



# AAC in Acute Care It Works!

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# Learning Outcomes

- To be able to identify an individual's need for AAC in an acute care setting.
- To have a working knowledge of strategies for integrating AAC into the acute care setting.
- To demonstrate a working knowledge of message templates and environmental control options that assist acute care patients in management of their healthcare status.

**Disclaimer**  
The authors of this presentation have no financial conflict of interest

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# AAC & Acute Care Outline

- The Patient Provider Process
  - Quick Literature Review
- Joint Commission Standards, JC
  - Road Map
- Deploying AAC in the ICU
- A Case Study/Clinical Strategies
- The elements of an AAC service
- Our Recommendations for Start Up
- Question & Answers

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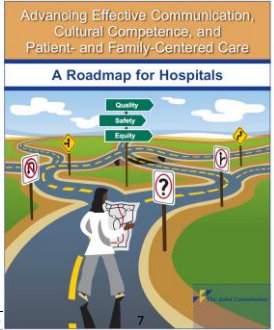
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### 2012 Joint Commission Standards Patient-Provider Communication

- Assess patient's communication status
- Determine the patient's preferred mode of communication
- Address the patient's communication needs
- Apply strategies throughout the patient encounter from admission through discharge
- **Institutional Readiness**



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### Assessing the Scope of the Problem at UIHC

We needed to determine the percentage of our inpatient population whose communication needs we are failing to address.

1. How many patients have a sensory impairment that would restrict or impair communication?
2. How many patients have a medical condition that would restrict their ability to communicate?
  - a) To summon nurse
  - b) To speak with caregivers
3. How many patients have limited English proficiency (LEP) that would restrict their ability to effectively communicate with care providers?

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### UIHC Survey of Patient Communication Needs

Zubow, L. & Hurrig, R. (2012) A demographic study of AAC/AT needs in hospitalized patients.

- Percent of conscious inpatients >3yrs who could not access the nurse call.
  - **14%** of UIHC patients
  - **33%** of UIHC-ICU patients
- Percent of conscious inpatients >3yrs on ventilatory support and unable to speak.
  - **7%** of UIHC patients
  - **33%** of UIHC-ICU patients
- Inpatients who have LEP.
  - Not yet tracked in Epic
  - However we know that UIHC Translation Services provided **11,772** services in 2010 in 37 languages (Spanish 74%; Sign Language 9%); this included clinic and inpatient services.

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**Meeting the Needs of Patients with Complex Communication Needs**

One way to improve patient-provider communication is with **Alternative & Augmentative Communication (AAC)** systems that compensate,

- for the impairments,
- activity limitations, and
- participation restrictions of individuals who cannot use normal modes of communication.

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**AAC in an Acute Care Setting**

- How AT/AAC can impact Acute Care
  - Meeting critical communication needs
  - Nurse call systems
  - PCA control
  - ECU options
- The challenges
  - Patient assessment
  - Technology deployment
  - Staff training



UIHC

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**AAC System Deployment Device Mounting & Positioning**




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### UI-ADL Communication Templates



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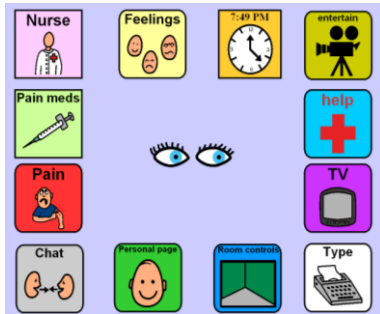
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### Alternate Layout for Eye Gaze Control



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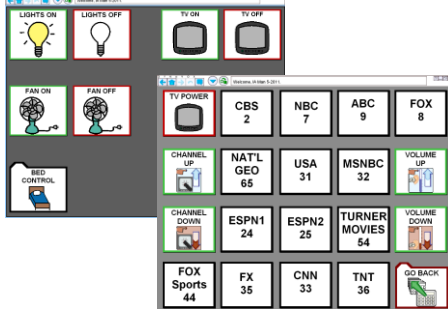
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### Using AAC Devices for Environmental Control ( ECU )



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## Switch Use

- This patient had his cervical spine stabilized with a halo brace which was used as a mounting platform for mounting.
- Charge transfer proximity switch was positioned by his cheek
- He activated the switch by pushing his tongue into his cheek despite being intubated.




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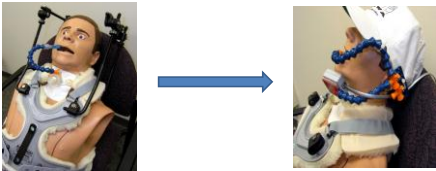
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## Switch Mounting Issues

It is important to recognize that mounting issues may change as the patient becomes more stable and improves.




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## Access Spinal Cord Injury AAC/ECU



UI-ADL Pressure Bulb Switch

LSHC

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## Switch Mounting Options Using Vent Line as Platform

Guillain Barre



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## Access Empowers Patients



UI-ADL Tongue Switch and Auto-Suction System for Trauma Patient



UI-ADL Charge Transfer Switch controls AAC device in Scan Mode for ALS Patient

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## Pediatric

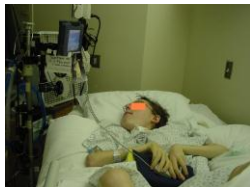


Maintaining Individuality: Humor is possible even on a vent

Touch Screen Control of AAC/ECU System



Trackball Control of AAC/ECU System



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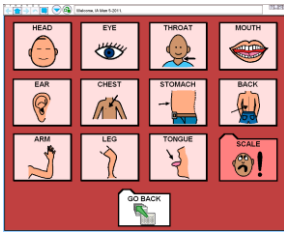
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## AAC & Pain Management



Communicating Pain Locus and Magnitude



UI-ADL PCA Adapter

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## UI-ADL Solutions for LEP Patients



Devices with voice output and embedded video playback can be used to support bedside communication between healthcare providers and patients



**N.B. Not a substitute for Interpreters**

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## High Tech Case: S

- Young adult male
- MVA sustained a C3-C4 cervical spine injury
  - Quadriplegic
  - Ventilator dependent
- Pre-morbidly
  - Energetic and fun loving young adult
  - Risk Taker
- Seen by the AAC Service as soon as he was stabilized in the Surgical Intensive Care Unit (SICU).
- Very alert and aware during his initial days in SICU
  - Realization of his overall prognosis.
  - Immediately began to show signs of depression
    - Lack of interest in family members and friends
    - Became fairly passive with respect to the procedures and cares the nurses and other medical staff carried out

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## Diagnostic Decision Tree

- Develop a reliable yes/no response
- Environmental control
- Determining Access Switch & Mounting
- Determining Vocabulary

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## Bedside AAC Evaluations

- Identify yes/no response
- Quick assessment of cognitive status
- Assess Motor status
- Assess visual status
- Assess auditory status
- Assess communication needs



Simulation

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## Develop Yes/No Response

- First step in our initial consultation.
- Determined that eye gaze best (looking up for “yes” and down for “no”).
  - Make sure to offer a “maybe” or “not sure”
  - Use “teach back” method to verify that the choice is correctly interpreted.
- Initially, we offered a high tech AAC solution (Dynamic Display Device); however, he was disinterested.

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## Environmental Controls

- We returned later in the day with a device and demonstrated IR control options for
  - TV
  - Bedside fan at his
- He became more responsive and willing to try using the device.
- **Lesson: Do not give up!**  
The hook can be providing environmental control




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## Determining Access to AAC Device

- Assess for the most reliable motor gesture that required minimal amount of movement
- Motor response = Tongue in check
- Access method = Scanning

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## Determining Vocabulary Needs

- Remember most trauma patients have an intact language system.
- Don't start the patient with the expert/full system, instead build towards it.
- Start out with a 2 or 3 page set (nurse, power for TV, power for Fan).
- Advance to a page set that allows for navigation to custom TV page set.
- Finally, advance to the complete page set
  - Iowa template

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## Exemplars of Progression from Single Message Pages to Multiple Page System



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## Outcomes Day 1

- Within an hour we had him reliably controlling a multiple button template that allowed him:
  - To call the nurse;
  - Control the fan at the bedside;
  - Turn the TV on and off; and
  - Ask for pain medication.
- By the end of the day, we were able to progress him to a multiple page system with a wide range of communication options.

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## Changes Noted Day 1

- **S** began using the system the way many people take to a video game and became absorbed in figuring out how to get the desired function on the first scanning pass.
- **S** eagerly demonstrated his skill to the nurses, to his girl friend and to other family and friends.
- Because of his ability to quickly master control of the system people treated him differently and provided encouragement and further opportunity to practice.
- **S** began to regain some sense of **control/power** in what was previously perceived of as a hopeless environment.

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## Outcomes Day 2

- **S** was adept at navigating through the full set of templates in the system
- **S** was working with us to make programming changes to suit his particular needs for communication and ECU.
- TV page was customized to allow for direct access to his favorite channels.

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## SICU Stay of +90 Days

- His relationship with his girl friend grew and she spent long hours with him providing meaningful interactions.
- **S** Demonstrated that even though he would be a quadriplegic he could have autonomy and significant relationships.
- As his medical condition improved, the halo and then the collar were removed; we worked with him as a collaborator to develop a way of always keeping his switch accessible.
  - Baseball cap
- Prior to discharge from the SICU to a care facility he married his girl friend..
- His greatest concern at discharge was that he would be able to keep his switches and baseball cap so that his ability to control his environment would not be lost.

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## Summary of Case

- Key to success
  - Early referral
  - Consistent support from nurses, family and friends.
- That support was in part his “luck of the draw” in nurses and friends but also their **natural response to an alert and motivated patient.**
- **S** demonstrated that when given a sense of autonomy and an ability to effectively communicate being a quadriplegic was not the end of life.

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## ICU Start Up Kit

- Low Tech Communication Boards
- Nurse Training
- Some High tech devices (optional)
- Switches
- Accessories for switch mounting
  - Tape
  - Pins
  - Pillows
  - Yankauer
  - Washcloth

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## PARADIGM SHIFT PATIENT LUXURY vs PATIENT RIGHTS

Low- to high-tech AAC options, for acutely ill patients with CCN, are emerging as a more pronounced “**patient right**” rather than just a “**patient luxury.**”

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## UI-ADL Efforts at Transforming Care at the Bedside

- The UI AAC templates were developed to enhance **patient-nurse bedside interactions.**
  - The templates cover a range of content from activities of daily living, pain management, bedside cares and treatment, to feelings and emotions. The content has been developed with input from patients, nurses and family members.
- To meet the needs of the LEP population we have also developed a set of professionally translated **bilingual templates** that should allow nurses and patients to communicate directly.
- To meet the needs of patients with motoric limitations we have developed a range of **switches** to allow all patients to use AAC devices.
- To support high fidelity implementation we been developing a series of **tutorials** to help nurses implement effective AAC strategies with their patients.

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## Contact Information

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[www.uiowa.edu/~comsci/research/speechlab/assistive.html](http://www.uiowa.edu/~comsci/research/speechlab/assistive.html)

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