

# **AAC to enhance communication between individuals with Dementia and their partners**

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## **Outline**

- History of AAC intervention for Dementia
- AAC solutions for a male with early onset Alzheimer's Disease (AD)

## Dementia

*“an umbrella term for a variety of brain disorders. Symptoms include loss of memory, judgment and reasoning, and changes in mood and behaviour. Brain function is affected enough to interfere with a person's ability to function at work, in relationships and in everyday activities.”*

Alzheimer's Society of Canada

## Dementia

- Over 44 million people worldwide
- AD most common; 60-70%
- Other types:
  - Vascular Dementia,
  - Dementia with Lewy bodies
  - Frontotemporal dementia, a cluster of disorders which includes Primary Progressive Aphasia.

## AAC and Dementia

- Historically pessimistic view of therapy provision
- Prior to late 1980s no known effective intervention
- not a widely recognized area of AAC practice
- individuals with dementia do not commonly receive AAC intervention
- CAYA program – relatively small number of referrals (.5% in late 2013 since inception 2005)

## AAC intervention for Dementia

- View of dementia intervention has evolved
- WHO International Classification of Functioning, Disability and Health changed focus from impairments to increasing participation, quality of life and maintaining independence
- Research studies illustrated positive effects of intervention approaches (e.g. written reminder cards, memory books) to promote participation in daily activities

## Memory Aids

- Biographical information conveyed through images and simple phrases
- Photos of family/friends, important life events
- Provide semantic support for information stored in long-term memory
- Provide concrete topics for conversation
- Support desire to communicate
- Improve quality of communication with others

## Research evidence

- *Bourgeois (1990)*: communication/memory wallets improved communication of 3 patients with AD and familiar partners
- *Bourgeois (1993)*: training with memory wallets improved conversation between patients with moderate to severe AD
- memory aids compensated for semantic memory impairments and capitalized on preserved skills

## Research Evidence

- *Bourgeois, Dijkstra, Burgio, & Allen-Burge, (2001)*: Use of memory aids improved conversational interactions between nursing aides and residents with Dementia
- *Fried-Oken, Rowland, Daniels, Dixon, Fuller, Mills, Noethe, Small, Still, & Oken, (2012)*: Provision of customized AAC device without training did not alter conversation of patients with mod AD; participants who received AAC priming in the form of spaced-retrieval exercises used AAC device more frequently, used more targeted words to discuss chosen topics in presence of AAC device

## Research Evidence

- *Egan, Berube, Racine, Leonard, and Rochon, (2010)*
- systematic review of studies investigating methods to improve the spoken communication of individuals with AD and their caregivers
- found the strongest evidence for the use of memory aids coupled with caregiver training
- Memory aids improved patients' discourse on topics in memory aids
- Performance decreased over time in absence of follow up training

## Case study - David

- 57 year old male
- Ph.D. in Forestry; research career in Forest Biotechnology
- Dx early onset AD age 52 (2008)
- Initial assessment for AAC in late 2012
- Lives at home with his wife
- Attended seniors centre 5 days/week

## David – initial assessment

- Functional Goals Screening Protocol: Community Clients with Dementia (Bourgeois 2007)
- Impaired reading ability – moderately at word/phrase level, severe at sentence level
- Cognition mildly to moderately impaired
- Mildly impaired ability to perform ADLs
- Oriented to environment

## David – initial assessment

- Moderately impaired language comprehension and expression - word finding difficulties, reduced semantic content, fragmented utterances, phonemic paraphasias

Conversational sample telling about family:

*“One of my brothers is going way over there now. In Ontario, or it could be the next place. They’re gonna go way out somewhere. The one thing. I want to see him sometime.”*

## David – initial assessment

- Social communication
  - Able to express likes/dislikes
  - Able to initiate limited conversation
  - Required assistance with communicating wants and needs, and conversing with others

## AAC system

David needed to participate in conversation about preferred topics, express needs and choices, share information

1. a **communication book** with vocabulary specific to David's interests, ADLs and social and community participation, represented through photos, logos, and Picture Communication Symbols paired with text
2. A **memory book** containing personally relevant photos and text captions
3. **Identity card** for community use

Sample  
communication  
book pages







## Memory book

I was born on August 12, 1956  
in Oshawa, Ontario.



My wife's name is Linda.  
We were married in 1998 in Vancouver.



## Initial AAC system use

- David was motivated to use new system
- compensated for word finding difficulties
- capitalized on preserved spoken language and motivation to communicate
- marked increase in level of engagement during AAC supported conversation

## AAC system training

- Minimal training was needed in home setting
- Provided training on facilitative strategies for staff at Seniors' Centre
- David initiated use of AAC system and effectively used it to participate in conversation
- Staff described AAC system as a “useful tool”

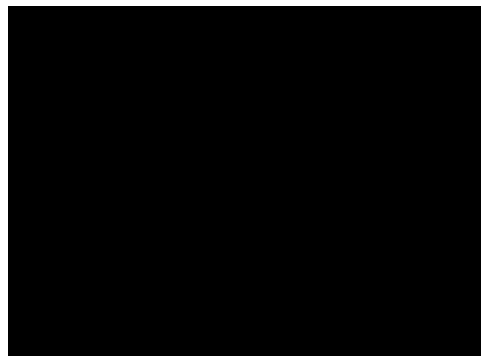
## Follow up and monitoring

- Future follow up revealed a decline in David's memory, cognitive and communication skills
- David's support needs exceeded available staffing resources at the Senior's Centre
- Transition to home care provided by family member

## Continued caregiver education

- communication skills training for family members providing care
- Identified supportive partner communication strategies
- Training on use of visual aids to assist David with participation in conversation
- Visual aids provided shared context
- means by which David could initiate a topic of conversation despite declining speech abilities

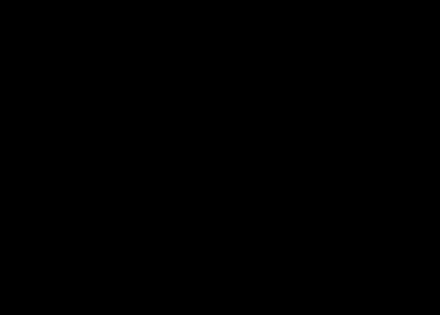
## Video: David initiating by pointing to photo in memory book



Riding elephants in Singapore

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## Video: memory book photos facilitate engagement in conversation



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## Video: recalling travels

Places I've travelled to		
Canada	US	Costa Rica
Panama	Columbia	Ecuador
Chile	Norway	Germany
Finland	Estonia	England
Denmark	Belgium	Croatia
Montenegro	Italy	Greece
Turkey	Russia	China
Japan	Singapore	Indonesia
South Africa	Australia	New Zealand
Cook Islands	Fiji	Sweden



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## Video: communication book to express pain



The image shows a communication book interface with a grid of icons. The grid is organized into three rows and three columns. The first row contains 'yes' (thumbs up), 'no' (thumbs down), and 'stop' (red stop sign). The second row contains 'happy' (smiling face), 'sad' (frowning face), and 'pain' (person holding their head). The third row contains 'headache' (person holding their head), 'tired' (person with hand on forehead), and 'sleep' (person sleeping). To the right of the grid is a vertical bar with colored segments (purple, yellow, green, orange, red). A large black rectangle is overlaid on the right side of the grid.

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## AAC system adaptations

- Modified and added to AAC system based on caregiver feedback
- Memory book split into smaller books by topic
- Added interest albums on preferred topics/activities

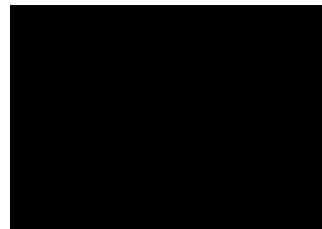
## Memory books



Facilitate interactions that maintain social closeness by rehearsing familiar personal history information

## Video: memory book – remembering family

My father is Acadian from New Brunswick.  
His name is Alaire Cyr.  
He passed away in the late '90s.



## Interest albums



## Later stages

- Teach partners to use language, tone of voice, familiar objects, and touch to provide comfort and familiarity
- Look for nonverbal expressions of engagement/comprehension – smiles, pleasant vocalizations, attending to/patting/rubbing pictures
- Repetition can also signal engagement & participation
- Respond to all modalities



## Summary

- Visual aids support communication in Dementia
- Obtain baseline Ax, provide intervention, then ongoing monitoring support
- Include caregivers in intervention
- Teach partner strategies to compensate for deficits and support preserved abilities
- Adapt visual aids and continue caregiver training as condition progresses

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