Clinical Guideline

Augmentative and Alternative Communication

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SUMMARY

- It is the position of Speech Pathology Australia that working in the field of Augmentative and Alternative Communication (AAC) is within the scope of practice of speech pathologists (Speech Pathology Australia, 2003).

- It is essential that speech pathologists work collaboratively as part of a team using a person centred approach in the field of AAC.

- The Association supports an evidence based practice approach to the assessment, intervention, and outcome measurement in the provision of AAC and other supports for people with complex communication needs.

- The Association strongly supports speech pathologists providing education and consultancy services to professionals, the broader community, clients, and carers to improve the understanding of AAC.

- It is the position of the Association that speech pathologists working in AAC engage in ongoing professional development and seek professional support and supervision as required.

- It is recommended that speech pathologists working in the field of AAC be conversant with legal issues relevant to their state or territory. In particular legal issues related to consent, validation of AAC users messages, and privacy need to be understood.
GLOSSARY OF TERMS

It is strongly advised that the glossary of terms is reviewed prior to reading the body of the document.

AAC system: An integrated group of components, including the symbols, aids, strategies and techniques used by individuals to enhance communication. The AAC system serves to supplement any gestural, spoken, and/or written communication abilities (ASHA, 1991). AAC includes unaided and aided systems and communication strategies.

Access Techniques: The means of accessing a communication aid including:

    Direct selection: The individual independently points to the desired item (e.g. picture, object, and letter). This technique includes finger pointing, fist pointing, eye pointing, and the use of a pointer, head stick, or other assistive device; and

    Indirect selection: The individual is offered choices of available symbols, pictures, letters, or words through visual or auditory scanning, and indicates choice by a pre-determined signal (e.g. blink, nod, gesture, or vocalisation).

Assistive Technology is “any item, piece of equipment, or product, whether it is acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities” (Assistive Technology Act, 2004). Assistive technologies pertinent to communication include aids (e.g., hearing aids, visual aids), computer technologies, speech generating devices, computer laptops, or mobile technologies (e.g., smart phones or tablet devices) with assistive software, switches, access devices (e.g., head pointers, styli), and communication books or boards (Beukelman & Mirenda, 2005).

Augmentative and Alternative Communication (AAC): An area of clinical and educational practice that provides communication strategies, techniques, and interventions for people with a range of communication limitations. The term ‘augmentative’ in this context means supplemental or additional to speech. Augmentative techniques (e.g. gestures, facial expressions, and items of reference) are commonly used when communicating and interacting with others. The use of the term ‘alternative’ acknowledges that there are some individuals whose speech is sufficiently impaired that they must rely completely on strategies, systems, and techniques which do not augment speech but are alternatives to speech (Vanderheiden & Yoder, 1996).
Augmentative and Alternative Communication (AAC) systems include:

**Aided AAC**: is where an external item is used to aid communication (e.g. object symbols, communication boards, books, key-ring mini-cards, wallets, speech generating device, computer, mobile phone, tablet). Aided AAC is often divided into high technology and low/light technology systems (see below); and

**Unaided AAC**: Unaided AAC refers to communication techniques that do not require the use of an external aid. That is, the person uses whatever is available to them generally using their own body. Examples of unaided AAC include using eye gaze, facial expression, body language, gesture, and manual sign.

**Communication Continuum**: Communication develops along a continuum beginning at the earliest level pre-intentional/unintentional stage. It usually progresses through a series of stages, to intentional symbolic and then linguistic communication (Coupe-O’Kane & Goldbart, 1998). Most people move through these stages to become functional and independent communicators. A small percentage of people who have significant intellectual disabilities do not make this transition and remain dependent upon others interpreting their non-symbolic communication.

**Preintentional / Unintentional Communication**: Preintentional or unintentional communication occurs when a person’s behaviour can be interpreted as communicative, but lacks the intent to communicate, as demonstrated by directing the behaviour to another person. The unintentionally communicative behaviour may reflect the person’s wants and preferences, states (e.g., hunger, pain, discomfort, contentment, fear, anger, worry, happiness, joy) and/or alertness. The behaviours observed may include intentional or goal-directed behaviours that are not intentionally communicative (Iacono, Carter & Hook, 1998). For example, a person demonstrating challenging behaviours because of a desire to go outside, but who does not direct a signal - conventional or otherwise, is demonstrating an intentional act, but not an intentional communicative act. Unintentional communication can be interpreted from an observation of the person’s affect and behaviours, facial expression, body movements, and/or vocalisations, and the context of the situation. In any given context, the communication partner interprets the person’s behaviour and attributes meaning to it. If the individual is unable to demonstrate symbolic understanding using non-verbal methods and remains reliant on the communication partner interpreting facial expression, body language and vocalisations, he or she is considered to be an unintentional communicator.

**Intentional Informal Communication**: Intentional informal communication is goal-directed behaviour, with a communicative signal directed to another person, demonstrated by co-ordinated gaze between the person and referent. People whose
disabilities preclude the demonstration of co-ordinated eye gaze may use other means, such as body orientation to direct the signal to another person (Iacono, et al., 1998). The person with a disability is aware of the role of a communication partner in the interaction and understands that communication first involves having the attention of a communication partner. Informal behaviours are used intentionally to communicate, including unconventional signals - such as idiosyncratic body movements. At this stage, the behaviours are non-symbolic because they do not involve any sort of symbol, such as spoken words, conventional gestures or manual sign. The behaviours used include facial expression and simple gesture (e.g., pointing, hugging, waving use of objects, and vocalisation).

**Symbolic Communication:** As with intentional informal communication, the person acts with intent and anticipates a response from the communication partner. Symbolic communicators are able to use a range of symbolic and non-symbolic behaviours. Symbolic communication may include pointing to line drawings/photos, manual sign, speech, and the intentional selection of letters to encode words. The person will also have a repertoire of non-symbolic intentionally communicative behaviours to supplement his or her communication (e.g., gesture, facial expression, body language and non-speech vocalisations).

**Communication Disability:** A person’s health condition may feature impairments of body structure and function that combine with environmental and personal factors to impact upon their activities and participation in society. This is known as a communication disability. According to the WHO International Classification of Functioning, Disability, and Health (ICF, WHO, 2001) and the International Classification of Functioning, Disability, and Health – Children and Youth Version (ICF-CY, WHO, 2007), the disability exists as a result of the interaction of the various factors and not solely within the individual.

**Communication Partners:** A communication partner is anyone who is involved in a communicative interaction with another person. Communication partners are a vital part of the environment for communication and have impact on the activities and participation of the person with communication disability (ICF, WHO, 2001; ICF-CY, WHO, 2007).

**Communication Strategy:** A communication strategy is a specific way of using augmentative aids, symbols, and techniques more effectively to enhance communication. A strategy, whether learnt, or taught to an individual, is implemented to improve performance (ASHA, 1991).
**Communication Technique**: A communication technique is a method of transmitting ideas (e.g. direct selection, scanning, encoding, signing, or gesturing) (ASHA, 1991).

**Communication Vulnerability**: People with a communication limitation of any aetiology are considered to be vulnerable to poor communication in a range of settings (Blackstone, 2010).

**Complex Communication Needs**: People with complex communication needs have communication problems associated with a wide range of physical, sensory, cognitive and environmental causes which restrict/limit their ability to participate independently in society. They and their communication partners may benefit from using AAC methods either temporarily or permanently (Balandin, 2002).

**Gesture**: Gesture refers to the use of bodily movement to represent an object, idea, action, emotion or relationship without the linguistic constraints of manual signs or a formalised manual sign system.

**High Technology System**: High technology communication systems utilise computer components and specialised software. They may have the capacity to provide printed output as well as voice output (Sigafoos & Iacono, 1993). They are commonly referred to as ‘high tech’ systems.

**Key Word Sign**: Key Word Sign (see Key Word Sign, Australia, in Resources) is a formal means of unaided communication. The principles of Key Word Sign involve the concurrent use of speech and manual sign with only the key words of the sentence being signed. Key Word Sign incorporates the use of natural gesture, facial expression, and body language with simple sign language techniques such as directionality and placement. In Australia, the manual signs used are from Auslan, the language of the Australian Deaf community.

**Low/light Technology System**: Low and/or light technology communication systems include any types of communication boards, books, objects boards, and simple technologies for communication, including single message devices (Sigafoos & Iacono, 1993).

**Mobile Technologies**: Mobile technologies include smart phones, tablet computers, and laptops that enable connection to the Internet via wireless or cable connection.

**Multimodal Communication**: Providing multimodal communication means offering a range of communication systems and strategies as options to enable the person the greatest degree of choice in using a preferred modality in any given situation. Multimodal communication can occur in face-to-face interpersonal contexts and in telecommunication contexts (i.e., telephone, video conference, and internet: email, sms, and social media, see Raghavendra et al., 2012; The Newell Network, 2011; and Media Access Australia, 2012). It is recognised within the AAC field that no one method or technique will fulfil every communication need in every situation (Beukelman & Mirenda, 2005). Speech pathologists...
implementing multimodal communication strategies ideally aim to increase the person’s competence and confidence in not only using multiple modalities for communication, but also choosing and switching between modalities for different purposes to meet his or her communication needs across situations. Reliance or proficiency in only one modality for communication might leave a person vulnerable to breakdowns in communication across a range of communication contexts.

**Participation Model:** This model is based on the work of Rosenberg and Beukelman (1987) and further developed by Beukelman and Mirenda (2005). It provides a framework for assessment and intervention aimed at functional outcomes that enhance a person’s ability to participate in the community and wellbeing. The outcomes include developing communication strategies focusing on the individual’s present and future communication needs.

**Partner Assisted Strategies:** In any partner assisted strategy the communication partner plays a meaningful part in the production of the message to a greater or lesser extent. Examples are (a) ‘auditory scanning’, whereby a partner speaks out messages, words, or letters until the person indicates his or her selection (e.g., head nod, vocalisation, eye-blink); (b) asking a series of questions; each of which require a yes/no or other response; and (c) encoding individual elements selected by the person into a meaningful unit, such as combining selected letters into words. In these situations, the person with complex communication needs may also be described as ‘partner-dependent’ in communicating using these strategies (Beukelman & Mirenda, 2005). In these situations, the person with complex communication needs must be provided the opportunity to confirm or disconfirm the encoding or other attempts by the communication partner to co-construct meaning.

**Sign Language:** This refers to the natural sign language of the Deaf community. In Australia the natural sign language is Auslan. The term does not cover the use of manual signs as a code for a spoken language (e.g. Australasian sign or Signed English).

**Speech Generating Device:** A speech generating device is a form of high technology AAC that produces speech either by digital recording of a person’s voice or synthesized speech. A speech generating device might either be dedicated to communication (i.e., its primary purpose and design is as a communication aid) or non-dedicated, with a primary purpose other than communication (e.g., mobile technologies, computers, laptops, smart phones).

**Symbol:** Something used or regarded as standing for or representing something else is a symbol. A symbol can represent an idea or concept using visual, auditory, or tactile modalities (e.g. gestures, manual sign, pictures, printed word, spoken words, real objects).
1. Origins of the Paper

This Clinical Guideline has evolved from the Speech Pathology Australia Position Paper, *Augmentative and Alternative Communication* (AAC) (2004). The expansion of evidence and technology in the field AAC has been the impetus to update the position paper into this current clinical guideline.

2. Overview and Purpose

This document contains clinical guidelines for speech pathologists assessing, treating, and supporting clients with complex communication needs who may benefit from Augmentative and Alternative Communication (AAC). It is evidence based and incorporates recent research but it is not intended as an exhaustive examination of or an instructional manual on the topic. In order to achieve the best possible outcomes for people with complex communication needs, speech pathologists support clients using AAC in collaboration with a multi-professional (multidisciplinary, interdisciplinary, and trans-disciplinary) team using family and person-centred approaches. Speech pathologists have a pivotal role to play in the assessment, implementation, monitoring, and management of clients with complex communication needs. Furthermore, the speech pathologist may act as clinician, consultant, team manager, educator, supervisor, mentor, and/or researcher. The extent of involvement depends on the expertise of the speech pathologist, the nature of the clinical setting, the support needs of the client, and the context of the referral.

This clinical guideline should be read in conjunction with Speech Pathology Australia core association documents including; Code of Ethics (2010), Competency Based Occupational Standards (2011), Principles of Practice (2009) and Scope of Practice (2003).

3. Introduction

AAC is a dynamic area of speech pathology practice that is changing rapidly due to advances in technology and active international research endeavours. The field of AAC was established in the late 1970s. Since that time, burgeoning research and clinical interventions in AAC demonstrate that the need for and range of applications of AAC in clinical practice are increasing. The importance of this area of practice is now formally recognised by Speech Pathology Australia, with Multimodal Communication a Range of Practice in the Competency Based Occupational Standards (CBOS, Speech Pathology Australia, 2011). AAC is a form of
multimodal communication and includes oral (speech, vocalisations), manual (sign and
gesture), all forms of aided and unaided systems and strategies, and any other assistive
technologies that support communication (Speech Pathology Australia, 2011). As such, AAC
is integrated within the practice and competencies of graduating speech pathologists across
all populations and groups of people with communication disabilities (ASHA, 2011). Indeed,
most speech pathologists in their working life are likely to encounter individuals who could
benefit from AAC. Although speech pathologists currently graduate with knowledge and skill
in the principles and practices of multimodal communication (Speech Pathology Australia,
2011), Costigan and Light (2010) noted that students are at risk of having limitations in their
expertise owing to many university academics having “minimal expertise in AAC” and
concluded that it was unclear whether pre-service programs equipped professionals for entry-
level AAC practice. Indeed, there are many qualified clinicians who have had limited practice
in and knowledge of the area and as a result might actively avoid introducing AAC
(Sutherland, Gillon, & Yoder, 2005). Despite the relevance of AAC across a range of groups
with communication disorders, and the ever increasing evidence base, research has
indicated that few speech pathologists feel competent in advising on AAC interventions or
developing AAC programs (Sutherland et al., 2005).

It is unlikely that speech pathologists will remain up to date in all areas covered by the
profession due to an expansion of information and a tendency to specialise quite early in their
careers. Nonetheless, communication is a fundamental characteristic of human interaction
(Kaiser, Hester, & McDuffie, 2001) and is recognised as a human right (see UNCRPD 2006,
Articles, 16, 17, 21, 24). Therefore, people with complex communication needs should not be
denied the opportunity to communicate to the best of their ability and in their preferred mode
or modalities that reflect their authentic voice. Consequently, it is important that all speech
pathologists have at least a basic understanding of all forms of AAC and factors affecting the
implementation of any strategies to improve communication. Furthermore, speech
pathologists need to know where they can obtain information, support, and resources to
facilitate their further learning and skill development.

In this Speech Pathology Australia Clinical Guideline, current principles of good practice in
AAC and multimodal communication are outlined and the evidence base highlighted. The
field of AAC continues to grow and expand, with demonstrated relevance to a wide scope of
speech pathology practice. Speech pathologists have a pivotal role on the AAC team and
need the skill and confidence to implement multimodal communication interventions across
the lifespan. People with complex communication needs and their families are vulnerable to
exploitation and exposure to not only treatments that lack a strong evidence base but
treatments known to be harmful (Gorman, Wynn, Morse, & Todd, 2011). Speech pathologists
are well placed to help families know the risks and benefits of treatments that might be
selected and to point out flaws in the evidence put forward in support of treatment options (Lof, 2011). Therefore, clinicians need to adopt a lifelong approach to learning in AAC and multimodal communication, stay abreast of developments, and critique accompanying evidence as it becomes available. Speech Pathology Australia encourages continued research, clinical practice, and professional development in AAC, to enhance and optimise the communication skills of people for whom speech is not a functional communication mode.

4. Origins and Aims of AAC

Augmentative and Alternative Communication (AAC) is an area of clinical and educational practice that provides communication interventions for people who have little or no functional speech or who have complex communication needs. They and their communication partners are likely to benefit from the use of a range of AAC systems and communication support strategies to participate fully in all aspects of life. The aims of AAC systems and strategies and communication support interventions are to:

- support and increase the individual’s ability to participate in all environments with autonomy, choice, and self-determination; and
- enhance opportunities for community participation and improve quality of life. The successful use of AAC systems and strategies contributes to personal well-being and quality of life for people with complex communication needs (Iacono, Lyons, Johnson, & West, 2012).

5. Client Group

People who potentially benefit from AAC are children and adults with communication problems associated with either lifelong (developmental) or acquired physical, neurological, cognitive, and/or sensory disorders that impede communication by speech alone. The conditions may be temporary or permanent and result in an inability to use functional speech to meet all communication needs. Candidacy for AAC is based on a person’s unmet communication needs across all communicative contexts and not upon his or her skills or capacities (Beukelman & Mirenda, 2005; Beukelman & Mirenda, forthcoming). Because of the role of communication partners in successful communication using AAC, the client group includes both the person with little or no functional speech and his or her communication partners.
An estimated 1 in 500 people in Australia have severe communication disabilities or complex communication needs (Perry, Reilly, Bloomberg & Johnson, 2002). Some populations have a significantly higher incidence of communication disabilities due to the occurrence of multiple impairments affecting speech, language, and/or cognition. For example, up to 25% of people with cerebral palsy have little or no functional speech and will use AAC (Access Economics, 2008; Goldsmith & Novak, 2010). It has been estimated that 17%-25% of children with Autism Spectrum Disorders fail to develop functional speech (National Research Council, 2001). People with developmental disabilities and complex communication needs have lifelong conditions, and their communication needs will change according to developmental processes and transitions. Some people with acquired conditions will also develop complex communication needs secondary to the condition affecting speech, language and/or cognition (e.g., motor neuron disease, Parkinson’s disease, stroke, dementia, or traumatic brain injury) (Beukelman, Garrett, & Yorkston, 2007). Their complex communication needs may continue through the remaining years of life or may increase over time if the condition is progressive (Beukelman et al., 2007). Some people may have only temporary complex communication needs arising from short term conditions or states associated with illness (e.g., Guillain Barre Disease), injury (e.g., requiring intubation), or surgical interventions impacting upon speech, language and/or cognition (Beukelman et al., 2007).

6. Research

6.1 Evidence Based Practice

As in all areas of speech pathology practice, speech pathologists are required to follow an evidence-based practice approach to their provision of AAC services. In relation to AAC, the influence of the environment and communication partners on the success of an AAC intervention must be considered within an evidence based framework. In the Transdisciplinary Model of Evidence Based Practice, Satterfield, et al., (2009) emphasised the organisational / environmental context in which implementation of evidence occurs and is suitable in the practice of AAC interventions. When working within the Transdisciplinary Model of Evidence Based Practice, clinicians:

- source the best available research evidence for the AAC intervention and instructional method;
- source resources that will be required for each treatment option including the practitioner’s expertise, the client’s characteristics and needs, values, and preferences; and
- consider the organisational context in which treatment is to occur.

Taking all of the above into account, the speech pathologist considers all available options for AAC intervention and adopts an evidence based practice approach towards selecting a range of appropriate AAC strategies and techniques for intervention.
6.2 Evaluating the Evidence for AAC

Speech pathologists need to be able to evaluate the efficacy of AAC interventions and justify their choice of interventions (Schlosser, 2000; Schlosser & Raghavendra, 2004). Evidence based practice principles encourage speech pathologists to ask well-built clinical questions and search the available evidence (Schlosser, Koul, & Costello, 2007), and to integrate clinical experience with the best available evidence (Reilly, 2004). Evidence is ranked in a hierarchy from strong evidence found in rigorously conducted systematic reviews and randomised controlled studies to the weakest form, including anecdotal evidence (e.g., anecdotal material appearing on YouTube or blogs or in journal publications that depicts a personal view or experience) and opinions from committees or experts (Schlosser & Raghavendra, 2004). In the field of AAC, an increase in the availability of systematic and narrative reviews and a growing interest in evidence-based practice have resulted in a wider appreciation of the benefits of AAC across many populations (see Goldsmith & Novak, 2010; Mostert, 2001; Pennington, Goldbart, & Marshall, 2004; Schlosser & Lee, 2000; Schlosser & Sigafoos, 2004; Schlosser & Wendt, 2008; Schwartz & Nye, 2006; Wendt, 2009). On the basis of a review of the AAC evidence base, Iacono (2004) concluded that:

- the evidence in AAC predominantly stems from single case and small group designs;
- research studies have been more numerous in relation to developmental than acquired disabilities;
- it is difficult to conduct randomised group control studies in the field of AAC due to the heterogeneity of the AAC population;
- the applicability of randomised control study designs to people with complex communication needs is questionable; and
- there is a wide range of evidence sufficient to support the application of AAC, with evidence for some areas of AAC being particularly strong as a result of controlled trials and availability of systematic reviews.

The evidence base in AAC is strengthened by the conduct of rigorous qualitative studies, well suited for use in heterogeneous populations, and to gather an understanding the human experience and views of key stakeholders. In accordance with this, a strong tradition of rigorous qualitative research is building in the field of AAC and multimodal communication for understanding of all the factors and complex relationships that might exist in particular life situations (e.g., Balandin & Goldbart, 2011; Dark, 2010; Dew, Balandin, & Llewellyn, 2011; Johnson, Douglas, Bigby, & Iacono, 2010; Hemsley, Balandin, & Togher, 2008; Hemsley, Worrall, & Balandin, 2011; Hines, Balandin, & Togher, 2011; Trembath, Balandin, Stancliffe &
Togher, 2010). Such rigorously conducted qualitative studies provide evaluations of important topic areas, inform future qualitative and quantitative research, and guide changes to policy and practice to improve the lives of people with complex communication needs.

6.3 Service Delivery in AAC

Management of AAC in both children and adults demands a lifespan approach and consideration of both current and future communication needs. Furthermore, a person’s transition between life events and life stages must also be considered in design and provision of AAC systems or strategies (McNaughton & Beukelman, 2010). People with complex communication needs may require speech pathology and related services in regards to multimodal communication at a number of points in time throughout their lives, including episodically. Service delivery includes providing a system for the present (today) while planning for the system for the future (tomorrow) (Beukelman & Mirenda, 2005). Training for communication partners is an essential component of intervention.

7. Principles in AAC Services

The Principles of Practice (Speech Pathology Australia, 2001) provides recommendations on how to facilitate quality service provision for clients. In the field of AAC the following principles should also be considered:

- **Service Model:** To maximise efficient and effective intervention, a range of service delivery approaches may be needed by the person with complex communication needs and his/her communication partners. To address the person’s communication needs, interventions include: (i) individual work with the person with complex communication needs (direct services), (ii) work with a family member, guardian, or significant other (indirect services), (iii) collaborative consultation, and (iv) education and training of significant others in the community.

- **Team:** A multi-professional (multidisciplinary, interdisciplinary, and/or transdisciplinary) collaborative team approach is required for optimum service delivery. The person with complex communication needs and his/her significant communication partner(s), as nominated by the person with disability who can make an informed choice or his/her proxy, is integral to this team. Other team members include speech pathologists, speech pathology or allied health assistants, occupational therapists, rehabilitation engineers, physiotherapists, psychologists, teachers, direct support workers, and family members. People with complex communication needs will require support to varying degrees to enable them to contribute to and direct the team through an informed choice and decision-making process.
• **A Dynamic Assessment, Intervention, and Monitoring Cycle:** The optimal processes for assessment, intervention, and monitoring/evaluating outcomes when providing AAC to people with complex communication needs can be based on principles drawn from the Participation Model (Beukelman & Mirenda, 2005) and Dynamic Assessment (Hasson & Joffe, 2007; Iacono & Caithness, 2009). The Participation Model includes principles for identifying how various AAC systems and options can address current and future needs of people with complex communication needs, with a focus on facilitating their participation within their chosen communities. Dynamic assessment targets the person’s potential for learning rather than the conduct of a static assessment of current skills, and aligns with the principles and philosophy of the Participation Model (Beukelman & Mirenda, 2005).

• **Natural Settings:** Conducting assessment within a person’s own environments will inform intervention that will be relevant to those environments. Consequently, assessment and intervention may occur across multiple contexts. The ICF (WHO, 2001) and ICF-CY (WHO, 2007) may be used to help guide development of assessment and intervention goals across contexts, promoting the individual’s participation in society.

• **Duration and Intensity of Treatment or Intervention:** Extensive and ongoing supports may be required in order to establish appropriate and functional communication. The duration and intensity of support will be determined in part by the nature of the needs and goals of the individual and his/her communication partners as well as the communication context/s. Therefore, service administrators and policy makers need to be integrally involved in designing AAC services that will meet individual and population needs.

• **Training, Mentoring, and Support:** Speech pathologists have a responsibility to ensure that the person has the support to develop their communication skills to the maximum of ability and that communication partners, including support staff, have appropriate and adequate training. Training, mentoring, and support is helpful for the individual with complex communication needs who is using AAC and for each of his/her regular and/or significant communication partners (Ballin, Balandin, Stancliffe, & Togher, 2010; Beukelman & Mirenda, 2005). Training is required to prepare for major transitions, such as entering preschool, primary school, secondary school, tertiary education/employment, and retirement. Additional support may be required at
specific times of transition (e.g. changing classrooms, moving house, death of a partner or family member, period of hospitalisation, change in support worker) (see McNaughton & Beukelman, 2010).

- **Evidence Based Ethical Practice**: Speech pathologists are bound by a code of ethical practice that impacts upon AAC and all other interventions (Speech Pathology Australia, 2002; Speech Pathology Australia, forthcoming). Thus, interventions are selected and delivered on the basis of the evidence demonstrating benefit to the person with complex communication needs and his/her communication partners, and minimising harms associated with the selection of one intervention technique or strategy over another technique or strategy (see Balandin, 2012; Hemsley, 2012).

### 8. Leadership, Supervision, and Mentoring

Speech pathologists in Australia do not undertake credentialing processes to work in the field of AAC, provide AAC services, or conduct research in AAC. Supervision in AAC is as provided for other clinical areas according to workplace policies and procedures. In Australia, clinicians with expertise in AAC are located in academic institutions, in Government and Non-Government organisations (including disability, health, and education sectors), profit and non-profit organisations, and private practice. Experts in AAC take a variety of roles in relevant associations, including the International Society for Augmentative and Alternative Communication (ISAAC, www.isaac-online.org), its chapter in Australia - ISAAC-Australia (www.isaacaustralia.com), The International Association for the Scientific Study of Intellectual & Developmental Disabilities (IASSIDD, www.iassid.org), the Australasian Society for Intellectual Disability (ASID, www.asid.asn.au), AGOSCI (wwwagosci.org.au), ARATA (www.arata.org.au) and Speech Pathology Australia (www.speechpathologyaustralia.org). Mentoring processes are available through many of these organisations.

### 9. Legal Issues

Speech pathologists should be cognisant of general and specific ethical and legal issues related to their practice. Section 9.1 to 9.7 outlines general statements related to practice and section 9.8 discusses specific issues related to practice in the field of AAC and multimodal communication.
9.1 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.

9.2 Legislation
It is recommended speech pathologists be conversant with the legislation that applies in the state or territory in which they practise.

9.3 Duty of care
*Duty of care* is a legal term describing the relationship, in this case, between the individual and parent/caregiver and the speech pathologist. The speech pathologist owes a duty of care to his/her client and parent/caregiver. A breach of duty of care leaves one liable to civil action for a claim of damages (compensation) if legal action is taken by the individual under care or the individual’s parent/caregiver(s). A breach of duty of care may result from one or several specific actions whilst under the care the speech pathologist. For example, a failure to act when action was required, or a statement made that in the eyes of the law amounts to a “negligent misstatement.” The duty involves using the same degree of care that a “reasonable” speech pathologist would exercise in the circumstances. Whether or not there has been a breach would be determined by what other speech pathologists working in the same field would have done in the circumstances. Consequently, it is the duty of the speech pathologist to be aware of recent literature in their field, current practices carried out by peers, adhering to workplace policies and procedures, and being conversant with the Speech Pathology Australia Association documents.

9.4 ‘Proxy’ interventions
Where a speech pathologist does not carry out the intervention but instructs and/or supervises someone else i.e., student speech pathologist carrying out the intervention, the law would hold the advising/supervising speech pathologist liable just as if they were carrying out the intervention themselves. The law refers to this as “vicarious liability.” In other words, the same standard of care would be required if the speech pathologist was holding him/herself out as the person with the knowledge and skills. The fact that he/she did not actually carry out the intervention would be irrelevant in the eyes of the law. Therefore it is necessary for “proxies” to exercise the same standard of care as that required of the speech pathologist instructing or supervising them, and for all documentation (i.e. Individual Education Plans, progress notes, negotiated contracts) regarding “proxy” interventions to be maintained. In addition, the service plans must include adequate time and resources to train “proxies” and monitor programs.

9.5 Consent for speech pathology involvement
*Informed consent* refers to the client and/or parent(s)/caregiver(s) being fully informed and aware regarding the service, assessment, interventions, treatments and role of the speech pathologist in mental health. For young people who are at an age of being able to consent, if there is the presence of an intellectual disability or a mental health problem that in the opinion
of the speech pathologist does not allow for the ability to consent to services this needs to be resolved in line with organisational policy/procedure. In such circumstances, the parent(s)/caregiver(s) may be required to consent. Service provision should not commence without consent being formally clarified.

Consent requirements vary in different states and territories. A young person may provide consent depending on the particular state’s laws of age of consent. In some states and territories the attendance at an appointment is implied as consent.

Situations may arise during the treatment process where verbal consent is requested of the client or parent(s)/caregiver(s). For example, a case being handed over to another clinician for a one-off session or a young person’s request that the clinician make contact with their educational setting without written consent being initially arranged. Ideally, written consent should be obtained in these instances but where verbal consent has occurred then this should be documented by the speech pathologist in the individual’s file.

Informed consent for speech pathologists undertaking research requires that the speech pathologist make contact with the appropriate governing Human Research Ethics Committee of the service.

9.6 Indemnity Cover and Insurance

It is the responsibility of the speech pathologists to ensure they have appropriate professional indemnity cover and public liability. 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.

Speech pathologists should clarify the insurance situation for accidental loss, theft or damage to resources during transport with their insurer.

9.7 Service guidelines

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

9.8 AAC Specific Issues

Consent: People with complex communication needs must be given the opportunity to provide informed consent to assessments and interventions either directly or, in situations in which they have been assessed as lacking capacity for consent, through a proxy (next-of-kin, primary support person, or legal guardian appointed for the purpose of making relevant
decisions). Speech pathologists need the ability to present information about a procedure or intervention in a way that will maximise the potential for the person with complex communication needs to understand, and therefore to provide informed consent. In situations in which a person is judged to lack capacity for informed consent, the person’s assent or agreement may be determined through (a) direct communication with the person, (b) observation of the person for any indicators for assent or objection, and/or (c) consultation with others who are familiar with the person with complex communication needs.

**Privacy:** Speech pathologists require a working knowledge of Commonwealth and State privacy laws and/or principles relating to the service within which a person is receiving AAC assessment and/or intervention. These laws and principles are not meant to interfere with a person’s health care and functioning. As a result, adherence to privacy legislation and principles does not preclude information about the person and significant others being included on a communication system, but permission from relevant individuals may be required.

**Providing expert witness:** People with little or no functional speech, and those with disabilities leading to their dependence on other people, are vulnerable to and at risk of abuse or exploitation (Bryen & Wickman, 2011). Therefore, speech pathologists might also be called upon to (a) support the person’s communication when interacting with the legal system, and/or (b) assess an individual’s communicative competence and the validity of messages delivered through the use of AAC (e.g., by educational or health service institutions, or legal bodies). The principles and practices of AAC as outlined in these Clinical Guidelines can be used to help guide such an assessment.

**Access to legal rights:** It is important that (a) all methods and means of achieving independently authored messages are assessed to ensure that the person who uses AAC is afforded the same legal rights as other people; and (b) that the messages created through the use of AAC, either independently or with assistance, reflect the person’s views.

**Duty of care on determining authenticity:** In order to ensure they provide duty of care, speech pathologists must follow strategies and procedures to determine whether AAC systems or strategies enable the authentic voice of the person with complex communication needs. There is a particular need for messages produced through AAC requiring partner assisted strategies to be validated as originating from the person with complex communication needs and not the person providing assistance. In situations in which such assessment fails to provide evidence of authentic communication, and therefore indicate that the AAC systems and strategies have the potential to result in harm, the speech pathologist
has an ethical responsibility to: (a) raise these concerns with relevant parties so that further actions may be taken to remove harms, and (b) help the person towards appropriate systems and strategies that enable authentic communication. In such situations, should there be concern relating to speech pathology practices, the speech pathologist has the further ethical responsibility to consult with the Speech Pathology Australia ethics committee.

10. Education and Training

The inclusion of multimodal communication as a Range of Practice in the CBOS 2011 has resulted in the need for incorporating relevant information in professional training. Academics in speech pathology courses in Australia are working to incorporate all elements of competence in multimodal communication including both theoretical knowledge and clinical experience required for practice. Qualified speech pathologists working with clients who might benefit from AAC systems and strategies may need to engage in activities to actively update their competencies in this area in light of the growing evidence base and technological developments that impact on the field. In addition, speech pathologists need to be aware of the importance of liaising with other professionals (e.g., occupational therapists, psychologists, teachers, technology experts) involved in working with clients who require AAC. Clinicians also need to recognise the ongoing need for further education and consultation with other experienced AAC professionals, such as those with technical equipment knowledge, including manufacturers and distributors. As for other clinical areas, a speech pathologist working in the area of AAC acquires knowledge and proficiency in areas relating to AAC through:

- clinical experience
- supervision and mentoring from experienced clinicians in the field
- participating in special interest groups and online discussion forums (e.g., ACOLUG; Twitter chat by hashtag usage e.g., #SLPchat #AAC #AugComm), and associations relevant to working with people with complex communication needs and AAC (e.g., ISAAC, ISAAC-Australia, IASSID, ASID, AGOSCI, ARATA, SPOT on DD)
- sourcing academic websites relating to AAC practice and research
- critical evaluation of current literature and research
- relevant conference and workshop attendance
- postgraduate studies
- providing clinical education to students of speech pathology in the practice of AAC and multimodal communication.
Student speech pathologists can be involved in managing people with a complex presentation under the supervision of a qualified speech pathologist with expertise in AAC. This will help to ensure that student clinicians have some exposure and experience in the assessment, management, design, and monitoring of AAC interventions. Factors impacting upon management that might require further assistance or advice from a more experienced clinician include management of complex dysphagia, management of challenging behaviours, and management of autism spectrum disorders. Speech pathologists can consult current and forthcoming clinical guidelines developed by SPA for these specialised areas. At all times service providers need to bear in mind:

- that a person with multiple or complex disability’s right to be included in decisions about healthcare management of other clinical areas (e.g., swallowing, mealtimes, behaviour) may be impacted by his/her access to communication, including any necessary AAC systems or strategies; and
- that provision of AAC services ideally proceeds with other interventions as indicated by a full multi-professional assessment and recommendations within an ethical decision-making framework.

### 11. Assessment

Assessment of AAC is a multi-faceted and multiphase process. It includes assessment of a person with complex communication needs: (a) cognitive, communicative, motor and sensory abilities; (b) current and future communication needs; and (c) experiences of participation barriers within the environments in which he/she participate or desires to participate (Beukelman & Mirenda, 2005). Assessment must lead to a plan that ensures that there is a range of solutions for the person with complex communication needs (and his/her family if appropriate) to consider. Assessment must also lead to functional goal setting and a follow up/review plan. Individual Education Plans are a typical framework for assessment/goal setting around AAC needs in school settings and systems and speech pathologists often contribute to these plans. It is recommended that speech pathologists involved in the assessment process have the following expertise, in addition to any additional requirements as set out in CBOS (2011):

- An understanding of the Participation Model of AAC (Beukelman & Mirenda, 2005).
- An understanding of the ICF and ICF-CY, and how these relate to AAC (Fried-Oken & Granlund, 2012; Pless & Granlund, 2012; see also www.icfcy.org/aac).
- An understanding of the Communication Needs Model (Light, 1989).
- An understanding of the Communicative Competence in AAC Model (Light, Beukelman, & Reichle, 2003).
• An understanding of issues surrounding transition in the lifespan for people who use AAC (McNaughton & Beukelman, 2010).

• Knowledge of and ability to select appropriate assessment tools and strategies to determine current and future goals.

• Ability to adapt standardised tests and to understand the ramifications of these adaptations.

• Ability to interpret and integrate information from informal tests and structured observation.

• Ability to observe, interpret, and integrate information about the individual’s receptive and expressive language, visual, auditory and sensory abilities to facilitate: (1) an increase in natural abilities, (2) utilisation of AAC systems and/or devices, and (3) appropriate environmental adaptations in collaboration with relevant specialists (e.g., occupational therapists, vision specialists, and rehabilitation engineers).

• Ability to conduct an activity/communication needs inventory across environments.

• Ability to determine any available ongoing support available from communication partners in the person’s immediate environment.

• Ability to conduct formal and informal functional communication assessments across a range of contexts.

• Ability to evaluate both face-to-face communication skills and literacy abilities.

• Ability to assess opportunity barriers to participation, including those relating to policy, adopted practices and attitudes, knowledge and skills.

• Ability to prepare any necessary funding applications for AAC systems or strategies according to the funding body’s requirements.

11.1 Feature Matching in AAC Assessment

Feature matching involves comparing the features (e.g., storage of vocabulary, retrieval of vocabulary, method of access, modifying voice gender accent pitch and volume, adding items) of two or more devices according to the person’s needs. Assessing the person’s performance on at least two AAC systems is necessary to determine the relative benefits of different features of the system that are best suited to the person’s needs. A full assessment of the person’s communication needs including direct and in-direct access methods and feature matching in regards to all AAC options is required. A feature matching assessment helps to limit the problems associated with basing a decision about the best AAC system or strategy on selected features to the exclusion of others (e.g., a selection based on price and portability over access or linguistic considerations). Without a full AAC assessment of communication needs potential harms include the person not gaining an independent means to communicate (UNCRPD, 2006) and not having a system that meets their communication needs (AAC-RERC, 2010).
A full feature-matching assessment demands that clinicians consider more than the cost of devices when making recommendations, even if the cost difference is substantial. It is not possible to place a monetary value on effective communication. If a person acquires an AAC system that will not meet his/her current or future communication needs two harms arise: (a) the possibility that funds will be preferentially allocated to a cheaper but less suitable system might reduce funds available for more worthwhile interventions, and (b) an AAC system being purchased and not found to be useful may lead to abandonment of that system and rejection of future AAC options, as has been found to occur when people are inadequately supported to program and use their AAC systems (Rackensperger et al., 2005). The provision of funds for the purchase and support of AAC systems raises ethical concerns given the limited public funding available (Scope, 2006). Funds available for all persons with disability may not be sufficient for all requested systems and devices across a population. Speech pathologists have an important role in (a) ensuring funds allocated to AAC are accessed to the benefit of person’s who can benefit from AAC, and (b) assisting clients in obtaining funds by advocating for their needs and providing the necessary assessment data required for funding bodies to make funding decisions.

12. Intervention

12.1 Rationale
The speech pathologist needs to select a relevant teaching approach for the person with complex communication needs and his/her communication partners’ to establish confidence and competence in use of the AAC system and in communicating in a variety of contexts. The speech pathologist also needs to (a) engage collaboratively with the person with complex communication needs and, if relevant, the person responsible for making decisions on their behalf, and (b) adopt an ethical decision making framework in making a recommendation about AAC interventions. It is recommended that AAC interventions are developed to address the areas within the Participation Model (Beukelman & Mirenda, 2005) that have been identified as targets. The rationale for introducing particular AAC systems and strategies will differ across clients and contexts according to the person’s presenting condition and communication needs. AAC systems and strategies might not only augment or be an alternative to speech, but in many instances may facilitate language acquisition and development (Branson & Demchak, 2009; Schlosser & Wendt, 2008). It is not sufficient merely to provide a system or to focus only on the design or provision of the tools for communication. To do so would neglect other factors in the person and the environment that impact upon successful communication across contexts (Beukelman & Mirenda, 2005; WHO 2001, 2007).

12.2 Selecting a Suitable Teaching Approach to Establish Competence
Teaching strategies for introducing and establishing competence in AAC systems include aided language stimulation, behavioural interventions, augmenting language, incidental teaching, naturalistic language paradigms, and peer teaching. The goals of AAC
interventions are therefore related to developing not only linguistic competence, but also strategic, social, and operational competence (Light, 1989). Linguistic competence includes the acquisition of both spoken and written language skills. The development of literacy skills in both reading and writing is critical for all individuals, but it is especially important for those who use AAC with symbolic understanding (see Smith, 2003). The symbols provided in AAC systems may enable individuals with complex communication needs to communicate a wide variety of messages, however, the alphabet is the only symbol set that allows precise communication and unlimited message generation (Erickson & Clendon, 2009). Literacy skills also provide individuals with the independence to govern their program of interventions and maintain their own AAC systems. Individuals who use AAC will be at different places on the continuum of literacy learning (Erickson & CLendon, 2009; Light & McNaughton, 2009). Some will be emerging in their literacy; others will be able to read and write conventionally. Interventions should be appropriate for individuals' literacy levels as determined by a comprehensive assessment. It should also be noted that for individuals who have not developed literacy will require access to and support in using limited message sets.

The fundamental guiding principle in relation to AAC services must be to address current and future needs. AAC interventions may be implemented for several reasons: (a) to provide an interim means of communication, used until speech develops fully, (b) as a supplement to speech, (c) as an alternative to speech, (d) as a temporary replacement for speech, (e) to support language development, and/or (f) to support communication after language has developed in the event of an acquired communication disability (e.g., aphasia following stroke, primary progressive aphasia, traumatic brain injury, Parkinson’s disease, motor neuron disease) (Beukelman, Ball, & Fager, 2008; Beukelman et al., 2007). Speech pathologists must apply what they know about language principles in regards to language development and interaction. Indeed, AAC is a modality in which speech/language stimulation can be provided. Multimodal communication helps in this regard, and includes sign language and key word sign systems (Iacono, 1995).

It is recommended that all speech pathologists working with people with complex communication needs, including new graduates, possess the following intervention expertise:

- An understanding of the Participation Model and its implications for intervention (e.g., the level within the Participation Model that a chosen intervention is targeting).
- An understanding of the ICF and ICF-CY and the rationale for intervention goals aimed not only at the individual factors but also at environmental factors and personal factors that impact upon activity and participation (See Rowland et al., 2012 for the ICF-CY for AAC Profile and Code Set for Children Who Rely on AAC).
• Ability to determine functional and meaningful communication goals, in consultation with the person with complex communication needs, that will increase participation (see Raghavendra et al., 2011; Rowland et al., 2012).
• Knowledge of the level of evidence for AAC interventions proposed for a person with complex communication needs (Schlosser & Raghavendra, 2004).
• Knowledge of current unaided and aided AAC systems including symbols, techniques for message transmission, and strategies for effective use of AAC to support expression and understanding.
• Knowledge of different vocabulary selection and organisation strategies, and the ability to implement them according to varied needs.
• Ability to match the person with complex communication needs’ abilities, preferences, and chosen environments with appropriate aided or unaided AAC, symbols, techniques, and strategies (feature matching).
• Ability to train others in how to support communicative participation of a person using AAC (i.e. linguistic and social domains, including through the use of aided language stimulation techniques).
• Ability to integrate intervention into the person’s environments, including the involvement and training of a variety of communication partners.
• Ability to determine appropriate goals and strategies for developing communication skills and literacy, and to work with other members of the educational team to develop a plan for adapting or modifying the curriculum in these areas.
• Ability to monitor progress and adapt interventions according to response and changing needs to ensure success over time.
• Awareness that some people with disabilities who exhibit challenging behaviours (e.g., physical aggression or property damage) benefit by receiving services from speech pathologists in regards to behaviours being communicative, and interventions utilising the full range of AAC systems strategies described in this document (Carr et al., 1994; Sigafoos, Arthur, & O’Reilly, 2003).

12.3 Including the Person with Complex Communication Needs in Decision-Making
In order that the person with complex communication’s views are taken into account, speech pathologists need to ensure that he/she is included at all stages of the AAC assessment, management decisions, and intervention. Adopting an ethical decision making framework and a rights-based approach, the speech pathologist takes the views of the person into account, and may need to provide interim communication supports and other aids to communication to help the person understand materials included in all phases of AAC management. Providing information in formats that are accessible to people with communication difficulty is an ethical imperative according to the World Health Organisation, Disability Health Report (2011). Communication supports include ‘AAC-friendly’ information
sheets and consent forms, information displays, schedules, and the use of appropriate photographs, pictographs or other symbolic or non-symbolic forms of communication (e.g., Watson, 2011), to help the person participate to the extent that they are able in decisions that affect their lives.

13. Measuring Outcomes

Speech pathologists working in AAC need an understanding of appropriate measures for determining intervention outcomes. These outcome measures provide information on the extent to which a person with complex communication needs has achieved participation across all environments. Speech pathologists require expertise in documenting and evaluating progress, as set out in CBOS (2011). Outcome measurement in the field of AAC has, to date, focused primarily upon ‘operational competence’ (i.e., skills in access and use of an AAC system or strategy) and ‘linguistic competence’ (i.e., skills in receiving language through the spoken modality and producing language using the AAC system). Unfortunately, there has been little research that has addressed the ‘social competence’ and ‘strategic competence’ (Light et al., 2003) that might have positive impacts on communication-related activities and participation highlighted in the ICF (WHO, 2001). Successful AAC interventions resulting in better communication can lead to improved personal well-being and quality of life and reduction in behaviours of concern (Sigafos et al., 2003). Therefore, it is recommended that speech pathology practice includes measurement of outcomes. There is also a need to broaden the scope of measures, in particular, to address the extent to which AAC interventions lead to improved participation in all aspects of daily life. The following are specific outcomes that require assessment in relation to evaluating AAC interventions:

- Outcomes measured by tools developed to measure participation as per the ICF (WHO, 2001): Children’s Assessment of Participation and Enjoyment (CAPE) and the Preferences for Activities of Children (PAC) (King et al., 2004); and the ICF-CY for AAC Profile and Code Set for Children Who Rely on AAC (Rowland et al., 2012).
- Outcomes as conceptualised by the Participation Model of AAC in relation to increased opportunities for communication and a reduction in barriers to communication. Discussion of the various parameters of participation can occur with the client and communication partners throughout intervention to guide revisions according to outcomes (see section on criterion referenced outcome measures and checklists)
- Outcomes according to the Communicative Competence for Individuals who use AAC (Light, Beukelman, & Reichle, 2003)
- Outcomes on items prioritised by the person with complex communication needs, and his or her communication partners.
Outcomes that pertain to the usual communication skills and abilities across all domains (speech, language, fluency, voice) that are the target of any AAC intervention, including pragmatics, metalinguistics, and literacy.

**Criterion referenced outcome measures** are a viable and effective alternative to standardised tests due to the ability to individualise the target outcome according to the needs, abilities and goals of the person. There are now several evidence-based tools for measuring and describing outcomes for people who use AAC. These tools can be used in the assessment, monitoring, and outcome measurement phases of management. The following list of selected outcome measures illustrates that clinicians need not rely on self-reported or caregiver-reported outcomes only:

- The Goal Attainment Scale (GAS) (see Hanson, 2007 citing Kiresuk & Sherman, 1967) facilitates the development of individualised goals that can address multiple factors within the ICF model and multiple domains of the Participation Model. It involves the selection of an ‘expected level of achievement’ for a functional communication goal (e.g. may be linguistic, operational, social, environmental) and then details less than expected and greater than expected outcomes relative to the abilities of the individual. Goal Attainment Scaling is used widely in many fields including disability and AAC and it is advisable for speech pathologists to develop competency with use of this tool or other comparable criterion referenced measures (Hanson, 2007).
- AAC Profile – A Continuum of Learning (Kovach, 2009) provides information on functional skills for developing communicative competence using AAC systems and requires supplemental assessments of communication. The profile is not specific to disorder, severity, or setting.
- Social Networks (Blackstone & Hunt Berg, 2003) provide a means of describing a person who uses AAC’s social networks and may be used as a tool at any stage of management including outcome measures.
- Rowland (2004) developed the Communication Matrix, which is a free online tool and handbook for assessment of very early communication skills and is also useful for assessment, review, and outcome measures (see http://communicationmatrix.org).
- An additional free online tool framed around the ICF (WHO, 2001) and a code set pertinent to AAC (Rowland et al., 2012) will also assist clinicians in development of functional goals and can be used when determining functional outcomes following intervention.
14. Ethical Considerations

Speech pathologists providing AAC services are bound by their professional Code of Ethics (Speech Pathology Australia, 2010). The UNCRPD (2006) also underpins decisions relating to AAC services. Recent publications by Hemsley (in press) and Balandin (in press) outline a range of ethical issues arising in the expanding field of AAC. As in other areas of clinical practice, the use of controversial therapies and untested therapies remains an ethical issue for speech pathologists.

14.1 Facilitated Communication

Facilitated Communication (FC), also referred to as ‘supported typing’ or ‘assisted typing’, involves a facilitator touching the person with disability’s hand, elbow, shoulder, body, keyboard or alphabet board (‘rapid prompting’) in order that the person with disability points, types, or selects messages (see Crossley 1994; Shane, 1994; Todd, in press). In describing FC, Bara, Bucciarlelli, & Colle (2001) noted: “support initially starts from the child’s wrist and is gradually moved to the elbow and shoulder until such a touch becomes merely symbolic, and the facilitator’s hand lightly rests on the child’s leg.” (p. 225). To date, there is no substantive evidence to support theory argued to underpin FC that the people who use the method have an underlying movement disorder that warrants facilitation.

The body of peer-reviewed literature reviewing FC research produced in the past decade helps clinicians in making evidence-based decisions on the technique (Lof, 2011; Mostert, 2001). Substantial evidence now exists, including well-designed controlled trials (see Gorman et al., 2011, and Mostert, 2001) and two systematic reviews (Simpson, 2005; Wendt, 2009) that facilitators influence the person’s message, and that they do so consciously and/or unconsciously. FC has generated controversy as FC users’ communications have contradicted preconceived beliefs of their abilities and the authorship of messages has been questioned (Boynton, 2012; Cummins & Prior, 1992; Gorman et al., 2011; Intellectual Disability Review Panel, IDRP, 1989; Todd, 2012; von Tetzchner, 2012). The continued research interest in FC remains controversial. There have been recent attempts to use sophisticated complex analyses (Bernadi & Tuzzi, 2011) and eye-gaze technology (Grayson et al., 2011), but these have failed to provide a means to authenticate messages. While proponents argue that FC may lead to independent communication, communication cannot be considered independent while facilitation or rapid prompting is provided. Anecdotal reports by people who communicate independently and claim to have previously used FC cannot be ignored. They provide the lowest level of evidence in that there is no objective means to substantiate reported benefits, and cannot be taken as generalizable evidence. As a result, FC remains an approach with little supportive evidence and a preponderance of evidence that contraindicates its use, and its use is not recommended.
Speech pathologists need to be aware that the act of using FC to ‘facilitate’ a person to point to letters, words, or messages might expose the person with complex communication needs to undue influence, manipulation, and exploitation (Lof, 2011; Gorman et al., 2011). Harms associated with FC pertain to its potential to remove a person’s communication rights (Todd, 2012; see UNCRPD, 2006), any negative consequences of the constructed messages not reflecting their own views (see Gorman et al., 2011), and indirect harm by replacing time and other resources that could be spent on effective interventions (Lof, 2011). The uncertain authenticity of communication is central to cases involving allegations of abuse (see Boynton, 2012) and disputes over guardianship, or other decisions. In recognition of these documented harms, professional and non-professional bodies have cautioned people against the use of FC (e.g., American Academy of Pediatrics, 1998; American Psychological Association, 1994; The Scottish Intercollegiate Guidelines Network, 2007; VALID, n.d). Therefore, speech pathologists teaching, recommending, or practicing FC also need to be aware of their own legal risk and/or liability in relation to potential or actual harms arising from FC (Todd, 2012).

Speech pathologists have an ethical responsibility to inform their clients and families of the lack of supportive evidence and evidence of known harms associated with FC in the literature, including the harms of subconscious facilitator influence and false allegations of sexual abuse, if FC is discussed (American Speech and Hearing Association, 1995; Todd, 2012). Furthermore, speech pathologists supporting people who use FC cannot assume that messages communicated by FC are the person’s own messages. Speech pathologists have an ethical responsibility to: (a) assess whether the communication is the person’s own communication or has been influenced by the facilitator, and (b) explore all AAC system access methods (including direct and indirect access) and strategies that allow the person to communicate independently. In keeping with the principle that AAC includes all and multi-modal forms of communication, all of the person’s methods of communicating must be taken into account, including extant forms, such as, facial expression, body movements, and vocalisations.

### 14.2 Mobile Technologies

The advent of ‘mobile technologies’ (i.e., touch screen devices that are readily available in the community for relatively low cost) has been recognised as fundamentally shifting the field and practice of AAC (AAC-RERC, 2010). Mobile devices are presently limited in both accessibility and functionality in comparison to dedicated speech generating devices and computer based software for communication. Research into the benefits of mobile devices and AAC applications is also in an early phase (e.g., Niemeijer, Donnellan, & Robledo, 2012). Speech pathologists have an ethical responsibility to explore all available AAC options and to treat these equally in relation to the feature matching assessment. They also have an ethical responsibility to (a) work with families who desire these devices and provide unbiased advice in regards to the potential benefit to the person who uses AAC, and (b) take an evidence
based practice approach. Selection of AAC technology must be made with a basic premise of AAC in mind: that is, that no one mode of communication has universal usefulness across all people with complex communication needs, and no one technology will meet all of an individual’s communication needs. Given the limitations of mobile technologies, it is highly likely that for some populations mobile devices will not provide an appropriate substitute for dedicated speech generating devices, which offer a range of additional features designed to promote development of language and integration with other computer systems (AAC-RERC, 2010).

15. Conclusion

Communication touches every aspect of life and people with complex communication needs may require assistance to fully participate in their chosen communities. Communication needs and preferences change such that, over a person’s lifetime, different modes and systems may become appropriate. Interventions need to have functional outcomes and be delivered in locations that are meaningful for the individual with complex communication needs, and maximise the potential for positive outcomes. Speech pathologists working with individuals who would benefit from AAC are part of a team. They must be able to work collaboratively and ensure that the individual with communication disability and his/her family/supporters are central to all planning, assessment and intervention. The field of AAC is expanding rapidly, requiring that speech pathologists are aware of resources, and regularly reappraise their own skills in order to keep pace with these developments. They need to be prepared to seek and share information, and adopt a life-long learning approach to this exciting field.

16. Future Directions

The field of AAC will continue to advance with several factors affecting the roles of speech pathologists, including: (a) a constantly expanding client group, as people who are ageing acquire conditions affecting their communication, and as adults with lifelong disabilities age and acquire conditions associated with ageing and/or experience changes in their social networks; (b) advances in technology and ways people use computer technologies to interact, including the expanding use of social media and online or virtual worlds in the field of AAC; (c) changes in funding arrangements such as those proposed National Disability Insurance Scheme, potentially impacting upon service models and decisions surrounding AAC; and (d) the ongoing expansion of the evidence base in the field of AAC and multimodal communication. In respect of these and other factors, future directions of speech pathologists are expected to include:
• Advising government and industry in the communicative environments in which people live on how to make local environments more communicatively accessible by the use of readily available communication technologies.

• Assisting in the transfer of research into practice through actively engaging with industry in the design and production of AAC, as developers seek expertise and advice on products to suit a growing market.

• Contributing expertise, training, advice, and services in AAC for people in communities affected by natural disasters, emergency situations, and mass evacuations in Australia and the Asia-Pacific region. When a community is affected or displaced by a disaster, demands increase rapidly for those people in the community with complex communication needs who must get their message across to a range of new communication partners (e.g., community volunteers, aid workers, emergency services personnel). In these situations, speech pathologists may be called upon by various agencies to provide training and population-based interventions to ensure the safety and wellbeing of people with complex communication needs. Speech pathologists may be asked to contribute to community disaster response plans, and may need to be prepared to respond rapidly to requests for AAC support in local or distant communities.

Across all sectors in the community, future directions of speech pathologists are likely to include:

• Involvement in the development of AAC training courses and curriculum content for a range of audiences including students of speech pathology and other professions, qualified speech pathologists, family members, people with complex communication needs, and industry members; and

• Input into any organisational, local, State and Federal Government policies and/or procedures that may affect people with complex communication needs and their communication partners.

17. **Review**

This paper should be reviewed five years from the date of ratification by Council.
18. Selected Resources on Augmentative and Alternative Communication

Resources in this list appear in alphabetical order.

- AGOSCI all information at [www.agosci.org.au](http://www.agosci.org.au) (site) [www.twitter.com/agosci](http://www.twitter.com/agosci) (Twitter)
- Australian Rehabilitation & Assistive Technology Association (ARATA) [www.arata.org.au](http://www.arata.org.au)
- Australasian Society for Intellectual Disabilities (ASID) [www.asid.asn.au](http://www.asid.asn.au)
- Communication Matrix [www.communicationmatrix.org](http://www.communicationmatrix.org)
- EVIDAAC Database of evidence in AAC: [www.evidaac.org](http://www.evidaac.org) [forthcoming]
- International Society for Augmentative and Alternative Communication (ISAAC) all information at [www.isaac-online.org](http://www.isaac-online.org)
- ISAAC-Australia [www.twitter.com/isaacaus](http://www.twitter.com/isaacaus) (Twitter) [www.isaacaustralia.com](http://www.isaacaustralia.com) (blog)
- International Classification of Functioning, Disability, and Health (ICF) [www.who.int/classifications/icf/en/](http://www.who.int/classifications/icf/en/) and ICF Children and Youth Version (ICF-CY) [www.icfcy.org/aac](http://www.icfcy.org/aac)
- Independent Living Centres, Australia (ACT, QLD, NSW, SA, WA, Tasmania, Victoria) [www.ilcaustralia.org/home/default.asp](http://www.ilcaustralia.org/home/default.asp)
- Media Access Australia ([www.mediaaccess.org.au](http://www.mediaaccess.org.au))
- SpeechBITE Database of evidence in speech pathology: [www.speechbite.com](http://www.speechbite.com)
- The AAC-RERC on Communication Enhancement [http://aac-rerc.psu.edu/index.php/site/index](http://aac-rerc.psu.edu/index.php/site/index)
19. References


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Hemsley, B., Balandin, S., & Togher, L. (2008). “We need to be the centrepiece”: Adults with cerebral palsy and complex communication needs discuss the roles and needs of family carers in hospital. *Disability & Rehabilitation, 30*, 1759-1771.


Perry, A., Reilly S., Bloom, K., & Johnson, H. (2002). *An analysis of needs for people with a disability who have complex communication needs*. Melbourne, La Trobe University; School of Human Communication Sciences, Bundoora 3086: 121.


