
**Content of an Instructional AAC Program for ICU Nurses**

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**Abstract**

This presentation will describe the content of a systematically-designed educational program about basic communication strategies, low tech, and high tech AAC techniques for nurse communication partners in two intensive care unit (ICU) environments (complex medical and cardio-thoracic). Components of the SLP-delivered inservice will be listed and described in brief. Implementation of the complete experimental intervention, including management of equipment and low tech materials as well as the SLP’s and nurse communication partner’s collaborative development of the patient’s communication care plan, will be described. Presenters will summarize preliminary observations of nurse’s perceptions of the inservice and subsequent changes in their communication skills when interacting with patients who cannot speak. Impact of the educational intervention on communication interactions between ICU patients and nurses is being systematically investigated in an NIH-funded clinical study; selected results will be presented.

**Introduction**

The inability to communicate during critical illness can be a traumatic life event that is frightening, reduces patient participation in care and decision-making, and impairs pain and symptom assessment (Fowler, 1997; Happ, 2001). Intubated individuals sometimes communicate via nonvocal communication techniques such as mouthing words, gestures, writing, and head nods (Leathart, 1994; Menzel, 1998). However, these techniques are not appropriate for some individuals, nor are they always efficient or specific enough to convey patients’ thoughts. ICU patients may experience cognitive or motor limitations that complicate decisions about appropriate communication techniques. The complexity of the medical environment and fragile health of many ICU patients also are barriers to consistent provision of AAC communication techniques. Without specific instruction in AAC techniques, communication interactions between patients and caregivers are usually limited to nurse-initiated, informative comments related to physical care, occasional yes/no questions, or commands.
Description of Funded Project/Purpose

This presentation is based on the investigators’ NIH-funded ongoing clinical study (NICHD RO1 HD043988), “Improving Communication with Nonspeaking ICU Patients”, which is testing the impact of two AAC instructional interventions in a prospective, sequential cohort design across 3 experimental phases: Phase 1) Control/usual communication between nurses and nonspeaking patients; Phase 2) Basic Communication Skills/Low Tech AAC Training (BCST) for nurses; and Phase 3: High tech AAC techniques and BCST education for nurses plus speech-language pathologist consultation (AAC/SLP). Phases are sequential (control, BCST, AAC-SLP) to prevent contamination from other conditions and to systematically investigate the effect of the intervention components. Interactions between nurses and patients were videotaped 4 times across a 2-day period; tapes were transcribed and coded. Dependent variables quantify the ease, quality, frequency, and success of communication between nurses and nonspeaking ICU patients in each of the three experimental phases.

Methods

Thirty patient participants and their respective nurse caregivers (10 RNs for each phase), were drawn from medical (MICU) and cardiothoracic (CT-ICU) ICUs at the University of Pittsburgh Medical Center for a total of 90 study patients and 30 study nurses, or 90 experimental dyads. Adult patient participants were nonspeaking due to oral endotracheal tube or tracheostomy. Study nurses participated in the following training sessions prior to data collection:

**Phase I:** No inservice – *Usual Communication* (Control Group)

**Phase II:** 4 hour inservice on *Basic Communication Skills* and *Low Tech AAC Strategies*

Instructional Components: Powerpoint presentation with movie clips demonstrating AAC strategy use in the ICU, lecture, strategy demonstrations and trials, discussion, case examples

**Phase III:** 4 hour inservice on *Basic Communication Skills* and *Low Tech AAC Strategies* + 2 hour inservice on *High Tech AAC Techniques*

Instructional Components: Same as Phase II with addition of high tech AAC demonstrations and trials

Content of AAC/Communication Educational In-Service

1. **Communication Issues in the ICU**

2. **Types of patients**—4 primary groups
   - Cognitively intact + good motor skills
   - Cognitively intact + poor motor skills
   - Cognitively impaired + good motor skills
• Cognitively impaired + poor motor skills

3. Assessment and Screening – Nurse & SLP
• Hearing and Vision
• Cognitive/Motor/Oral Motor skills
  o *ICU Communication Screening Protocol* (adapted from Mitsuda, Baarslag-Benson, Hazel, & Therriault, 1992 by Garrett & Happ, 2006)
• Communication Needs
  o *ICU Communication Needs and Constraints Checklist*, Garrett & Happ, 2006

4. Basic Communication Strategies (Nurse-Initiated)
• Sensory Aids
  o Glasses
  o Hearing Aids
  o Dentures
• Getting Attention
  o Facing AND touching the patient BEFORE speaking
  o WAITING for the patient to acknowledge what you have said
  o LOCKING eyes
  o Increase PAUSE TIME
• Establishing a CLEAR and CONSISTENT Yes/No Signal
  o IDENTIFY a Yes/No code (eyes “up” for yes and “down” for no)
  o POST the signal for all healthcare providers
  o TAG Yes/No questions (“yes?...or no?”
• Confirm messages

5. Low Tech AAC Strategies (SLP or Nurse-Initiated)
• Augmenting Patient’s Comprehension (Garrett & Lasker, 2005)
  o WRITE key words or concepts on a tablet and show to patient
  o Procedure boards (picture boards demonstrating medical procedures)
    ▪ Line insertion
    ▪ CT or MRI
    ▪ Tracheostomy
• Gesture and Signals
  o Gesture Dictionary Core List (Connolly, 1992)
  o Signal Dictionary
  o Augment comprehension with gestures
  o Confirm gestures by mirroring patient gestures
• Mouthing Words (Trach patients only)
  o Exaggeration Strategy
  o First Letter Spelling AND Mouthing Strategy
• Writing
  o Orthotic aids
  o Positioning
  o Memo Strategy
6. High Tech AAC Strategies (SLP-Initiated)
   - Electrolarynx
     - Oral and neck placement
   - Spelling Devices
     - Lightwriter
     - Link Classic
   - Advanced Message Devices (spelling and whole messages)
     - E-Talk
     - Dynamyte
   - Intermediate Message Devices
     - Paper Screen
       - Tech Speak
       - Bluebird III
     - Electronic Screen
       - MiniMos
   - Basic Message Devices
     - SuperTalker
   - Switch-Controlled Scanning Devices

7. Strategy Demonstration and Practice
   Nurses participated in case-based roleplays throughout the inservice to apply didactic information and develop comfort with implementing basic and low tech communication strategies. In addition, they practiced using high tech devices to communicate. Movie clips of actual patients using strategies were also presented and discussed.

8. Equipment Operation and Management
   Nurses learn to turn devices on/off and review rules for cleaning, mounting, and charging in compliance with UPMC’s biomedical engineering and infection control departments. Components of five storage carts containing materials to implement high and low tech AAC communication plans are reviewed.
9. Implementation of Communication Care Plan
Procedures for collaboratively developing a “Communication Care Plan” (SLP and nurses) for patients from across the 4 patient groups are reviewed with nurse participants.

10. Discussion and Review of Challenges

11. Application Exercises and Posttest

Results

Preliminary Observations – Impact of Educational Intervention.
To date, 15 of 20 nurses in Phases II and III of the investigation have participated in the educational inservices about communication and AAC strategies. Results of post-instructional surveys and ratings of strategy usefulness indicated that participants valued the content of the training and felt reasonably competent with regard to using general and low tech AAC strategies with specific patients; however, two nurses stated that they were not comfortable with partner dependent scanning and eye gaze strategies. Nurses generally felt less confident at identifying and customizing the most appropriate low and high strategies for difficult cases without the consultative and diagnostic services of the SLP. For Phase III nurses, perceptions of strategy usefulness will be reassessed following implementation of the SLP-directed patient intervention.

Quantitative Results.
Data representing select dependent variables (e.g., number of communication changes, proportion of patient-initiated exchanges, proportion of successful exchanges, frequency of topics) derived from the videotaped nurse-patient interactions will be summarized briefly.

Conclusions and Clinical Implications
The potential value of an educational program on AAC communication strategies for nurses who interact with nonspeaking patients in the ICU will be addressed. Implications for AAC service delivery in the hospital environment will be proposed.