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;
  o Adult language - Lyndsey Nickels
  o Tracheostomy and Critical Care – Amy Freeman-Sanderson
  o Adult Swallowing - Hans Bogaardt
  o Hunter Acquired Communication - Nicole Byrne
  o Paediatric Speech – Elise Baker
  o Paediatric Language – Rosie Hodges
  o AAC - Andy Schmidt
  o 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
• 10 members + 2 leaders (from different sites)

• Face-to-face (majority) and teleconference - 6 meetings 2016

• ‘Critical Care and Tracheostomy’ List serve $\rightarrow$ 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.

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.
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

Dysphagia is a common and challenging symptom in medical disorders, which is associated with high mortalities, mortality, and quality of life in patients. The current study aimed to report the frequency of dysphagia in critically ill patients in the ICU. To achieve this, we conducted a systematic review and meta-analysis of all available studies. The results of the current study revealed a high prevalence of dysphagia in critically ill patients, with a pooled prevalence of 21%. The study also showed that dysphagia is associated with increased mortality and decreased quality of life in critically ill patients. The findings of the current study highlight the importance of early identification and intervention to improve outcomes in critically ill patients. 

Electronic supplementary material
The online version of this article (10.1186/s12877-016-0141-6) contains supplementary material, which is available to authorized users.

Joerg Zikida, Silvia Beite, Frank M. Reinke, Herbert Anor, and Oliver Guttman-Liebke

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

A state-of-the-art analysis of dysphagia in critically ill patients with severe sepsis. In a prospective study, 90 ICU patients with severe sepsis and/or septic shock were studied. Dysphagia was assessed using fiberoptic endoscopic evaluation of swallowing (FEES) at admission and after 14 days in the ICU. Sixty-four patients were included in the analysis. The results showed that dysphagia was present in 45% of the patients at admission and in 69% of the patients after 14 days in the ICU. The study also showed that dysphagia is associated with increased mortality and decreased quality of life in critically ill patients. The findings of the current study highlight the importance of early identification and intervention to improve outcomes in critically ill patients.

Tracheostomy & Critical Care EBP Group - EBP Showcase 2016

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


ABSTRACT
Background: Pharyngeal mechanical dysfunction 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–pharyngeal hypotrophy), as well as symptomatic aspiration occurring during a 3-month follow-up period.

Methods: Thirty long-term ventilated patients admitted to two intensive care units at Massachusetts General Hospital were included. The authors conducted a pharyngeal endoscopic evaluation of swallowing and measured muscle strength using medical research council scale scores within 24 h of admission. Muscle weakness was defined as a score of 4 or less. The primary endpoint was the development of pharyngeal dysfunction and symptomatic aspiration during the 3-month follow-up period.

Results: Muscle weakness predicted pharyngeal dysfunction, defined as either voiceless or pyorrhea, and symptomatic aspiration score of more than 2, or on a prospectively defined scale of more than 2, and symptomatic aspiration score of 2.7 (95% CI, 0.4–6.3; P = 0.012) and 0.1 (95% CI, 0.05–5.5; P = 0.062), respectively. Seventy percent of patients with muscle weakness showed symptomatic aspiration events. Muscle weakness was associated with an odds ratio 6.44 (95% CI, 0.39–129.1; P = 0.015).

Conclusion: In 30 critically ill patients, muscle weakness was an independent predictor of pharyngeal dysfunction and symptomatic aspiration. Future research in muscle testing may help identify patients at risk for symptomatic aspiration.

Dysphagia occurs frequently following long-term critical illness, impairing swallowing function and results in an increased risk of symptomatic aspiration. Using fiberoptic swallowing evaluation, it has been reported
<table>
<thead>
<tr>
<th>CAP</th>
<th>Level of Evidence (NHMRC)</th>
<th>Participants</th>
<th>Method</th>
<th>Clinical Bottom Line</th>
<th>Answer Q</th>
</tr>
</thead>
</table>
| Dysphagia- A common, transient symptom in critical illness polyneuropathy: A fiberoptic endoscopic evaluation of swallowing study. *Critical Care Medicine,* 2015. Ponfick et al. | II | N= 22 | - FESS 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  
- CIP treated in ICU  
- Serially enrolled  
- All had tracheostomy  
- All had flaccid mm weakness  
- Exclusion: neurological disease | This study is suggestive that oropharyngeal dysphagia is a common sequela 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 sequela in patients with CIP |
| Muscle weakness predicts pharyngeal dysfunction and symptomatic aspiration in long term ventilated patients. *Anaesthesiology,* 2013. Mirzakhani et al. | III-2 | N= 30 | - FESS data taken: i) pre swallow secretion Ax was taken (VPSR)- Valleculeae and Pylriform Sinus Residue Scale, ii) PAS  
- FESS was recorded for later inter-observer evaluation  
- Muscle strength measurement was performed using MRC scale within 24 hours of the FESS  
- 2 blinded physicians reviewed the charts for the diagnosis or possibility of symptomatic aspiration  
- Ventilated for >10 days  
- Underwent a FESS by a SLP  
- Exclusion: delirium, progressive neurological disease, structural abnormalities (larynx/pharynx), history of CRT to H&N; MOF. | 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 | N= 60 | - APACHE II score for eligibility to control group  
- CSE + FESS to evaluate swallow function  
- PAS on FESS, FOIS, Charlson comorbidity index  
- No significant difference in age, gender, BMI, APACHE II score  
- 30 critically ill with severe sepsis  
-- 30 critically ill without severe sepsis (control group) | 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>
<thead>
<tr>
<th>Level</th>
<th>Intervention</th>
<th>Diagnostic accuracy</th>
<th>Prognosis</th>
<th>Aetiology</th>
<th>Screening Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>A systematic review of level II studies</td>
<td>A systematic review of level II studies</td>
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<td>A systematic review of level II studies</td>
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<tr>
<td>II</td>
<td>A randomised controlled trial</td>
<td>A study of test accuracy with: an independent, blinded comparison with a valid reference standard, among consecutive persons with a defined clinical presentation</td>
<td>A prospective cohort study</td>
<td>A randomised controlled trial</td>
<td></td>
</tr>
<tr>
<td>III-1</td>
<td>A pseudorandomised controlled trial (i.e. alternate allocation or some other method)</td>
<td>A study of test accuracy with: an independent, blinded comparison with a valid reference standard, among non-consecutive persons with a defined clinical presentation</td>
<td>All or none</td>
<td>A pseudorandomised controlled trial (i.e. alternate allocation or some other method)</td>
<td></td>
</tr>
<tr>
<td>III-2</td>
<td>A comparative study with concurrent controls: • Non-randomised, experimental trial • Cohort study • Case-control study • Interrupted time series with a control group</td>
<td>A comparison with reference standard that does not meet the criteria required for Level II and III-1 evidence</td>
<td>Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial</td>
<td>A retrospective cohort study</td>
<td>A comparative study with concurrent controls: • Non-randomised, experimental trial • Cohort study • Case-control study</td>
</tr>
<tr>
<td>III-3</td>
<td>A comparative study without concurrent controls: • Historical control study • Two or more single arm study • Interrupted time series without a parallel control group</td>
<td>Diagnostic case-control study</td>
<td>A retrospective cohort study</td>
<td>A case-control study</td>
<td>A comparative study without concurrent controls: • Historical control study • Two or more single arm study</td>
</tr>
<tr>
<td>IV</td>
<td>Case series with either post-test or pre-test/post-test outcomes</td>
<td>Study of diagnostic yield (no reference standard)</td>
<td>Case series, or cohort study of persons at different stages of disease</td>
<td>A cross-sectional study or case series</td>
<td>Case series</td>
</tr>
</tbody>
</table>

Ponfick et al
Zielske et al
Mirzakhani et al
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?

- 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?

- 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\textsuperscript{th}-76\textsuperscript{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
- 2 hours 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?


ANY QUESTIONS?

Adult Language EBP group 2016
Kate Makin, Jessica Lamond, Chelsea Larkman
The use of AAC in dyspraxia therapy

Wendy Hackney & Kimberley Veitch 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
<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>PARTICIPANT(S)</th>
<th>Dx</th>
<th>Treatment</th>
<th>Outcome measure</th>
<th>BOTTOM LINE</th>
<th>Issues?</th>
<th>LEVEL OF EVIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rose, M. and Douglas, J. (2006)</td>
<td>N=1 52 yo male. Left fronto-temporal 60 months prior.</td>
<td>Broca’s aphasia + moderate apraxia of speech.</td>
<td>Verbal + gesture training and combined verbal/gesture</td>
<td>Accuracy of word production</td>
<td>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 &amp; at 1 &amp; 3 month follow-up assessments.</td>
<td>Small sample</td>
<td>III-3</td>
</tr>
<tr>
<td>Raymer, A., McHose B., &amp; Graham, K. (2010).</td>
<td>N=8 All left hemisphere stroke</td>
<td>7 with nonfluent Aphasia. 3 with severe AOS, 4 with moderate AOS.</td>
<td>Phase A = gesture treatment phase followed by Phase B = errorless naming treatment phase Follow up at 1 month post</td>
<td>WAB</td>
<td>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.</td>
<td>?Length of Tx phases? When was the WAB completed? was WAB repeated at follow up</td>
<td>III-3</td>
</tr>
<tr>
<td>ARTICLE</td>
<td>PARTICIPANT(S)</td>
<td>Dx</td>
<td>Treatment</td>
<td>Outcome measure(s)</td>
<td>BOTTOM LINE</td>
<td>LIMITATIONS</td>
<td>LEVEL OF EVIDENCE</td>
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<tr>
<td>Lasker, J., Bedrosian, J. (2001).</td>
<td>N=1 44 year old male, left CVA</td>
<td>Severe expressive aphasia, moderate receptive aphasia, apraxia of speech.</td>
<td>Changing intensity over 32month period. Individual and group program Functional low tech + high tech AAC training as well as total communication training</td>
<td>Multiple</td>
<td>Limited evidence for AAC use in apraxia. Emphasises the need for a wholistic, long-term approach to use of AAC and communication Rx</td>
<td>Single case study</td>
<td>IV</td>
</tr>
<tr>
<td>Mauszycki, S. C., &amp; Wambaugh, J. (2011).</td>
<td>Report mostly draws on the results from 2 reviews- Wambaugh et al. (2006) and Wambaugh &amp; Mauszycki (2010)</td>
<td>Articulatory-kinematic therapeutic approaches Rate/rhythm treatments Intersystemic facilitation/reorganisation AAC</td>
<td>Multiple</td>
<td>There is insufficient evidence to conclude that any one technique or combination of techniques is superior to another</td>
<td></td>
<td>IV</td>
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</table>
Bottom line

- Very limited research and not consistent practices 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!


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 bioavailability** [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


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.


- 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.
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


- 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


- 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
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

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

<table>
<thead>
<tr>
<th>TIME OF DAY</th>
<th>LENGTH OF TIME</th>
<th>NAME OF PROGRAM/VIDEO/APP</th>
<th>LOCATION</th>
<th>WHAT HAPPENED?</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. 7 am</td>
<td>25 mins</td>
<td>Peppa Pig TV</td>
<td>Lounge</td>
<td>Child watching alone</td>
</tr>
<tr>
<td>8 am</td>
<td>20 mins</td>
<td>Goodnight Safari app</td>
<td>Room</td>
<td>Sitting together and reading ebook/using app</td>
</tr>
<tr>
<td></td>
<td>15 mins</td>
<td>Nursery Rhymes, youtube</td>
<td>Car</td>
<td>Mum sitting with child asking about what happened in show</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Activity Centre app</td>
<td>Child's bed</td>
<td></td>
</tr>
</tbody>
</table>
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


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


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


REFERENCES


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, SCHA 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)*

**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
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 j dʒ tf/ 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

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

**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.

**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

- **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. I.e, look at whole phonological system rather than just targeting individual sounds even in a child who has a very limited phonetic inventory.

- **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.

**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 resistant 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:


Papers that we are currently appraising:


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


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 introducing solids may have on oral motor 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 after 9 months

**Outcome:** on the acquisition of eating skills
## Search Terms

<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome</th>
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<tr>
<td>Child* OR P?ed* OR Infant*</td>
<td>(“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*)</td>
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<td>tolera* OR accept* OR motor OR acqui* OR skill* OR develop*</td>
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## Search Results

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<th>CAP?</th>
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<td>Chung 2014</td>
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</table>
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
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
Application to Clinical Practice

• Learning to eat is a 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
<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Amanda Spirit-Jones</td>
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<tr>
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<tr>
<td>Kylie Harris</td>
<td>Sydney South West Area Health Service</td>
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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


References cont’d


EBP AUTISM GROUP

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


GROUP VS. INDIVIDUAL INTERVENTIONS
- 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 individual interventions that focus directly on participation are effective in increasing participation in children over 5 years.
TO BE CONTINUED...
REFERENCES


INTERESTED?

We’re recruiting (leaders & members!)

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Co Leader: Deborah Wilson

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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