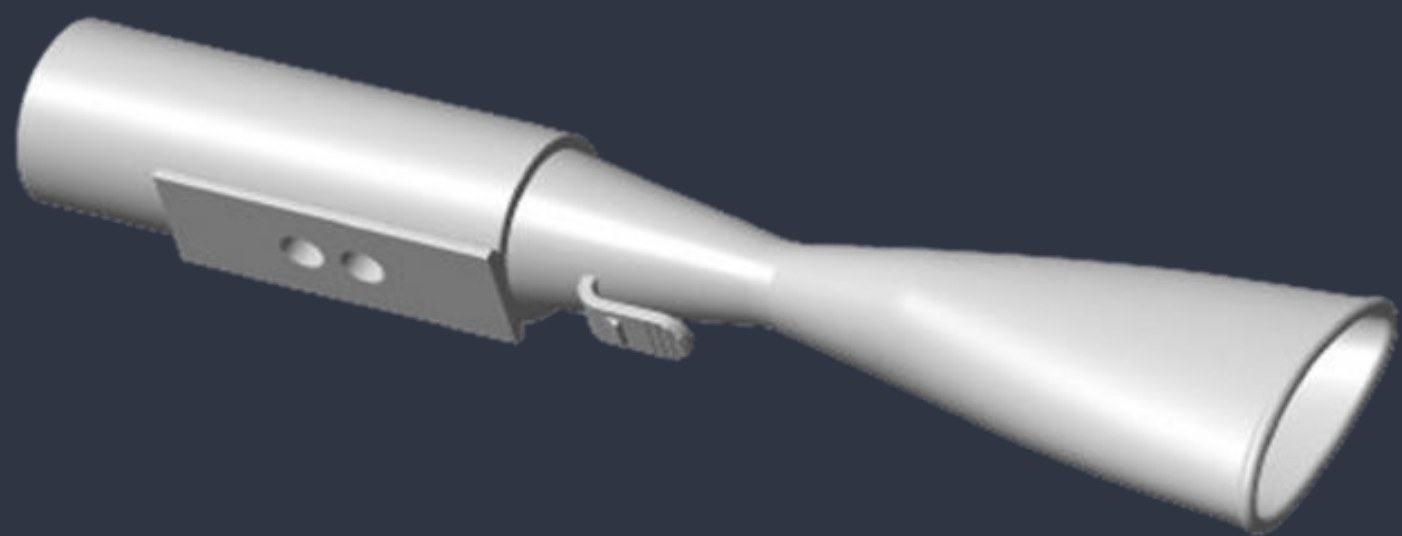
Intelligent features guide the patient to the correct breathing technique. This reduces the risk of incorrect use and increases the effectiveness of treatment.



Intelligent monitoring and smart data management with vitaLung

vitaLung enables instant monitoring of breathing exercises, recording and graphical analysis of data via an application for smart devices. These features allow users to monitor their exercise performance in real time and track their progress. In addition, the recording of previous exercise data makes it easier for users to track their progress and communicate effectively with their doctor. Graphical analysis provides clear feedback on the treatment process, helping users to achieve their goals and increasing motivation. This is a modern approach that can improve the effectiveness of treatment.





vitaLung mouthpiece



Conventional mouthpiece

- The development process of the mouthpiece used by vitaLung has a unique approach in the field of respiratory training devices. The mouthpieces currently available on the market often offer either too much or too little resistance, which has a negative impact on the effectiveness of the treatment. Furthermore, existing solutions are unable to provide homogeneous airflow and sound development at different breathing levels.

The development process of the mouthpiece: a historical and technical dynamic

To solve these problems and make the mouthpieces even more effective, Heinrich and Max Thein, the founders of Fine Brass Instruments in Bremen, Germany, advised and supported the development of the mouthpieces. A wealth of knowledge from 400 years of brass mouthpiece making has gone into the development process.

A wealth of knowledge from 400 years of brass mouthpiece history and development has been incorporated into our design process. In this way we have ensured that the resistance of our mouthpieces is optimised and that the airflow and sound development are homogeneous under all conditions.

This means that vitaLung mouthpieces are not just a therapeutic device. They are also an innovation that combines technical expertise and historical experience.



Working concept of vitaLung





Thank you very much

