



The Heart of the Breath

'I struggle to think of a more capable and committed professional in the world of voice care. Alison has an extraordinary skill in rehabilitating complex vocal injury, through a thorough understanding of detailed anatomy and physiology, both at a laryngeal and holistic level. It has been a privilege to share patients with her.' - Ed Blake (Laryngeal and Vocal Physiotherapist)

'I am so grateful for Alison's contribution to my progress and development as a vocalist, in particular the rehabilitation of my voice post-surgery. It is a pleasure to have been able to learn so much from her about keeping the voice safe and healthy. I recommend this book to anyone who wants to further their knowledge about the voice, its recovery and retaining vocal health.'
- Nathan Sykes (Singer/Songwriter)

'Watching Alison work, you know that you are in the presence of a complete professional. She has a wealth of technical knowledge, along with the ability to precisely discern the most suitable exercises for her rehabilitation clients. Aware that she is dealing with artists and an art form, Alison is passionate about helping singers restore their voices and is acutely sensitive about the negative impact that voice problems can incur. Her book radiates warmth and clarity, reflecting her holistic approach and including artful illustrations that make anatomy user friendly.'
- Clare Costa (Singing Teacher and Voice Therapist)

Vocal Health and Rehabilitation: Clinical Pathways and Practical Applications Series

Series Editor: Alison Mary Sutton

This series of books represents a comprehensive resource for singers, singing teachers and all those seeking to understand more about the injured voice.

Practical and easy to read, each book in the series incorporates clearly structured practice routines, with helpful tips for their application backed up by instructive audio and video clips. Collectively they present a portfolio of detailed vocal rehabilitation case studies which reflect the Author's extensive experience in this field. Illuminating illustrations by artist, Meg Pike, in close collaboration with the Author, reinforce a concise and digestible approach to each topic area.

Alison Mary Sutton's insightful fusion of voice with yoga and psychology will help readers to build up a picture of why voices can run into trouble and how remedial work is undertaken. She highlights in each book the importance of re-establishing the magic and joy of singing, as well as mapping the hard methodology. Aiming to make the understanding of vocal rehabilitative techniques more readily accessible, these titles will be essential reading for those who want to engage with this topic at a deeper level.



The Heart of the Breath

Alison Mary Sutton

Illustrations by Meg Pike

A volume in the Vocal Health and Rehabilitation:
Clinical Pathways and Practical Applications Series



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Dedication

*In memory of my mother,
Alice Stevenson Sutton (1919–2021)
one of many victims of COVID-19*

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I owe special thanks to Michael Hardingham, retired Consultant ENT Surgeon, for enabling me to start on the rehabilitation pathway as an observer in the voice clinic at Cheltenham General Hospital, and subsequently Consultant ENT Surgeon, David Michael Thomas and Principal Lead Speech and Language Therapist, Jane Haxworth. They have generously shared their medical expertise on voice related issues, providing a rich resource of knowledge for which I am hugely grateful.

Sincere thanks are also extended to Ed Blake for his expert and much-appreciated comment on anatomical detail.

It would be impossible to name all the vocal rehabilitation clients who have contributed to the content of this book and from whom I have learnt so much. Grateful thanks to them for sharing their vocal struggles and vulnerabilities, which provided the invaluable insight and understanding that inspired the writing of this book.

The editorial expertise and support from Noel McPherson of Compton Publishing has consistently steered my understanding of the relationship between writer and publisher.

Heartfelt thanks to my illustrator, Meg Pike, for her masterful drawings, endless patience, enthusiasm and attention to detail. Countless hours have been spent together in planning and discussion at Jaffe and Neale Bookshop and Cafe, Chipping Norton, to whom I also offer thanks. In addition, I wish to remember the help and support of Lisa Hopton and Danny Blyth for clarification of illustrative anatomical detail.

Finally, I offer immense gratitude to my husband, Richard, who has constantly supported me in the process of writing, without which this book would never have been written.

Foreword

Alison Mary Sutton has gained a wide and enviable reputation as a practitioner of vocal rehabilitation. Her excellent book is a welcome addition for pedagogues, medics, singers and students alike.

As former Head of Vocal Studies at the Royal College of Music in London, I know Alison's outstanding work from personal experience. I recommend without reservation her hugely informative study, complemented by distinctive academic research.

Professor Neil Mackie, CBE.

Foreword

I first met Alison in 2015 when I engaged her as a speaker on my Canto Lecture Series. She was booked to give a lecture and workshop on singing rehabilitation, which proved to be a popular and highly regarded event.

In my capacity as a Speech and Language Therapist (SALT) and singer, I subsequently visited the voice clinic at Cheltenham General Hospital, where Alison is on the team as Singing Rehabilitation Coach following many years of clinical observation. It was clear that the multi-disciplinary approach with the ENT consultant and SALT was beneficial for the patients, with Alison's opinion being sought where appropriate. Professional boundaries were respected throughout, and I came away in the knowledge that she was on top of her brief and took the interest of singers' vocal issues very seriously.

Alison has a profound and thorough understanding of the anatomy and physiology of the singing voice alongside

a clear awareness of the problems and distress that can arise when things go wrong. This is supported by many years of experience as a singer and singing teacher. She is methodical, meticulous, and painstaking in her approach to rehabilitation, ensuring that her clients have the best chance of success and leave her studio feeling empowered and better informed about their vocal wellbeing. Above all she is compassionate and caring and truly understands the tragedy of vocal problems for singers, an essential quality in this demanding role.

This book is a wonderful testament to her work, and there is something for everyone here. She has written a comprehensive and illuminating case study, in which she has been generous and open in sharing her expertise. This is nothing more than I would expect from someone who continues to put singers in trouble first.

Sara Gourlay
Singer, Speech & Language Therapist
and Vocal Rehabilitation Therapist (Retired)

Introduction

Finding my way

The Heart of the Breath is the first in a series of practical books: Vocal Health and Rehabilitation: Clinical Pathways and Practical Applications.

It features extensive coverage of the principles of breathing that I have formulated with rehabilitation clients over a long period, coupled with a detailed client case study that demonstrates, practically, how these principles have been successfully applied. The complete series will contain further case studies and illustrated chapters, including rehabilitation and yoga technique, as well as vocal psychology and performance.

Vocal science and pedagogy have advanced beyond all recognition in recent years and continue to be widely researched and documented. I am grateful to have been a part of this era, having attended many courses and heard inspiring presentations by the people who have been in its vanguard. My writing is a practical contribution of how I have put this knowledge into practice, combined with many years' experience of singing, teaching singing and

vocal rehabilitation work in studio and in a voice clinic.

I will demonstrate the connection between these different aspects, and how they have enabled me to help rehabilitation clients to rediscover their voices.

The contents are by no means the definitive version, but rather my interpretation of all that I have learnt. I am fully aware of the complex vocal science that lies behind my instruction. Whilst it constantly informs my work, it cannot be applied to all the techniques referred to in this book which, nevertheless, have proved effective over time.

By using a case study and suggesting practical tips, I am able to highlight the degree of detail required to achieve, where possible, a positive outcome for rehabilitation clients. My approach is systematic, which is reinforced by all sessions being recorded so that clients can work with them afterwards in their own time. The instruction given in the case study is chosen to suit the client's individual needs, including the basics of singing technique. The hope is that this book may encourage a preventative approach that can be incorporated into the singing teaching studio,

helping singing teachers to recognise what could be happening if a pupil is giving cause for concern, perhaps because of an uncomfortable vocal sensation or ongoing symptom. Having this awareness is crucial when trying to decide if it is appropriate to advise a pupil to seek a referral from a general practitioner (GP) to an ear, nose and throat specialist (ENT) for further investigation.

Having been involved with a hospital voice clinic for many years, the knowledge that I have gained has helped me to develop both my rehabilitation work and singing teaching in equal measure. Over time, they have complemented each other in an increasingly positive way, backed up by my long-standing practice of yoga and breathing. What I have discovered, largely due to this long association with yoga, is that the breath is everything! It underpins all forms of voice work and, if utilized optimally, can enhance vocal longevity as well as the various aspects of the performance 'package' – that is: phrasing, vocal tone/range, dynamics and interpretation. It has become the keystone of my rehabilitation work, as the majority of clients have developed problems due to habitual under- or overpowering the voice, which can then easily become

exacerbated by continuing to sing when unwell – for example, with a viral cold, upper respiratory tract infection or laryngitis.

There have been numerous instances in my teaching career that have clearly shown the need for a personal approach to voice training. No two students are the same, and each will inevitably interpret instruction differently. The voice is ever changing, and its development or recovery must be tailored to fit each person individually. Equally necessary has been the realisation that the teaching process is not just about giving instruction, but about enabling the transformation of a voice and the blossoming of a singer's emotional wellbeing through appropriate vocal development. As the voice is an integral and unique part of a singer's identity, I see it as essential to invite a sense of teamwork as I work alongside clients, helping them to explore and discover their own vocal potential and fulfilment of personal expression.

I started singing at the age of six, when I joined the school choir. We were taking part in a local festival, and I can still remember the excitement and apprehension

of performing to an audience. These two feelings imply psychological conflict, and yet in a performing situation they can be surprisingly compatible. It all depends upon them being in balance with each other. As I grew older, I began to explore solo repertoire, which intensified my love of singing. I recall the joy of performing in my teenage years, when singing felt instinctive and allowed me full rein to express myself. At that point, the excitement of performing far outweighed the apprehension, with nerves never threatening to overwhelm me. I was always fully engaged in telling the story and living in the text, moment by moment, unaware that my active imagination was allowing me to access vocal colour naturally. I heard the term 'vocal colour' mentioned many times when I was at music college, but by then I was grappling with the complexities of singing technique and my imaginative skills began to take a back seat. Consequently, vocal colour as an interpretative tool often eluded me as a professional singer. I finally understood its significance many years later, when I heard accompanist Malcolm Martineau define it during a masterclass: 'Vocal colour is a response to the play of feeling in the music and text. It is a reflection of the psychology of the moment.' By that time, my technique

was secure enough to have regained the freedom of self-expression, and I was able to put this maxim into practice. Prior to this point, my singing tended to be rather hit and miss, and not many performances passed without experiencing crippling nerves and the uncertainty of whether apprehension would outweigh the excitement. As every singer knows, this is a very uncomfortable and potentially destructive feeling.

At age 18, I secured a place at the Guildhall School of Music and Drama, London. I was very reassured to be accepted, it having previously been suggested by a respected local singing teacher that I would not make it as a professional singer. This remark overshadowed my college years, as it gave me the feeling that I had had my wings clipped before I had even got started! However, I pursued a successful career in opera, oratorio and recital, singing at major London concert halls and with opera companies including Kent Opera, London Opera Factory and Opera de Lyon, travelling widely in the UK and Europe.

I consider myself to be most fortunate in the way that my professional life evolved over the years, embracing more

activities than I could ever have imagined. Most of them ran alongside my singing career and collectively led eventually to my involvement with singing rehabilitation. A part-time job as a primary school music teacher allowed me to hone my teaching skills, and I briefly enjoyed running a music appreciation class for homeless men in a rehabilitation centre for the Inner London Education Authority (ILEA), as part of its adult education programme. A complete contrast was my examining and adjudicating work, which fulfilled my enthusiasm for encouraging singers of all ages to explore their vocal potential. I helped to train a choir by instructing small groups of its members on basic singing technique, which led to my starting a singing teaching practice. As time went by, I gradually became more specialised, giving masterclasses, running my own singing course and acting as external examiner for undergraduate and postgraduate level recitals at Birmingham Conservatoire. I continue to keep active as a singer, believing it necessary to maintain the muscular coordination and physical sensations of singing in order to successfully convey them to others. Being able to create musical vibrations across a wide harmonic range on every sung note produces an intense feeling of wellbeing, which

I am inspired to pass on to clients. As long as there is no diagnosed vocal pathology that prevents access to the precise muscular movements required, they can be encouraged to have the same experience via the same techniques. Not only does this engender confidence it also allows the voice freedom to find its own way to optimal vocal function.

As I got older and my singing career began to slow down, I attended several Estill Voice Training System (EVTS) courses and became very interested in vocal anatomy and physiology. At this point I was most fortunate to be given permission to observe in the voice clinic at my local hospital. This was the beginning of a long learning journey that gradually led to many ENT patient referrals and finally culminated in my becoming the singing rehabilitation coach in the clinic. From the outset, I started to appreciate the link between vocal science and the art of singing, realising that having a clear perspective of both made it possible to see the way in which each enhanced the other. I also began to find it easier to understand specific vocal challenges that some of my pupils were experiencing, and it was with a sense of relief that I felt more informed in

seeking ways to help them.

And then disaster struck on a personal level – or so I thought at the time! Following a diagnosis of breast cancer, subsequent surgery and chemotherapy, I experienced a bad depression. Over a long period, and without a real understanding of what was happening, I had neglected to address a personal bereavement whilst at the same time continuing to work and support others. The final trigger was the chemotherapy, to which my body reacted very badly. According to medical advice, full recovery could take up to three years and I certainly think that this was true in my case. Those desolate years felt like crossing a wasteland, but gradually the joy of life began to reawaken in me.

Once recovered, all my senses seemed heightened, and I could once more fully engage with life. Recognising my immense good fortune, I now wanted to make the most of it. I had always been interested in psychology and I decided at this point to develop it further, with a view to gaining a better understanding of how I might prevent reoccurrence of such a frightening experience. This study

with a personal mentor has proved invaluable; I have not only gained greater personal insight from his learned and compassionate approach but have also been taught how to address the inevitable psychological distress of singers who come for vocal rehabilitation. This comes up time and time again with clients. Guidance by my mentor, a professional psychotherapist, has enabled me to recognise and take appropriate approaches to the management of clients who may have suffered some sort of abuse, including one case directly related to singing. To help rebuild someone's self-confidence, as well as their voice, is immensely rewarding. I have learned a huge amount about stress management since my recovery and have found that personal experience has added an extra dimension when offering advice to clients. This includes the development of an awareness that encompasses compassion towards oneself as well as towards others. In addition, I have learned about respecting professional boundaries, giving me a clear understanding of where one can and can't venture with vulnerable clients. This goes hand in hand with being able to evaluate the appropriate information to convey. I am led by my clients and have found that any emotional aspects directly relating to singing and the voice tend to surface in

the second or third session. To be entrusted with personal confidences is a huge privilege. If this responsibility can be handled with skill and sensitivity, it can hopefully result in the unlocking and giving back to another human being the precious tools of vocal and artistic fulfilment.

In writing these books, I want to look at ways in which singers can maintain the heart and health of their singing for as long as possible. Most importantly, my aim in working with any aspect of the voice is to encourage and regain the joy of singing: When successfully harnessed to the imagination and the intent to communicate, it enables our fundamental need for self-expression to emerge, whether in performance or everyday life.

Alison Mary Sutton

October 2022

Publisher's Note

Throughout the book there are links to audio-visual files.

These files can be heard or viewed on YouTube at

<https://tinyurl.com/nhheph5k>

The heart of the breath

'How singers think they use the respiratory apparatus in singing and how they actually use it are often very different things'

This quote, from Thomas Hixon's *Respiratory Function in Singing* (2006), highlights breathing as being one of the most contentious issues in the singing world.

Hixon went on to posit that optimal respiratory function *'accelerates and enhances the development of performing skill, minimises performance fatigue, increases the dynamic range of the voice and maximises the economy of performance'*.

In the Introduction, I identified breathing as having become the keystone of my rehabilitation work. My experience with most of my clients is that they have developed vocal problems due to some form of breath mismanagement, leading them to either over- or underpower the voice. Singers can run into difficulties if there is a perceived need to have a 'big voice',

especially in the operatic field. Choral singers can experience problems as a result of having restrained their voices, often unwittingly, in order to blend with those around them. Most of my chorister clients share common issues of vocal strain and fatigue, often due to low breath pressure, weak onset and tongue root tension (TRT). In all cases, symptoms have manifested as a result of differing degrees of prolonged vocal restraint. Insufficient understanding of respiratory function can lead to unhelpful muscular compensatory patterns becoming entrenched, whereas having clear understanding has, as Hixon states, *‘the potential to extend performance life through the prevention of misuse and abuse of the singing apparatus, and the prevention of certain injuries that might interrupt performance life or threaten its continuation’*.

Over the years, I have observed a common challenge with rehabilitation clients regarding a particular aspect of breathing, which spans all vocal genres and frequently turns out to be the primary cause of vocal tension and distressing symptoms. In addressing this aspect, I have given emphasis to practical work, with reference to

theoretical points of breathing and anatomy that aim to substantiate it within a clear framework. It concerns my gradual recognition that one of the most crucial aspects of maintaining vocal health and longevity is the subtle balance between inhalation and exhalation. This balance can easily become out of sync in singers, especially when quick inhalation is needed between successive and demanding phrases, for example in high impact opera singing and belting. I began to realise that the key to achieving it relies on learning how to disassociate from the deeply ingrained 'fight and flight' survival response, especially on inhalation. It is the sympathetic nervous system (SNS) which triggers the body into this mode of operation, in order to mobilise resources of energy to face challenges that are linked to anxiety or fear, such as a predator... or a performance! This tends to induce gasping of air and lifting of the shoulders, often followed by rapid deflation of the lungs and potential loss of vocal control. When this happens, the refinement of diaphragmatic action necessary for healthy singing can become compromised, with potential detrimental effect on the vocal folds (see 'Regulating diaphragmatic action in singing' p.48). Engagement with the parasympathetic nervous system

(PNS) can help to override these tendencies. It engenders a more relaxed response which lowers blood pressure and slows the heart rate, calming anxiety and allowing blood to flow more easily into tight and potentially over-reactive muscles. Yoga masters discovered centuries ago that abdominal breathing is directly connected with the PNS and has a generally calming effect. Once a gentle and rhythmic breathing pattern is established, the PNS engages naturally and takes over from the SNS 'fight and flight' response (see Balloons analogy, p.28). This helps to redress exhale/inhale imbalance, allowing greater vocal control. It also helps to reduce the 'freeze' element of the 'fight and flight' response that can so readily manifest in pre-performance nerves, or even make an unwelcome arrival when standing on the platform.

It is generally much easier for a singer to activate the vocal folds for sound production than it is to control the air intake between phrases. Healthy voicing depends on the exhale/inhale balance being consistently maintained through differing phrase lengths and at all dynamic levels. Achieving this balance relies on mastering appropriate airflow through the vocal folds on every phrase, which

was highlighted to me at a British Voice Association course, 'How the Breath Inspires'. Presented by Ed Blake¹, a pioneer of physiotherapy treatments for singers with vast experience in the management of performance-related injuries, it included a screened demonstration of abdominal ultrasound imaging. I signed up to take part, and duly succumbed to having the imaging probe placed on my lower abdomen before sirening to different sounds. The outcome was highly informative, as it demonstrated in visual terms the order in which the different abdominal muscles engage when phonating. To illuminate, sirening on 'NG', 'ZZ' and 'VV' showed the following under ultrasound imaging:

'NG' siren – mainly transverse abdominal muscle (TA) engagement on ascent, followed by the internal oblique muscles (IO) towards the top of the range as the pitch and breath pressure rose. IO engagement continued to be maintained on descent.

'ZZ' siren – TA engagement on initial ascent, with IO engaging sooner than 'NG' and at a deeper level, due to the breath pressure being higher and more resistant

¹ www.physioedmedical.co.uk (accessed May 2021)

to the airflow than the 'NG' siren. As the pitch rose, the imaging resembled a layered river of rippling muscular movement, with the TA engagement remaining consistent.

'VV' siren – further resistance to the airflow reflected an even greater depth of IO engagement, which maintained consistency and flow/fluidity throughout the siren.

It was noted that there was little engagement of the external oblique muscles (EO) during the sirens. Being the outermost abdominal muscular layer, there is less involvement in the control of breath pressure and airflow.

This exercise was very significant, as it clarified the crucial role that sequential muscular engagement plays in maintaining healthy vocal function and preventing potential vocal problems, for example, dysphonia (see Case Study). Achieving this in practice enables accuracy of subglottic pressure and pitch control through precise regulation of diaphragmatic action, which is discussed later in the chapter.

The abdominal muscles form the abdominal wall, giving the body a stable base from which to move (known as core stability). This allows general dexterity of other muscles and the limbs. Along with quadratus lumborum and rectus abdominis, they consist of three flat layers (see Figures 1 and 2). They are, from the innermost to the outermost, transverse abdominal, internal and external obliques. The transverse abdominal moves horizontally forward, the internal obliques upwards and forwards and the external obliques downwards and forwards. Extending between the vertebral column, the lower ribs, the iliac crest and pubis of the hip, their fibres merge towards the midline and surround the rectus abdominis in a sheath before joining up on the opposite side at the linea alba. Always in control of active exhalation, abdominal muscular strength is gained by the interlocking of the muscular fibres. Figures 1 and 2 are schematic rather than medical illustrations, designed to demonstrate the principle of how the fibres interlock and the muscles function on exhalation and inhalation.

The transverse abdominal muscle (TA), also known as transversus abdominis, is the deepest layer, wrapping horizontally from the back to the front of the body, acting as a muscular corset. It consists of upper, middle and lower fibres, with the middle fibres being the most dense. Connecting the last six inferior ribs and the iliac crest to the linea alba, there is a transition point between the diaphragm and the TA, where the fibres oppose each other at right angles (see Figure 5). This transition occurs where the inner surfaces of the TA rib cartilages intersect with six corresponding diaphragmatic connections. The TA is the main driver for exhalation and singing, with an engagement of between 60-70% for opera and belting. It doesn't connect directly to the spine, but the fascial connective tissue surrounding it goes all the way around to the outside of the lumbar spine. With its function being to compress the abdomen, any exhalation where there is heightened resistance to the airflow should automatically bring the TA into play, for example when playing a wind instrument or blowing up a balloon. This also applies to singing, *"...as the TA is the fundamental muscular contributor to maintaining stable subglottic pressure levels. However, singers with high movement backgrounds, who may be predisposed to using their obliques in a phasic manner, may not automatically use the TA as the primary abdominal muscle in generating subglottic pressure. Conversely, when used in a static, low-level activation, it can be argued that the obliques provide an anchoring and scaffolding facility that allows for improved TA control"* (Blake, Pers. Comm., 2020).

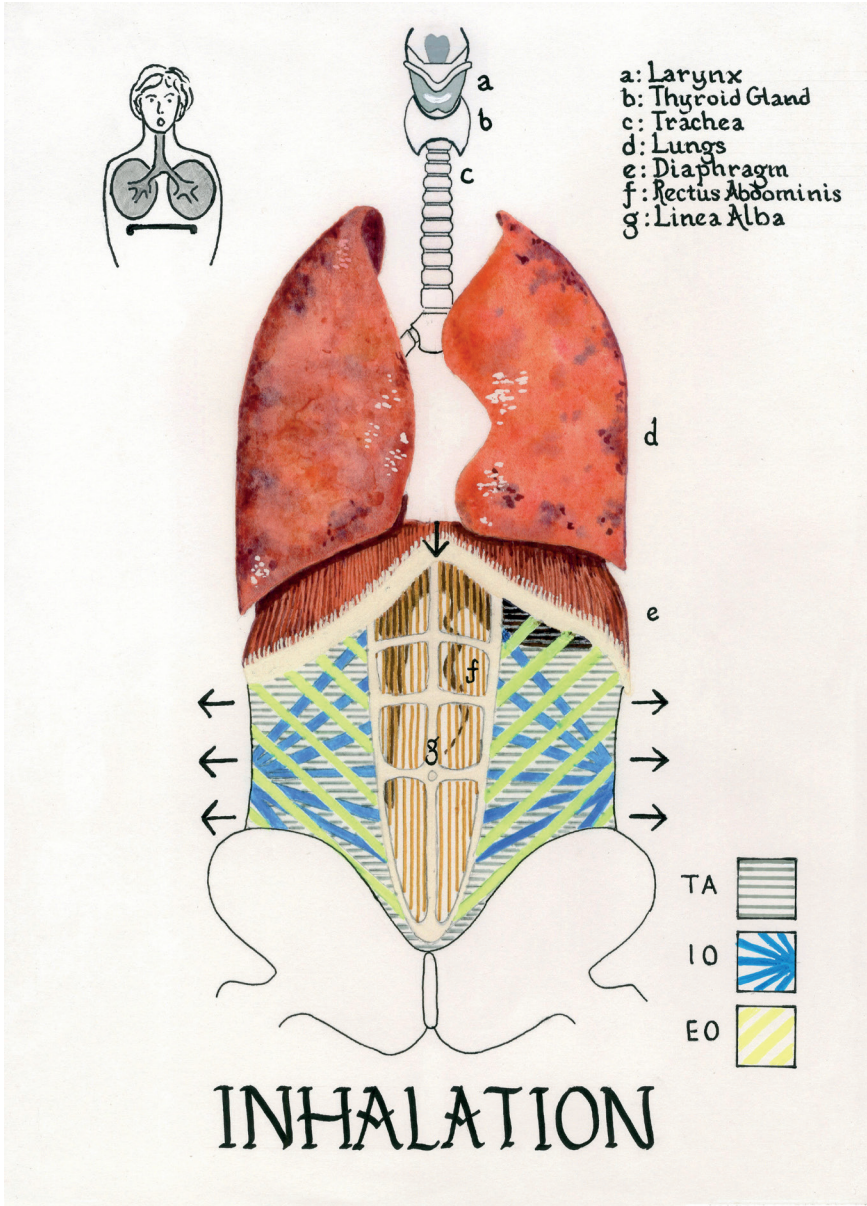


Figure 1. Layering of the abdominal muscles (Inhalation)

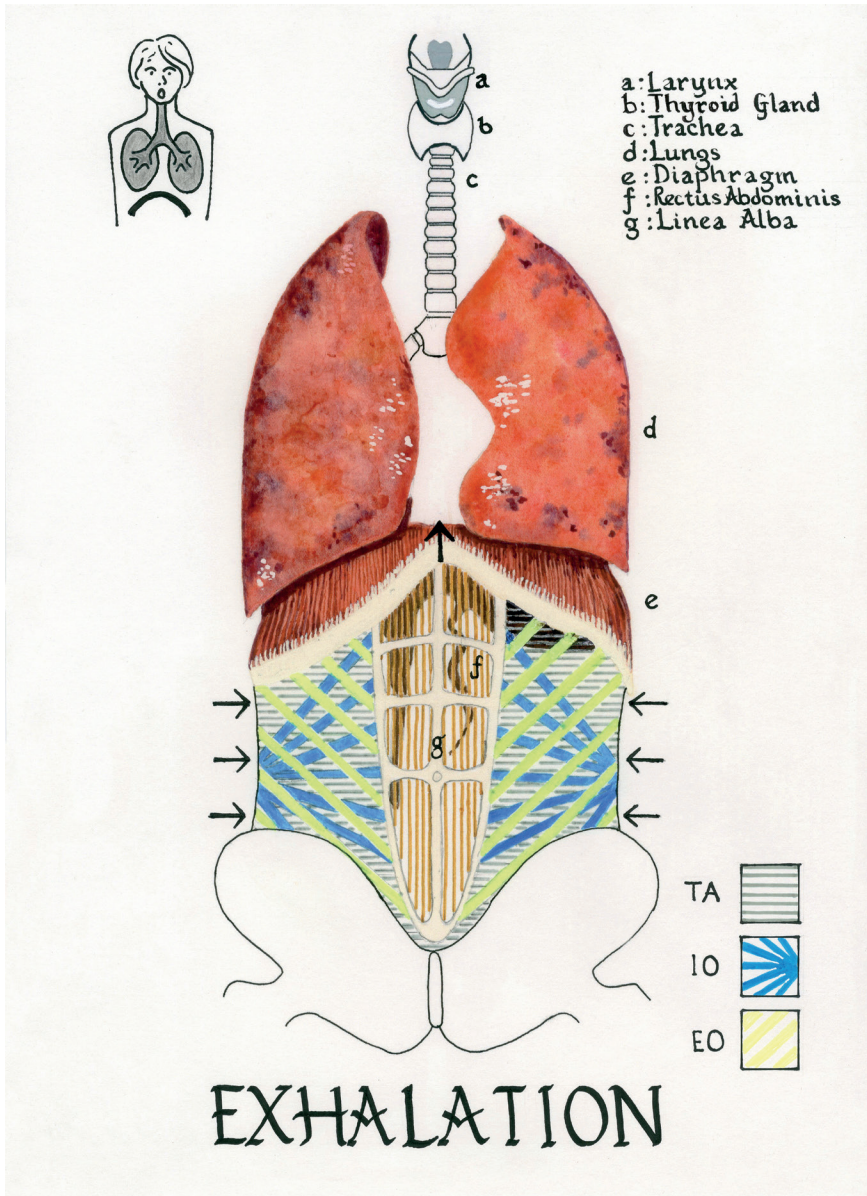


Figure 2. Layering of the abdominal muscles (Exhalation)

The internal obliques (IO) lie above the TA on the mid/lower half of the thorax. Key to generating airflow, they are core muscles connecting the iliac crest to the intercostal cartilages of ribs 8–12. Acting as an antagonist to the diaphragm, they help to reduce the volume of the chest cavity during exhalation. When the IO contract, they compress the organs of the abdomen, pushing them up into the diaphragm, whose resulting ascent into the chest cavity causes a reduction in the volume of the air-filled lungs, producing an exhalation.

The external obliques (EO) are the outermost abdominal muscles, lying above the IO and to the sides of the rectus abdominis. They extend from the lower half of the ribs around and down to the iliac crest, covering the sides of the abdominal area. As well as supporting the flexion and rotation of the trunk and spine, they allow compression of the abdominal cavity and assist in exhalation. They are essential for postural stability, especially in dancers.

The rectus abdominis (RA) is a pair of long, flat muscles that extend vertically in the front of the abdominal wall, covering the entire length of the abdomen adjacent to

the umbilicus. Running between the pubic bone and the sternum, it acts as a centre post and is important for maintaining postural alignment. Each muscle consists of four muscular bodies, connected by narrow bands of tendon. When well defined and tensed, it gives a bumpy appearance, resulting in its nickname 'six-pack'. RA helps in keeping the internal organs intact, and in creating intra-abdominal pressure, such as when exercising or lifting heavy weights.

In respiration, the RA plays a crucial role when forcefully exhaling, such as during exercise and in conditions where exhalation is difficult, for example, emphysema. However, as far as singing is concerned, it is often referred to as 'no-man's land'. This is because over-engagement of the 'six-pack' can compromise an optimally supported airflow, which relies on flexibility in the navel area. It is critical that the upper RA should feel soft and flexible when singing, in order that the lower RA can engage and disengage appropriately.

In his presentation, Ed Blake stressed that muscle tension dysphonia is more likely to occur if the ratio (workload)

between the transverse abdominal (TA) and internal obliques (IO) is similar, that is, 1:1. This is because consistently high-level IO activity in conjunction with TA activity creates constantly high subglottic pressure, causing a potential imbalance of delicate laryngeal strap muscle activity and length. *“Receptors present just below the glottis are very sensitive to these pressure levels, and sustained high subglottic pressure is believed to trigger a compensatory muscular response in the sternocleidomastoid (SCM) to limit the detrimental effect of this sustained high pressure on the vocal folds. It is essentially a self-protective response, but should this environment exist for any prolonged period, then secondary changes in the length and activity of the supra and infra hyoid musculature can be observed”* (Blake, Pers. Comm., 2020). It was apparent in the ultrasound imaging demonstration that the IO engage as both pitch and breath pressure rise, resulting in greater depth of function due to the increase in airflow resistance. For this reason, the IO are referred to as the ‘turbo’ muscles. It is imperative that they are not active all the time, otherwise the load on the vocal folds is too great. Too much engagement can lead to the voice being

over-supported, with subsequent abdominal tension and rigidity. Equally vital is the need to disengage and “turn off” the IO on inhalation, otherwise the transition of airflow between exhale and inhale can become compromised and inhibit its free movement through an appropriately positioned larynx. *“If the obliques remain constantly engaged, achieving abdominal wall relaxation as part of the passive recoil on inspiration is very difficult, and may lead to chronic use of proximal breathing patterns and associated muscular tension in the cervical and upper thoracic spines. Abdominal relaxation is also critical in achieving appropriate TA engagement for the subsequent outbreath”* (Blake, Pers. Comm., 2020).

Singing teaching inevitably puts a lot of focus on abdominal breathing but, as Ed Blake underlines, preserving good muscular balance is essential. Over engagement can restrict free movement of the ribcage and adversely affect airflow, potentially compromising optimum vocal fold vibration. Being the deepest layer, and firing milliseconds before the other muscles, it is crucial that the TA leads at the start of a phrase, as was seen in the ultrasound imaging demonstration. This was highlighted by one of

my ‘belter’ rock and pop clients, who I had rehabilitated following successful surgical removal of a vocal polyp. He had been habitually over-engaging his IO when belting, and not disengaging them sufficiently between phrases. As a result, he was experiencing an uncomfortable sensation of weakness as he transitioned from the middle to upper register, often being tempted to play safe and revert to his belting ‘set up’. This was denying him the ability to produce a softer sound on the transition notes, when the lyrics frequently demanded a less intense emotion. He found it helpful to see visuals of the abdominal muscles during inhalation and exhalation (Figures 1 and 2) and could appreciate the relevance and importance of isolating the TA (grey) from the IO (blue), on which he had been relying too heavily. Using the breathing exercises below, he gradually achieved the necessary precision and balance of the TA/IO relationship. This led to an outcome of healthier singing and more convincing performances, as he was able to draw on greater vocal colour and dynamic control across his full vocal range.

The breathing exercises in this chapter are aimed at helping to create the conditions that encourage both TA control and appropriate sequential abdominal engagement. Muscular stamina can then be built up gradually, so as to be able

to sustain long phrases without collapse of the chest wall and subsequent 'fight and flight' inhale. Whilst working on them, it is preferable to take more frequent breaths when singing until breath pressure is fully regulated. Once accomplished, the abdominal muscles should be able to soften and retract between every phrase (they possess an elastic property which allows them to do this at differing speeds), enabling optimum contact of the vocal folds throughout every phrase. Being an internal instrument that can neither be seen nor touched, it is challenging for singers to trust that there can be a positive effect on vocal tone if they concentrate on core muscular sensation rather than internal listening when creating efficient exhale/ inhale balance. This is particularly relevant when having to take quick breaths in a short space of time. The question is, how can this balance be ultimately relied upon as the foundation of vocal longevity and optimal performance?

I have been a Vinyasa yoga practitioner for many years, which has consistently informed my understanding of the power of the breath. The fundamental emphasis of this tradition is that the breath is the medium for all movement. Through continual focus on the combination of breath and movement in yoga postures, I gradually became aware of



About the Author

Alison Mary Sutton, GGSM PGCA FISM, trained at the Guildhall School of Music and Drama, London, gaining honours in Graduate and Recital Diplomas and winning several major awards. As a concert singer, she has performed at most of the major London concert halls and, as part of a voice/harp duo, has fulfilled numerous recital engagements at music clubs and festivals throughout the UK. She has performed many operatic roles, working with Kent Opera, Pavilion Opera, London Opera Players, London Opera Factory and Opera de Lyon, with whom she toured in Europe and the USA. She has also sung with the Monteverdi Choir.

Alison has had a long career as a singing teacher, examiner, adjudicator, and choral workshop tutor. For many years she examined for GSM&D and for the ABRSM as a Diploma examiner. Adjudicating engagements have included Leith Hill Musical Festival and Sligo International Choral Festival. Alison ran her own residential solo singing course for several years in the Cotswolds in the UK, which was subsequently revived as part of the International Summer School of Music at Shrewsbury. She has also tutored at Hereford International Summer School and Benslow Music Trust. She was the External Specialist Assessor on the final recitals panel at Birmingham Conservatoire for several years, returning to conduct a vocal workshop, and has been on the jury for the AESS National Junior English Song Competition.

Alison is very committed to her work as the singing rehabilitation coach in the Voice Clinic at Cheltenham General Hospital and sustains a busy private rehabilitation practice.