NSW Speech Pathology Evidence Based Practice Network Showcase

Tuesday 6th December 2016
Sydney Children's Hospital Randwick

NSW Evidence Based Practice Network; Steering Committee Update

December 2016

Alex Little
Elise Baker
Lisa Cantor
Melissa Parkin
Pip Taylor
Sara Beckett

Who are we?

- Steering Committee – Alex Little, Elise Baker, Lisa Cantor, Melissa Parkin, Pip Taylor and Sara Burrett
- 2016 Groups and Leaders;
  - *Tracheostomy and Critical Care* - Kelly Richardson & Kate Watson
  - *Adult Language* - Kate Makin, Jessica Lamond, Chelsea Larkman
  - *Hunter Acquired Communication* - Wendy Hackney & Kimberley Veitch
  - *Adult Swallowing* - Kylie Draper
  - *Adult TBI* - Janine Mullay & Audrey McCarry
  - *Head and Neck* - Rachelle Robinson & Molly Barnhart
  - *Paediatric Language* - Erin Adamson
  - *Paediatric Speech* - Bronwyn Carrigg & Elise Baker
  - *Paediatric Feeding* - Amanda Spirit-Jones
  - *ASD* - Anita Hemmings & Deborah Wilson
  - *AAC* - Leanna Fox & Kristy Logan

Who are we?

- Academic links;
  - *Adult language* - Lyndsey Nickels
  - *Tracheostomy and Critical Care* – Amy Freeman-Sanderson
  - *Adult Swallowing* - Hans Bogaardt
  - *Hunter Acquired Communication* - Nicole Byrne
  - *Paediatric Speech* – Elise Baker
  - *Paediatric Language* – Rosie Hodges
  - *AAC* - Andy Schmidt
  - *Paediatric Feeding* – Leah Dark

- Members – SP's from across the State, including NSW Health, NGO's and private practice

A year in review…..

- Changes in steering committee and group leader membership – ups and downs!
- Academic links
- Group mentorship
- Training – Face to face and VTC
- Website
- Review of EBP Network ‘Terms of Reference’ (SC and individual groups)
- PICI

What's next?

- Steering Committee planning day
- Review of Network TOR and manual
- Review of the face to face introductory training module - is this still relevant?
- Development of online modules for advanced training topics
- Better use of technology to support leaders, to engage rural and remote clinicians and to foster existing network membership
- Review type and level of academic engagement
- Develop improved links with PICI

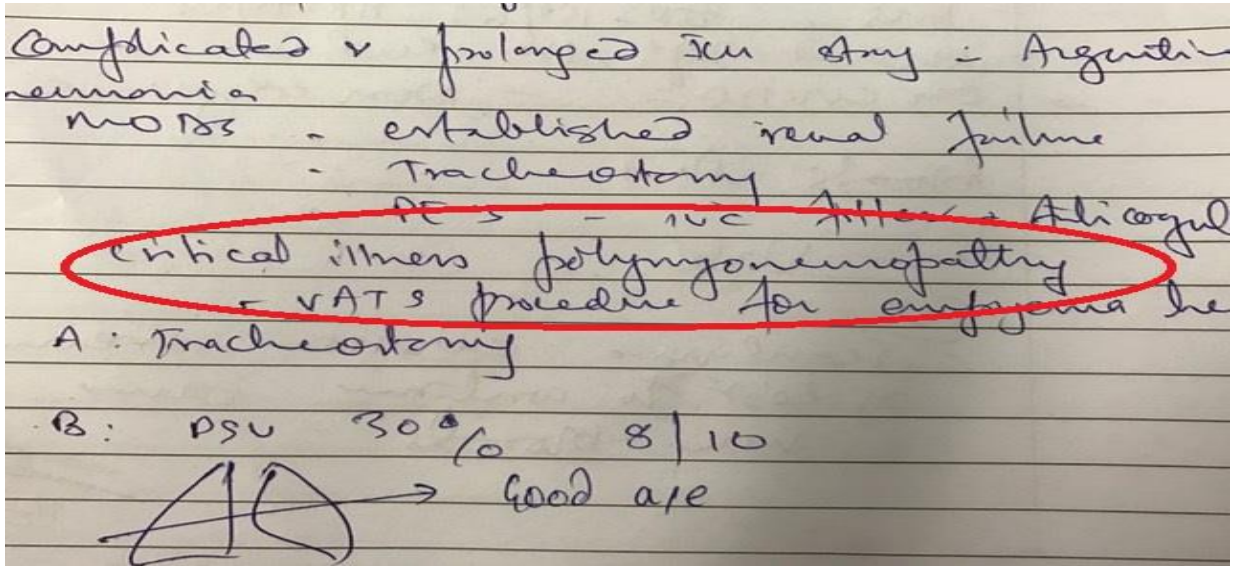
Thanks

- To all group leaders for their enthusiasm, drive and commitment to the NSW EBP Network
- To our academic links for their support of our leaders in their chosen areas of expertise
- To all our group members for their active participation and contribution to group meetings and outcomes
- To our NGO and private partners who add another clinical perspective to the ‘health’ picture
- To our rural and remote membership for their innovative perspectives and perseverance
- To managers and teams who support the application of EBP in the workplace

We want you!

- The NSW EBP Network is always looking for new, enthusiastic leaders and group members
- Teleconferencing, Skype, VTC, use of list-serves, Evernote, Google Docs, HSNet are just some of the ways groups keep in touch
- Meetings can be intensive or spread out across the year
- Most groups have a mentor system within the group to support new/junior members
- Fantastic way to keep up to date with the latest evidence, discuss your caseload with like minded people and put evidence into practice
- Please contact any member of the steering committee or group leaders if you have any further queries about becoming a member of the Network
- See www.nswspebpnetwork.com

Critical Illness Polyneuropathy: Is it Critical to Swallowing?



Kelly Richardson and Kate Watson
(Co-Leaders)
Tracheostomy and Critical Care EBP Group
6th December 2015

Critical Care and Tracheostomy EBP Group 2016

- 10 members + 2 leaders (from different sites)
- Face- to-face (majority) and tele- conference
  -6 meetings 2016
- 'Critical Care and Tracheostomy' List serve → **247** members
  - 230 Aus; remaining New Zealand, Singapore & U.K.

Overview

- Critical Illness Polyneuropathy (CIP)
- 2016 clinical question + clinical bottom line
- CAPs
- Overall findings
- Application to clinical practice

What is CIP?

- Neuromuscular condition acquired in the ICU (> 1-2 weeks)
- *'Refers to a generalised, homogenous process affecting peripheral nerves... characterised by a sensory loss, and flaccid, general weakness.'* (Lacomis, Shefner, Dashe, 2015).
- First recognised clinically in 70s + 80s
- Associated with sepsis, multiorgan failure, also as a consequence of treatments administered in the ICU
- Electromyography/ nerve conduction studies (EMG/ NCS) should be the initial diagnostic study in all patients with symptoms and signs of CIP.

Lacomis, D., Shefner, J. M., & Dashe, J.F. Neuromuscular Weakness Related to Critical Illness. Up To Date, 2015.
Rutkove, S. B., Shefner, J.M., & Dashe, J.F. Overview of Peripheral Neuropathy / Polyneuropathy. Up To Date, 2015.
Gruener, G., & Chawla, J. Management of Critical Illness Polyneuropathy and Myopathy. *Neurol Clin 28* (2010) . 961- 977.

What is CIP?.... cont'd

- Features

  - require prolonged weaning from mechanical ventilation

  - possible limb weakness

  - electrophysiological evidence of axonal motor and sensory polyneuropathy

- Treatment

  - electromyography/ nerve conduction studies (EMG/ NCS) should be the initial

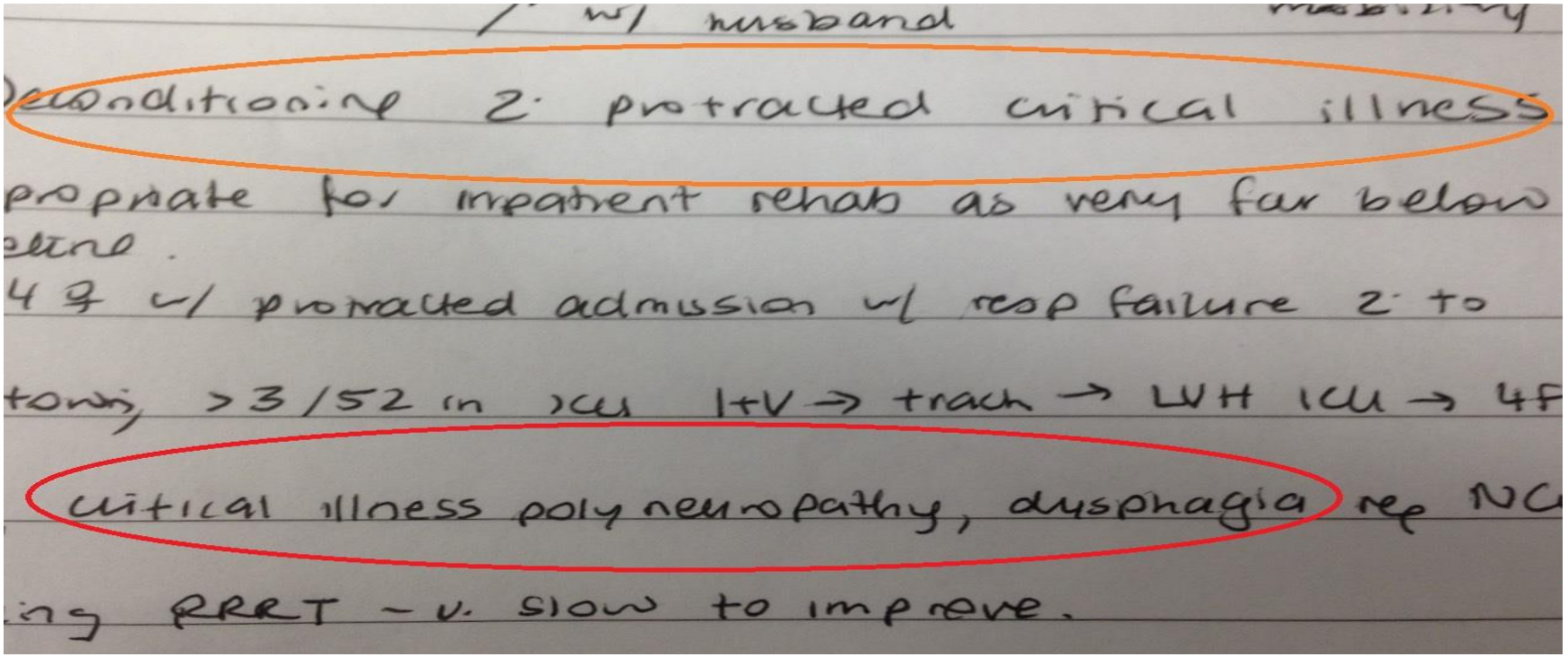
  - mild- mod CIP, recovery of mm strength occurs over weeks- months

  - 2 aspects to treatment: treatment of the underlying disease; and alleviation of the symptoms related to the illness.

Lacomis, D., Shefner, J. M., & Dashe, J.F. Neuromuscular Weakness Related to Critical Illness. Up To Date, 2015.
Rutkove, S. B., Shefner, J.M., & Dashe, J.F. Overview of Peripheral Neuropathy / Polyneuropathy. Up To Date, 2015.
Gruener, G., & Chawla, J. Management of Critical Illness Polyneuropathy and Myopathy. *Neurol Clin 28* (2010) . 961- 977.

2016 Clinical Question:

What is the prevalence and nature of dysphagia associated with critical illness polyneuropathy in critically ill patients?



LITERATURE SEARCH

- CIAP, Medline, Pubmed and CINAHL : 1996-2016
- Search terms: *critical illness polyneuropathy, critical illness myopathy, critical illness, deconditioning, oropharyngeal dysphagia, swallowing disorder, deglutition disorder* → 20 articles identified
- Secondary search using terms: *sepsis, multi-organ failure, cranial nerve dysfunction* → Nil additional articles identified
- Inclusion criteria: patients diagnosed with critical illness neuropathy / polyneuropathy/ myopathy, adult population, all clinical specialties, discusses the clinical question, i.e. prevalence and nature of dysphagia
- 3/20 papers deemed appropriate for capping.

What are the CAPs with CIP?

Dysphagia–A Common, Transient Symptom in Critical Illness Polyneuropathy: A Fiberoptic Endoscopic Evaluation of Swallowing Study*

Matthias Ponfick, MD[1,2]; Rainer Linden[1]; Dennis A. Nowak, MD[1,2]

Objectives: Critical illness polyneuropathy is a common disorder in the neurological ICU. Dysphagia is well known to deteriorate outcome in the ICU. The prevalence of dysphagia in critical illness polyneuropathy is not known. The aim of this study was to evaluate the prevalence of dysphagia in critical illness polyneuropathy using fiberoptic endoscopic evaluation of swallowing.
Design: Prospective, cohort study.
Setting: Neurological rehabilitation ICU.
Patients: Twenty-two patients with critical illness polyneuropathy.
Interventions: Clinical swallowing examination and serial fiberoptic endoscopic evaluation of swallowing (days 3, 14, and 28 after admission).
Measurements and Main Results: Swallowing of saliva, pureed consistencies, and liquids was tested using fiberoptic endoscopic evaluation of swallowing at three different time points. The penetration-aspiration scale by Rosenbek et al and the secretion severity rating scale by Murray et al were used for grading. Functional outcome after rehabilitation was assessed using the functional independence measure.: Pathologic swallowing was found in 20 of 22 patients (91%). Hypesthesia of laryngeal structures was found in 17 of 22 patients (77%) during the first fiberoptic endoscopic evaluation of swallowing. Over the 4-week follow-up period, laryngeal hypesthesia resolved in 75% of affected cases. Pureed consistencies were swallowed safely in 18 of 22 cases (82%), whereas liquids and saliva showed high aspiration rates (13 of 17 [78%] and 10 of 22 [45%], respectively). Swallowing function recovered completely in 21 of 22 (95%) within 4 weeks.
Conclusions: Dysphagia is frequent among patients with critical illness polyneuropathy treated in the ICU. Old age, chronic obstructive pulmonary disease, the mode of mechanical ventilation, the prevalence of tracheal tubes, and behavioral "learned nonuse" may all be contributing factors for the development of dysphagia in critical illness polyneuropathy. Complete recovery occurs in a high percentage of affected individuals within 4 weeks. (*Crit Care Med* 2015; 43:365–372)
Key Words: critical illness polyneuropathy; dysphagia; fiberoptic evaluation of swallowing; intensive care unit; mechanical ventilation; rehabilitation

*See also p. 492.

[1]Helios Klinik Kipfenberg, Kipfenberg, Germany.
[2]Neurologische Universitätsklinik Marburg, Philipps-Universität Marburg, Marburg, Germany.

The authors have disclosed that they do not have any potential conflicts of interest.

For information regarding this article, E-mail: matthiasponfick@web.de

DOI: 10.1097/CCM.0000000000000705

Dysphagia is a common and challenging symptom in neurological disorders, which is associated with high mortality, malnutrition, reduced quality of life, and depression (1, 2). Altman et al (1) estimated the costs of dysphagia treatment in hospitalized patients to amount up to $500 million per year in the United States. Clinical screening for dysphagia is routinely performed in stroke, but should also be considered in neurodegenerative disorders, traumatic brain injury, and neuromuscular disease (3–13). It is of importance that the clinical examination seems to have only a poor sensitivity for the detection of aspiration (14–16). To improve the detection of dysphagia, fiberoptic endoscopic evaluation of swallowing (FEES) has been established (17). This diagnostic tool offers several advantages in contrast to a videofluoroscopic swallowing study. FEES is a bedside test that can be performed even in the ICU and the patient is not exposed to radiograph (15). In addition, FEES allows to test for laryngeal sensitivity, to visualize laryngeal structures, and offers a higher interrater reliability compared to videofluoroscopic analysis of swallowing (18–22).

Critical illness polyneuropathy (CIP) is a frequent entity in the neurological ICU. CIP is commonly observed after ICU treatment of sepsis and cardiac or visceral surgery (23–27). Clinically, patients with CIP show a flaccid tetraplegia and prolonged weaning durations (WDs). Given the high prevalence and the long duration of mechanical ventilation (MV), tracheostomy is frequently performed in these patients. Despite the clinical evidence that CIP is associated with symptoms of dysphagia, until today no study assessed swallowing function in this entity. The aim of this prospective, clinical study was to evaluate swallowing function in CIP using FEES.

MATERIALS AND METHODS

The local ethics committee (Bayerische Landesärztekammer, Munich) approved this study (no. 11134).

Eur Arch Otorhinolaryngol (2014) 271:3085–3093
DOI 10.1007/s00405-014-3148-6

MISCELLANEOUS

Acute and long-term dysphagia in critically ill patients with severe sepsis: results of a prospective controlled observational study

Joerg Zielske · Silvia Bohne · Frank M. Brunkhorst · Hubertus Axer · Orlando Guntinas-Lichius

Received: 30 April 2014 / Accepted: 10 June 2014 / Published online: 27 June 2014

Abstract Dysphagia is a major risk factor for morbidity and mortality in critically ill patients treated in intensive care units (ICUs). Structured otorhinolaryngological data on dysphagia in ICU survivors with severe sepsis are missing. In a prospective study, 30 ICU patients with severe sepsis and thirty without sepsis as control group were examined using bedside fiberoptic endoscopic evaluation of swallowing after 14 days in the ICU (T1) and 4 months after onset of critical illness (T2). Swallowing dysfunction was assessed using the Penetration–Aspiration Scale (PAS). The Functional Oral Intake Scale was applied to evaluate the diet needed. Primary endpoint was the burden of dysphagia defined as PAS score >5. At T1, 19 of 30 severe sepsis patients showed aspiration with a PAS score >5, compared to 7 of 30 in critically ill patients without severe sepsis ($p = 0.002$). Severe sepsis and tracheostomy were independent risk factors for severe dysphagia with aspiration (PAS > 5) at T1 ($p = 0.042$ and 0.006, respectively). 4-month mortality (T2) was 57 % in severe sepsis patients compared to 20 % in patients without severe sepsis ($p = 0.006$). At T2, more severe sepsis survivors were tracheostomy-dependent and needed more often tube or parenteral feeding ($p = 0.014$ and $p = 0.040$, respectively). Multivariate analysis revealed tracheostomy at T1 as independent risk factor for severe dysphagia at T2 ($p = 0.030$). Severe sepsis appears to be a relevant risk factor for long-term dysphagia. An otorhinolaryngological evaluation of dysphagia at ICU discharge is mandatory for survivors of severe critical illness to plan specific swallowing rehabilitation programs.

Keywords Critically ill · Intensive care · Severe sepsis · Dysphagia · Swallowing · Tracheostomy

Electronic supplementary material The online version of this article (doi:10.1007/s00405-014-3148-6) contains supplementary material, which is available to authorized users.

J. Zielske · S. Bohne · O. Guntinas-Lichius (✉)
Department of Otorhinolaryngology, Jena University Hospital, Lessingstrasse 2, 07740 Jena, Germany
e-mail: orlando.guntinas@med.uni-jena.de

J. Zielske · F. M. Brunkhorst · H. Axer
Centre for Sepsis Control and Care (CSCC), Jena University Hospital, Jena, Germany

F. M. Brunkhorst
Department of Anesthesiology and Intensive Care Medicine, Jena University Hospital, Jena, Germany

F. M. Brunkhorst
Center of Clinical Studies, Jena University Hospital, Jena, Germany

H. Axer
Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany

Introduction

Swallowing dysfunction is a frequent finding in critically ill patients treated in intensive care units (ICUs) [1, 2], and persistent dysphagia after extubation is associated with an increased risk for hospital-associated pneumonia, re-intubation, and death in this population [3]. However, the role of long-term dysphagia in survivors of critical illness is not well explored [4]. ICU survivors report a wide range of physical, cognitive and mental impairments, which had been summarized as PICS (Post-Intensive Care Syndrome) by a recent stakeholders' conference [4]. Swallowing dysfunction in acute and protracted critical illness has been identified as an important research area because of its negative influence on patient outcome [3–5].

Muscle Weakness Predicts Pharyngeal Dysfunction and Symptomatic Aspiration in Long-term Ventilated Patients

Hooman Mirzakhani, M.D.,* June-Noelle Williams, M.S., C.C.C.-S.L.P.,† Jennifer Mello, M.S., C.C.C.-S.L.P.,† Sharma Joseph, M.D.,‡ Matthew J. Meyer, M.D.,‡ Karen Waak, P.T., D.P.T., C.C.S.,§ Ulrich Schmidt, M.D.,‖ Emer Kelly, M.D.,# Matthias Eikermann, M.D., Ph.D.**

ABSTRACT

Background: Prolonged mechanical ventilation is associated with muscle weakness, pharyngeal dysfunction, and symptomatic aspiration. The authors hypothesized that muscle strength measurements can be used to predict pharyngeal dysfunction (endoscopic evaluation–primary hypothesis), as well as symptomatic aspiration occurring during a 3-month follow-up period.
Methods: Thirty long-term ventilated patients admitted in two intensive care units at Massachusetts General Hospital were included. The authors conducted a fiberoptic endoscopic evaluation of swallowing and measured muscle strength using medical research council score within 24 h of each fiberoptic endoscopic evaluation of swallowing. A medical research council score less than 48 was considered clinically meaningful muscle weakness. A retrospective chart review was conducted to identify symptomatic aspiration events.

Results: Muscle weakness predicted pharyngeal dysfunction, defined as either valleculae and pyriform sinus residue scale of more than 1, or penetration aspiration scale of more than 1. Area under the curve of the receiver-operating curves for muscle strength (medical research council score) to predict pharyngeal, valleculae, and pyriform sinus residue scale of more than 1, penetration aspiration scale of more than 1, and symptomatic aspiration were 0.77 (95% CI, 0.63–0.97; $P = 0.012$), 0.79 (95% CI, 0.56–1; $P = 0.02$), and 0.74 (95% CI, 0.56–0.93; $P = 0.02$), respectively. Seventy percent of patients with muscle weakness showed symptomatic aspiration events. Muscle weakness was associated with an almost 10-fold increase in the symptomatic aspiration risk (odds ratio = 9.8; 95% CI, 1.6–60; $P = 0.009$).
Conclusion: In critically ill patients, muscle weakness is an independent predictor of pharyngeal dysfunction and symptomatic aspiration. Manual muscle strength testing may help identify patients at risk of symptomatic aspiration.

What We Already Know about This Topic

- Swallowing dysfunction after long-term ventilation can lead to aspiration pneumonia, but is clinically difficult to be diagnosed without the use of instrumental swallowing studies such as fiberoptic endoscopy or videofluoroscopy

What This Article Tells Us That Is New

- In 30 critically ill adult patients mechanically ventilated more than 10 days, extremity muscle weakness assessed by medical research council score was an independent predictor of swallowing dysfunction and symptomatic aspiration after extubation

DYSPHAGIA occurs frequently following long-term ventilation of critically ill patients[1] and this can result in an increased risk of symptomatic aspiration.[2,3] Using videofluoroscopic swallow evaluation, it has been reported

* Postdoctoral Research Fellow, Department of Anesthesia, Critical Care, and Pain Medicine and Center for Human Genetic Research, Massachusetts General Hospital, Harvard Medical School and Scholar in Science, Broad Institute of MIT and Harvard, Boston, Massachusetts. # Pulmonary and Critical Care Fellow, Department of Medicine, Pulmonary and Critical Care Unit, † Speech-Language Pathologist, Department of Speech, Language and Swallowing Disorders, ‡ Postdoctoral Research Fellow, Department of Anesthesia, Critical Care, and Pain Medicine, § Physical Therapist, Department of Physical and Occupational Therapy Services, Massachusetts General Hospital, Boston, Massachusetts, ‖ Associate Professor of Anesthesia, Critical Care, and Pain Medicine, Massachusetts General Hospital, and Harvard Medical School, Boston, Massachusetts. ** Director of Research, Critical Care Division, Massachusetts General Hospital and Associate Professor, Harvard Medical School, and Associate Professor, Universitaet Duisburg Essen, Essen, Germany.

Received from the Department of Anesthesia, Critical Care, and Pain Medicine, Massachusetts General Hospital, Boston, Massachusetts. Submitted for publication September 4, 2012. Accepted for publication March 12, 2013. Support was provided solely from institutional and/or departmental sources.

Address correspondence to: Dr. Eikermann: Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts. meikermann@partners.org. Information on purchasing reprints may be found at www.anesthesiology.org or on the masthead page at the beginning of this issue. Anesthesiology's articles are made freely accessible to all readers, for personal use only, 6 months from the cover date of the issue.

Presented at the American Society of Anesthesiologists Annual Meeting, October 2012.

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are available in both the HTML and PDF versions of this article. Links to the digital files are provided in the HTML text of this article on the Journal's Web site (www.anesthesiology.org).

CAP	Level of Evidence (NHMRC)	Participants	Method	Clinical Bottom Line	Answer Q
Dysphagia- A common, transient symptom in critical illness polyneuropathy: A fibreoptic endoscopic evaluation of swallowing study. *Critical Care Medicine, 2015.* Ponfick et al.	II (Aetiology study/ prospective cohort study)	N= 22 - CIP treated in ICU -Serially enrolled -All had tracheostomy -All had flaccid mm weakness - Exclusion: neurological disease	-FEES within 3 days, at day 14 and day 28 post admission to ICU - 300 mins therapy /day, 6 days/ week (inc PT, OT, speech and swallow therapy). No set regime	This study is suggestive that oropharyngeal dysphagia is a common sequale in patients with critical illness polyneuropathy, but that most of this population will recover from their dysphagia within 4 weeks. Further adequately powered research is required to confirm this relationship.	X did not directly address the clinical question √ suggestive that oropharyngeal dysphagia is a common sequale in patients with CIP
Muscle weakness predicts pharyngeal dysfunction and symptomatic aspiration in long term ventilated patients. *Anaesthesiology, 2013.* Mirzakhani et al .	III-3 (Diagnostic case controlled study/ prospective cohort study)	N= 30 -Ventilated for >10 days - Underwent a FEES by a SLP - Exclusion: delirium, progressive neurological disease, structural abnormalities (larynx/pharynx), history of CRT to H&N; MOF.	- FEES data taken: i) pre swallow secretion Ax was taken (VPSR)- *Valleculae and Pyriform Sinus Residue Scale,* ii) PAS -FEES was recorded for later inter-observer evaluation -Muscle strength measurement was performed using MRC scale within 24 hours of the FEES - 2 blinded physicians reviewed the charts for the diagnosis or possibility of symptomatic aspiration.	In critically ill patients, who were MV > 10 days, extremity muscle weakness, assessed by MRC score, was an independent predictor of pharyngeal dysfunction and symptomatic aspiration.	X did not directly address the clinical question √ identify a link between muscle weakness and aspiration
Acute and long-term dysphagia in critically ill patients with severe sepsis: results of a prospective controlled observational study. *European Archives of Otorhinolaryngology, 2014.* Zielske et al.	III-2 (Non-randomised, prospective comparison study with concurrent control group)	N= 60 -30 critically ill with severe sepsis -- 30 critically ill without severe sepsis (control group) -- No significant difference in age, gender, BMI, APACHE II score	-APACHE II score for eligibility to control group -CSE + FEES to evaluate swallow function -PAS on FEES, FOIS, Charlson comorbidity index.	This paper does not specifically address our clinical question however information may be extrapolated regarding the incidence of dysphagia in that severe sepsis appears to be a relevant risk factor for the development of acute dysphagia in critical illness polyneuropathy and critical illness myopathy.	X did not directly address the clinical question √ severe sepsis appears to be a risk factor for the development of acute dysphagia in critical illness polyneuropathy and critical illness myopathy

Table 1 **NHMRC Evidence Hierarchy: designations of 'levels of evidence' according to type of research question** (including explanatory notes)

Level	Intervention [1]	Diagnostic accuracy [2]	Prognosis	Aetiology [3]	Screening Intervention
I [4]	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies
II	A randomised controlled trial	A study of test accuracy with: an independent, blinded comparison with a valid reference standard,[5] among consecutive persons with a defined clinical presentation[6]	A prospective cohort study[7]	A prospective cohort study	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with: an independent, blinded comparison with a valid reference standard,[5] among non-consecutive persons with a defined clinical presentation[6]	All or none[8]	All or none[8]	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: ▪ Non-randomised, experimental trial[9] ▪ Cohort study ▪ Case-control study ▪ Interrupted time series with a control group	A comparison with reference standard that does not meet the criteria required for Level II and III-1 evidence	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls: ▪ Non-randomised, experimental trial ▪ Cohort study ▪ Case-control study
III-3	A comparative study without concurrent controls: ▪ Historical control study ▪ Two or more single arm study[10] ▪ Interrupted time series without a parallel control group	Diagnostic case-control study[6]	A retrospective cohort study	A case-control study	A comparative study without concurrent controls: ▪ Historical control study ▪ Two or more single arm study
IV	Case series with either post-test or pre-test/post-test outcomes	Study of diagnostic yield (no reference standard)[11]	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series

Ponfick et al

Zielske et al

Mirzakhani et al

2016 Clinical Bottom Line

Critical Illness Polyneuropathy (CIP) can co-occur with a range of co-morbidities, including mechanical ventilation, the presence of a tracheostomy tube, sepsis, muscle weakness, and multi-organ failure. Dysphagia in this patient population is multifactorial, and can be linked to the aforementioned co-morbidities. Therefore a causative relationship between CIP and the prevalence and nature of dysphagia is difficult to determine.

Ponfick et al (2015) suggested that oropharyngeal dysphagia, detected using FEES, is common sequale in patients with CIP (20/22 patients). Mirzakhani et al (2013) reported the prevalence of aspiration as being 70% in patients with extremity muscle weakness, and Zielske et al (2014) reported the prevalence of aspiration as 63% in patients with severe sepsis.

There was limited available evidence, with only 3 articles included, all of which had flawed study designs. Therefore, further robust , and more adequately powered research is required to confirm this relationship.

Clinical Application/ Where to

- The limited evidence that has been appraised provides suggestive/equivocal evidence that dysphagia/aspiration are prevalent in patients with CIP/severe sepsis. → Given this link, SPs should be aware that patients with CIP can be at risk of dysphagia/ aspiration.

- Other co-morbidities, including those specific to the critical care setting (e.g., MOF, presence of a tracheostomy tube, patients who require mechanical ventilation, and those requiring high doses of vasopressors) and also specific to the patient's diagnosis, may cause dysphagia.

  → Therefore it is important to look at the patient as a whole when examining the diagnosis and prognosis of the patient's dysphagia, but also recognising that CIP may factor into the clinical picture.

- Collaborative MDT input is important (especially close consultation with Physio, Neurology and ICU colleagues) to ensure SP management is optimal for these patients.

- Rachelle Robinson
- Penny Mogg
- Eva Katalanic
- Gabrielle Sainsbury-Baker
- Rebekah Mann
- Elisha Cooper
- Laura O'Carrigan
- Lyndal Holmes
- Kirsten McCosker
- Lindsay Wagner
- Amy Freeman-Sanderson
- Kate Watson (co- leader)
- Kelly Richardson (co - leader)

Questions??

DO SOCIAL COMMUNICATION GROUPS RESULT IN IMPROVED LANGUAGE OUTCOMES?

Adult Language EBP group 2016
Kate Makin, Jessica Lamond, Chelsea Larkman

WHO ARE WE?

- 15+ active members working with adults across NSW (Sydney, Blue Mountains & Illawarra/ Shoalhaven, Southern NSW, & Orange areas)
- Members work across acute, rehabilitation and community settings
- Stable group membership with a number of long-term members as well as more recently graduated clinicians. New rural members this year.
- Academic link: Professor Lyndsey Nickels from Macquarie University

WHAT WAS OUR CLINICAL QUESTION?

*Do social communication **groups** result in improved **language outcomes**?*

Subquestions:

- Is there a difference in outcomes between SP & non-SP led groups?
- Is there a difference in outcomes depending on timing of group?

WHAT DID THE **SYSTEMATIC REVIEWS** TELL US?

International Journal of Language & Communication Disorders

INT J LANG COMMUN DISORD, SEPTEMBER–OCTOBER 2014,
VOL. 49, NO. 5, 511–526

Review

Conversation therapy for aphasia: a qualitative review of the literature

Nina Simmons-Mackie†, Meghan C. Savage† and Linda Worrall‡

†Communication Sciences & Disorders, Department of Health & Human Sciences, Southeastern Louisiana University, Hammond, LA, USA
‡NHMRC CCRE in Aphasia Rehabilitation, School of Health & Rehabilitation Sciences, University of Queensland, QLD, Australia

- Wide variation in published approaches
- Discrepancy between intervention focusing on conversational skills of partners or dyads and intervention focusing on conversational skills of individuals with aphasia
- Variation in measurement of conversation

WHAT DID THE **SYSTEMATIC REVIEWS** TELL US?

International Journal of Speech-Language Pathology, 2013; 15(4): 359–374

informa
healthcare

The efficacy of outpatient and community-based aphasia group interventions: A systematic review

LUCETTE E. LANYON[1,2], MIRANDA L. ROSE[1,2] & LINDA WORRALL[2,3]

[1]*La Trobe University, Melbourne, VIC, Australia,* [2]*NHMRC CCRE in Aphasia Rehabilitation, Australia, and* [3]*University of Queensland, Brisbane, QLD, Australia*

- Evidence favours participation in groups that use highly structured protocols to improve specific language processes
- Modest evidence that groups that use multi-modality communication activities can improve rates of friendships & social networks
- Lack of well-designed studies

CLINICAL BOTTOM LINE

DO SOCIAL COMMUNICATION GROUPS RESULT IN IMPROVED LANGUAGE OUTCOMES?

They **may**, for **SP/SP student-led** groups in a **subacute/chronic** setting.

PARTICIPANT CHARACTERISTICS

Age

- ranged from 21-81 years

Stroke type

- first stroke, L hemisphere / language dominant, single stroke

Time post stroke

- ranged from 4 weeks to within first 12 years post stroke

One study included NESB participants.

Most excluded patients with cognitive changes.

PARTICIPANT CHARACTERISTICS CONT'D…

Type of Aphasia / Severity

- Broca's with good auditory comprehension skills
- Moderate
- Aphasia Severity 1-4 on BDAE
- 15^{th}-76^{th} % overall performance on PICA
- Mild-moderate & moderate-severe group

INTENSITY & DURATION OF GROUPS

- 5 hours weekly (2.5hrs + 30 minute coffee break twice a week) for 4 months (32 sessions total).
- 1.5 hours weekly for 10 weeks
- 2hours week for 11 weeks
- Average of 1.4 hours week over 17 weeks
- 8 hours per week for 44 weeks (4 hours direct group + 4 hours recreational groups)*
- 4.5 hours week for 6 weeks (+4.5 hours individual therapy)

All groups were run by SP/SP students

OUTCOME MEASURES

WAB AQ

PICA / SPICA

North Western Verb Naming Test

Sentence production subtest of PALPA

CADL

CETI

Functional communication profile

Conversational Analysis Profile for People with Aphasia

Token Test

Word Fluency Measure

Philadelphia Naming Test

Picture description narrative task

Attitude to communication scale

WHAT DID THEY ACTUALLY DO IN THE GROUPS?

- Facilitated discussion
- Sharing of personal experiences
- Videotaping of role play activities
- Discussion and self-advocacy, work on training and monitoring the communication skills of conversation partners
- Discourse generated using topic headings, language games, functional scripts
- Use of natural conversation through multi-modality communication
- Additional recreational activities
- Optional additional counselling sessions
- Concurrent individual therapy (VNeST)

TAKE HOME MESSAGE

There is some evidence that social communication groups can improve language outcomes

- Particularly for people with chronic aphasia
- Range of aphasia severity
- Minimum 1.4 hours a week
- SP/Student led
- Variety of formats

Also known improvements in QoL outcomes, improved social networks, improved community access

We need more well-designed studies

Why not run groups???

ADULT LANGUAGE GROUP

Kate Makin: Kate.Makin@royalrehab.com.au

Jessica Lamond:
Jessica.Lamond@sswahs.nsw.gov.au

Chelsea Larkman:
Chelsea.Larkman@sswahs.nsw.gov.au

All meetings held at Concord Hospital on Thursday afternoons from 2.30-3.30pm and are followed by ANCIG

WHAT WERE OUR **ARTICLES?**

1. Hoover, E, Caplan, D, Waters, G; Budson, A (2015) Effects of impairment-based individual and socially oriented group therapies on verb production in aphasia. *Aphasiology*, Volume 29, Issue 7
2. Ross, A., Winslow, I., Marchant, P., & Brumfitt, S. (2006). Evaluation of communication, life participation and psychological well-being in chronic aphasia: The influence of group intervention. *Aphasiology*, 20(5), 427-448
3. Van Der Gaag, A., Smith, L., Davis, S., Moss, B., Cornelius, V., Laing, S., & Mowles, C. (2005). Therapy and support services for people with long term stroke and aphasia and their relatives: A six month follow up study. *Clinical Rehabilitation*, 19, 372–380.
4. Elman R.J., Bernstein-Ellis E. (1999). The efficacy of group communication treatment in adults with chronic aphasia. *Journal of Speech, Language, and Hearing Research*. 42 (2), pp 411-419.
5. Brumfitt S.M., Sheeran P. (1997). An evaluation of short-term group therapy for people with aphasia. *Disability and Rehabilitation*. 19 (6) (pp 221-230), 1997. Drummond, SS. & Simmons, T.P. (1995). Linguistic performance of female aphasic adults during group interaction. *Journal of Neurolinguistics*. Vol.9(1), pp. 47-54.
6. Drummond, SS & Simmons, TP. (1995). Linguistic performance of female aphasic adults during group interaction. *Journal of Neurolinguistics*. 9(1), pp. 47-54.
7. Aten, JL., Caligiuri, MP., & Holland, AL. (1982). The efficacy of functional communication therapy for chronic aphasic patients. *Journal of Speech and Hearing Disorders*,
8. Wertz et al. (1981). Veterans Administration cooperative study on aphasia: a comparison of individual and group treatment. *Journal of Speech and Hearing Research*. 24(4), 580-94.

ANY QUESTIONS?

Adult Language EBP group 2016
Kate Makin, Jessica Lamond, Chelsea Larkman

NSW GOVERNMENT Health
Hunter New England
Local Health District

The use of AAC in dyspraxia therapy

Wendy Hackney & Kimberley Veitch
Hunter Adult Acquired Communication
Evidence Based Practice Group

Our group in 2016

- Co-chairs: Wendy Hackney and Kimberley Veitch
- Members: Janece Vandenberg, Claire Jeans, Amanda Masterson, Nicole Byrne, Bonnie de Plater, Rebecca Roberts, Aaron Dennis, Ashlee Harper, Anna Reid
- Achievements for 2016
  - Lots of CAPs
  - Our first experience with teleconferencing meetings
  - We all completed EBP training (thanks Steering Committee)
  - We recruited lots of new members

Clinical Question…development

1. What is the current evidence for treatment of acquired apraxia of speech?
   - Publications from 1995-2016
   - Search terms: ‘treatment’ +/- ‘rehabilitation’ ‘dyspraxia of speech’ OR ‘apraxia of speech’.
   - Databases searched: Medline, PubMed, AMED, ERIC, Proquest, Cochrane, Embase, Cinahl, ScienceDirect
   - Also checked out Google Scholar

Clinical Question…getting closer

- 13 CAPS
  - Way too many different topics and treatments
  - It is here that we realised that we attacked the issue backwards
- But we did learn there is not strong evidence to support any one treatment program over another.

Clinical Question…Finally!

- We backed up, developed a question based on the CAPs we had
- Then we had to do-over

Our Clinical Question

What is the evidence for use of augmentative and alternative communication in the treatment of acquired apraxia of speech in an adult population?

AAC in dyspraxia treatment

- 206 articles were found
  - Excluded papers on treatment options not replicable in a healthcare setting
  - two papers were not able to be accessed
  - Excluded: paediatric, not apraxia of speech, not English
- 4 articles were CAP'd

ARTICLE	PARTICIPANT(S)	Dx	Treatment	Outcome measure	BOTTOM LINE	Issues?	LEVEL OF EVIDENCE
Rose, M. and Douglas, J. (2006)	N=1 52 yo male. Left fronto-temporal 60months prior.	Broca's aphasia + moderate apraxia of speech.	Verbal + gesture training and combined verbal/gesture	Accuracy of word production	All 3 treatments led to significantly enhanced word production. No significant difference between the 3, all almost equally as effective. Generalisation of treatment effects to untreated items and untreated contexts, both immediately following treatment & at 1 & 3 month follow-up assessments.	Small sample	III-3
Raymer, A., McHose B., & Graham, K. (2010).	N=8 All left hemisphere stroke	7 with nonfluent Aphasia. 3 with severe AOS, 4 with moderate AOS.	Phase A = gesture treatment phase followed by Phase B = errorless naming treatment phase Follow up at 1 month post	WAB	Gestural facilitation may assist with word recall in those with acquired apraxia of speech however this article does not provide enough information on the integrity of the research to draw a reliable conclusion.	?Length of Tx phases ?When was the WAB completed ?was WAB repeated at follow up	III-3

ARTICLE	PARTICIPANT(S)	Dx	Treatment	Outcome measure(s)	BOTTOM LINE	Limitations	LEVEL OF EVIDENCE
Lasker, J., Bedrosian, J. (2001).	N=1 44 year old male, left CVA	Severe expressive aphasia, moderate receptive aphasia, apraxia of speech.	Changing intensity over 32month period. Individual and group program Functional low tech + high tech AAC training as well as total communicatio n training	Multiple	Limited evidence for AAC use in apraxia. Emphasises the need for a wholistic, long-term approach to use of AAC and communication Rx	Single case study	IV
Mauszycki, S. C., & Wambaugh, J. (2011).	Report mostly draws on the results from 2 reviews- Wambaugh et al. (2006) and Wambaugh & Mauszycki (2010)		Articulatory-kinematic therapeutic approaches Rate/rhythm treatments Intersystemic facilitation /reorganisation AAC	Multiple	There is insufficient evidence to conclude that any one technique or combination of techniques is superior to another		IV

Bottom line

- Very limited research and not consistent practises therefore no conclusions can be drawn
- Gesture may assist with saying single words

What we have learned & Plan 2017

- CAPs can get boring
  - Need to remember the clinical application
- CAT process
  - need a clear clinical question first
- 2017: we are bringing it back to the clinical!

References

Lasker, J., Bedrosian, J. (2001). Promoting acceptance of augmentative and alternative communication by adults with acquired communication disorders. Augmentative and Alternative Communication, 17(3), p141.

Mauszycki, S. C., & Wambaugh, J. (2011). Acquired apraxia of speech: A treatment overview. The ASHA Leader, 16, 16-19.

Raymer, A., McHose B., & Graham, K. (2010).Gestural Facilitation in Treatment of Apraxia of Speech. Perspectives on Neurophysiology and Neurogenic Speech and Language Disorders 20(3):94. DOI:10.1044/nnsld20.3.94

Rose, M. and Douglas, J. (2006) A comparison of verbal and gesture treatments for a word production deficit resulting from acquired apraxia of speech. Aphasiology, 20:12, 1186-1209, DOI: 10.1080/02687030600757325

Adult Swallowing EBP Group

2016 Showcase Presentation

NSW Speech Pathology

Evidence Based Practice Network

Kylie Draper

Academic Member: Hans Bogaardt

A Year in Review

- Commenced two clinical questions from overarching topic

  "the use of thickened fluids within dysphagia management"
- Co-leader, Christian, stepped down
- Increased and consistent numbers for participation and attendance across the year
- Sub-working party formed for possible PICI topic on previous EBP Clinical Question/CAT
- Hot topics/topics of interest
- Terms of Reference (TOR) updated

Clinical Question

- Formulated based on survey feedback results in 2015
- 2 groups formed for literature reviews
  - Do thickened fluids reduce the risk of aspiration?
  - Do thickened fluids have any negative connotations ie impact on QOL or medication administration
- Total 78 articles found (including 9 systematic reviews)
- CAPs completed in pairs on 8 systematic reviews
- 3 members cross referenced article lists

Articles

- Levels of Evidence
  - Level I [1,3, 4, 6, 7, 9]
  - Level II [2, 8]

  Overall comments appeared to indicate that the articles were not a true systematic review, but rather a narratives of level II, III and IV studies

- PRISMA scores
  - Wide range of scores
    - 13/27 [2]
    - 19/27 [3]
    - 22/27 [4]
    - 9.5/27 [6]
    - 20/27 [7]
    - 17/27 [8]
    - 12/27 [9]

Clinical Bottom Line

- TF **may be helpful in reducing** the occurrence of aspiration, however **further research** is required [1, 6]
- Evidence suggests a **reduction in risk of penetration/aspiration** and **increased swallow safety** [8, 9]
- TF **evidence base is not yet strong enough** to determine if they are superior to non-modified fluids with regards to negating the development of aspiration pneumonia [2]
- Literature suggests that there is **some evidence to support the use** of TF as an intervention to prevent aspiration within H&N cancer population [3]
- One article reported **lung complications increased** in free water group compared to TF [4]
- **Increased amounts of oral and/or pharyngeal residue** resulting in post-swallow airway invasion [8, 9]
- Patients with dysphagia were **more likely to experience a medication admin error** than a patient without dysphagia [7]
- TF can **significantly impair drug dissolution and bioavaiability** [7]

Consistent findings with previous systematic reviews -
the rigor of swallow intervention trials remains lacking

Limitations

- **Limited** number of RCTs on patients with dysphagia
- **Significant gap** exists regarding the evidence for the evaluation and management of dysphagia
- **Inconsistency** in classification of food and fluid consistencies
- **Inconsistency** in reporting aspiration by consistency, along with comparison against thickened fluids
- **Limited research** focusing on patient perspective and/or QOL
- **Limited** outcome data provided beyond intervention time point

Interesting Points

- Use of PEG in advanced dementia **did not show benefit with regards to survival, improvements in QOL or reduction in aspiration pneumonia** [1]
- TF were **overall better received** than enteral feeding [6]
- Products thickened by hand are often **inconsistent** [6]
- TF generally **not well accepted** due to suppressed flavour and unpalatable texture [6, 8]
- TF can correlate with **increased risk of dehydration** and **decreased quality of life** [8]
- **Further research** is required to alert the pharmaceutical industry to develop new products that will meet the needs of patients with dysphagia, particularly those who are older [7]

Impact on Clinical Practice

- Ultimately our role is to provide recommendations that aim to **reduce and/or eliminate penetration/aspiration.**
- Consider the overall management of our patients to ensure a **holistic approach**
  - Crucial role in ongoing dysphagia management not only with safest recommendations but also with regards to **comfort and quality of life** – as well as patient/family wishes.
  - Consider **alternatives** such as swallow therapy, behavioural modifications and safe swallow strategies.
- Be mindful to consider **medication administration** when providing recommendations for swallow safety.

Keep up to date with latest research…

Sub-group update

- Joint project with PICI re: the use of the Free Water Protocol
- Six CAPs completed on articles provided by Maria Berarducci
- Literature review underway

PLAN:

- Review literature to determine suitability
- CAPs - as indicated
- Distribute survey to SPs to determine current practice regarding Free Water Protocol (and/or modified versions)

If anyone is interested please email kylie.draper@sswahs.nsw.gov.au

2017

- Co-leadership opportunities
- Survey of 2016
- Clinical question to be discussed in first meeting
- Hot topics
- Roster for roles
- Ongoing sub-group work

Leader - Kylie Draper

kylie.draper@sswahs.nsw.gov.au

References

1. Alagiakrishnan, K., Bhanji, R. A., & Kurian, M. (2013). Evaluation and management of oropharyngeal dysphagia in different types of dementia: a systematic review. *Archives of Gerontology and Geriatrics* , 1-9.
2. Anderson, U. T., Beck, A. M., Kjarsgaard, A., Hansen, T., & Poulson, I. (2013). Systematic review and evidence based recommendations on texture modified foods and thickened fluids for adults (>18 years) with oropharyngeal dysphagia. *e-SPEN Journal* , 127-134.
3. Barbon, C. E., & Steele, C. M. (2015). Efficacy of Thickened Liquids for Eliminating Aspiration in Head and Neck Cancer: A Systematic Review. *Otolaryngology – Head and Neck Surgery* , 211-218
4. Carnaby, G., & Madhavan, A. (2013). A systematic review of randomized controlled trials in the field of dysphagia rehabilitation. *Current Physical Medicine and Rehabilitation Reports* , 197-215.
5. Cichero, J. A. (2013). Thickening agents used for dysphagia management: effect on bioavailability of water, medication and feelings of satiety. *Nutrition journal*, *12*(1), 1.
6. Hines, S., Mccrow, J., Abbey, J., & Gledhill, S. (2010). Thickened fluids for people with dementia in residential aged care facilities. *International Journal of Evidence-Based Healthcare* , 252-255.
7. Mc Gillicuddy, A., Crean, A. M., & Sahm, L. J. (2016). Older adults with difficulty swallowing oral medicines: a systematic review of the literature. *European journal of clinical pharmacology*, *72*(2), 141-151.
8. Newman, R., Vilardell, N., Clave, P., & Speyer, R. (2016). Editorial - Effect of Bolus Viscosity on the Safety and Efficacy of Swallowing and the Kinematics of the Swallow Response in Patients with Oropharyngeal Dysphagia: White Paper by the European Society for Swallowing Disorders (ESSD). *Dysphagia* .
9. Steele, C. M. (2015). The influence of food texture and liquid consistency modification on swallowing

Questions

QUESTIONS?

10 minutes open question time

AFTERNOON TEA BREAK

20 minutes break

Paediatric Presentations begin 3pm

How Much Is Too Much?

Screen Time For Children

PAEDIATRIC LANGUAGE GROUP 2016

Presented by Erin Adamson

THE QUESTION FOR THE YEAR WAS...

In children under 5, what is the impact of technology on language learning?

Why this question?

- Media coverage
- Increasing access to technology
- Increasing use in education settings
- Increased parent interest
- Emerging body of evidence

What Did We Find?

Parent Perception of Screen Time

- Everyone thinks their kid watches less than average
- Parents are concerned about the need for children to “get ready” for – school, jobs, the real world etc.

Zimmerman et. al (2007):

- Viewing habits exceed guidelines of American Association of Paediatrics
- 90% of children under 2 are watching on average 40 minutes per day
- Parents were observed to normalise viewing habits in relation to perceived habits of peers

Impact of Screen Time

Byeon & Hong (2015)

- Korean children aged 24-30 months who watched more than 2 hours of television daily were at greater risk of language delay than those who watched less than 2 hours.
- The results of Cochran-Armitage trend revealed that the risk of language delay increased proportionately with the increase in TV watching time.

Lin et al (2015)

- Excessive amounts of television watching by young children increased the risk of delayed cognition, language and motor development. Time spent viewing television was significantly associated with cognitive, language and motor delays. Type of person providing care to child determined television viewing time of children.

Impact of Screen Time – Onset & Frequency

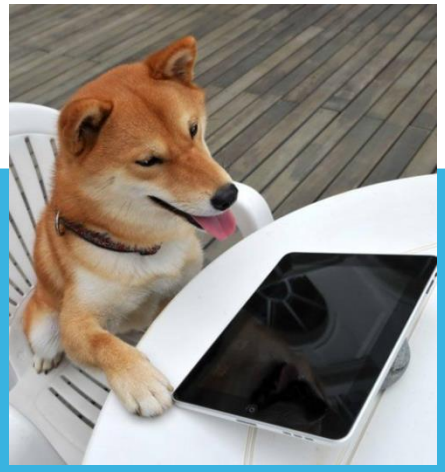
Chonchaiya & Pruksananonda (2008)

- There is a relationship between early onset and high frequency of TV viewing and language delay
- Children who had language delay usually stated watching television at the mean age of 7.22 months and spent 3.05 hours per day watching television.
- In comparison, children who had normal language development started watching television significantly later at the mean age of 11.92 months, spending 1.85 hours per day watching television

Impact of Screen Time – Onset & Frequency

Tomopolous et al (2010)

- Results of this study showed that duration of media exposure at age 6 months was associated with lower cognitive development and lower language development at age 14 months.
- Findings provide strong evidence to support no media exposure prior to 2 years of age
- Media exposure beyond 60 minutes was associated with lower results in Bayley III score and PLS Score.



Impact of Screen Time – Onset & Frequency

Christakis, D.A. (2008)

- To date there are no studies that demonstrate any developmental benefits from early infant TV viewing
- Over 90% of children begin watching TV regularly before the age of 2 years, despite recommendations to the contrary
- Language Development – reduced vocabulary scores on MBCDI
- Cognitive Development – lower scores on Peabody Individual Achievement Test Reading Recognition Scale & Reading Comprehension Scale

Constructive Use Of Screen Time

Durkin & Conti-Ramsden (2014)

Constructive use of media is the strategy of choice for accommodating, supporting and building children and young people media activities.

Benefits include joint engagement, enjoyment, cognitive and perceptual challenges, social motivation and can support educational attainment in young people with language impairments.

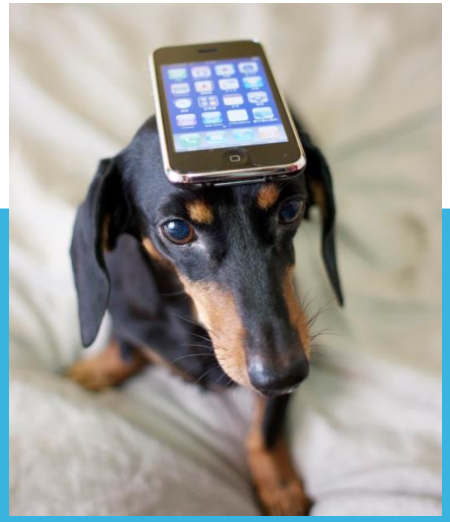
Espinosa et al (2009)

- Computer use has a positive impact on language learning
- Television has a negative impact on language learning

Both were true when socioeconomic status was used as a control

Constructive Use Of Screen Time

- Some evidence that slow paced children's program with high amounts of repetition led to higher scores on language Ax compared with fast paced TV and Adult directed programming (Linbebarger & Walker, 2005)
- However - Barr & Wyss (2008) investigated language learning with televised actions vs real life actions – less repetition required in real life face to face tasks.



E3BP

Screen Time Diary

Health
South Western Sydney
Local Health District

(Circle) Day: 1 2 3 Weekday / childcare-daycare / Weekend

TIME OF DAY	LENGTH OF TIME	NAME OF PROGRAM/VIDEO/APP	LOCATION	WHAT HAPPENED?
e.g. 7 am *8 am*	*25 mins* *20 mins* *15 mins*	*Peppa pig TV* *Goodnight Safari app* *Nursery Rhymes youtube* *Activity Centre app*	*Loungeroom* *Doctors waiting room* *Car* *Child's bed*	*Child watching alone* *Sitting together and reading ebook/using app* *Mum sitting with child asking about what happened in show*

Clinical Bottom Line

- Screen time is not needed for development
- Lots of evidence supporting minimal to no exposure to screen time for children
- If you do expose children to screen time, it is best to make it an interactive experience
- More evidence likely to emerge as technology evolves

Relevance To Practice

- Recent changes to APA guidelines
- Part of case history in considering risk factors
- Part of dialogue with parents re: interaction, play and development
- Be aware of self judgement of carers re: time, as this may be unreliable

REFERENCES

Barr, R. & Wyss, N. (2008). Re-enactment of televised content by 2 year olds: Toddlers use language learned from television to solve a difficult imitation problem. Infant Behaviour and Development 31, 696-703.

Byeon H and Hong S (2015), Relationship between Television Viewing and Language Delay in Toddlers: Evidence from a Korea National Cross-Sectional Survey, PLoS ONE, Vol 10(3)

Chonchaiya W, Pruksananonda C (2008), Television viewing associates with delayed language development, Acta Paediatrics, 97, pp. 977-982

REFERENCES

Christakis, D.A. (2008) The effects of infant media usage: what do we know and what show we learn? Acta Paediatrica, 98, 8-16

Durkin, K. & Conti-Ramsden, G (2014) Turn off or tune in? What advice can SLT's, educational psychologists and teachers provide about uses of new media and children with language impairments? Child Language and Therapy 30 (2) 187-20

Lin, L-Y.,Cherng, R-J., Chen, Yu-J., Chen, Yi-J., & Yang, H-M. (2015). Effects of television exposure on developmental skills among young children. Infant Behaviour and Development 38, 20-26.

Linda M. Espinosa , James M. Laffey, Tiffany Whittaker & Yanyan Sheng (2006), Technology in the Home and the Achievement of Young Children: Findings From the Early Childhood Longitudinal Study, Early Education and Development, 17:3, 421-441.

REFERENCES

Linebarger, D.L & Walker, D (2005) American Behavioral Scientist, Vol. 48 No. 5, January 2005 624-645 DOI: 10.1177/000276420427150 5

Tomopolous, S., Dreyer, B., Berkule, S., Fierman, A., Brockmeyer, C., Mendelsohn, A. (2010). Infant Media Exposure and Toddler Development. Arch Pediatrics,

Zimmerman, FJ., Christakis, DA., Meltzoff, AN., Television and DVD/Video Viewing in Children Younger Than 2 Years , Arch Pediatr Adolesc Med/Vol 161, MAY 2007

2017

Topic: TBC – Watch this space!

https://nswspeechpathologyebp.com

Leader: Erin Adamson

erin.adamson@sswahs.nsw.gov.au

Currently recruiting for co-leader – what an opportunity!

THE CHILD'S PHONOLOGY IS SO UNUSUAL, WHAT DO I DO?

In children with atypical phonological patterns, does treatment lead to greater improvements in speech accuracy than no treatment?

Clinical group: Paediatric speech

Acknowledgements

- **Leader**: Bronwyn Carrigg, Sydney Children's Hospital
- **Academic link:** Elise Baker, The University of Sydney
- **Presentation**: Anna Kearns, Gwendolyn Nichols, Elise Baker, and Ellie Sugden
- **EBP Group members**: Thanks to our enthusiastic members from SWSLHD, WSLHD, SLHD, SESLHD, NSLHD, ISLHD, HNELHD, HDHS, SCHN Randwick, Private, USYD, UNC, CSU,

What makes a child's phonology unusual?

Language-specific phonological errors that are not common in typically developing children

- Backing *is not common* in some languages (e.g., English, German)
- Backing *is common* in some languages (e.g., Lebanese Arabic, Cantonese, Greek, Japanese, Norwegian, Putonghua, Thai, and Vietnamese)

McLeod & Baker, (2017)

Other characteristics symptomatic of unusual or atypical phonology include:

1. Use of later developing speech sounds as substitutes for earlier developing speech sounds
2. Insertion of speech sounds in words
3. Use of non-ambient segments (consonants or vowels) as substitutes for target appropriate segments

(Grunwell, 1997)

What unusual cases did we find?

Some examples

- Use of **ingressive consonants** (e.g., breathing in while articulating /s/ at the end of words) *(Gierut & Champsion, 2000; Ingram & Terselic,1983)*
- Excessive use of **glottal stop** *(Elbert, 1983)*
- Excessive use of **[d] for many consonants, including labials and [j]** *(Grunwell, 1983)*
- Highly unintelligible speech, including **atypical patterns, such as backing** *(Hodson, 1983)*
- **No fricatives or affricates at all,** despite having liquids [l, r] *(Miccio & Ingrisano, 2000)*

Speake, J., Stackhouse, J., Pascoe, M. (2012). Vowel targeted intervention for children with persisting speech difficulties: Impact on intelligibility . *Child Language Teaching and Therapy, 28*(3), 277-295.

PARTICIPANT Ryan & Demi (10). Severe persisting speech difficulties, previous therapy for consonants, vowels and literacy. Monolingual, in a support unit at mainstream school, normal IQ.

19 listeners (av age 10) from another mainstream school.

WHAT WAS UNUSUAL? Highly unintelligible speech, vowel errors.

GOALS Vowels – mono and diphthongs specific to each child

INTERVENTION:

- Activities to target auditory discrimination, production and metaphonological skills
- target words were high frequency words containing target vowel
- Intensive therapy (30mins, 3x per week) Ryan 35 sessions, Demi 40.

RESULTS: All targeted vowels showed an increase in correct production, with one child demonstrating some generalisation to non targeted diphthongs and consonants; neither child could produce ‘er’; listener intelligibility improved in single words for both children, sentence and spontaneous speech for one child only

CLINICALLY HELPFUL IDEA: treat vowels and consonants in similar manner

Gierut, J.A. & Champion, A.H. (2000). Ingressive substitutions: typical or atypical phonological pattern? *Clinical Linguistics and Phonetics*,14*(8),* 603-617

PARTICIPANT IJ (4;5 boy). Severe SSD, otherwise typically developing

WHAT WAS UNUSUAL? Ingressive substitute (perceptually similar to /h/ produced on inhalation) for /s z ʃ ʤ ʧ/ in post-vocalic positions

GOALS /s/ in word-final position

INTERVENTION:

- Single-subject AB design with control phoneme
- 1 hour sessions, 3 x week for 19 sessions
- Used 8 non-words containing /s/ in final position
- Imitation of non-words for 7 sessions, followed by spontaneous productions for 12 sessions

RESULTS: Accuracy of /s/ improved in *initial* word position post-treatment

Use of process decreased, but other errors were made instead

Minimal generalisation

CLINICALLY HELPFUL IDEA: Treatment for atypical errors is likely to be similar to treating typical errors, but you will probably need to target the atypical error explicitly

Miccio, A., & Ingrisano, D. (2000). The acquisition of fricatives and affricates: Evidence from a disordered phonological system. *American Journal of Speech-Language Pathology, 9*, 214-229.

PARTICIPANT Girl (5;3). Hx of DD, late talking, OM & grommets, conductive HL, special ed class with some integration to mainstream daily. WPPSI 3%ile, PPVT 1%ile, MLU 3.3.

WHAT WAS UNUSUAL? No stimulability for fricatives or affricates; subject had developmental delay

GOALS /v/ then /z/ in word initial,

INTERVENTION:

- Imitative drill correct to 90 % over 3 sessions, then minimal pairs
- Intensive therapy (30mins, 3x per week) for 26 weeks, with 1 x 30 min generalisation probe weekly

RESULTS: System wide change and development of fricative and affricate sound classes in all word positions

CLINICALLY HELPFUL IDEA: Linguistic based target choices can be used to promote change in severe phonological disorder with children with developmental delay

Elbert, M. (1983). Case study of phonological acquisition. *Topics in Language Disorders, 3*(2), 1-9.

PARTICIPANT Boy 3;10. Normal hearing and receptive language

WHAT WAS UNUSUAL? Highly unintelligible speech; excessive use of glottal stop, very limited phonetic inventory.

GOALS Develop syllable structure with a variety of consonant types.

INTERVENTION:

- Stage 1: 2-3 sessions a week; training final consonant stops V vs VC contrasts eg, a – ab, a – at.
- Stage 2: same training then for fricatives in final position (e.g., /a/-/az/)
- Stage 3: (Feb-April) targeted /l/ and /r/ clusters C vs CCV (e.g., /ti/ - /tri/)

RESULTS: Established full phonetic inventory and intelligible speech

CLINICALLY HELPFUL IDEA: Training contrasts, highly structured therapy, high rates of production – easy to replicate and effective.

Grunwell, P. (1983). Phonological development in phonological disability. *Topics in Language Disorders, 3*(2), 62-76.

PARTICIPANT Christine (4;9). Severe phonological impairment

WHAT WAS UNUSUAL? Lots of uncommon processes (e.g. metathesis, consonant harmony, gliding of fricatives), and use of [d] for labials and /j/

GOALS Re-organise sound system by teaching features of the adult sound system (e.g. long vs short)

INTERVENTION:

- No direct intervention targeting artic or phonology
- PA tasks (e.g. discrimination, blending, segmenting, phoneme-grapheme correspondence)
- Sounds taught as part of a general reading and writing program
- Sounds not selected on basis of child's specific speech sound difficulties
- Small class (10 children), with full time teacher, SLP and aide

RESULTS: By 6;6 Christine was attending mainstream school full time, reading and writing skills age appropriate

CLINICALLY HELPFUL IDEA: Embed PA tasks within your treatment

Hodson, B. W. (1983). A facilitative approach for remediation of a child's profoundly unintelligible phonological system. *Topics in Language Disorders, 3*(2), 24-34.

- **PARTICIPANT** Candi 3;11. Mild receptive delay. Profound expressive delay. Speech 5-10% intelligible.
- **WHAT WAS UNUSUAL?** Highly unintelligible speech; limited phonetic inventory /k, g, h, p, b, m, t, d/ and mostly only pre-vocalically.
- **GOALS** Final consonants, glides, liquids, stridents and clusters taught systematically
- **INTERVENTION:** 5 cycles, 45 sessions over 18 months Introduced new phon targets at each new cycle
- **RESULTS:** improvement across all phon processes
- **CLINICALLY HELPFUL IDEA:** targeting phonemes as a means to an end rather than an end in themselves. Ie, look at whole phonological system rather than just targeting individual sounds even in a child who has a very limited phonetic inventory.

Pollock, K. (1983). Individual preferences: case study of a phonologically delayed child, *Topics in Language Disorders, 3*(2), 10-23.

- **PARTICIPANT** "Mike" (5;11 yrs) longitudinal case study; Initial exposed to Korean; Adopted by English-speaking family at 2;2 yrs; language and IQ within normal limits; highly unintelligible.
- **WHAT WAS UNUSUAL?** Various atypical patterns (e.g., referred CVn; substituted fricatives with nasals)
- **GOALS** Various goals over time; mostly focused on expanding phonetic and syllable shape inventories
- **INTERVENTION:** Traditional artic Rx targeting individual phonemes, syllables and words
- **RESULTS:** Slow progress; remained largely unintelligible
- **CLINICALLY HELPFUL IDEA:** Helpful longitudinal data from 3;5 to 4;10 years.

Ingram, D & Terselic, B. (1983). Final ingression: a case of deviant child phonology, *Topics in Language Disorders, 3*(2), 45-50.

PARTICIPANT "E" (4;1). Language and cognitive skills WNL. Hearing WNL however history of ear aches and colds; unintelligible speech

WHAT WAS UNUSUAL? Used final ingressive alveolar /s/ for most fricatives; migrated /s/ from initial to final position (e.g., 'soap' > [woʊsp]; 'snake' < [neis]

GOALS: Rather than targeting preferred/unusual substitutions, and focus on gaps in the child's phonological system.

INTERVENTION: Suggestions only.

CLINICALLY HELPFUL IDEA: If a child's phonological system is unusual and the child is resitant to changing unusual pattern/substitution, address the 'gaps' in the child's system (e.g., develop fricatives) to indirectly change an unusual substitution pattern.

Papers that we are currently appraising:

- Hrastelj, L., & Knight, RA. (2016) Ingressive speech errors: a service evaluation of speech-sound therapy in a child aged 4;6 years. *Int J of Communication Disorders*, DOI:10.1111/1460-6984.12287
- Pascoe, M., Stackhouse, J., & Wells, B. (2005). Phonological therapy within a psycholinguistic framework: Promoting change in a child with persisting speech difficulties. *International Journal of Language & Communication Disorders*, *40*(2), 189-220.
- Robb, M., Bliele, K., Yee, S.Y., (1999). A phonetic analysis of vowel errors during the course of treatment. *Clinical Linguistics & Phonetics*, *13*(4), 309-321.
- Penney, G., Fee, E. J., & Dowdle, C. (1994). Vowel assessment and remediation: A case study. *Child Language Teaching and Therapy*, *10*(1), 47-66.

Papers that we are currently appraising:

Gibbon, F., Shockey, L., & Reid, J. (1992). Description and treatment of abnormal vowels in a phonologically disordered child. *Child Language Teaching and Therapy*, *8*(1), 30-59.

Hargrove, P. M., Dauer, K. E., & Montelibano, M. (1989). Reducing vowel and fiinal consonant prolongations in twin brothers. *Child Language Teaching and Therapy*, *5*(1), 49-63.

Fey, M. E., & Stalker, C. H. (1986). A hypothesis-testing approach to treatment of a child with an idiosyncratic (morpho) phonological system. Journal of Speech and Hearing Disorders, 51(4), 324-336.

Critically appraised topic: Overview

- 8 papers were reviewed (so far…7 more to go)
- **Variety of treatments**, often tailored to children's unique phonological systems
- **MOST showed some level of improvement**. One paper showed minimal improvement *(Ingram & Terselic,1983)*
- **No studies had control with no treatment**; however, this is likely due to the nature of atypical phonology
- One study had control class of phonemes *(Gierut & Champion, 2000)*
- **Most** studies **examined consonants or atypical phonological patterns**; two papers **examined vowels** *(e.g., Speake, Stackhouse, & Pascoe, 2012)*

Critically appraised topic: Overview

- **All** research papers were single case studies
- **Most** of the studies were from 1983 with 2 more recent papers in 2000. This impacted type of treatment (e.g., traditional articulation approach for children with severe phonology)
- Most participants were preschool and school aged
- Error types and goals varied across participants
- Many studies involved highly intense and frequent treatment (e.g., 3 sessions a week for 6 months)

Clinical application of earlier CAT

- Assessment and treatment of children from NESB or bi/multilingual backgrounds (2015/16 CAT)

- Clinicians developed assessment resources in languages relevant to local communities.

- E.g., Vietnamese assessment resource by Sarah Lueng, Nibeela Safdar in SWSLHD (open USB for files)

Like to join?

Open to NSW based paediatric speech paths.

Active membership only

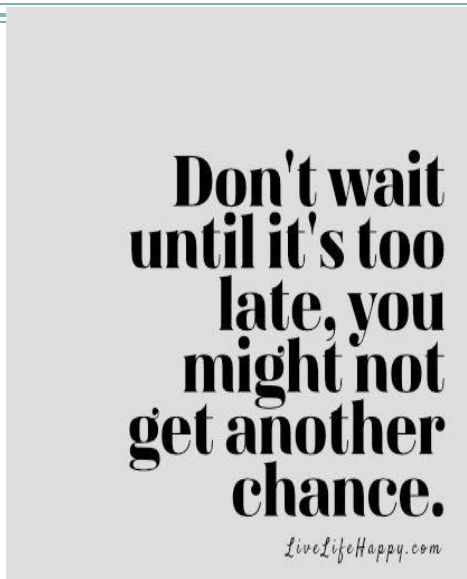
Contact

bronwyn.carrigg@health.nsw.gov.au

References

- Elbert, M. (1983). Case study of phonological acquisition. *Topics in Language Disorders, 3*(2), 1-9.
- Gierut, J. A., & Champion, A. H. (2000). Ingressive substitutions: typical or atypical phonological pattern? *Clinical Linguistics & Phonetics, 14*(8), 603-617
- Grunwell, P. (1983). Phonological Development in Phonological Disability. Topics in Language Disorders, 3(2), pp 62-76
- Hodson, B.W. (1983). A facilitative approach for remediation of a child's profoundly unintelligible phonological system. *Topics in Language Disorders, 3 (2), 24-34.*
- Ingram, D & Terselic, B (1983). Final ingression: a case of deviant child phonology, *Topics in Language Disorders, 3*(2), 45-50.
- Miccio, A. W., & Ingrisano, D. R. (2000). The Acquisition of Fricatives and Affricates Evidence From a Disordered Phonological System. *American Journal of Speech-Language Pathology*, *9*(3), 214-229.
- Pollock, K., (1983) Individual preferences: Case Study of a phonologically delayed child. *Topics in Language Disorders*, 10-23.
- Speake, J. Stackhouse, J. & Pascoe, M. (2012) Vowel targeted intervention fro children with persisting speech difficulties: impact on intelligibility. *Child Language Teaching and Therapy, 25* (3), 277-295

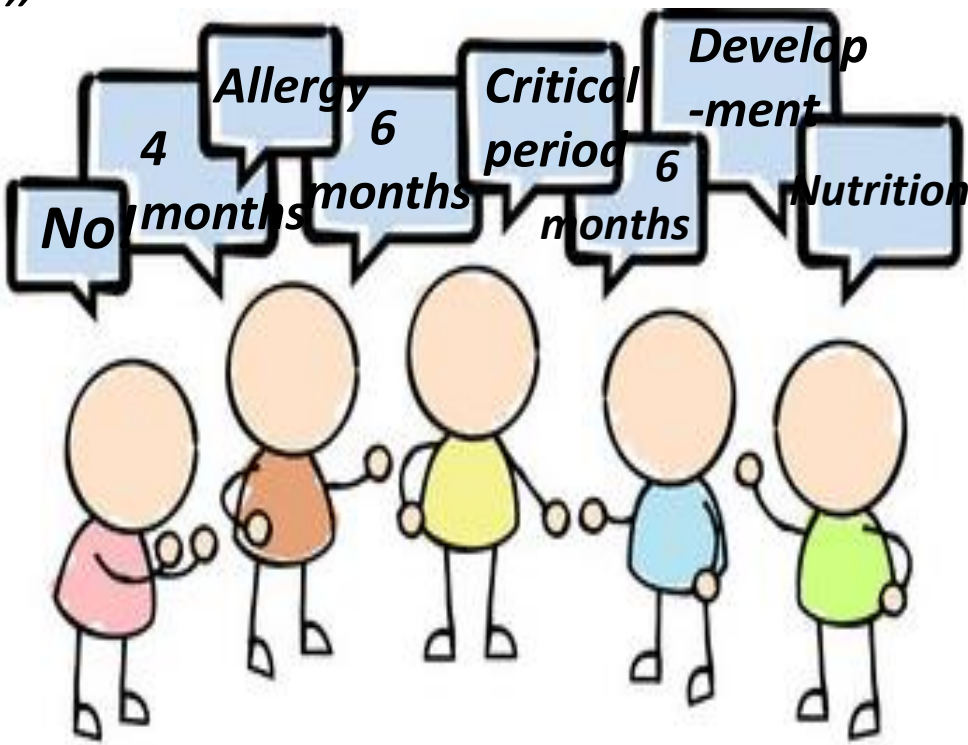
Is “Late” Too Late?



Background

Our group members had differing understanding of the:

- recommended age of introducing solids in infants
- rationales behind the recommendations
- evidence of a *"critical period"*
- impact of delaying introduct
  solids may have on oral mot
  and feeding development



PICO

Population: In typically developing children

(without dysphagia/swallowing problems, developmental delay, disability, neurological impairment)

Intervention: what is the impact of introducing solids after

10 months

Comparison: compared with introducing solids

months

Outcome: on the acquisition of eating skills

Search Terms

Population	Intervention	Comparison	Outcome
Child* OR P?ed* OR Infant*	(“critical period” OR “sensitive period” OR transition OR introduc* OR delay*) AND (feed* OR solid* OR puree OR drink* OR eat* OR food OR wean* OR fluid*)		tolera* OR accept* OR motor OR acqui* OR skill* OR develop*

Search Results

Authors	CAP?	Relevant to PICO?
Birch 1982	✓	✘
Chung 2014	✓	✘
Coulthard 2009	✓	✓
Gisel 1991	✓	✘
Illingsworth 1964	✓	✓
Kuo 2011	✘	✘
Lanigan 2001	✘	✘
Mason 2005	✘	✘
Strologo 1997	✓	✘
Northstone 2001	✓	✓
Pires 2012	✘	✘
Przyrembel 2012	✘	✘
Ross 2002	✘	✘
Sakashita 2004	✓	✘
Senez 1996	✓	✘
Simondon 1998	✘	✘

Illingworth (1964)

- **Design:** Discussion of literature relating to “critical periods” for animals across various behaviours & skills, then applied to human development in brief case series
- **Participants:** 9 children delayed introduction of solid food due to parental anxiety, motor or developmental delay & medical conditions
- **Results:** All had some degree of difficulty managing solid food when introduced late, skill development was variable and inconsistently reported
- **Bottom line:** Authors conclude, if children are not given solids when they can chew, difficulties with solids are likely

Northstone (2001)

- **Design:** Cohort study. Parent questionnaire at 6 & 15 months

  Compared feeding difficulties correlated to age of introduction of lumpy foods: <6 months; 6-9 months; >10 months
- **Participants:** Invited all mothers in Avon County, UK with expected delivery from 01/04/1991-31/12/1992. 9360 mothers returned both questionnaires
- **Results:** By 15 months little difference in diversity of food between children introduced lumps <6 & 6-9 months

  At both 6 and 15 months, children introduced lumps >10 months had a greater proportion of 'feeding difficulties', ate smaller range & amount of food and more sugar.
- **Bottom line:** Introducing lumpy solids >10 months, compared to <6 months or 6-9 months, was associated with eating less diversity of foods, feeding difficulties including eating insufficient amounts, food refusal, choosiness & most significant likes & dislikes

Coulthard (2009)

- **Design:** Cohort study, participants blinded. 28-64 page questionnaire mailed to parents at 6 months, 15 months and 7 years.

  7 year questionnaire contained 3-15 pages about feeding e.g. length of breast feeding, early feeding difficulties, age of introduction of lumpy foods.
- **Participants:** Invited all mothers in Avon County, UK with expected delivery from 01/04/1991-31/12/1992. 7821 returned all 3 questionnaires.
- **Results:** Majority introduced solids at recommended 3-4 months & lumps <10 months. Children delayed lumps (>10 months) had more difficulty e.g. not eating enough volume, refusal, choosy, feeding routine difficult, over eating

  Most significant results were delayed lumps ate smaller range & volume of fruit & vegetables, particularly green leafy vegetables & citrus fruits
- **Bottom line:** Early exposure to variety of tastes and textures is important in long term development of child food preferences & feeding skills

More Interesting Information

Feeding is complex!

Interesting information not directly related to our PICO….

Yet clinically informative.

- **What else influences oral skill development?**
- **What else influences the acceptance of a diversity of foods?**

Oral Skill Development

Gisel (1991)

- Examined effect of food texture (apple sauce vs. gelatin vs. Cheerios) on number of chews & time to swallow in typically developing children.
- Chewing efficiency increased with age. Marked decrease in number of chews required at 6-8 months for small pieces of gelatin, 10-12 months for larger pieces of gelatin, 12-18 months for apple sauce, 6-8 months & again at 12-18 months for Cheerios

Strologo (1997)

- Children with renal failure and NGT <12 months old are more likely to have oral feeding difficulties, irrespective of whether continued oral feeding
- Children with NGT >12 months old and NBM had greater difficulty than those who also ate orally
- Chewing skills disrupted by NGT even if introduced after chewing skills have been established

Senez (1996)

- Children with prior typical feeding who had acquired injury weaned from NGT sooner than those with developmental disability who had never eaten orally
- Pairing nutritive oral stimulation during bolus tube feeding may help transition to oral feeding

Introduction of different food types

Sakashita (2004)

- There's great variability in the acceptance of and ability to chew specific food types and size of pieces in typically developing children
- Meat & green vegetables had wider age range of acceptance, perhaps related to additional fibre needing more chewing
- Increase if range of foods accepted 6 months-2 years of age, plateau at 2.5-3 years
- Food acceptance and proficiency in these children also has links to early flavour experiences through breastfeeding, food preparation, and increased opportunities to textures and tastes.

Birch (1982)

- Exposure to the same food up to 20 times may result in increase in willingness to eat the food

Coulthard (2009)

- Rapid introduction to variety of tastes & textures after 6 months may reduce difficulties with acceptance at 7 years

Gisel (1991)

- Food refusal increased significantly between 6-24 months

Practices for Introducing Solids is Variable

WHO Guidelines for Complementary Feeding (September 2016):

When:

- Around 6 months

Why:

- Need for energy and nutrients starts to exceed what is provided by breast milk, complementary foods are necessary to meet those needs
- Developmentally ready for other foods
- If complementary foods not introduced around 6 months, or if given inappropriately, growth may falter

What to do:

- Continue frequent, on-demand breastfeeding until 2 years of age or beyond;
- Gradually increase food consistency and variety
- Increase number of meals

World Health Organization

Practices for Introducing Solids is Variable (cont'd)

Australasian Society of Clinical Immunology and Allergy (May 2016):

When:

- At or around 6 months but not before 4 months
- Signs that are developmentally ready:
  - sit relatively unaided
  - loss of the tongue-thrust reflex
  - trying to reach out and grab food.

Why:

- Infants differ in the age that they are developmentally ready for solid foods.

What to do:

- Start to introduce a variety of solid foods, starting with iron rich foods
- Introduce foods that family eats regardless of allergens
- Continue breastfeeding

ascia

australasian society of clinical immunology and allergy

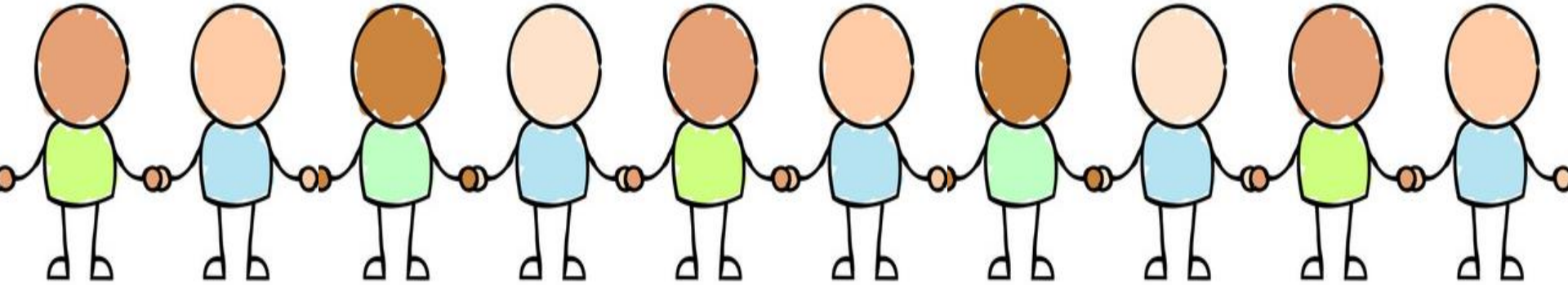
Application to Clinical Practice

- Learning to eat is complex process influenced by children's skills, learning styles, sensory responses, feeding experiences, emotional involvement and temperaments of the child and parent
- No consensus about when is best to introduce solids or lumps among professionals
- If starting ≥6 months progress from purees as quickly as possible to ensure exposure to chewable textures before 10 months
- Size of food presented may impact acceptance and skills along with texture and taste
- Variability in the acceptance of foods among typically developing children
- Periods of significant oral skill development and plateaus after 2.5-3 years
- Growth measures did not significantly correlate to oral skills
- A child may need to be exposed to a new food 20 times before it is accepted

  It works – *we have tested this on ourselves!*

2017

- We are always interested in new passionate members – email Amanda Spirit-Jones aspiritjones@cerebralpalsy.org.au
- 5 meetings annually.
- Meetings @ Cerebral Palsy Alliance, Kingswood & Skype
- 1st meeting Wednesday 16th February 1:30-4:30pm



Team

Name	Worksite
Amanda Spirit-Jones	Cerebral Palsy Alliance
Jane Pettigrew	Children's Hospital at Westmead
Meghan Sanchez	Cerebral Palsy Alliance
Roisin Glover	Kidzwish Foundation
Meily Choi	Allowah Presbyterian Children's Hospital
Kylie Harris	Sydney South West Area Health Service

Thank you

- All our hard working and dedicated group members!
- Dr. Leigha Dark – our Academic Link
- All our workplaces for encouraging us to maintain best practice and allowing us the time to be involved in the EBP network
- NSW EBP Network Steering Committee

References

- Birch, L. L., & Marlin, D. W. (1982). I don't like it; I never tried it: effects of exposure on two-year-old children's food preferences. *Appetite*, *3*(4), 353-360.
- Chung, J., Lee, J., Spinazzola, R., Rosen, L., & Milanaik, R. (2014). Parental Perception of Premature Infant Growth and Feeding Behaviors Use of Gestation-Adjusted Age and Assessing for Developmental Readiness During Solid Food Introduction. Clinical Pediatrics, 0009922814540039.
- Coulthard, H., Harris, G., & Emmett, P. (2009). Delayed introduction of lumpy foods to children during the complementary feeding period affects child's food acceptance and feeding at 7 years of age. *Maternal & child nutrition*, *5*(1), 75-85.*Pediatrics* 53(13): 1271-1277.
- Gisel, E. G. (1991). Effect of food texture on the development of chewing of children between six months and two years of age. *Developmental Medicine & Child Neurology*, *33*(1), 69-79.
- Illingworth, R. S., & Lister, J. (1964). The critical or sensitive period, with special reference to certain feeding problems in infants and children. *The Journal of Pediatrics*, *65*(6), 839-848.
- Kuo, A. A., Inkelas, M., Slusser, W. M., Maidenberg, M., & Halfon, N. (2011). Introduction of solid food to young infants. *Maternal and child health journal*, *15*(8), 1185-1194.
- Lanigan, J. A., Bishop, J., Kimber, A. C., & Morgan, J. (2001). Systematic review concerning the age of introduction of complementary foods to the healthy full-term infant. *European Journal of Clinical Nutrition*, *55*(5), 309-320.

References cont'd

- Mason, S. J., Harris, G., & Blissett, J. (2005). Tube Feeding in Infancy: Implications for the Developmentof Normal Eating and Drinking Skills. *Dysphagia*, *20*(1), 46-61.
- Strologo, LD, Principato, F, Sinibaldi, D, Appiani AC, Terri F, Dartois AM & Rizzoni G (1997): Feeding dysfunction in infants with severe chronic renal failure after LT Nasogastric tube feeding; Pediatric Nephrology (11):84-86
- Northstone, K., Emmett, P., & Nethersole, F. (2001). The effect of age of introduction to lumpy solids on foods eaten and reported feeding difficulties at 6 and 15 months. *Journal of human nutrition and dietetics*, *14*(1), 43-54.
- Pires, S. C., Giugliani, E. R. J., & da Silva, F. C. (2012). Influence of the duration of breastfeeding on quality of muscle function during mastication in preschoolers: a cohort study. *BMC public health*, *12*(1), 1.
- Przyrembel, H. (2012). Timing of introduction of complementary food: short-and long-term health consequences. *Annals of Nutrition and Metabolism*, *60*(Suppl. 2), 8-20.
- Ross, E. S., & Browne, J. V. (2002, December). Developmental progression of feeding skills: an approach to supporting feeding in preterm infants. In *Seminars in Neonatology* (Vol. 7, No. 6, pp. 469-475). WB Saunders.
- Sakashita, R., Inoue, N., & Kamegai, T. (2004). From milk to solids: a reference standard for the transitional eating process in infants and preschool children in Japan. *European journal of clinical nutrition*, *58*(4), 643-653.
- Senez, C., Guys, J. M., Mancini, J., Paredes, A. P., Lena, G., & Choux, M. (1996). Weaning children from tube to oral feeding. *Child's Nervous System*,*12*(10), 590-594.
- Simondon, K. B., & Simondon, F. (1998). Mothers prolong breastfeeding of undernourished children in rural Senegal. *International Journal of Epidemiology*, *27*(3), 490-494.

EBP AUTISM GROUP

A look at transdisciplinary practice and group intervention outcomes for children with ASD

TRANSDISCIPLINAR Y SERVICE

THE NDIS IS NEAR

- The world in which the therapist in the EBP group is changing rapidly
- Individuals are now funded as individuals and have choice and control over which services they access, how they access services and have greater input into what these services look like
- The NDIS suggests that evidence based practice requires a family centred, key worker approach to services to children with disability under 6 and their families.

TRANSDISCIPLINARY SERVICES

Transdisciplinary teamwork* involves a team of professionals who work collaboratively, and share the responsibilities of evaluating, planning and implementing services to children and their families. Families are valued members of the team, and are involved in all aspects of intervention. One professional is chosen as the primary service provider for the family, and acts as the conduit for the expertise of the team. The full team remains involved, and the primary provider reports back to the team constantly.

SPEECH PATHOLOGY AUSTRALIA (SPA) POSITION PAPER

Transdisciplinary practice is considered an extended skill within the scope of speech pathology practice (Speech Pathology Australia, 2009).

The Competency-Based Occupational Standards (CBOS, 2001) for speech pathologists at entry level to the profession does not include reference to transdisciplinary practice; therefore it is not a skill that should be expected of a newly graduated speech pathologist.

OUR CONCLUSION

There is limited outcomes based research evaluating a transdisciplinary model.

Many of the papers we summarised were theoretical papers

Studies showing family and child outcomes using this model of practice should be invested in by the NDIS.

Some evidence to suggest that this model is cost effective

Organisations are likely to face a shortage in skilled staff who are capable of delivering this transdisciplinary model and need to look at additional training and/or support for this to be successful.

REFERENCES

Early childhood intervention – transdisciplinary approach to service provision. www.ndis.gov.au

York, J. et al (1990) Trandisciplinary teamwork and integrated therapy: Clarifying the misconceptons. Integrated therapy.

Rahi. J. S., (2004) Meeting the needs of parents around the time of diagnosis of disability among their children: evaluation of a novel progrm for infromation, support and liason by key workers. Pediatrics Vol 114, No. 4

King., G et al (2009) The application of a trandisciplinary model for early intervention services. Infants and young children Vol 222. n3 pp 211-223

Sloper, P et al (2006) Key worker services for disabled children: What characteristics of services lead to better outcomes for children and families? Child: Care, Health & Development 32, 2, 147-157

Greco, V et al (2006) Key worker services for disabled children: The views of staff. Health and social care in the community 14(6), 445-452

GROUP VS. INDIVIDUAL INTERVENTIONS

SUMMARY

- Group programs don’t suit some children and families.

- Centre Based can be effective in improving skills for children and parents when combined with a concurrent parent program (we haven’t yet looked at papers that involve a “drop off” service)

- From limited evidence available from a systematic review, both group and indiviual interventions that focus directly on participation are effective in increasing participation in children over 5 years.

TO BE CONTINUED…

REFERENCES

Adair. B. et al. (2015) The effect of interventions aimed at improving paricipation outcomes for children with disabilities. A systematic review.

Roberts, J., et al. (2001) A randomised controlled trial of two early intervnetion program for children with autism: Centre-based with parent progrm and home-based. Research in Autism Spectrum Disorder

INTERESTED?

We’re recruiting (leaders & members!)

Anita Hemmings

Ahemmings@autismspectrum.org.au

Co Leader: Deborah Wilson

dwilson@autismspectrum.org.au

QUESTIONS?

10 minutes open question time

THANK YOU

Thank you to all the group members and group leaders who make the network possible

www.nswspebpnetwork.com

- **CATS & CAPS**
- **previous years presentations**
- **contact details for leaders**