

POWER[®] breathe

the world's no.1 breathing trainerSM

World class respiratory care devices for
clinical use and patient homecare



Smart Breathing Training since 1997
www.powerbreathe.com

POWERbreathe Respiratory Muscle Training - The Drug Free Solution

POWERbreathe RMT/IMT Class 1 Medical Devices are advanced pressure threshold loading devices that are drug-free, have no side-effects or drug interactions and are clinically proven to be beneficial for the following medical conditions.

COPD

The most up to date systematic review on Respiratory Muscle Training from 2011:-

Impact of inspiratory muscle training in patients with COPD: what is the evidence?

R. Gosselink, J. De Vos S.P. van den Heuvel, J. Segers, M. Decramer, G. Kwakkel

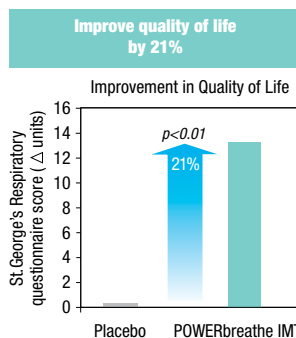
"IMT improves inspiratory muscle strength and endurance, functional exercise capacity, dyspnoea and quality of life. Inspiratory muscle endurance training was shown to be less effective than respiratory muscle strength training. In patients with inspiratory muscle weakness, the addition of IMT to a general exercise training program improved P_I max and tended to improve exercise performance".

POWERbreathe IMT has been widely used in patients with COPD as a standalone therapy or for pulmonary rehabilitation.

In randomised controlled trials, IMT has also been shown to deliver:

- Improvements in quality of life by 21% (Beckerman et al 2005)
- Improvements in dyspnoea by 36% (Beckerman et al 2005)
- Reduction in primary care consultations by 23% (Beckerman et al 2005)
- POWERbreathe training is 10 times more effective than oxitropium bromide for improving exercise tolerance and quality of life in patients with COPD (Oga et al., 2000; Beckerman et al., 2005).

COPD



Heart Failure

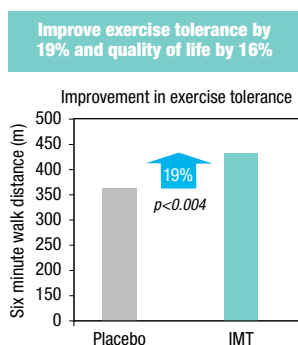
POWERbreathe IMT is clinically proven and beneficial for patients with heart failure and heart disease as a standalone therapy or for cardiac rehabilitation.

In patients with chronic heart failure, IMT has been shown to:

- Improve exercise tolerance by 19% (Laotaris et al 2004 and Dall'Ago et al 2006)
- Improve quality of life by 16% (Laotaris et al 2004 and Dall'Ago et al 2006)

Because the cardiovascular strain of POWERbreathe training is very low, it is suitable for even the most physically compromised patients, and is particularly helpful in patients who are too ill for rehabilitation.

Heart Failure



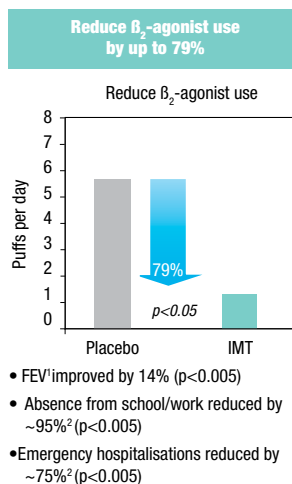
Asthma

POWERbreathe IMT is clinically proven and beneficial for patients with asthma to help reduce inhaled therapies, for exercise induced asthma and for improvements in exercise.

Laboratory studies found:

- Asthma symptoms improved with IMT by up to 75% in 3 weeks (McConnell et al 1998)
- Patients with asthma experienced improvement of symptoms, quality of life and a reduction in the consumption of medication of up to 79% (Weiner et al 1992)

Asthma



Pre-hab, weaning and post operative IMT

Pre Operative

Preoperative inspiratory muscle training for postoperative pulmonary complications in adults undergoing cardiac and major abdominal surgery

Katsura et al. *Cochrane Database Syst Rev.* 2015 Oct 5;2015(10)

The above review concluded that "preoperative IMT was associated with a reduction of postoperative atelectasis, pneumonia, and duration of hospital stay in adults undergoing cardiac and major abdominal surgery."

A Meta-analysis from *de Olivera Vacchi et al J Supportive Care in Cancer* 2021 also concluded that "IMT associated with physical exercise in the preoperative period of pulmonary resection improves functional capacity and reduces the length of hospital stay in the postoperative period"

Weaning

IMT significantly improves respiratory muscle strength in mechanically ventilated patients

Elkins M et al. *J Physiotherapy* 2015; 61: 125-134

Archives of Physical Medicine and Rehabilitation
Available online 1 August 2020

Effects of inspiratory muscle training and early mobilisation on weaning of mechanical ventilation: a systematic review and network meta-analysis

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Sc.1AttalekhaThammataB.

Sc.1KaweasakChittawatanaratMD.

Ph.D.2SurasakSaokaewPh.D.3456

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Conclusion

IMT should be recommended for improving the weaning outcomes in mechanically ventilated patients

Post op

Impact of early pulmonary rehabilitation on post liver transplantation

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Abstract

Background: Postoperative pulmonary complications (PPC) are noteworthy reasons of mortality Post liver transplantation (LT), which occur in approximately 35% to 50% of the recipients. Pulmonary dysfunction has likewise been widely reported among patients anticipating.

Conclusion: It was concluded that the POWERbreathe Plus device was effective in rehabilitation in post liver transplantation patients and helped in improvement of quality of life, and enhances patients' compliance and independence.

POWERbreathe for other conditions where dyspnoea is present

Because POWERbreathe IMT influences dyspnoea directly at a cortical level, it is also helpful in managing other conditions where dyspnoea is present, including:

- Elderly people
- Neuromuscular disease
- Parkinson's disease
- Prior-polio
- Spinal cord injury
- Sleep apnoea
- Exercise-induced paradoxical vocal chord dysfunction (VCD)



How POWERbreathe Respiratory Muscle Training works

In much the same way as you might use weights to increase arm muscle strength, POWERbreathe RMT/IMT devices strengthen lung muscles by creating a resistance against the in-breath.

Training in this way means that even patients who cannot walk can increase the strength of their lung muscles, improving general breathing during periods of recovery and improving QoL in patients with the symptoms of diseases such as COPD, asthma and cystic fibrosis.

All POWERbreathe RMT/IMT models use the same advanced principles of pressure threshold training.

Mechanical models use a calibrated adjustable resistance spring. The valve is only released when the patient creates enough pressure to open the valve at the pre-set pressure.

POWERbreathe KH-Series models use patented electronic tapered load valve technology for optimum performance.

The more resistance, the harder the muscles work but it is important to maintain full volume, diaphragmatic breaths before gradually increasing the level of resistance.

With over 20 years of research and the POWERbreathe devices being used by Healthcare / Medical practitioners, as well as, Sports and Fitness Professionals, their exceptional performance has resulted in positive user outcomes making POWERbreathe the Gold Standard in RMT/IMT.

The POWERbreathe Medic model is available for prescription through the NHS if on the local formulary.

Key benefits include:

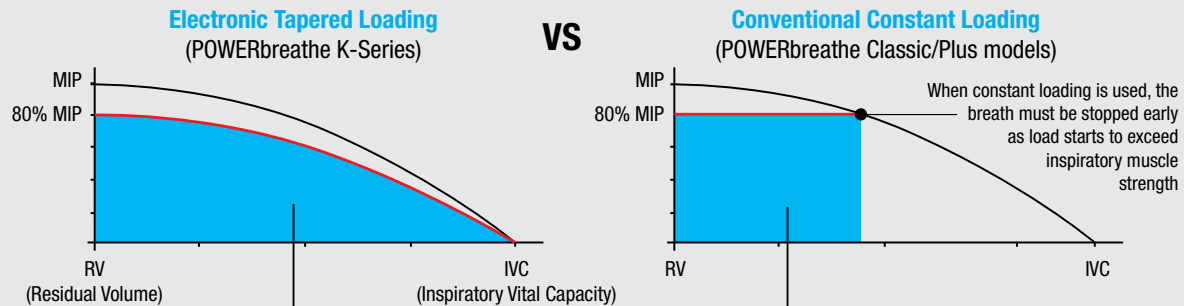
- Drug Free, Class 1 Medical Device - no side effects or drug interactions
- Simple and easy to use
- Various protocols depending on patient type. 30 breaths, twice a day at 40% of MIP being standard
- Increase in quality of life
- Low cost to NHS budgets
- Potential of significant on-going savings due to the reduction of the patients dependence on medication



Can be implemented as either a standalone intervention or as part of a rehabilitation programme

POWERbreathe KH-Series, the world's most advanced, intelligent, Inspiratory muscle training system.

The POWERbreathe K-Series creates a tapered load to match the declining respiratory muscle strength throughout the length of the breath. This is more effective than conventional constant threshold training by maximising volume, flow and muscle activation.



Up to 50% more training work (area under graph) achievable at 80% intensity using variable load training

Up to 125% more air inhaled per breath at 80% intensity using variable load training



Electronic tapered valve system



Threshold pressure valve system

Originating from the same breathing training concept as the mechanical series, the innovative and patented electronic POWERbreathe KH-Series delivers superior breathing training experience and results. The KH-Series has been designed specifically for use by healthcare professionals for inspiratory muscle training and assessment in patients with dyspnoea, including patients with asthma, COPD, bronchitis, cystic fibrosis, emphysema, heart disease, neuromuscular disease and Parkinson's disease.

POWERbreathe KH-Series devices are suitable for use in clinic, as well as, bedside on the ward or in the homecare environment.

POWERbreathe KH-Series devices are also multi-user due to the unique replaceable header valve design or via disposable filters.

When breathing in, the lung muscles start to lose strength. The POWERbreathe Plus and Classic models are set at a single and adjustable resistance which means the user will not be able to breathe past a certain point. This leaves a significant proportion of each breath wasted (see chart). To overcome this limitation, the intelligent KH-Series reduces the resistance towards the end of the in-breath allowing the lung muscles to be exercised throughout the entire breath.

Modifications and technological advances applied to the KH-Series include:

- Precise measurement of respiratory pressure and flow at 500Hz per second
- Micro-adjustments to the valve and training load at 4,000Hz per second

The precision technology above offers:

- A match of the contractile profile of the diaphragm and provides up to 50% more training work at 80% of maximum inspiratory pressure

- Advanced Electronic tapered loading
- A wide range of testing capabilities including MIP, PIF and S-Index Test Functions
- Multi-User Option
- KH2 Breathe-Link Medic live feedback software
- There are healthcare professional and patient dedicated models available in the KH-Series (see pages 5 & 8)

Major 6 Nation Multi-Centre COPD study concludes that POWERbreathe KH-Series performance matches "Gold Standard" clinical laboratory system. (PubMed - PMID: 23421970)



KH2 WITH **BREATH+ELINK™**
MEDIC • LIVE FEEDBACK SOFTWARE

Designed and developed for healthcare professionals

The POWERbreathe KH2 includes several innovative features including MIP, PIF and S-Index test functions, allowing practitioners to collect patients' training data via the portable hand held KH2 device.

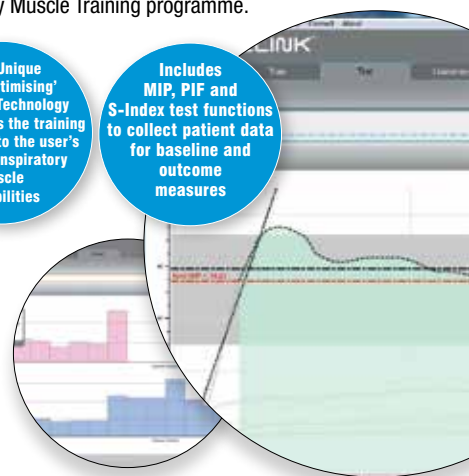
The advanced KH2 model allows the results to be viewed in real-time using the revolutionary Breathe-Link Medic software.

Development of the POWERbreathe KH-Series advanced electronically controlled valve allows average load, power and inhaled volume to be viewed instantly.

The POWERbreathe KH2 is the ultimate device for testing, monitoring and analysing any Respiratory Muscle Training programme.

Uses Unique 'Auto Optimising' RMT/IMT Technology which adapts the training resistance to the user's personal inspiratory muscle capabilities

Includes MIP, PIF and S-Index test functions to collect patient data for baseline and outcome measures



Advanced Smart Breathing Training Features Include:



See page 13 & 14 for a full description of the KH-Series Smart Breathing Training features or visit powerbreathe.com

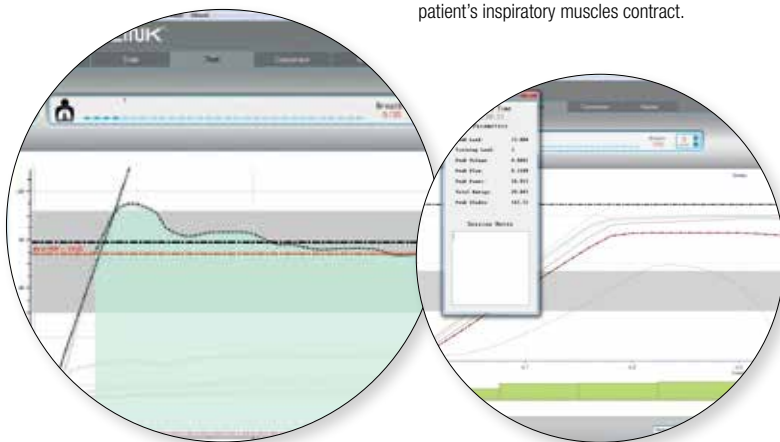
Train, test, record and analyse

Test Modes

MIP Test with Breathe-Link Medic Software

Maximum Inspiratory Pressure (MIP) test. A test that measures the strength of the muscles used in breathing.

Real-time / Live feedback provides healthcare professionals detailed analysis of each breath to help respiratory and pulmonary rehabilitation assessment.



S-Index / PIF Test Live Session

Strength Index is a measure of the patient's inspiratory muscle strength, based on the relationship between pressure and flow.

PIF (Flow) is a measure of the maximum rate at which the patient can inhale air into their lungs.

This measurement is based upon the maximum measured flow rate during the test breath, which gives an indication of the speed at which the patient's inspiratory muscles contract.

New feature

To ensure accurate and repeatable MIP results, the **POWERbreathe KH2 Breathe-Link Medic software has introduced the QC MIP mechanism.**

The maximum 1 second average value of 3 manoeuvres that vary by less than 20% is recorded.

Test Results



MIP Test Results with Breathe-Link Medic Software

Results Level 1

Multi-Level Analytic Review System to monitor patient progress and help assess respiratory muscle conditions

Level 1: Session by Session graphical view of historical tests.

Results Level 2

Breath by breath detail of tests performed is recorded allowing healthcare professionals the ability to identify trends and improvements.

Results Level 3

Individual breaths in a session can be assessed.

Live Training Modes

Breathe-Link Medic Basic View Live

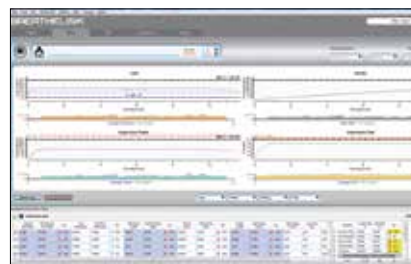
Graphical view of major breathing parameters to easily assess and encourage patient training performance. The goal is to maximise training performance against personal bests. Proven to increase user compliance of training regime.



Breathe-Link Medic Professional View Live

Professional view of major breathing parameters to easily assess and encourage the patient's training performance.

Analyse a training session breath by breath in real-time. Major breath parameters are plotted in real-time which include Power, Energy, Pressure and Flow.



"The KH2 allows the professional to map the patients progress and also motivates patients through the visual feedback."

Kate Martin

Therapy Team Lead / Clinical Specialist
 NHS BreathingSpace Hospital, Rotherham, UK

Custom Training

Simple Click and Drag System

Breathe-Link Medic Software offers a simple, easy to use, interactive environment which allows you to adjust the setting for each breath by simply clicking and dragging the bars on screen.

Allows professionals to create personalised training sessions to optimise patient training.

Flexibility to change the patient's training load for each individual breath.



Training Results

Train Results Level 1 – Session Detail

Multiple parameters displayed as histograms



Train Results Level 2 – Breath by Breath Detail

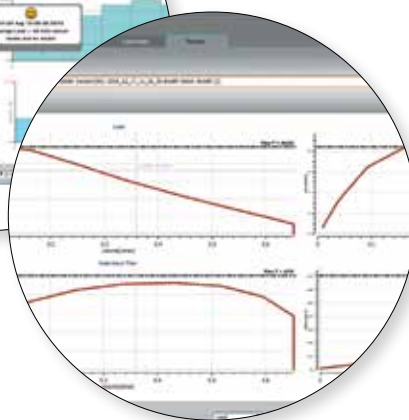
Multiple parameters displayed as histograms



Train Results Level 3 – Individual Breath Detail

Linear graphs of major respiratory parameters for every breath within a session.

Healthcare professionals have the ability to assess in detail respiratory changes that can affect patients breathing.



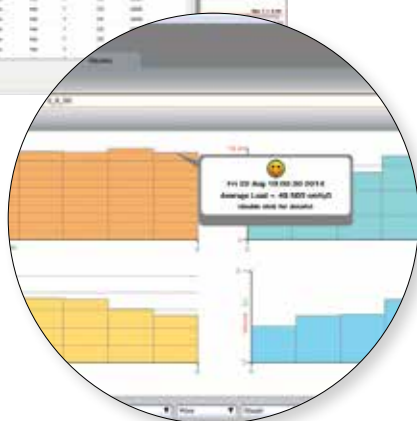
Patient Data

Breathe-Link Medic Patient Lists

Integrated patient view showing all registered patients on the Breathe-Link Medic software. The Patient View master control panel allows you to easily access and navigate patients RMT/IMT training data.

Name	Age	Sex	Height	Weight	Training Parameters
John Smith	45	M	175	75	...
Jane Doe	32	F	160	60	...
...	...	...	...	...	...

CSV (Comma Separated Values) file can be generated allowing easy integration to excel and other spreadsheet applications. Additional features include sort, search (second name only), edit, add and export/import user data in one localised window.





**Clinically
Proven
Gold Standard
Patient
Device**

KHP2

Advanced technology to ensure patients reach their full potential



Following Professional consultation using the KH2, whether it is for rehabilitation, pre-operative conditioning or symptom relief of lung function limiting diseases and conditions, the patient can then use the POWERbreathe KHP2 model at home, as part of their on-going treatment plan.

Clinical research has shown high patient motivation due to the on screen feedback which has resulted in high compliance (90%+) and significantly improved lung muscle strength and stamina.

Correspondingly, healthcare professionals are able to review patient progress by tracking up to 36 training sessions which the KHP2 can store.

The electronic, variable, tapered flow valve ensures the maximum training benefit (see chart on page 4).

POWERbreathe KHP2 is cost effective, easy to use, easy to clean and training improvements can be easily monitored.



Technology Features:

- Auto-optimising training technology
- Training intensity selector
- Training guidance system
- Training results display



Advanced Smart Breathing Training Features Include:



Auto IMT



Training Intensity



Training Guidance



Training Results



Training History



Washable Valve



Rechargeable

See page 13 & 14 for a full description of the KH-Series Smart Breathing Training features or visit powerbreathe.com



Medic **PLUS**+

**Adjustable load range
starting from 1 - 78cmH₂O**

Compatible with

POWERbreathe

Smart Adaptor



The POWERbreathe Medic Plus is the second generation of POWERbreathe Medic RMT (Respiratory Muscle Training) devices and features a 65% improvement in airflow dynamics compared to the first generation POWERbreathe Medic.

POWERbreathe Medic Plus is scientifically proven to strengthen the respiratory muscles, reducing breathlessness, improving exercise tolerance and enhancing quality of life in a wide range of patients.

POWERbreathe RMT/IMT devices offer evidence-based, drug-free treatment for patients with a variety of medical conditions including COPD, Heart Failure, Asthma, Rehabilitation following Thoracic Surgery, Ventilator Weaning, Cystic Fibrosis and Neuromuscular Disease.

The POWERbreathe Medic Plus offers the lowest entry level load of any threshold device currently available.

The 1cmH₂O entry load allows patients who are in ICU or who have severe breathing difficulties, to begin training their respiratory muscles which otherwise would not be trained.

Featuring variable load settings from 1 - 78cm/H₂O, POWERbreathe Medic Plus, offers in one device a drug free RMT/IMT solution that should satisfy most patient groups needs, at a very low cost to the patient or healthcare provider i.e. NHS in the UK.

POWERbreathe Medic Plus incorporates the latest developments in mechanical design technology together with comfortable ergonomic design to deliver:

- 65% improvement in airflow dynamics
- Easy to adjust resistance
- Easy to read resistance gauge
- Lower entry load to suit i.e. COPD users
- Variable load settings 0 – 10 levels
- Variable load range 1 – 78cmH₂O
- Anti-scratch materials
- Simple disassembly for cleaning
- Soft touch nose clip
- New mouthpiece design is suitable for ages 7 and upwards

Medic

Available to patients on Prescription since 2006

The POWERbreathe Medic Inspiratory Muscle Trainer was approved for prescription in March 2006 after being rigorously assessed by the NHS - Prescription Pricing Authority in the UK, for clinical evidence, patient compliance and financial savings. POWERbreathe Medic is also available from the NHS Supply Chain Respiratory Contract.

POWERbreathe Medic RMT/IMT has been taken up by medical professionals as an adjunct to pharmacological treatments.

Used both as a standalone therapy or in conjunction with pulmonary rehabilitation, POWERbreathe Medic training can be completed with or without supervision.



COPD

In their 2005 study of the benefits of a 12 month programme of POWERbreathe IMT training, Beckerman et al observed significant reductions in the use of healthcare resources. POWERbreathe IMT reduced hospital bed days by 29% and GP consultations by 23% compared with placebo.

Asthma

Weiner et al observed an 86% reduction in hospitalisations/emergency room visits following inspiratory muscle training in moderate/severe asthmatics (from 1.4 to 0.2 per 3 months per patient). In three separate studies, Weiner et al. observed an average 51% reduction in β 2-agonist consumption (from 3.9 to 1.6 puffs per day) after inspiratory muscle training, and in one study, corticosteroid use decreased ~80%.



POWERbreathe Medic:

- Available for prescription in the UK
- Pressure threshold training
- Mechanically adjustable variable load settings (10-90cmH₂O)
- POWERbreathe IMT devices save the NHS / healthcare provider money and resources.

Proven benefits of Inspiratory Muscle Training

- Inspiratory muscle strength up by 27%
- Reduces breathlessness up to 36%
- Improves quality of life up to 21%
- Improves exercise tolerance up to 28%
- GP visits reduced by up to 23%

NHS DRUG
TARIFF LISTING PART
IXA – APPLIANCES
Inspiratory pressure
threshold loading device
PIP CODE:
232-1040

Can easily be used by the patient straight out of the box.

“Integration of the POWERbreathe Medic device alongside rehabilitation has yielded significant patient benefits.”

Kate Martin

Therapy Team Lead / Clinical Specialist
NHS BreathingSpace Hospital, Rotherham, UK

See page 15 to see clinical research or visit powerbreathe.com

POWERbreathe Better Breathing Products

POWERbreathe International continue to expand its range of quality, drug free, 'Better Breathing' training and respiratory care products by teaming up with leading researchers and developers to service the needs of consumers and professionals involved in healthcare, sport, fitness, education, research, corporate fitness, occupational health, uniformed services, life coaching/stress management and sleep therapy.

RESPIRON®

Simple Therapy for Breathing Difficulties

- Exercises and strengthens the breathing muscles
- Control and adjust exercise difficulty
- Encourages deep breathing, which can aid in relieving excess mucus
- Helps prevent bronchial and pulmonary infections
- Excellent for lowering stress levels
- Easy to use and clean
- Low cost



Flow-Ball® **ULTRA** Flow-Ball® **KIDS** Simple, fun and educational

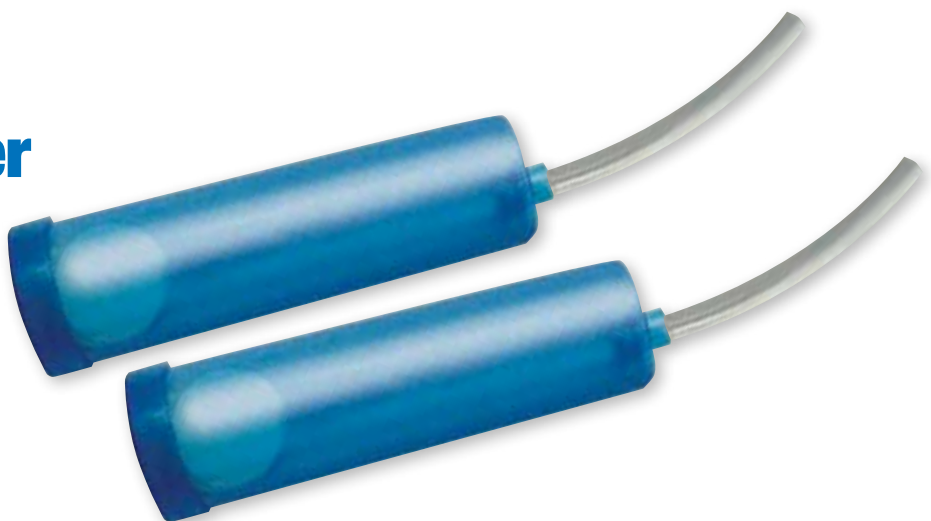
- Exercises your breathing muscles
- Increases control and the stability of your exhaled breath
- Easy to use, effective and great fun
- Popular with children and adults
- Beneficial for smoking cessation education
- Low cost



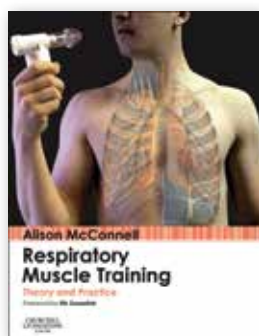
Flow-Ball Kids

Breath Builder

- Originally developed to help musicians and vocalists strengthen their diaphragm
- Exercises lungs and diaphragm muscles
- Helps you control inhalation and exhalation
- Beneficial to patients, smokers, and anyone with breathing difficulties
- Colours vary

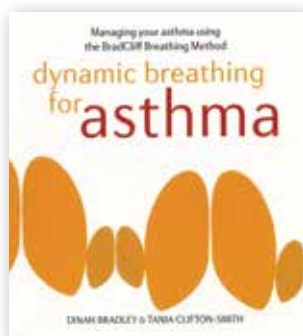


Better Breathing Publications



Respiratory Muscle Training Book

The “everything-you-need-to-know” guide to respiratory muscle training (RMT) by Professor Alison McConnell. Contents include: 1) Introduction to respiratory physiology and training theory; 2) How disease affects the respiratory muscles and the mechanics of breathing; 3) Insight into the disease-specific, evidence-based benefits of RMT; 4) Advice on the application of RMT as a standalone treatment and as part of a rehabilitation programme; 5) Guidance on the application of functional training techniques.



Dynamic Breathing for Asthma Book

Internationally recognised experts Dinah Bradley and Tania Clifton-Smith using the BradCliff Method have made this, the asthma sufferer's indispensable companion. In recent years, asthma patients may have been well informed about their drug management but less emphasis has been placed on physical coping skills and the importance of the correct use of the muscles of breathing. It takes you through a step by step breathing retraining process, which can help reduce medications, reduce stress levels, exercise comfortably and most importantly - breathe effectively.



Breathing Matters Book

Breathing Matters is a revolutionary book written by Dr. Jim Bartley, one of New Zealand's top ear, nose and throat surgeons, who believes that good breathing patterns can dramatically improve the lives of people with major diseases such as heart disease, asthma, depression and migraine. Breathing well helps us relax, normalises body biochemistry, reduces muscle pain and allows the re-establishment of normal posture and movement. Co-authored by internationally recognised authority on breathing disorders - Tania Clifton-Smith (Dip Phys)



Complete Guide to Respiratory Care in Athletes

This Complete Guide to Respiratory Care in Athletes features contributions from leading breathing experts: John Dickinson, Professor in Sport and Exercise Sciences and Head of the Respiratory Clinic, University of Kent, as well as, consultant respiratory physician at the Royal Brompton Hospital, London, and Professor at the Institute of Sport, Exercise and Health, James Hull.

POWERbreathe RMT/IMT Accessories



POWERbreathe 22mm adapter for Plus and KH-Series (22mm)



Adult Oxygen Masks for Classic, Plus and KH-Series Small, medium and large



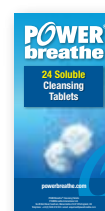
POWERbreathe Single Use Try-Safe™ Filter compatible with RMT/IMT and Shaker Medic Plus/Deluxe devices



POWERbreathe Mouthpiece for KH-Series and Medic Plus



K-Series Single Pack Valve Head Blister Pack available in black, grey and blue



POWERbreathe Cleansing Tablets

POWERbreathe KH-Series features

The patented technological advances developed and applied to the POWERbreathe KH-Series devices, offer precision measurement of respiratory pressure and flow at 500Hz per second and micro-adjustment to the valve and training load at 4,000Hz per second. As a result, the electronically controlled variable pressure threshold resistance is optimised to match the strength profile of the users' inspiratory muscles, to achieve maximum personalised training effectiveness.

Training Features:



Auto IMT: The POWERbreathe KH-Series Auto-optimising Inspiratory Muscle Training system automatically adapts to the patients personal training requirements.



Manual Training Intensity: The training intensity adjustment option allows resistance to be manually set from 5 to 200cmH₂O to suit the patients personal training requirements.



Training Guidance: The KH-Series training guidance system provides breathing pacing guidance, displays the number of breaths remaining in the training session and informs the patient when the session is complete.



Warm-up & Cool-down mode: Automatically sets the optimal resistance for inspiratory muscle warm-up and cool-down.

Training Feedback and Testing Features:



Training Results: Provides detailed breathing training feedback including Load (cmH₂O), Power (Watts) and Inhaled Volume (Litres).



Strength Index (S-Index): Calculates inspiratory muscle strength (cmH₂O) based upon peak inspiratory flow. Strength index is rated in comparison with predicted value.



Single Breath Test: Measures inspiratory muscle strength, peak inspiratory flow rate and inhaled volume in a single breath. Rates inspiratory muscle strength (Poor, Fair, Average, Good, Excellent) in comparison with the predicted value.



Training Index (T-Index): Displays the percentage effectiveness and effectiveness rating (Poor, Fair, Average, Good, Excellent) of the patients breathing training session based upon the amount of work achieved.



Breathing Energy: Measures the mechanical work of breathing during the patients breathing training session. Breathing energy combines the force exerted by the inspiratory muscles and the volume of air inhaled.



Respiratory Muscle Testing (RMT): Maximum Inspiratory Pressure and Peak Inspiratory Flow tests for inspiratory muscle assessment.



Endurance Programme: Endurance protocol. Perform a 150 breath training session to completely fatigue the breathing muscles.



Training History: Displays a graphical history of the patients last 36 training sessions allowing you to review trends and previous personal best results.



Multi-User Options: Personal Interchangeable Valve Heads sold separately and/or single user filters available for clinical use.



Washable Valve: The KH-Series valve head can be removed for cleaning using POWERbreathe Cleansing Tablets (sold separately).



Rechargeable: Rechargeable power system with auto power-off and charge level indicator. KH-Series devices can also be powered via PC or mains power.



Multi-user Filter Option: Unique spacer which allows the connection of POWERbreathe TrySafe™ filters for effective filtration of bacteria and viruses. Offers exceptional protection against cross infection.

Breathe-Link Features:



Breathe-Link Medic Software: PC connectivity via USB enables real time training and performance testing. Select specific training and testing parameters and then assess inspiratory muscle condition and training progress to try and beat previous scores.



Breathe-Link Medic Custom: Allows the professional to create and upload the patients personalised breathing training sessions.



Breathe-Link Medic Pro-View: Use the Breathe-link Pro-View for advanced, detailed, simultaneous plotting and analysis of all inspiratory muscle training data.



Breathe-Link Medic Patient Data: Integrated patient view showing all registered patients on the Breathe-Link Medic software. The Patient View master control panel allows you to easily access and navigate patients RMT/IMT training data.

POWERbreathe Customer Care

When you buy a POWERbreathe device you get so much more than what's in the box. We'll be here to help you maximise the benefits of your purchase by providing guidance and assistance to help you and your patients optimise its use. Visit: powerbreathe.com

POWERbreathe KH-Series comparison chart

All POWERbreathe KH-Series use an electronically controlled resistance valve which provides a variable pressure threshold resistance, optimised to match the strength profile of the inspiratory muscles for maximum training effectiveness.

Icon	Features	Explanation of features	KH2	KHP2
Training Features				
	Auto-optimising IMT technology	The POWERbreathe KH-Series Auto-optimising Inspiratory Muscle Training system automatically adapts to your personal training requirements.	●	●
	Manual training intensity option	The training intensity adjustment option allows resistance to be manually set from 5 to 200cmH ₂ O to suit your personal training requirements.	●	●
	Breathing pacing guidance	Buzzer indicates when the user should inhale in order to optimise breathing patterns and prevent hyperventilation	●	●
	Current training session breath counter	Displays number of breaths remaining in current training session	●	●
	End of training session indicator	Alarm indicates that training session is over	●	●
	Warm-up mode	Can be used to warm-up the inspiratory muscles prior to exercise	●	
	Cool-down mode	Can be used to cool-down the respiratory muscles after exercise		
	Custom mode	Personalise your training session created using Breathe-Link Medic PC software	●	
Training Feedback and Testing Features				
	Load (cmH ₂ O)	Measure of the resistance to inhalation and is equivalent to the weight being lifted	●	●
	Power - current session average (watts)	Current session average power (watts)	●	●
	Inhaled volume - average per breath (litres)	Current session average volume (litres)	●	●
	PIF/Flow	Peak Inspiratory Flow (litres/sec)	●	
	Volume	Maximum inhaled volume (litres)	●	●
	MIP	Maximal inspiratory muscle strength (cmH ₂ O)	●	
	MIP rating	Comparison with population normal values based upon user stats (Age, Height, Weight, Gender)	●	
	S-Index	Index of inspiratory muscle strength (cmH ₂ O)	●	
	S-Index Rating (poor, fair, average, good, excellent)	Comparison with population normal values based upon user stats (Age, Height, Weight, Gender)	●	
	Test mode (S-Index - Single breath test)	Measures inspiratory muscle Strength Index	● ¹	
	T-Index - current session (%)	Training Index (%) [Measure of training session effectiveness]		
	T-Index rating (low, med, high)	Rating of training session effectiveness		
	Breathing energy (joules)	Measures the mechanical work of breathing during your breathing training session. (Joules)	●	●
	Graphical breathing energy history (last 36 sessions)	Graph of previous 36 Breathing Energy results		●
	Session number	Number of training sessions completed		●
	Test mode (PIF/Flow)	Measures Peak Inspiratory Flow	●	
	Test mode (MIP)	Measures Maximal Inspiratory Pressure (highest 1 sec average)	●	
	Endurance Programme	Perform a 150-breath session to completely fatigue the inspiratory muscles	●	
	Graphical load history (last 36 sessions)	Graph of previous 36 training load results		●
	Graphical power history (last 36 sessions)	Graph of previous 36 average power results		●
	Graphical volume history (last 36 sessions)	Graph of previous 36 average volume results		●
Breathe-Link Features				
	Breathe-Link PC software for real-time breathing measurement and analysis	Real-time breathing measurement & analysis software for PC Maximises training & test performance in real-time. Stores results for analysis. Import and Export .ble files allowing data to be shared amongst Breathe-Link users.	●	
	PC graphical view	Easy to understand live test, feedback graphs to monitor each breath, with visual feedback to help improve your performance.	●	
	Breathe-Link custom training mode	Allows you to create and upload your own personalised breathing training sessions.	●	
	Training statistics review	Review the details and trends of your Breathe-Link training sessions.	●	
	Breath-Link ProView advanced analytics	For a detailed, simultaneous plotting & analysis of all inspiratory muscle training data.	●	
	Print/PDF generator	Keep detailed high resolution records of each session. Share training history for analysis in printed or PDF format.	●	
	Live real-time performance monitoring	See real-time test and training performance live on screen.	●	
	Breathe-Link Medic Patient Data	Integrated patient view showing all registered patients on the Breathe-Link Medic software. The Patient View master control panel allows you to easily access and navigate patients RMT/IMT training data.	●	

● Indicates Features Included ●¹ Note 1: For the KH2 model, S-Index test result is output following a PIF test.
(Information subject to change due to manufacturers continuous program of development).

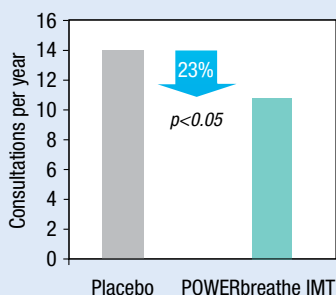
POWERbreathe IMT saves money and resources

Key facts and figures

COPD

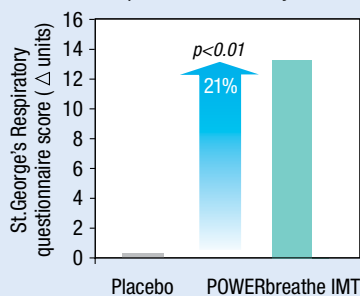
Reduce primary care consultations by 23%

Reduction in primary care consultations



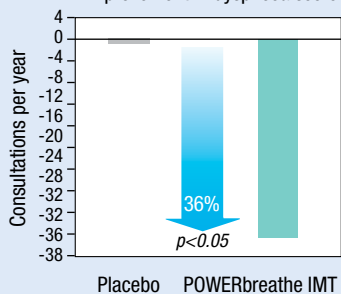
Improve quality of life by 21%

Improvement in Quality of Life



Improve dyspnoea by 36%

Improvement in dyspnoea score



Reduced Healthcare Resources

In a 2005 study of the benefits of a 12-month programme of POWERbreathe RMT, researchers observed significant reductions in the use of healthcare resources.

Supporting research:

The Effects of 1 Year of Specific Inspiratory Muscle Training in Patients With COPD (Beckerman et al; Chest; 2005)

Reduced Hospitalisations

Weiner et al observed an 86% reduction in hospitalisations/emergency room visits following respiratory muscle training in moderate/severe asthmatics.

Supporting research:

Inspiratory Muscle Training In Patients With Bronchial Asthma (Weinar et al; Chest; 1992)

Reduced β_2 -agonist Consumption

In three separate studies, Weiner et al. observed an average 51% reduction in β_2 -agonist consumption (from 3.9 to 1.6 puffs per day) after respiratory muscle training, and in one study, corticosteroid use decreased ~80%.

Supporting research:

Inspiratory Muscle Training In Patients With Bronchial Asthma (Weinar et al; Chest; 1992)

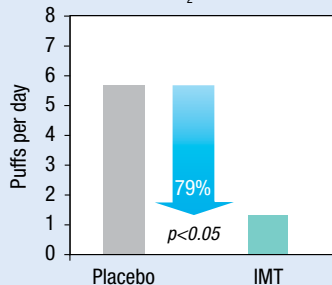
Specific Inspiratory Muscle Training in Patients With Mild Asthma With High Consumption of Inhaled 2-Agonists (Weiner et al; Chest; 2000)

Influence of Gender and Inspiratory Muscle Training on the Perception of Dyspnea in Patients With Asthma (Weiner et al; Chest; 2002)

Asthma

Reduce β_2 -agonist use by up to 79%

Reduce β_2 -agonist use

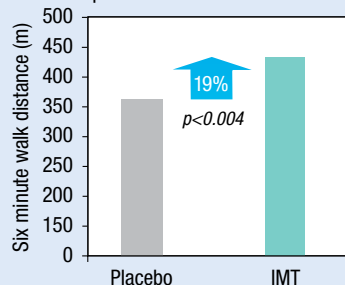


- FEV₁ improved by 14% (p<0.005)
- Absence from school/work reduced by ~95%² (p<0.005)
- Emergency hospitalisations reduced by ~75%² (p<0.005)

Heart Failure

Improve exercise tolerance by 19% and quality of life by 16%

Improvement in exercise tolerance



*References cited above may be accredited at www.powerbreathe.com

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