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Speech Pathology Australia

Voice Best Practice Principles Resource

Contents

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Overview

- Working in the area of voice and related laryngeal functions is considered within the scope of practice of speech pathologists.
- It is not within the scope of practice for a speech pathologist to diagnose laryngeal pathology. The medical diagnosis of a voice disorder is made by a medical professional.
- The primary aim of voice therapy is to improve voice production and optimise function across the domains of impairment, activity, participation and psychosocial wellbeing.
- Voice intervention goals should be mutually agreed upon and client-centred, measurable (of outcomes not method), functional, evidence-based and achievable.
- All persons with a voice or related laryngeal disorder where there is potential for pathology or a medical condition and/or a medical contribution to their problem should be seen by a medical physician.
- The service delivery model and interventional approach should be supported by the best available research evidence and/or sound physiologically-based reasoning and measurement of outcomes.
- Where published evidence is not yet available, clinical judgment drawing upon physiologically-based reasoning, recognition of psychosocial context and measurement and evaluation of outcomes are required.
- If there is no positive change in any aspect of vocal function after three voice therapy sessions, re-assess and re-evaluate. This may also involve consultation with and/or a second opinion from other professionals.
- In all practice contexts, the speech pathologists will a) recognise voice as an important part of communication, b) be aware of the influences of the client population and service context on voice assessment and management and c) be cognisant of local policies and legislature.
- Speech pathologists should be familiar with, advocate for and abide by workplace occupational voice health and safety policies and procedures and other relevant legislation and insurance guidelines.

1. Aim

The purpose of this document is to identify and describe a range of professional practices and principles which guide the provision of speech pathology services to individuals with voice problems and related laryngeal disorders. This document is intended for use by speech pathologists in Australia to ensure that relevant standards of practice are being met at an individual and organisational level.

For the purposes of this document, reference to a voice problem or issue encompasses definitions of a voice disorder. A voice is considered disordered when the quality, pitch, loudness, resonance, reliability or endurance are incongruent with an individual's age, gender and/or desired gender presentation, cultural background and /or social or occupational vocal needs. The causes of voice problems across the lifespan are many, including psychological, functional, congenital, neurological, anatomical and trauma-related and may have significant implications for the social, personal or vocational needs of an individual. The resultant assessment and treatment options will vary based on the individual's age, cause and contributing factors, individual needs and services available. *[See references 1-15].* Subsequently, it is not feasible to develop one document outlining assessment and therapy techniques for all voice disorders.

This document outlines practice principles informed by the literature and consensus opinion that should be applied when providing services to clients with voice problems and associated disorders in the **Australian** context. The document has limited direct in text referencing as the practice principles have been formed following a synthesis of grey and published literature and consensus opinion. The document does provide suggested references and useful websites on voice and laryngeal disorders, voice screens, assessment, direct voice therapy methods, outcome measures and specific disorders (refer to the reference section).

The free web-based resources from the American Speech-Language and Hearing Association (ASHA) are referred to frequently in this document. This is intentional to facilitate speech pathologists' access to current evidence and due to limited Australian resources of a similar nature.

It is the responsibility of the speech pathologist to apply evidence-based practice principles, seek relevant information and support; and in all circumstances understand the Australian requirements and context. Information related to typical and impaired voice, voice production and best evidence-based practice in the area of voice can be found through a range of available consumer resources and will not be replicated in this document. Where published evidence is not yet available, clinical judgment drawing upon strong physiologically-based reasoning *[16]*, recognition of psychosocial context and measurement and evaluation of outcomes are required.

This document is intended to be read in conjunction with other core Speech Pathology Australia (SPA) Association documents and clinical guidelines including:

- Code of Ethics (2010)
- Evidence-Based Practice Position Statement (2010)
- Parameters of Practice: Guidelines for Delegation, Collaboration and Teamwork in Speech Pathology Practice: Clinical guidelines (2007)
- Scope of Practice in Speech Pathology (2015)
- Flexible Endoscopic Evaluation of Swallowing (FEES) (2019)
- Credentialing (2009)

2. Assessment

2.1 Screening for voice disorders and 'at-risk' groups

- Requests for screening for a voice disorder may be initiated by individuals, parents/carers, teachers, community organisations, employers or health professionals.
- The reason for the screening consultation may vary across contexts but is typically conducted if a voice disorder is suspected or predicted, to determine if a person has a voice disorder or is at risk of developing one. Screening should triage the relevance, urgency and type of management recommended.
- The use of voice screening procedures in occupational health programs has become increasingly prevalent as a means of:
  a) risk identification, minimisation and prevention
  b) early detection
  c) promotion of vocal health
  d) encouraging employer duty of care and due diligence.
- The screening consultation should be tailored to the context and the client population with a consideration of the age, sex and gender identity/presentation, culture and vocal needs of the person or population being screened. For example, voice screening processes for university singing voice students can differ from processes used for pre-school children.
- Screening procedures may include informal tasks and formal evaluations of vocal function addressing range, flexibility, endurance and specific characteristics related to respiration, phonation (quality, pitch and loudness) and resonance.
- Speech pathologists may use informal tasks, formal screening tools and validated self-report questionnaires appropriate to the target group undergoing screening for a voice disorder.
- The purpose of the screening is to identify the presence or risk of voice disorder but NOT to diagnose a voice disorder. When significant concerns regarding deviation from typical or expected voicing are identified by the speech pathologist, further medical and speech pathology evaluation should be undertaken. *[See references 17-24]*

2.2 Diagnosis of a voice disorder and other laryngeal conditions

- Although speech pathologists can identify when a voice is disordered, the medical diagnosis of a voice disorder is made by a medical professional, usually an Ear, Nose and Throat Specialist. It is not within the scope of practice for a speech pathologist to diagnose laryngeal pathology. In a voice clinic context where the speech pathologist and Ear Nose and Throat Specialist collaborate in the assessment, speech pathology opinion and judgment contribute directly to the diagnostic work-up. This process may include diagnostic classification of the voice disorder with reference to a validated diagnostic classification system where available.
- All persons with a voice or related laryngeal disorder where there is potential for pathology or a medical condition and/or a medical contribution to their problem should be seen by a medical physician. It is preferable that the medical physician is a specialist in the discipline appropriate to the presenting complaint. There are some presenting conditions where medical investigation may not be indicated, including if there is minimal potential for medical concern, early intervention resulting in rapid responses to speech pathology intervention, resolution of the problem or judgment that there is minimal if any potential for medical concern. Some examples where medical assessment may not be warranted include occupational voice-users seeking vocal fitness optimisation, voice and communication issues experienced by trans and gender diverse people and children with fluctuating dysphonia and periods of normal voice.

- It is not appropriate to deny a person a voice assessment if they have not seen a medical professional due to justifiable circumstances preventing this from occurring or if this is not indicated prior to the speech pathology consultation. In these cases, it should be made clear to the client that the speech pathology assessment is not for the purposes of a medical diagnosis nor a replacement for a medical opinion but for the purpose of providing a multi-dimensional assessment of the voice. Clients should be advised that examination of their larynx is the only way to determine if the structure and function is normal.
- If the speech pathology assessment findings suggest medical assessment, further testing or review is needed, the speech pathologist will relay this to the client and initiate referral to the relevant medical professionals. Except where intervention can be justified, speech pathology intervention should then be discontinued until a diagnosis of the voice disorder has been made.

2.3 Voice Assessment Procedures

A voice assessment should be multidimensional, comprehensive and include both standardized and non-standardized measures. The purpose of the voice assessment is to profile the presence and clinical nature of a voice disorder in terms of the voice characteristics, symptoms, signs and severity and the impact on the person's everyday life. *Information on specific assessment tools and procedures is found in references [25-33] and also available via the ASHA Practice Portals.*

To meet best practice standards, a voice assessment should include, but is not limited to, the components listed below:

- A thorough case-history interview to gather voice-related information about a person's lifestyle, voice-use, social-emotional circumstances, environmental contributors and relevant medical history. The person's description of their voice problem (symptom profile), reason for referral, onset, course and variability of the voice problem, previous interventions, self-perceptions of the impact of the voice problem and any potential contributory factors should be fully explored.
- Use of age and culturally appropriate, validated self-report measures of the perceived activity and participation restrictions and psychosocial wellbeing impacts associated with the voice disorder.
- High quality audio recording of monologue or conversational speech, reading aloud of a standard passage, sustained vowels, pitch glides, maximum phonation times, dynamic range and, where indicated, testing of laryngeal diadochokinesis with rapid repeated vowels at same or alternating pitches or loudnesses, i.e., phonatory alternate motion rate (AMR) and sequential motion rate (SMR) tasks.
- Auditory-perceptual and visuo-perceptual evaluation of presence and severity of impaired voice quality, pitch, loudness, resonance and overall vocal impairment using a published reliable rating framework (for e.g., CAPE-V, Perceptual Voice Profile, GRBAS etc). In addition, perceptual judgements of voice consistency, respiration, articulation, speech rate, posture and voice-related emotional affect may also be made.
- Oromotor examination will also be conducted when there is impairment of articulation, swallowing and/or resonance or when neurological or structural impairment is suspected.
- Acoustic evaluation (using freeware PRAAT or equivalent) of fundamental frequency and average intensity, frequency and relative intensity range and variability, formant characteristics and harmonic to noise ratio.
- Aerodynamic evaluation of respiratory pressures, volumes and glottic resistance with spirometry and other instrumental respiratory tests may be added where indicated and available.
- From the results of the voice assessment, the speech pathologist can provide a statement regarding the nature and type of voice disorder with supporting observations and data to justify this judgment; recommendations for intervention; appropriate treatment or management options; referral to other professionals if needed, and where possible, likely prognosis.

3. Vocal Health Management Recommendations

Optimising vocal health via informational and affective counselling and/or specific management recommendations should be appropriate, justifiable, evidence-based and account for all aspects of a person's wellbeing (including impairment, activity and participation domains) in accordance with the World Health Organisation's International Classification of Function guidelines (WHO, 2001).

3.1 Medications

- Each Australian state/territory has its own legislation to control the use of drugs and poisons. Topical anaesthesia and vasoconstrictors are Schedule 2 drugs. Whilst there is no legislation to prohibit any person from being in possession of a Schedule 2 medicine that has been lawfully obtained, speech pathologists should not administer a Schedule 2 medicine unless credentialled to do so. This includes initiation of a request for a patient to self-administer that medicine. Some Australian states (e.g. Queensland, Tasmania) have developed frameworks and supporting legislation (and/or proposed changes to legislation) for allied health practitioners, including speech pathologists, to administer medicines

  https://www.health.qld.gov.au/__data/assets/pdf_file/0038/732998/HDPR-factsheet-speech-pathologists.pdf (Retrieved 21 July 2019)

- The speech pathologist may suggest the use of readily available 'over-the-counter' medications where there is an evidence-base and/or sound physiologically-based reasoning related to improving vocal function. These recommendations should be consistent with a 'Do No Harm' approach.
- The speech pathologist will encourage the individual to discuss appropriateness and dosage of over-the-counter medications with their General Practitioner (GP) and pharmacist.
- Any such recommendations should be documented and reported back to the treating physician or GP.

3.2 Vocal health regimes and adjunctive treatments

- The speech pathologist may recommend specific vocal health optimisation practices and natural remedies (for example, steaming, hydration, lifestyle anti-reflux management) where there is an evidence-base, sound physiologically-based reasoning, minimal clinician bias and the recommendation is consistent with a 'Do No Harm' approach. Any potential commercial or other conflict of interest must be fully disclosed.
- The speech pathologist may recommend other therapists as an adjunct or alternative to voice therapy where indicated. These may include physical or manual therapists (for e.g., physiotherapists, myotherapists, osteopaths, Feldenkrais, Pilates and Alexander practitioners), exercise physiologists, psychologists, counsellors, dieticians and other health professionals. In addition, the speech pathologist may recommend that the client consult singing teachers, voice coaches and speech and drama teachers where indicated. Any such recommendations should be evidence-based where possible, appropriate to client needs, documented and reported back to the treating medical physician.

4. Treatment/Intervention

The primary aim of voice therapy is to improve voice production and optimise function across the domains of impairment, activity, participation and psychosocial wellbeing.

4.1 Goals

- Voice intervention goals should be mutually agreed upon and client-centred, measurable (of outcomes not method), functional, evidence-based and assessed to be achievable.

4.2 Approaches

- Approaches to intervention may vary in nature and context and may include specific programmes, exercises or indirect voice therapy strategies. The rationale for choice of therapy should be based on strong evidence and/or sound physiologically-based reasoning. For an overview of different approaches and types of interventions, refer to references [34-38] Examples of specific voice therapy approaches described in the scientific literature [39-are described in Table 1.
- Informational and affective counselling is an essential and inherent component of holistic voice management and client wellbeing and in the optimisation of communication participation.
- Many professionals within both the health and arts sectors are involved with voice so a multi-disciplinary approach is generally required in the assessment and management of people with voice concerns. Although context-dependent, such professionals may include: general practitioners, ENT specialists and other medical specialists, psychologists, physiotherapists, singing teachers, speaking voice coaches and others. A strong understanding and recognition of the role and scope of practice of the speech pathologist and that of other professionals is essential to outcomes and the wellbeing of the client. For further multi-disciplinary information related to professional education activities, resources and guidelines within Australia, refer to Australian Voice Association and Laryngology Society of Australasia: https://www.australianvoiceassociation.com.au and http://www.lsanz.org.au

Table 1. Examples of Voice Therapy Approaches (not exhaustive)

Therapy approach	**Study type/populations**	**Reference *[39-59]***
Vocal function exercises	Systematic Review	Angadi et al. (2017)
	Elderly-presbyphonia	Sauder et al. (2010)
Semi-occluded vocal tract exercises	Review and physiological underpinnings	Titze (2006)
	Elderly-Presbyphonia	Kapsner-Smith et al. (2015)
	Review	Rosenberg (2014).
	Phonotraumatic lesions & Muscle tension dysphonia	Wattsnet al. (2015).
	Systematic Review -Singers	Mendes et al. (2018)
	Benign vocal fold lesions	Yamasaki et al. (2017).
Laryngeal Manual therapies	Functional dysphonias	Ribeiro et al. (2018)
	Muscle Tension Dysphonia	Khaddami et al. (2015)
	Muscle Tension Dysphonia	Mathieson (2011)
	Functional dysphonia	Roy (1997).
Resonant voice therapy	Systematic review	Yiu et al. (2017).
	Teachers	Chen et al. (2007)
Indirect behavioural approaches	Systematic Review- Muscle Tension voice disorders	Eastwood et al. (2015)
	Functional dysphonia	Behlau et al. (2015)
Phonation Resistance training exercise	Elderly-presbyphonia	Ziegler et al. (2014)
The Accent Method	Review-Functional dysphonias	Kotby et al. (1991)
	Muscle tension dysphonia	Malki et al. (2008)
	Non-organic voice disorders	Shiromoto (2017)

4.3 Documentation and review of progress and outcomes

- As for all areas of speech pathology practice, information and data should be collected at each voice therapy session as a means of tracking change and to ensure accountability for intervention. At a minimum, this should include documentation of patient perception of voice status, speech pathology perceptual evaluation, task performance and test results. Wherever appropriate and practical, instrumental evaluations (for e.g., acoustic, aerodynamic and endoscopic) should also be included. *For reviews of self-report instruments and outcome measures in voice please refer to references [60-64].*
- Regular review of treatment progression is recommended with perceptual and/or instrumental evaluations. The same self-report scale/s used on initial assessment should be re-administered at appropriate intervals as per specific recommendations for that scale (for e.g., after 4 sessions).
- Clinical mentoring by experienced voice colleagues of less experienced clinicians and regular peer discussion is encouraged to optimise voice therapy outcomes.
- If there is no positive change in any aspect of vocal function over 3 therapy sessions, a formal case review, referral for a second opinion or on-referral is indicated and should be conducted to re-evaluate the diagnosis, appropriateness of treatment and client motivation and engagement.

4.4 Peri-operative voice therapy

- Pre and post-surgical voice management requires understanding and careful consideration of the surgical procedure, anticipated nature of recovery and knowledge of the current published evidence-base for voice rest and for targeted voice exercises.
- The timing of post-operative voice therapy will vary according to the nature and reason for the surgery. After removal of benign vocal fold lesions, generally and according to commonly-accepted practice, voice therapy is recommended within the first week following the complete vocal rest period prescribed by the surgeon [Refer to references 65-68].
- The speech pathologist will ensure optimal communication with the surgeon and documentation of speech pathology intervention and progress.

5. Service Delivery

5.1 Mode

- The mode of service delivery is dependent on context and patient needs but can include traditional, individual, group, intensive and telehealth sessions.
- The service delivery model and interventional approach should be supported by the best available published research evidence or sound physiologically-based reasoning and measurement of outcomes.

5.2 Context

Speech pathologists work in a variety of different contexts and with different populations *[see references 69-92]*. While the governance structure, scope of practice and service delivery may vary across these contexts, the role of the speech pathologist is to help individuals with communication and related problems. The human voice is a fundamental component of verbal communication. Therefore, in all contexts, the speech pathologist will recognise voice as an important component of communication, identify when a voice is disordered and provide appropriate assessment and management if indicated. All assessment and management should be appropriately targeted to the context and client populations, in line with professional standards of practice.

- Education sector- speech pathologists working in the education sector will recognise voice as an important component of communication and educational progress and understand the impact of voice disorders on student learning, confidence and socialisation [56, 71-73]. They will have an understanding of age-related changes which may negatively impact on communication and wellbeing. The speech pathologist will identify when a student's voice is disordered and provide appropriate assessment and management.
- Community Health- speech pathologists working in community health and related sectors will recognise voice as an important component of communication and wellbeing and have an understanding of age-related changes and/or medical and psychological conditions which may impact on communication and wellbeing. They will identify when a client's voice is disordered and provide appropriate assessment and management.
- Health sector- laryngology is an emerging field and the scope of the speech pathologist has expanded in recent years to not only include assessment and management of voice but of other laryngeal-related issues. These include swallowing, vocal cord dysfunction, irritable larynx syndrome, tracheostomy and post-intubation voice and airway, chronic cough, globus pharyngeus, supragastric belching and other laryngeal disorders which may be related to complex medical conditions. It is incumbent upon the speech pathologist to ensure they have an understanding of the nature and complexity of patient populations and medical conditions so as to provide appropriate assessment and evidence-based management.
- Solo and/or private practice- speech pathologists working in private practice require self-regulation to ensure adherence to professional practice standards. They will have an understanding of the nature and complexity of various populations and medical conditions so as to provide appropriate assessment and evidence-based management.
- For all contexts, referral for second opinion or alternative treatment will be arranged when indicated. Even when geography or logistics prove difficult, treatment will be ethical, evidence-based and accountable to the treating physician and/or relevant team where indicated.
- The provision of voice care for clients funded by employers or third parties such as insurers, or workers compensation agencies can be complex. The speech pathologist is advised to be cognisant of the relevant legislation, terminology and insurance guidelines in all communications and also advocate for client-focussed voice priorities and objective, accountable return-to-work programs where applicable.

6. Specific Populations

For all populations, interventions will be evidence-based, of value to the client and have minimal potential to cause harm or create client misconception about speech pathology outcomes. *Refer to references [93-99] for interventions pertinent to specific populations.* Voice disorders may co-exist with many other communication, swallowing and airway disorders and will be recognised, fully assessed and managed as an integral part of the overall clinical presentation. Best practice principles apply across all ages and include a solid understanding of physiological and developmental differences at different stages across the lifespan from infancy, childhood and adolescence to adulthood and ageing.

6.2 Voice, communication and identity

Speech pathologists work with people who may not have voice disorders per se but whose voices are not congruent with their gender identity/presentation or inadequate for their social, personal and vocational needs.

- The assessment of voice and communication and the provision of training for trans and gender diverse people is within the speech pathologist's scope of practice.
- It is recommended that all speech pathologists working with trans and gender diverse individuals understand the cultural and ethical issues and the standards of care for this population. Please refer to:

  - World Professional Association for Transgender Health (https://www.wpath.org).

  - Australian Standard of Care and Treatment Guidelines for Trans and gender diverse children and adolescents (https://www.rch.org.au)

  - ASHA website (https://www.asha.org/Practice/multicultural/Providing-Transgender-Transsexual-Voice-Services/)

6.3 Neurodegenerative conditions

Assessment and management of voice disorders related to neurodegenerative conditions will account for the disease process, recognise voice as an integral component of a motor speech disorder, be aware of the potentially-associated swallowing issues and be both realistic and sensitive to client and family needs.

6.4 Voice, swallowing and other related laryngeal disorders

Voice disorders can co-occur with other laryngeal and airway disorders such as dysphagia, persistent cough, inducible laryngeal obstruction and other forms of vocal cord dysfunction. Assessment and management of these disorders are within the speech pathologist's scope of practice and the same best practice principles apply.

- The speech pathologist will recognise when respiratory testing, imaging and further medical examination are required to rule out medical constraints, explain clinical presentation and inform intervention.
- The speech pathologist will recognise, assess and manage the respiratory and upper airway disorders in relation to both laryngeal function and their contributions to voice production and communication.
- The provision of voice exercises for improving swallowing function when indicated should be considered.
- Even when the primary reason for speech pathology involvement is dysphagia assessment and management or another related laryngeal condition such as cough, voice will be assessed and considered inherent in this process.

6.5 Professional performance voice

The speech pathologist working with the professional voice-user will have an understanding of, advocate for and, where indicated, adhere to institutional occupational health standards, policies and procedures. Assessment and management of vocal load impact and specific performance demands on vocal health will be undertaken and the speech pathologist identify when additional training and/or experience is needed to best manage the professional voice.

7. Beyond standard practice

Specific aspects of voice management may require additional training or workplace credentialling to ensure safe and competent practice.

7.1 Manual therapies

Laryngeal reposturing, laryngeal manipulation, myofascial release and other manual interventions for voice can be helpful interventions for voice disorders. The speech pathologist providing such interventions is encouraged to critically appraise the evidence-base and to undertake specific training courses to establish competence and confidence. An understanding of the associated risks and contra-indications for manual techniques is required. Speech pathologists are encouraged to seek sanction and approval from their employing institution or insurer before undertaking procedures that have any potential to inadvertently cause physical harm.

7.2 Stroboscopy and endoscopy

Speech pathologists may be involved in the procedures and interpretation of endoscopic and stroboscopic findings as part of a comprehensive team approach to voice assessment. *[100-101]* Evaluation of the larynx and interpreting stroboscopic images is within scope of practice but requires additional training and experience. As per previous section 1.2 related to diagnosis of a voice disorder, speech pathologists do not undertake endoscopy or stroboscopy for the medical diagnosis of a voice disorder. For further information regarding the speech pathologist's role in nasendoscopy for the purpose of swallow assessment, please refer to the Clinical Guideline Flexible Endoscopic Evaluation of Swallowing (SPA, 2019).

Performing endoscopy with stroboscopic light, cleaning of scopes and administration of topical anaesthesia is not currently considered standard practice for speech pathologists within Australia unless performed in a medical environment and additional training and credentialing has been undertaken. However, speech pathologists will identify and recommend when stroboscopic evaluation of the voice is indicated.

- As per current Medicare guidelines, endoscopy and stroboscopy are medical procedures which are reimbursed through the Medicare Benefit scheme as Items 41764 and 41501 respectively to medical physicians only.
- In some public health institutions, speech pathologists have undergone training or credentialing and have institutional approval to perform rigid or flexible endoscopy with or without stroboscopy. At present, under the Medical Benefits Scheme (MBS), these procedures cannot be charged to the item number by speech pathologists nor by medical practitioners if not conducted by the latter. Before performing stroboscopy procedures, Speech pathologists are required by their employing bodies and advised by Speech Pathology Australia to undertake specific training courses or a workplace credentialing program to establish confidence and competence in both the stroboscopy procedure and interpretation. A demonstrated understanding of the associated risks of oral or nasal endoscopy is essential and approval from the employing institution is required.

8. Legal issues

Speech pathologists working in all voice contexts should have knowledge of and abide by the policy and procedures, codes and legislation relevant in the state or territory in which they practice.

8.1 Code of ethics

Speech pathologists should adhere to the Speech Pathology Australia Code of Ethics (2010) and to any codes, policies and procedures relevant to their employing body. As a self-regulating profession, the Code of Ethics is used by speech pathologists to establish and maintain the highest standards of professional practice; support speech pathologists to guide professional decision making and fulfil their professional obligations and responsibilities; protect clients and the public by identification of inappropriate professional practice and minimise harm; support a culture of professionalism and ethical practice; and to provide informed choice for clients.

8.2 Code of conduct

The national Code of Conduct (the Code) is a minimum set of standards of conduct for all health service providers who are not regulated by the Australian Health Practitioner Regulation Agency (AHPRA). Speech pathologists are included in this group of health professionals. Speech pathologists should also adhere to the Code of Conduct of their employing organisation.

8.3 Legislation

It is the responsibility of the speech pathologist to abide by and be conversant with the relevant legislation that applies in the state or territory in which they practice.

8.4 Indemnity cover and insurance

It is the responsibility of the speech pathologist to ensure they have appropriate professional indemnity and public liability cover when working in all areas of voice care. Professionals should be aware that there may be instances where the employing body will not necessarily indemnify them for their actions. It is recommended that all practicing Speech Pathology Australia members have professional indemnity insurance. Consideration should also be given to other necessary insurance covers, e.g. coverage for accidental loss, theft, or damage to resources in transit.

8.5 Service guidelines

It is recommended that speech pathologists adhere to the approved guidelines of the employing body in terms of clinical and service management of voice and other related laryngeal disorders.

9. Summary

In Australia and internationally the role of the speech pathologist in the assessment and management of voice and other laryngeal-related issues is expanding however the associated scope of practice and clinical practice guidelines differ internationally. Therefore, this document has been created to outline principles of practice in the field of voice for the Australian context. It is hoped that this resource will support speech pathologists and organisations to develop or improve clinical practice and service delivery models to improve client outcomes. The resources provided in this document are not exhaustive and have been chosen due to their accessibility and evidence basis. All service delivery models, and interventional approaches should be supported by the best available research evidence, adhere to Australian legislation and guidelines and operate within the Australian scope of practice for speech pathologists.

10. Glossary of terms

Aerodynamic tests- evaluation of the way air moves through the vocal tract and includes respiratory pressures, volumes and glottic resistance measurement

Aphonia-no voice source characteristics

Diadochokinesis- the ability to make movements in quick succession. **Alternating motion rate** (AMR) and sequential **motion rate** (SMR) are two tests of diadochokinesis used to assess motor speech production and can be applied to laryngeal movements for voicing. Laryngeal AMR testing can involve a single vowel such as /i/ being repeated at maximum **rate** (sometimes known as 'ballistic' repetitions), whereas for SMR a sequence of different pitches or loudnesses can be repeated at maximum **rate**.

Dysphonia- impairment of the voice source

Flexible Laryngoscopy-An examination of the larynx in which a flexible nasendoscope is used

Globus Pharyngeus-feeling of a lump in the throat

Glottis -the opening between the two vocal folds;

Laryngopharyngeal Reflux- Backflow of stomach fluids to the laryngopharynx

Mucosal Wave- A wave-like motion that occurs along the mucosal cover of the vocal folds during phonation

Muscle Tension Dysphonia-Abnormal-sounding voice arising from due to imbalance in the coordination of the muscles and breathing patterns needed to create efficient voicing.

Odynophonia-Pain on speaking

Phonosurgery-Surgery to improve or maintain voice

Phonotrauma- Trauma to the vocal fold mucosa caused by vocal usage

Presbyphonia- age-related vocal changes perceived as impairment

Resonance- amplification and reverberation of sound transmitted into vocal tract from vocal fold vibrations

Stroboscopy-an examination in which a strobe light is combined with rigid or flexible laryngoscopy to produce an illusion of slow motion to permit assessment of vocal fold vibratory characteristics and vocal fold closure

Spirometry- a respiratory function test for measuring air flow rates, volumes and pressures

11. Useful References and Websites

International and Generic Perspectives on speech pathology and voice disorders

Websites:

The American Speech and Hearing Association (ASHA) practice portal is an example of a freely accessible resource that provides information relevant to speech pathologists regarding voice disorders and evidence-based therapy. https://www.asha.org/Practice-Portal/Clinical-Topics/Voice-Disorders/. Another website which may be useful includes: https://voicefoundation.org/health-science/voice-disorders/.

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