Effective Communication in Children's Hospitals

A Handbook of Resources for Parents, Patients, and Practitioners

Central Coast Children's Foundation
Augmentative Communication Inc.
Rehabilitation Engineering Research Center on Communication Enhancement (AAC-RERC)
Available as free download
www.patientprovidercommunication.org

This handbook had its origins in an article that Sarah Blackstone and Harvey Pressman wrote for the November 2011 issue of Brainchild, the official publication of the Hong Kong Society of Child Neurology and Developmental Pediatrics. The article, entitled "Communication Enhancement in Children's Hospitals: Practical Tools to Support Communication Vulnerable Patients," ended with a section ("Summary and Available Resources") directing the reader to our Patient-Provider website to find multiple resources and references to many of the tools, forms, communication boards and strategies that have proven their value in the field", and "to find the most useful resources and references".

This handbook is designed not only to provide those available resources, but also to assemble a growing collection of materials that, with periodic updates, may prove of value to others dealing with issues of communication vulnerability in children's hospitals. We hope it proves helpful to our readers, and welcome your suggestions for additions to future editions.

Sarah Blackstone and Harvey Pressman

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Introduction

Children's hospitals face unique challenges when they try to make practical improvements in their communication with children and family members. Effective communication is more crucial, and often more complicated, than it is with adult patients. There are valuable techniques, tools, strategies that healthcare providers can utilize to communicate more effectively with even the youngest children who are admitted for treatment to hospitals, as well as with the family members who accompany them.

While available resources and relevant literature are still quite limited, it is important to be aware of an article like the one recently published by John Costello and colleagues focusing on *Augmentative and Alternative Communication (AAC) in the Pediatric Intensive Care Unit* and published in a special, AAC-focused 2010 issue of the *Journal of Pediatric Rehabilitation Medicine* (Costello, Patak & Pritchard 2010). The article is important not only because it provides concrete case studies, but also because it delineates phases of treatment that can help hospital staff avoid dangerous communication breakdowns and remove barriers to effective patient-provider communication.

Costello works at Children's Hospital Boston, which is preeminent among American children's hospitals in finding creative new solutions that improve communication between patients/families and providers, in the quality of health care and in the satisfaction of patients and their families with medical encounters. Communication specialists at Boston Children's have shared their insights and discoveries through many peer-reviewed articles, PowerPoint presentations, webcasts, videos, hospital communication boards, and the like.

In addition to the above-mentioned article, other valuable resources on Boston Children's website include information about the EZ Picture Communication Board pre-operation voice banking (Costello 2000), implementing the assessment of patient communication needs into routine care (Costello, Patak & Pritchard 2010), providing communication support to children with cortical vision impairments (Costello 2011), and on how augmentative communication can support children facing end of life. All are described in more detail in this publication.

Another uniquely valuable resource is a set of *Bedside Message Materials* that enable hospitalized children with impaired speech to communicate some basic needs to nurses and other hospital staff. These materials include a laminated communication board with a list of key bedside messages on the reverse, and a talking photo album that both illustrates *and speaks* the messages researchers in Australia report are the most important messages nurses and patients need for communication. (Section III shows an example in English and Mandarin Chinese.) The messages are now available in 20 different languages.

Some hospitals prepare children and their families for their stay in an effort to reduce stress and anxiety associated with hospital stays.

[For example, a special Emergency Room Communication Kit is now available in every French hospital. Professionals in France are demonstrating leadership in Emergency Rooms.] Also, Sparadrap, a French organization founded in 1993, provides valuable information for children, parents, and health professionals to support understanding of specific procedures, treatments, *et al.,* Its website, available in French and English, has age-appropriate materials for children, parents and professionals, such as:

For Children

- a picture dictionary of medical terms with simple definitions for diseases, instruments, medicines, and other health-related items;
- a section on various kinds of injections, with images, videos, quizzes and simple texts walking children through the process;
- a place where kids can post their stories or messages about their experiences.

For Parents

- an advice page, covering topics such as how to explain to kids what will happen in the hospital and how to comfort their children.

For Professionals

- a list of training sessions and workshops on topics like how to communicate with children in the hospital, how to use puppets to engage children, and how to reassure children.
  - advice on topics such as assessment, anxieties and photo albums.

In the United States, the Children's Hospital of Philadelphia (CHOP) offers many activities, programs and preparations for children before, during and after a hospitalization. Beforehand, children can check out the Kids' Health Galaxy, a website that prepares children for surgery using games. The *Kids Health Galaxy* is medically-reviewed and teaches kids about what to expect in a hospital. There are animated tours of facilities, introduction to personnel, and walk-throughs of procedures (*e.g.*, blood tests, X-rays, IVs and catheters). Games, like memory and quizzes reinforce the concepts. There is even a section with printout sheets that kids can bring to the hospital and color.

CHOP also provides tips for parents, giving age-appropriate strategies to help parents prepare children for a medical encounter. For instance, CHOP suggests using soothing music to help infants and toddlers cope, and letting adolescents play with hand-held video games while in the hospital.

During the hospital stay, CHOP offers children and young adults ways to decrease their boredom and alleviate pain and stress. CHOP has a Child Life staff for all inpatient and most outpatient areas. The Paw Partners program brings in dogs to play with the kids. CHOP also encourages art and music therapy, and has an in-hospital school program for kids so they can keep up with their studies.

These are a few examples of how hospitals are helping children and families navigate through the pediatric hospital experience. The next sections highlight more references and resources, as well as summary of articles, presentations and specific examples of materials aimed at enhancing communication and thus, the hospital experience for children and their families.

Articles Available Online

Beukelman, David, and Ray, Paula. (2010). Communication Supports in Pediatric Rehabilitation. *Journal of Pediatric Rehabilitation Medicine*, 3, 279–288. Available at: http://aac-rerc.psu.edu/documents/beuk_ped_rehab_2010.pdf

Children with complex communication needs (CCN) who cannot communicate by natural speech alone have the same social, emotional or physical needs as other children. Communication supports, also known as augmentative and alternative communication (AAC), help these children express themselves in ways that extend beyond basic needs, such as "I'm hungry." The authors present several examples of how to provide communication supports in a pediatric setting, as well as advice for how parents can better serve their children's needs.

Blackstone, Sarah. (2010). Communication Access for Children: The Role of Augmentative and Alternative Communication Technologies and Strategies in Pediatric Rehabilitation. *Journal of Pediatric Rehabilitation Medicine: An Interdisciplinary Approach,* 3, 247-250. Available at: http://iospress.metapress.com/content/b6m346n13707j378/fulltext.pdf

This article presents a brief overview of a recent issue of the *Journal of Pediatric Rehabilitation Medicine* on communication. Written by members of the Rehabilitation Engineering Research Center on Communication Enhancement, the issues focuses on ways that augmentative and alternative communication (AAC) strategies, technologies, and resources can support young people with severe communication challenges across healthcare environments, in their homes and within their communities. From a policy as well as a practical perspective, the issue raises awareness of new standards and regulations in the United States that recognize the need for effective patient-provider communication to improve patient safety, patient outcomes and reduce healthcare costs.

Children's Hospital Boston: *Pediatric View*: "Communication is the Key" Available at: http://www.childrenshospital.org/views/december04/key.html

The article discusses the challenges families face with children with autism, cerebral palsy, traumatic brain disorders, as well as other disorders that can hinder a child's ability to hear, and speak. It highlights a family with an autistic child who were told their son would eventually have to be institutionalized. It describes how Children's Hospital Boston's Communication Enhancement Center (CEC) worked with the family to help the boy learn to communicate using assistive technology and other augmentative communication strategies.

Cora-Bramble, Denice. (2011). *Culturally Effective Care Toolkit.* American Academy of Pediatrics. Available at: http://practice.aap.org/content.aspx?aid=2990

As the United States becomes more diverse, health care professionals must acknowledge and accommodate cultural

differences among their patients. The American Academy of Pediatrics has created a Toolkit to help pediatricians provide "culturally effective care" – that is, care that reaches the desired outcome while respecting cultural distinctions. The Toolkit has nine sections, each with relevant resources and references: (1) an introduction to culturally effective pediatric care, (2) health beliefs and practices, (3) nutritional/dietary preferences, (4) behavior and child development, (5) interpretive services, (6) basic and health literacy, (7) medical education, (8) implementation and (9) continuing educational opportunities. Common to all categories is the need for doctors and other healthcare providers to prepare to work with patients from a variety of backgrounds so they can provide the best possible care.

Costello, J.M. (2011, February 10). Last Words, Last Connections: How Augmentative Communication Can Support Children Facing End of Life, *American Speech-Language-Hearing Association.* Available at: http://www.childrenshospital.org/clinicalservices/Site2016/Documents/lastconnections.pdf

Children undergoing palliative or end-of-life treatment have needs and emotions to express. The speech-language pathologist (SLP) can play an important role in recommending the best forms of communication supports, including augmentative and alternative communication (AAC), based on a child's specific needs and abilities. Children's Hospital Boston suggests guidelines for all SLPs and healthcare professionals who treat children in these circumstances, which includes taking into account the importance of social ties. The guidelines address consideration of the child's autonomy, right to know about the medical condition, age-appropriate understanding of death, need for self-expression, and concerns about what will happen to their families after they die. SLPs and other professionals need to take an active role in developing the best strategies for children to express themselves as well as help support these children and their families throughout the process.

Costello, J.M., Patak, L., & Pritchard, J. (2010). Communication Vulnerable Patients in the Pediatric ICU: Enhancing Care through Augmentative and Alternative Communication. *Journal of Pediatric Rehabilitation Medicine: An Interdisciplinary Approach,* 3. Available at http://aac-rerc.psu.edu/documents/costello_ped_rehab_2010.pdf and http://www.childrenshospital.org/clinicalservices/Site2016/Documents/vulneraablepatsicu.pdf

The Intensive Care Unit (ICU) is an intimidating place and even more stressful for children and their families when children are unable to communicate their needs. The authors argue for the use of AAC technologies and strategies in the pediatric ICU. They suggest three phases of communication interventions and give practical examples of the kinds of AAC tools, strategies, and approaches that can provide helpful communication support during each phase. Phase 1: Emerging from sedation: Getting attention and responding to yes/no questions; Phase 2: Increased wakefulness: Communicating basic information with staff and family and Phase 3: Need for broad and diverse communication access: Communicating about and beyond the hospital environment.

Fager, S., & Spellman, C. (2010).Augmentative and alternative communication intervention in children with traumatic brain injury and spinal cord injury. *Journal of Pediatric Rehabilitation Medicine*, *3*, 269–277. Abstract available at http://callierlibrary.wordpress.com/2011/02/21/augmentative-and-alternative-communication-intervention-in-children-with-traumatic-brain-injury-and-spinal-cord-injury/

Children and youth who sustain a traumatic brain injury (TBI) or a spinal cord injury (SCI) may have temporary or permanent disabilities that affect their communication abilities. This article describes how rehabilitation teams can use augmentative and alternative communication (AAC) and assistive technologies (AT) to support the communication of children recovering from TBI and SCI over time. Having a way to communicate can help reduce children's confusion and anxiety and enable them to participate in the rehabilitation and recovery process. In addition, effective communication with family, care staff, peers, teachers, and friends is essential to long-term recovery and positive outcomes for children with TBI and SCI as they are integrated back into their communities.

Farrell, M., Ryan, S. & Langrick, B. (2001). Breaking Bad News within a Paediatric Setting: An Evaluation Report of a Collaborative Education Workshop to Support Health Professionals, *Journal of Advanced Nursing*, 36(6), 765-775. Available at: http://www.ncbi.nlm.nih.gov/pubmed/11903706

Informing a patient and/or a family of bad news is a challenge for healthcare providers. Studies have shown that poor delivery of the message is common in pediatric settings, leading to high levels of parent dissatisfaction and may reflect the lack of training health care professionals generally get for these situations. This UK-based study evaluated an interactive workshop that allowed healthcare professionals to roleplay situations during which they had to relay bad news. Participants were encouraged to share their experiences, but not given specific scripts to follow. Feedback suggested that a workshop format is an effective way to educate professionals. It helped participants gain confidence and insight into how to approach patients in a more effective manner.

Fischman, J. (2006, July 9). Bridging the Gap: Some Hospitals Make Non-English Speaking Patients Feel Right at Home, *U.S. News & World Report.* Available at: http://health.usnews.com/usnews/health/articles/060709/17cult.htm

Fischman uses St. Vincent's Hospital in Manhattan as an example of a healthcare facility that bridges language and cultural barriers. The facility uses Asian artwork, food, signs, and Chinese staff to serve the patient population who lives in Chinatown. The author states that using untrained bilingual people to interpret for patients can result in major communication problems among patients, families, and medical staff as well as medical errors. The article also discusses the *AnMed Health Medical Center's* forty-hour course on medical interpreting. The course trains interpreters to convey messages effectively regarding diagnosis, treatment, and payment options to patients to avoid communication errors and misunderstandings.

Kamin, D. "Hospital rounds: How's the doctor-patient communication system?" (2011, *Vector*). Available at: http://vectorblog.org/2011/09/hospital-rounds-hows-the-doctor-patient-communication-system/

Clinicians at Children's Hospital Boston recently adopted new ways of communicating with family and patients to ensure that communication is effective and that "flare ups" are avoided. Daniel Kamin discusses challenges that occur if communication is NOT included as part of the rounds in hospitals. He states that patient-clinician communication is an integral part of competency measurements and family-centered rounding is a critical step practiced at Children's Hospital Boston. Kamin maintains that doctors need to evaluate communication with their patients to ensure that relationships are maintained and patient's and family's needs are met. He recognizes that clinicians often miss cues from patients and families for a wide variety of reasons, in particular because of the busy schedule a clinician must follow. He considers it extremely important to make family-centered rounding an integral part of communication.

Mesko, P.J. (December, 2011). Use of picture communication aids to assess pain location in pediatric postoperative patients. Journal of Perianesthesia Nursing, 26, 6: 395-404. Available at: http://www.jopan.org/article/S1089-9472(11)00421-7/abstract

Children undergoing surgical procedures often have difficulty communicating post-surgery. This study aimed to (1) determine if inconsistency exists between nurse assessments of pain location versus identification of pain location using AAC picture communication aids and (2) determine parent satisfaction with the use of AAC picture communication aids. A convenience sample of patients aged 3 to 9 years were recruited in a Midwestern freestanding pediatric hospital's postanesthesia care unit (PACU). Researchers used an AAC picture communication aid to assess the patient's pain location and then compared that assessment to the PACU nurses' pain assessment. Nurses did not consistently document location of pain, and, when documented, the surgical site was inaccurately identified as the location of pain. Parent satisfaction was measured through completion of a 10-item satisfaction survey. Respondents were satisfied with the use of AAC picture communication aids.

Mulcahy, M. (December, 2011). Critical Thinking, Collaboration, and communication: The Three "Cs" of Quality Preoperative Screening," *Journal of PeriAnesthesia Nursing*, 26, 6:388-394. Abstract available at: http://www.jopan.org/article/S1089-9472(11)00417-5/abstract

The Preoperative Clinic at Children's Hospital Boston has established a unique collaborative approach to ensure that individualized perioperative plans of care are created for patients and that the plans go beyond traditional preoperative screening. This article describes the Preoperative Clinic's operational model and explains the significant role the healthcare record review nurse plays in developing these perioperative plans of care.

Miyasaka, Katsuyuki, Suzuki, Yasuyuki, Sakai, Hirokazu, & Kondo, Yoichi. (1997). Interactive Communication in High-technology Home Care: Videophones for Pediatric

Ventilatory Care. *Pediatrics: Official Journal of the American Academy of Pediatrics*, 99(1), 1-6. Available at: http://www.pediatrics.org/cgi/content/full/99/1/e1

This article discusses a study in which Japanese doctors compared two groups of patients to assess the clinical impact of a home videophone system on patients receiving home respiratory care. The study described the videophone system and evaluated its impact on the type and quality of care. The authors concluded that this approach significantly reduced the number of house calls by physicians, unscheduled hospital visits by patients, and hospital admission days. Furthermore, both patients and healthcare professionals reported the videophone system was acceptable and beneficial and strongly advocated for its use in improving the quality of pediatric home ventilatory care.

O'Reilly, K.B. (2008, May 19). Hospitalized kids found at risk for drug errors. The Joint Commission. Available at http://www.ama-assn.org/amednews/2008/05/19/prsc0519.htm

A new study found that 11 percent of child patients experience adverse drug events during hospitalizations. Most errors did not have serious consequences. The Joint Commission warns that many drug mix-ups are due to improper dosing and recommends that hospitals standardize how they identify and administer pediatric medications.

Purvis, M. John. (2009). The Challenges of Communicating with Pediatric Patients. *AAOS Now*. Available at: http://www.aaos.org/news/aaosnow/feb09/clinical5.asp

Purvis addresses the communication challenges physicians may face when interacting with children and the importance of applying the four Es – *engagement, empathy, enlistment, and education*. The article emphasizes the importance of communicating successfully with a child, stressing the significance of verbal, nonverbal and communication activities and the importance of considering the cognitive and developmental stages and adapting to the specific needs of infants, children and teenagers.

Rowland, C., & Fried-Oken, M. (2010). Communication Matrix: A clinical and research assessment tool targeting children with severe communication disorders. *Journal of Pediatric Rehabilitation Medicine*, *3*, 319–329. Available at: http://aac-rerc.psu.edu/documents/rowland_et_al_ped_rehab_2010.pdf

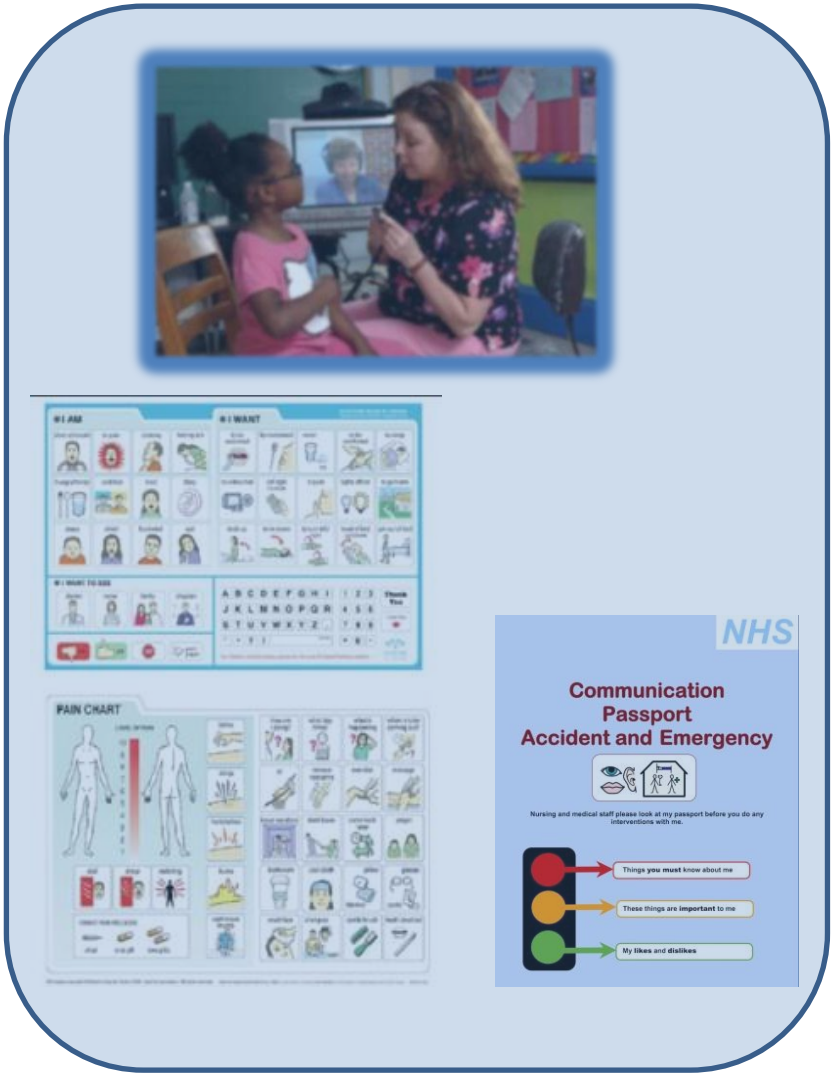
The Communication Matrix is an assessment tool suitable for pediatric settings across the continuum of hospital care. It was designed for use with children with communication disabilities, and builds on the skills that children already have to help them communicate in a given context. It identifies the reasons for communication and different levels of communication. For ease of use, the Matrix is available online, in both English and Spanish. This allows parents and professionals to observe and take notes about children's communication behaviors and identify mastered concepts. These data can enhance ongoing research on communication disabilities and help develop better rehabilitation and communication supports.

Tarkan, Laurie. (2008, September 15). Small Patients, Big Consequences in Medical Errors, *The New York Times.* Available at: http://www.nytimes.com/2008/09/15/health/healthspecial2/15mistakes.html

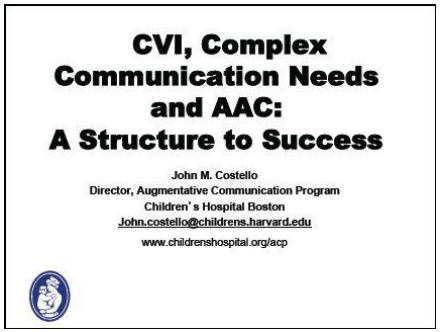
Children are far more vulnerable to medical errors than adults. Their bodies are not yet fully developed and their immune systems are relatively weak. For example, a slight increase in a dosage of medication can have serious effects on a child. This presents a challenge for doctors, who must factor in the child's weight and height to calculating the right dosage. Technologies, such as computerized order entry, can reduce these types of errors, but are not widely implemented in U.S. hospitals. Apart from technological solutions, overall better attentiveness on the part of doctors and parents could go a long way in preventing serious medical mistakes in young patients.

Perfecting Patient Communication by Optimizing the Nurse Call System. (May, 2010). Robert Woods Johnson Foundation. Available at: http://www.rwjf.org/qualityequality/product.jsp?id=63468

The purpose of having better telecommunication systems in hospitals is to improve communication between nurses and patients. By adopting and implementing new call systems, nurses are more likely to spend more time with their patients and improve the patient's experience. In order to improve communication and time spent with patients, the Children's Hospital Boston met with their staff and the hospital's telecommunication vendors to identify concerns and available resources. The article discusses results from new communication systems that increase the nurses time spent with patients and patient's satisfaction.



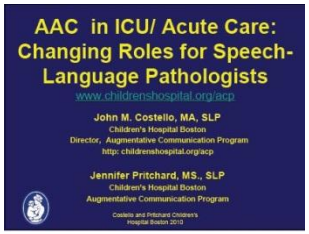
PowerPoint Presentations



(2011) by *John M. Costello, MA, SLP. Children's Hospital Boston.*

http://www.childrenshospital.org/clinicalservices/Site2016/Documents/CVI%20complex%20needs%20Costello.pdf

Cerebral visual impairment (CVI) is a functional vision disorder in which a patient has an otherwise normal eye exam, but still cannot process visual information. Patients with CVI have difficulties and a unique set of needs and difficulties that are often unaddressed. This presentation explains issues related to CVI and suggests way to correct them.



(2010) by *John M. Costello, MA, SLP; and Jennifer Pritchard, MS, SLP*. Children's Hospital Boston

http://www.childrenshospital.org/clinicalservices/Site2016/Documents/asha2010final.pdf

This presentation discusses the barriers to good communication between pediatric patients and providers in hospitals. Supporting patient-provider communication in pediatric hospitals results in better outcomes. The presenters show various technologies and methods that enable health care personnel to identify, assess and address the needs of patients, family members and providers and includes detailed explanations and examples of how communication accommodations are made at Children's Hospital Boston. Examples include children and youth who have a broad range of disabilities and/or language differences.. (See also John M. Costello, *AAC Intervention in the Pediatric ICU: The Children's Hospital Boston Model*, http://www.childrenshospital.org/clinicalservices/Site2016/Documents/voicebanking.pdf)

Webcasts and Videos

Freedom of Speech: How Communication Devices Let Patients Who Can't Use Natural Speech to Express Themselves

A video interview with John M. Costello, MA, CCC-SLP, Director of the Augmentative Communication Program at the Children's Hospital Boston

John Costello with Rick Hoyt

John Costello, the Director of the Augmentative Communication Program (ACP) at Children's Hospital Boston, introduces three people who use speech generating devices to communicate. Rick Holt, who has cerebral palsy, is unable to produce intelligible speech and uses a switch to access a sophisticated communication device. Holt and his father are well-known for their athletic adventures. With Dad pushing or pedaling, Rick has climbed mountains, trekked thousands of miles, and participated in marathons and triathlons. He also writes and regularly lectures in Costello's graduate classes. Holt is a disability rights advocate who recently traveled to a conference in Holland to give a speech about the rights of people with severe communication and motor challenges.

Costello also introduces two other individuals who use AAC technologies, gives additional information about the currently available technologies and strategies that support communication and describes the assessment and intervention processes. For example, he talks about his pioneering work on 'voice banking' when he introduces meet Brian Ingalls, who has Juvenile Huntington's disease and will lose his ability to speak. Ingalls records phrases, messages and even a song. As a result, he will be able to use his own voice, even after his speech isn't understandable.

To see the full interview, follow the link to the Children's Hospital Boston website:
http://www.childrenshospital.org/dream/spring09/freedom_of_speech.html

Supporting Effective Patient-Provider Communication Across Health Care Settings

A webcast by the Rehabilitation Engineering Research Center in Augmentative and Alternative Communication (AAC-RERC).

Interviews by experts and advocate in the area of patient-provider communication include John Costello (Children's Hospital Boston) , Richard Hurtig (University of Iowa), Karin Ruschke (International Language Services), Amy Wilson Stronks (Wilson-Stronks, LLC), and Paul Rao (President., American Speech Hearing Association), with moderator Sarah Blackstone (Augmentative Communication, Inc.). consider the importance of patient provider communication and the convergence of situations that result in communication vulnerability during medical encounters, particularly in hospitals. The webcast is available for view in sections of from 7 to 15 minutes. The total length is just under an hour. Available at www.aac-rerc.com or on YouTube, as noted below:

Wilson-Stronks: http://www.youtube.com/watch?v=OxO5oHHIQxo	13 minutes
Ruschke: http://www.youtube.com/watch?v=376iZCdp-pI&feature=related	9 minutes
Hurtig: http://www.youtube.com/watch?v=dNHi0dRrfVc&feature=related	9 minutes
Rao: http://www.youtube.com/watch?v=ttPyRSxb_ig	7 minutes
Ruschke: http://www.youtube.com/watch?v=376iZCdp-pI&feature=related	9 minutes
Costello: http://www.youtube.com/watch?v=qPQaW21Bpmw&feature=related	15 minutes

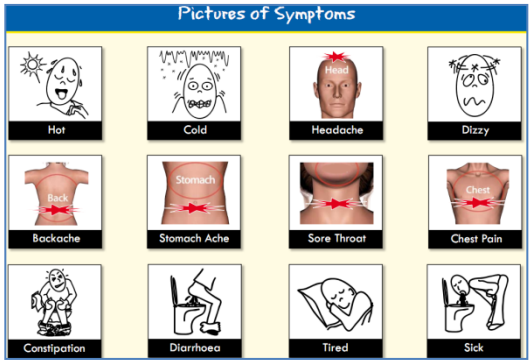
Materials for patients, providers, family members

THE HOSPITAL COMMUNICATION BOOK

The Hospital Communication Book is a 24-page resource for patients, providers and family members, designed by The Clear Communication People Ltd on behalf of The Learning Disability Partnership Board in Surrey, England.

There are two sections with lots of pictures and diagrams. The first section is for hospital staff and contains basic information about the kinds of communication needs people have. It includes information about how to communicate with someone who has difficulty speaking and how to support people with vision and hearing impairments. There are also sections on using manual signs, pictures and photos for communication.

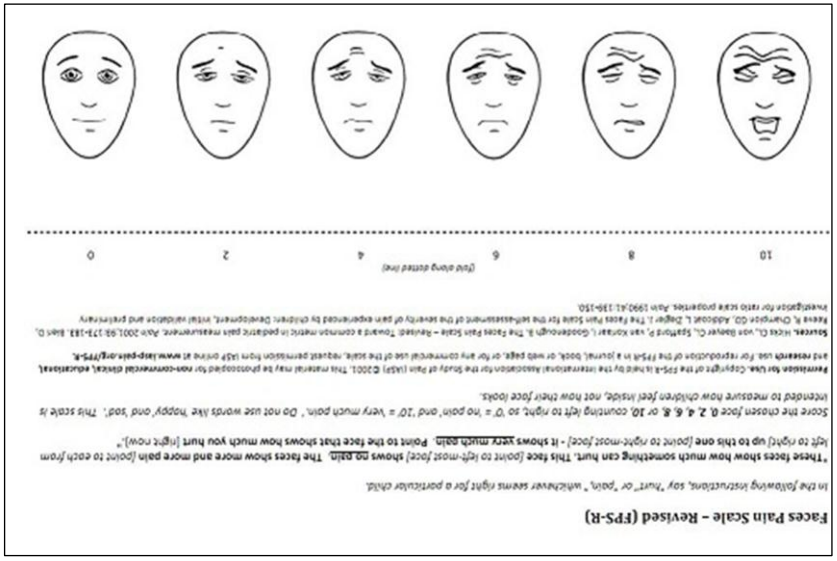
The second section has pictures and simple explanations of basic hospital procedures, pain levels, personal care, choices for food and drink, symptoms (some examples shown below) and more. These materials make it easier for patients to understand what is happening and for nurses and doctors to explain things.



The Hospital Communication Book is available as a free downloaded at http://www.communicationpeople.co.uk/Hospital%20Book.htm

THE FACES PAIN SCALE

von Baeyer, Carl L. (2007, August). The Faces Pain Scale – Revised. This scale, recommended for use with young children, shows a visual scale of pain from "0" (no pain) to "10" (very much pain). The six faces show an increasing degree of pain to better indicate the intensity of a child patient's pain. It is available in French, English, and 46 other languages.



The faces are available on the above PDF (which contains the instructions in English and French). To download in any of the languages, go to http://www.iasp-pain.org/Content/NavigationMenu/GeneralResourceLinks/FacesPainScaleRevised/Download_the_FPS_R/default.htm For more information, go to http://www.iasp-pain.org/Content/NavigationMenu/GeneralResourceLinks/FacesPainScaleRevised/default.htm

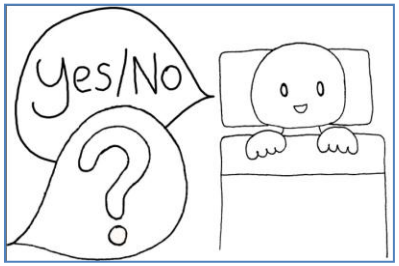
HOSPITAL BEDSIDE MESSAGES

Imagine that you are a teenager whose family speaks only Mandarin. While you speak some English, it is not your native language as you have recently emigrated to the United States. You are in the hospital and have just undergone a tracheotomy, leaving you temporarily unable to speak. Your doctor, nurses and other staff speaks only English. Not only can you NOT talk, but you are unfamiliar with English-language medical terms and phrases. How will you communicate?

This situation is far from imaginary and occurs in many hospitals and healthcare facilities. Patients have urgent needs and concerns, but because of language barriers, are unable to communicate with their providers. The Central Coast Children's Foundation, working with Dr. Bronwyn Hemsley, have created a list of 26 bedside messages for use in a health care setting. The 26 phrases are the results of Dr. Hemsley's research on hospital communication in Australia. She identified some of the key needs that patients with limited speech want to express to their nurses. These phrases express general needs, such as, "*I'm hungry*," or "*I'm feeling sick;"* but they also express more specific needs, such as*, "I'm having trouble with this food, can I have it changed*?" or "*Please explain the test results to me."* The bedside messages have been translated into 20 languages, including Spanish, Romanian, Twi, Zulu, Bengali and Mandarin Chinese.

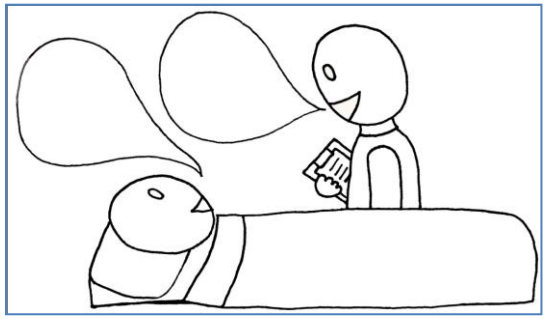
The CCCF introduced the use of a Talking Photo Album (TPA), with illustrations drawn by Maria Man, one of Dr. Hemsley's students. In addition, the CCCF created a laminated, double-sided communication tool with a communication board on one side and the 26 messages on the other. Both tools make it easier for patients to communicate, despite physical or linguistic barriers. An example of these messages, translated into Mandarin Chinese, is below:

Hospital Bedside Messages: English & Mandarin Chinese (simplified)



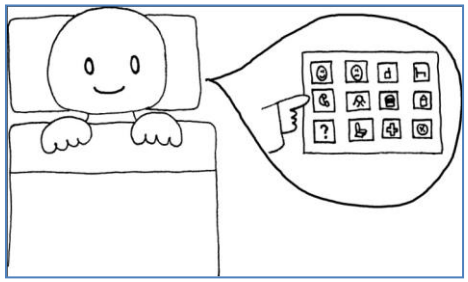
I can indicate "yes" and "no". Please ask me yes and no questions.

我能表示「是」与「不是」，请用「是」与「否」问题与我沟通。



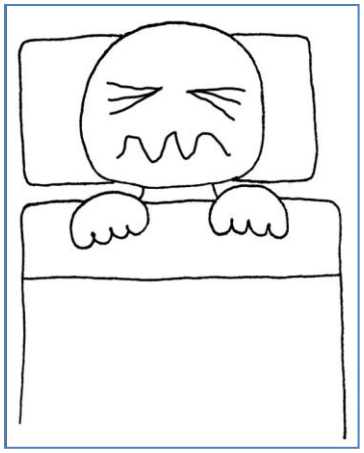
Please realize that I am intelligent, and you can talk to me directly. I can understand what you are saying.

我的智力没有问题、头脑清醒，你可直接与我对话，我能明白你的说话。



Let me explain to you how I communicate.

请让我向你解释我的沟通方法。



I am feeling quite a lot of pain; please help me.

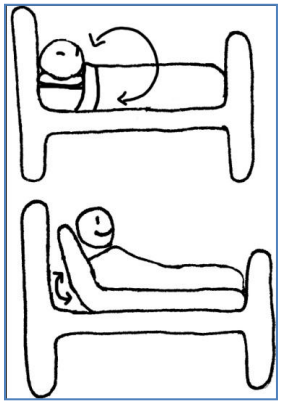
请帮忙，我感到很疼。

I'm very thirsty, I would like a drink.

我很渴，请给我一些饮料。

I'm very hungry, I would like some food.

我很饿，请给我一些食物。

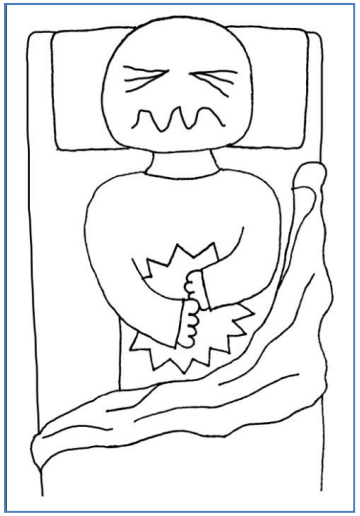


I am very uncomfortable, and need to be repositioned on this bed.

我很不舒适，请帮我转换我在床上的姿势。

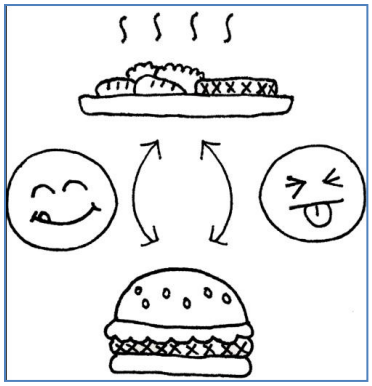
I need immediate help with my toileting.

请立即帮忙，我急需要上厕所！



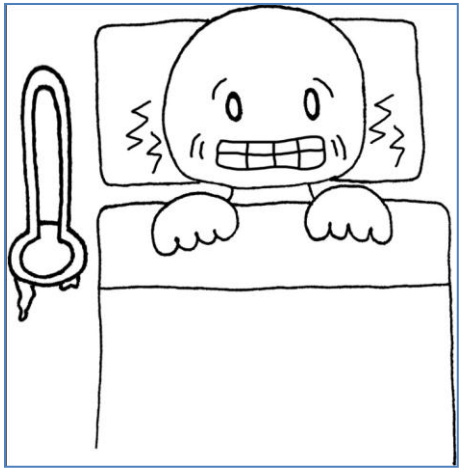
I am feeling sick to my stomach. Please help.

我的肚子很痛，请快帮我！



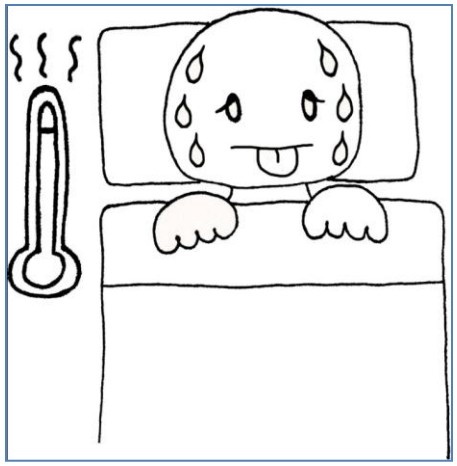
I am having trouble dealing with this food. Please could I get it changed?

我吃这些食物有困难，能不能帮我换一换？



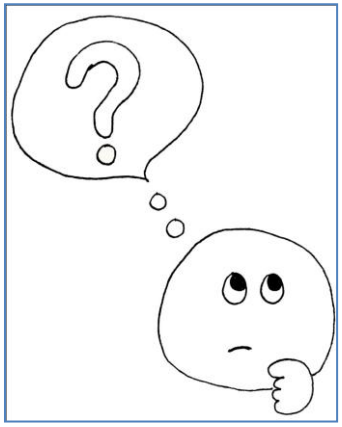
I'm feeling very cold. Could you please help me?

请帮帮忙，我感到很冷！



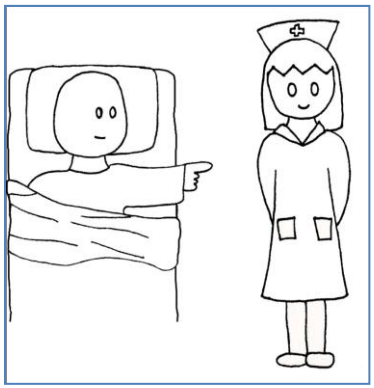
I'm feeling very hot. Can you help cool this place down?

我感到很热，能不能帮我调低一下这里的温度？



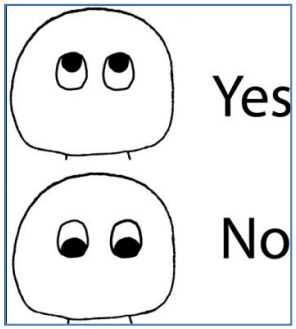
I have a question I really need to ask.

我急需问你一个问题。



Please help me get a nurse in here.

请帮我把护士找来。

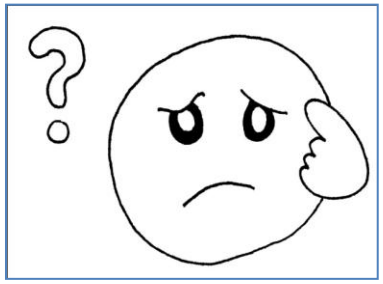


I indicate "yes" by looking up, and "no" by looking down.

我的眼睛向上望，表示「同意」；我的眼睛向下望，表示「不同意」。

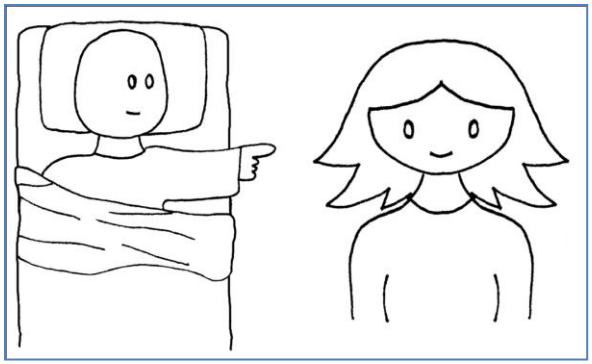
Please ask my carer (or caregiver) that question. She knows the answer.

我的照顾者知道这问题的答案，请你问一问她！



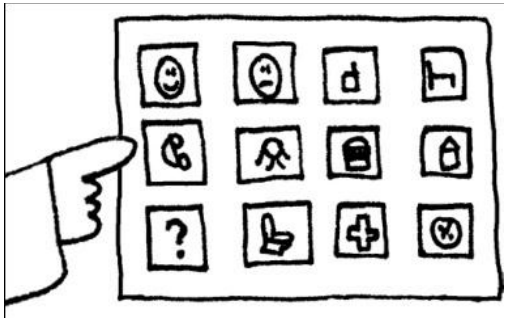
I want to know more about what is wrong with me.

我想多了解些我的情况。



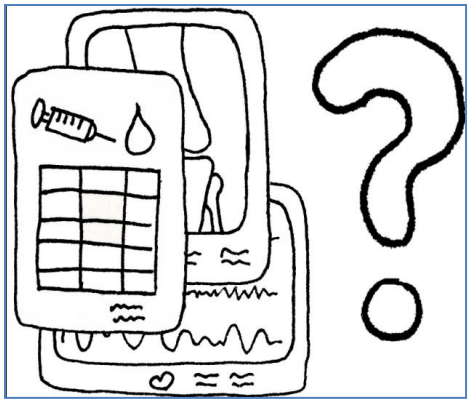
I want to see my caregiver as soon as I possibly can.

我想尽快见到我的照顾者！



Please let me show you how I use my communication board.

请让我示范我是如何使用我的沟通板的！



Please explain the results of the tests to me.

请给我解释我的检验结果！

Thank you so much for all you are doing for me.

我衷心感谢你对我的一切帮助！

Talking photo album strategies

USING THE TALKING PHOTO ALBUM AS A COMMUNICATION TOOL (Costello, J.)

Talking to Hospital Staff

Some hospital procedures can result in an inability to communicate because of intubation, a tracheotomy, jaw wiring, *at al.*. This idea uses the Talking Photo Album to help individuals communicate specific messages during the period in which they are unable to speak. Ideally, the individual can prepare his/her own messages before being admitted to the hospital with assistance from a family member, speech-language pathologist, social worker or nurse.

Target Population:

Anyone who is temporarily (or otherwise) unable to speak while in the hospital

Tips for Implementation:

John Costello of the Communication Enhancement Clinic at Boston Children's Hospital has suggested vocabulary that includes categories of common wants/ needs:

- Personal needs: "Bathroom; ice; wet cloth; mouth brush; pee; please brush my teeth; can I _____?; I am thirsty; I am really, really thirsty; put on my glasses; wipe my nose."
- Psychosocial needs:
- *Emotional* - "I am scared, mad, OK, not stupid, tired, lonely, confused."
- *Control* - "Leave me alone; Wait five minutes; I don't want that; I want privacy; Hold me; No chest PT; Just do it quick, please; I don't want you back."
- *Social* - "Thank you; I'm sorry; I appreciate it; What is your name; I love you; I love you too; How is _____?; Thank you for your help; I want to see _____; Did you feed the dogs?: Is everyone okay?"

- Medical needs: "I need to throw up, cough, be suctioned, sleep. I am in pain; I want medicine, to sit in the chair, to go to bed, a pillow behind my head, more pillows; I don't want medicine; I have a headache; I am hot, cold itchy; My _____ hurts; Bed up/down; Turn me over; Put a towel _____; Move my _____."

Sample Pages:

Picture (s) or Text	Recording
	Recorded: *I am itchy*
	Recorded*: I appreciate your help.*
	Recorded: *I can't wait to go home.*

Benefits: Especially helpful for individuals who are illiterate and therefore cannot communicate via writing.

Allows people to prepare for not being able to verbally communicate before actually being admitted to the hospital.

Helps give individuals more control during a hospitalization

One resource for medical clipart is: http://www.sla.purdue.edu/academic/fll/JapanProj/FLClipart/Medical.html

ME THE PERSON, NOT ME THE PATIENT (Costello, J.)

This set up enables a child who is hospitalized and may be temporarily unable to speak to tell nurses and visitors about "normal" life. Photos of a child's friends, family, pets, favorite activities are often placed on the wall of hospital rooms. Duplicates of the photos can be placed in the Talking Photo Album along with corresponding recorded messages. For example:

This is when we set up a tent and slept in the back yard.

This is my brother after we soaked him with our water guns.

That is the boat we go on during family vacations.

This is the girl who lives next store and wants to marry my brother, etc.

Tips for Implementation

If pre-op planning was possible, the child can record his/her own voice; otherwise a trusted proxy voice could record the messages.

Using the Talking Photo Book, staff and visitors can look at photos and ask the child for clarification and comment.

Benefits

Enables child to respond to questions about the pictures on the wall.

Allows child to 'tell' visitors and medical personnel stories by turning through each page and speaking the message.

Makes it possible for some children to flip through the messages independently. Don't under estimate the

Core of the Idea

Children who are temporarily hospitalized and non-speaking secondary to surgery, edema secondary to brain resection or numerous other interventions can become frightened and traumatized by their situation.

The idea of this set up is to increase the child's opportunities for typical interactions during a time of stress, thus reducing the trauma of being hospitalized and unable to speak. While communication of basic medical, personal and social needs may be met using specific AAC strategies, it is also important to consider the psychosocial needs of a child. For this reason, many hospital staff strongly encourage parents to bring photos of the child participating in their normal 'pre-hospital' life and display them on the child's hospital room wall or door.

power of novel toys/ activities to help decrease stress.

Gives staff and visitors a better sense of the real person behind the patient.

Apps to support communication in hospitals

It's difficult enough for kids to be hospitalized. It's even more difficult when they have problems communicating with their caregivers and/or are bored out of their skulls. And, unfortunately, many of the communication barriers that crop up in Children's Hospitals can have serious negative consequences, in term of patient safety, health outcomes, cost of care, length of time in hospital, and in many other important ways.

Recently, some mobile and tablet apps have come on the scene that can help alleviate these issues. We've tried to collect a bunch of them in one place and give you some information about each one that might help you decide if it might be worth checking out. Apps are listed from least to most expensive; all prices are in US dollars.

By Harvey Pressman and Andrea Pietrzyk, Central Coast Children's Foundation, Inc.

1. *Phrase Board* (http://itunes.apple.com/us/app/phrase-board/id380424676?mt=8#)

What is it? This iPad app is designed for patients with speech difficulties. Users can indicate where and how much they hurt with scrollable lists and a chart of the human body. Phrase Board also lets users type custom messages, or even draw messages. The app is text-only.

How much is it? Free

Platforms: iPad. Requires iOS 3.2 or later.

Reviews: Reviews have been favorable, especially since the app is free. One user said Phrase Board "has all of the basic functions needed for a patient's communication needs when speaking is not an option." The main downside is the lack of a speech functions, but as one user noted, "what makes it worth looking at is the free hand 'draw' feature that lets you draw with your finger if you don't know a word."

2. *SmallTalk Intensive Care* (http://itunes.apple.com/us/app/smalltalk-intensive-care/id403057381?mt=8#)

What is it? An app to help patients with speaking difficulties (whether because of an impairment or because of an operation) express their needs to medical care providers in the ICU. Users choose from picture-based vocabulary to "speak" phrases like, "I am in pain," or "I want to be comforted." The pictures that match the words make this app useful for non-English speakers as well.

How much is it? Free

Platforms: iPhone, iPad, iPod Touch. Requires iOS 3.0 or later.

Reviews: Reviewers found the app useful for the ICU, though one user said that the interface "was not great." The pictures are self-explanatory and make the app a convenient tool for non-native English speakers.

3. *SmallTalk Pain Scale* (http://itunes.apple.com/us/app/smalltalk-pain-scale/id403058256?mt=8)

What is it? This app contains a series of images and pain descriptions that let the user communicate the type and level of pain. It is designed for people with aphasia, apraxia and dysarthria.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Some reviews mentioned that this app does not allow for sentence construction, or any editing. However, it does allow for a great deal of specificity by offering vocabulary for "body parts, positional words, and pain-related adjectives (dull, sharp, aching, radiating, etc.)."

4. Verbally (http://itunes.apple.com/us/app/verbally/id418671377?mt=8#)

What is it? A text-to-speech app intended especially for people with AAC needs. Users type the phrase that they wish to convey, and Verbally speaks it. The app allows users to choose from several male and female voices and three different keyboard layouts. For ease of use, the app has a word predictor and two core grids – one for words and one for phrases. There is no need for an internet connection to use it, either.

How much is it? Free

Platforms: iPad. Requires iOS 3.2 or later.

Reviews: Verbally has received good reviews. Though the voices could be improved, the app's "purpose and functionality make it so valuable."

5. Answers: YesNo (http://itunes.apple.com/us/app/answers-yesno/id337470555?mt=8)

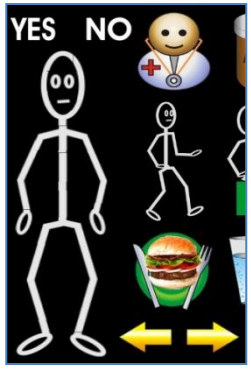
What is it? This app has two large, colored buttons to easily allow a nonverbal person to respond to "Yes-No" questions. A voice reads aloud the word. The app was specifically designed for people with autism and other communication difficulties. (A newer, HD version lets the user choose from 5 different voices and make up to 6 custom buttons.)

How much is it? $0.99 ($1.99 for HD version)

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.1 or later. (HD version requires 3.2 or later.)

Reviews: The parent of a son left mute and quadriplegic after a stroke said that the app was easy to use and gave him a "consistent" way to communicate.

6. Speak Aid (http://itunes.apple.com/us/app/speak-aid/id356743683?mt=8#)



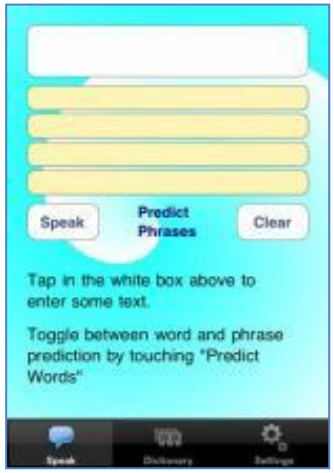
What is it? Intended for people unable to speak because of surgery, disability, accidents or stroke, this app helps users communicate while they are recovering and undergoing therapy. The app helps the user answer "yes-no" questions and indicate pain and other needs by touching a stick figure and a selection of buttons.

How much is it? $0.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: No reviews are available at this time.

7. Easy Speak (http://itunes.apple.com/us/app/easy-speak/id382620857?mt=8#)



What is it? A predictive, text-to-speech app. It has a dictionary with over 4000 words and phrases that can be modified based on the user's needs.

How much is it? $1.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.1.3 or later. Must be downloaded from iTunes.

Reviews: The father of a special needs child praised the app's "portability" and called it a "good effort" towards making iPod/iPad devices more AAC-friendly. A criticism was that the pronunciation was limited to British English.

8. YES/NO Bilingual (http://itunes.apple.com/us/app/yes-no-bilingual/id356655278?mt=8)

What is it? This app functions as a communication board for yes/no questions. The board is in English and Spanish, and offers a choice of male and female voices in both languages.

How much is it? $1.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.1.3 or later.

Reviews: This app has been well-received, with positive feedback from bilingual SLPs. Another user said that "[p]eople with communication disorders need tools like this to express their opinion."

9. AutoVerbal Talking Soundboard PRO (http://itunes.apple.com/us/app/autoverbal-talking-soundboard/id368727888?mt=8#)

What is it? A text-to-speech app that allows users to create their own messages or choose from built-in phrases, and play them back to others. The app has hundreds of built-in phrases from 16 categories, but also lets users customize specific messages or commands according to their needs.

How much is it? $9.99

Platforms: iPhone, iPad, iPod Touch. Requires iOS 3.0 or later.

Reviews: Caregivers and special needs instructors like this product. One user considered it "a long term major tool" to help a stroke victim who had difficulties speaking; another remarked that it was "a great additional tool" to help her non-verbal autistic students communicate. While one reviewer thought some of the word choices were "odd" and not always practical, the overall consensus is that this app is helpful for those with speaking difficulties.

10. Expressionist (http://www.apptism.com/apps/expressionist)

What is it? Expressionist is a visual learning app that teaches over 120 common expressions and over 1000 nouns from 7 categories (common phrases/greetings, feelings/emotions, senses, health & well-being, actions/activities, requests, questions). The app teaches using a composite approach picture, instead of multiple pictures.

How much is it? $9.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: One reviewer called it "brilliant." While some of the words are mispronounced and "the artwork could be improved," its composite picture approach "makes concepts easier to understand" for people with complex communication needs.

11. Converse (http://itunes.apple.com/us/app/iconverse-assisted-communication/id304852637?mt=8#)

What is it? An alternative communication app that offers six communication tiles expressing basic needs (bathroom, drink, food, sick, break, help) in both audio and visual form. A recording feature and a text-to-speech function let the user create his or her own buttons.

How much is it? $9.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Reviewers like the app overall, but would like to see more buttons and a sentence construction feature.

12 My Choice Board (http://itunes.apple.com/us/app/my-choice-board/id384435705?mt=8)

What is it? A visual aid for showing preferences, especially designed for those with non-verbal autism or other communication difficulties. The user has a "choice board" of up to 6 images, and with the phrase, "I want" at the top, forms a sentence by picking the desired image. A voice can then read the sentence out loud. The boards can be saved and sorted depending on the user's needs. Another feature shows a red X on an object if the object is unavailable.

How much is it? $9.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 4.0 or later.

Reviews: Reviewers like the way that the app lets users customize boards to their tastes. According to one parent, it is a "great way to communicate wants" if a child has a communication disability. Users would like to be able to make more sentences.

13. Scene Speak (http://itunes.apple.com/us/app/scene-speak/id420492342?mt=8#)

What is it? A communication app that creates visual scene displays to help with memory, speech or order. The user uploads images and arranges them in a "sound area," a visual scene that follows a theme – for example, the doctor's office. The user can record a phrase to go with an image relating to that theme (such as "I'm in pain" for a health care setting). The app includes five preloaded voices (but the user can record his or her own audio as well) and eleven generic, modifiable scenes (including the doctor's office, the bedroom, and a "What hurts?" body chart). Scenes can be combined to form a "book" of a certain theme.

How much is it? $14.99

Platforms: iPad. Requires iOS 3.2 or later.

Reviews: Users like this app a lot, deeming it well worth the price. A speech-language-pathologist writes that it both "enhances language skills" and gives "a voice to my non-verbal students." Reviewers praise the ease with which a user can customize the app, as well as the positive support and receptiveness from the developer.

14. TapSpeak Button (http://itunes.apple.com/us/app/tapspeak-button/id359998293?mt=8)

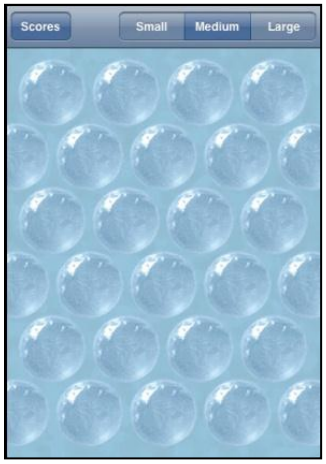
What is it? A convenient switch that records and plays messages. The user can record and store an unlimited number of phrases of unlimited length. Created by the father of a child with both cerebral palsy and cortical vision impairment (CVI), this app is ideal for patients with temporary or chronic speech difficulties and for "voice banking" in hospitals.

How much is it? $14.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.1 or later.

Reviews: This app has received good reviews from parents of children with complex needs, as well as from Speech Language Pathologists. One mother said that it gives her daughter a "voice to be able to tell her teacher what she has done;" an SLP said that "it has real potential" for her students. Users like the ability to store unlimited messages, though a few mentioned they would like to be able to play multiple messages at once. Overall, users find it helpful and simple.

Apps for diversion while in the hospital



1. *Bubble Snap* (http://itunes.apple.com/us/app/bubble-snap/id285646135?mt=8#)

What is it? A game where users can "pop" bubbles with a tap to the screen, simulating the real-life addiction! Players can pop bubbles one-by-one or all at once.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.1.3 or later.

Reviews: Users call Bubble Snap "fun" and much like the real thing. For AAC uses, it is easy to use and can teach and develop sensory detail.

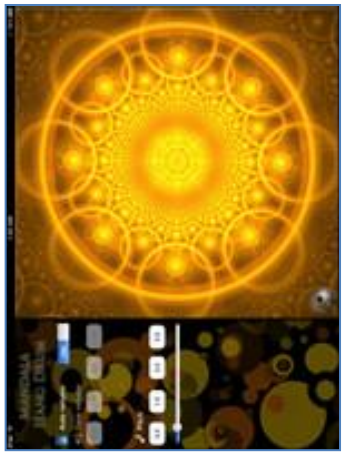
2. iBooks (http://itunes.apple.com/us/app/ibooks/id364709193?mt=8#)

What is it? An app that allows the user to upload and read books on his or her device. PDFs may be downloaded as well for easy reading. Texts can be sorted according to the user's preference; the app also includes a search feature and options for adjusting font size.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.2 or later.

Reviews: Users find iBooks a convenient alternative to readers like Kindle. They especially love the ability to print and export notes. Furthermore, the PDF feature allows users with AAC needs upload PDFs of communication boards that come out "clean and clear."



3. Mandala Hang Drum (http://itunes.apple.com/us/app/mandala-hang-drum/id398378894?mt=8#)

What is it? This app simulates a hang drum. Users can "play" it by tapping the screen and adjust the tone and volume.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: The reviews have been mostly positive, and concerning AAC, a user noted it was good for fun and for developing sensory skills. However, several users complained of the sound quality and said that they would like to see a choice of skins for the drum.

4. Read Me Stories 30 Book Library (http://itunes.apple.com/us/app/read-me-stories-childrens/id362042422?mt=8#)

What is it? This app features 30 books for children, complete with music and sounds. The books feature words and concepts to help children improve their reading skills.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Parents say that their children like the books, especially the images and sounds. A mother writes that her son, who normally finds children's books "babyish," really enjoys the books featured in this app.

5. StoryKit (http://itunes.apple.com/us/app/storykit/id329374595?mt=8)

What is it? An electronic storybook, the app enables the user to write and record stories, or even create a talking photo album. Users may upload their own images, draw pictures to go into the story, and record narration. The app comes with four "classic" stories – including "The Three Little Pigs" and "Goldilocks and the Three Bears" – but these may be "rewritten," and users are free to create their own stories of any length.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: StoryKit has received rave reviews, with one reviewer calling it "well-executed." Users note that while children find the app entertaining, the app is ideal for all ages. A teacher commented that she has "finally" found an app that she can share with parents.

6. *Talking Roby* (http://itunes.apple.com/us/app/talking-roby-the-robot/id395677840?mt=8)

What is it? Roby is a robot that users can play with, poke and talk to. Roby repeats what users say and even reads text that they type in. Users can make videos of Roby and either store them or upload them online.

How much is it? Free

Platforms: Android; iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Users find Roby "enjoyable" and entertaining – good for children, too. A reviewer commented that it can help children with AAC needs learn cause-and-effect relationships.

7. Talking Tom (http://itunes.apple.com/us/app/talking-tom-cat/id377194688?mt=8#)

What is it? Similar to Talking Roby (see above), Tom is a pet cat that users can "pet," poke, take care of and even talk to. Tom repeats what users say and responds to their taps. Users can even make videos of Tom and upload to the Internet, or simply save to their library.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later. Android (supports App2SD for all versions)

Reviews: Reviewers find it "fun" and entertaining." For AAC purposes, one user noted that it is a useful way to teach cause-and-effect.

8. Virtuoso Piano (http://itunes.apple.com/us/app/virtuoso-piano-free-2-hd/id304075989?mt=8#)

What is it? A music app that lets users "play" a grand piano on their device. Users "slide" their fingers over the keys to play six octaves on the digital piano. The sound quality is that of a concert grand piano.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.1 or later.

Reviews: Users are impressed with the sound quality and easy interface. The mother of an autistic child said that it keep her son entertained and occupied. Some users, though, did complain that the app freezes often.

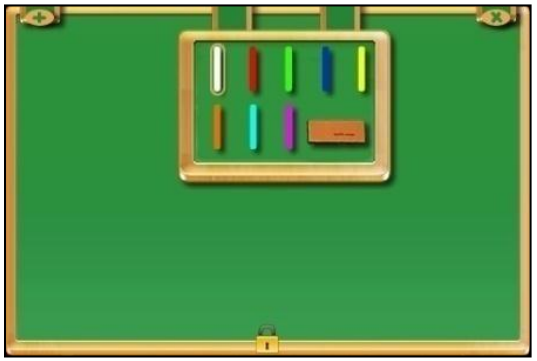
9. Vocal Zoo (http://itunes.apple.com/us/app/vocal-zoo/id330374653?mt=8#)

What is it? This app lets children experience the sounds and sights of a zoo by choosing an animal and playing its sound. Users pick from 69 different animals, and can play them individually or in a chorus. The pictures are real, not drawn, for full effect.

How much is it? Free

Platforms: iPhone, iPod Touch, iPad. Requires iOS 2.2 or later.

Reviews: Parents find this to be an entertaining app for their children. It is described as "fun," educational and appropriate for kids aged 6 months to 12 years.



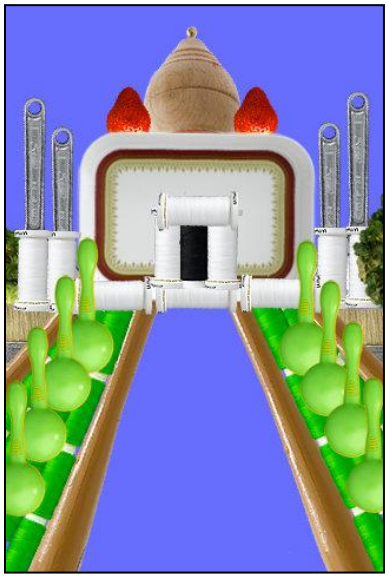
10. *Chalkboard Pro* (http://itunes.apple.com/us/app/chalkboard-pro-darkgreen/id334608390?mt=8#)

What is it? A "drawing board" that lets the user doodle, draw or type. Screens resemble a chalkboard and can be saved. Users write with "chalk" available in 8 different colors.

How much is it? $0.99

Platforms: iPhone, iPod Touch. Requires iOS 2.2.1 or later. A separate version is available for the iPad at the same price.

Reviews: Parents say that the app is entertaining for their children. However, there is no speech option.



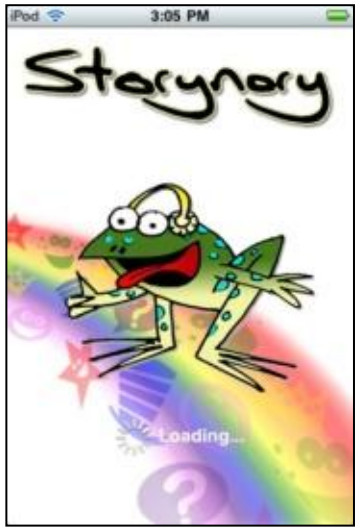
11. Faces I Make Lite (http://itunes.apple.com/us/app/faces-imake-lite/id357230884?mt=8)

What is it? An app that lets users make faces for entertainment. It has over 150 objects to choose from, so the app encourages creativity, especially for children. The images can be rotated, layered and then uploaded to the Internet.

How much is it? $0.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Reviewers says this app is good for fun and for those who enjoy art. One reviewer, a mother of an autistic child, says that her son is "intrigued" by it.



12. Storynory – Audio Stories for Kids (http://itunes.apple.com/us/app/storynory-audio-stories-for/id337740577?mt=8)

What is it? A source of weekly audio stories – including fairy tales, poems and legends.

How much is it? $2.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: A reviewer calls Storynory "a treasure trove."

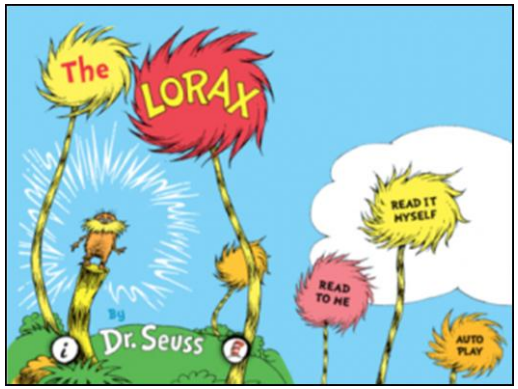
13. Dr. Seuss's ABC (http://itunes.apple.com/us/app/dr-seusss-abc/id354855128?mt=8#)

What is it? This app presents the children's book of the same name with all of the original pictures. Children can learn the alphabet and practice their reading skills at once. The book comes in three modes: "Read to Me" plays a narrated version in which each word is highlighted as it is read; "Read to Myself" lets the user read the story at his or her own pace, as a regular books; "Auto Play" reads the book aloud and turns the pages automatically.

How much is it? $3.99

Platforms: Android; iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Parents write that their children love the app. However, one user says that the app does not allow much interaction.



14. The Lorax – Dr. Seuss (http://itunes.apple.com/us/app/the-lorax-dr-seuss/id367260225?mt=8#)

What is it? This app presents Dr. Seuss' book *The Lorax* on a handheld device. It features narration and all of the illustrations from the original book. There are three modes: "Read to Me," in which the story is narrated, highlighting the words as they are read aloud; "Read to Myself," in which the user reads the story as a typical book; and "Auto Play," which reads the book out loud and automatically turns the pages.

How much is it? $3.99

Platforms: Android; iPhone, iPod Touch, iPad. Requires iOS 3.0 or later.

Reviews: Users give positive reviews, with one calling it "out of this world." Reviewers like the different options for reading, and note that this could easily be used with older children or adults working on their literacy skills.

15. My Pictures Talk (http://itunes.apple.com/us/app/my-pictures-talk/id368388315?mt=8#)

What is it? This app lets the user take and/or import pictures and videos, and add voice recordings. The images and videos can be organized into stories, talking photo albums or even demonstrations.

How much is it? $9.99

Platforms: iPhone, iPod Touch, iPad. Requires iOS 3.2 or later. For recording videos, the iPod Touch 4th Generation or iPhone 3GS and 4 are needed. For recording audio, must have either iPhone or the late 2009 model of iPod Touch (32/64 GB versions) or later; otherwise, a third-party microphone is needed.

Reviews: An SLP remarked that this app has been a useful tool for planning lessons, organizing vocabulary and showing semantic relationships. Another special education teacher commented that it was easy to share pictures, and that it really helped engage her non-verbal students.

16. Alice for the iPad (http://itunes.apple.com/us/app/alice-for-the-ipad/id354537426?mt=8#)

What is it? An interactive presentation of Lewis Carroll's *Alice's Adventures in Wonderland*. Children read the story and explore illustrations and animations that bring the story to life.

How much is it? $8.99

Platforms: iPad. Requires iOS 3.2 or later.

Reviews: One review calls it "the best iPad eBook." It gets children reading "classic" literature while bringing the story to life. One parent writes that since the app lets the user choose between an abridged or a full version, the app can be enjoyed by children with different reading levels.

17. Pictello (http://itunes.apple.com/us/app/pictello/id397858008?mt=8#)

What is it? An app that lets users of all ages and skill levels create talking photo albums and books. On a single page, users can upload a picture and record up to five lines of text (or have typed text "spoken" by the app). While no Internet connection is needed to play or create stories, the stories can be shared through the iTunes Sharing File or via WiFi on the Pictello Sharing Server (users can get an account for free). This app can be adapted for use in any setting to express any particular theme or need.

How much is it? $14.99

Platform: iPhone, iPod Touch, iPad. Requires iOS 4.0 or later.

Reviews: Users are raving about this app. *Autism Epicenter* gives it five stars, praising its "well-designed and pleasing to the eye" interface that makes it easy for autistic people to share their stories. Other reviewers like the voice quality and feel that they can make the albums and stories "personalized."