Pediatric Eating And Swallowing (PEAS) Provincial Project

Clinical Practice Guide: A Closer Look at Swallowing

AHS Speech-Language Pathology Grand Rounds
December 2nd, 2020

Alberta Health Services

Welcome

Introductions

S-LP Discipline Lead, ACH

Dr. Bev Collisson

Prov. Practice Lead, Nutrition

Melissa Lachapelle

Mom to 2 wonderful boys, S-LP

Candace Larsen

A SINGLE SWALLOW REQUIRES THE USE OF 26 MUSCLES AND 6 CRANIAL NERVES WORKING IN PERFECT HARMONY TO MOVE FOOD AND LIQUID THROUGH THE BODY.

December is PFD Awareness Month

Spread the Word

Learning Goals

1) Screening for Pediatric Feeding Disorder and Dysphagia
2) Assessment and Diagnosis of Pediatric Feeding Disorder and Dysphagia
3) Pediatric Feeding Disorder and Dysphagia management and resources

Project Scope

The Pediatric Eating And Swallowing (PEAS) Project is a provincial **quality improvement** initiative with the purpose of developing a provincial eating, feeding, and swallowing **clinical pathway** to standardize and improve care for children with a **pediatric feeding disorder**.[1]

Target population: Patients receiving care from provincial Outpatient Clinics, Home Care, or Community Rehabilitation

[1] Goday PS et al. *Pediatric Feeding Disorder: Consensus Definition and Conceptual Framework.* J Pediatr Gastroenterol Nutr. 2019 Jan;68(1):124-129.

World Cafés

- Northern & Southern Alberta (Fall 2018)
- ~180 participants:
  - Multidisciplinary Providers
  - Family members
  - Rural and Urban
- ~1300 comments on the barriers & facilitators to care

Sample Feedback from World Cafés (Fall 2018)

"Families are **frustrated** and receive different messages."

"The **emotional piece for parents** needs to be better acknowledged and supported."

"We lack common **goals** and a common purpose."

"Transitions - who makes the *next* **decision** about care?"

"Lack **multidisciplinary visits** to see the big picture, usually there isn't a 'team.'"

"Certain disciplines carve out their areas and can create **systemic issues** and historical roles within a site or service."

"Gaps in **clinical knowledge** which is an issue internationally."

"**Getting 'in the door' is challenging**. We don't know who to contact and the family doctor doesn't necessarily know what to do. It's very confusing for parents."

"We need **role clarity and education** for service providers"

"Discussions happen in siloed clinics"

"Families don't know **who provides what?**"

- SLP and mom of Alex and William, twins born at 26 weeks gestation
- William: rocky NICU stay, severe reflux caused oral aversion
- Home after 4.5 months in the NICU. Home O_2, NG-tube fed, and only taking 1 mL by syringe orally
- Weaned from NG at 5 months corrected
- Now 3 yrs old, continues to have difficulty with chewing, pacing, and weight gain has been slow
- Aspirates thin fluids when ill- multiple hospitalizations for pneumonia since leaving NICU

Candace and William's Journey

Clinical Practice Guide for Healthcare Professionals

Provides **information, guidance and recommendations**, to support health care professionals in making **clinical decisions** regarding the **screening, assessment and management** of children with pediatric feeding disorder.

- Oral & Enteral populations
- Online or downloadable version
- CPG Quick Reference of Tables & Figures

Pediatric Feeding Disorder

A) A disturbance in oral intake of nutrients, inappropriate for age, lasting at least two weeks and associated with one or more of the following:

1) Medical dysfunction

2) Nutritional dysfunction

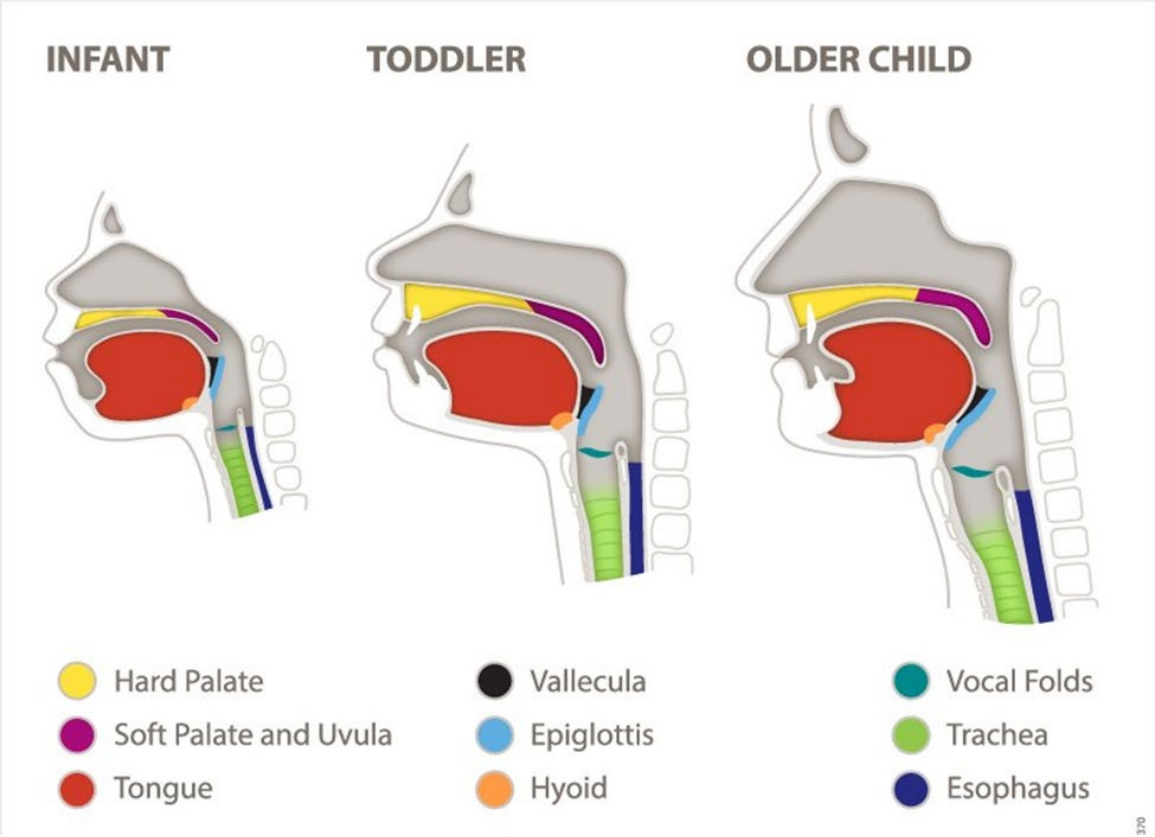
3) Feeding skill dysfunction

4) Psychosocial dysfunction

B) Absence of the cognitive processes consistent with eating disorders and pattern of oral intake that is not due to a lack of food or congruent with cultural norms (Goday, et al., 2019).

Dysphagia

A disruption, impairment, or disorder
of the process of deglutition
(the action or process of swallowing)
that compromises the
safety, efficiency, or adequacy
of the oral intake of nutrients.



Dodrill & Gosa, 2015
Alberta College of Speech-Language Pathologists and Audiologists, 2013
American Speech-Language-Hearing Association, 2019

Differential Diagnosis

Standards

"A regulated member of ACSLPA selects and applies appropriate **screening/assessment procedures**, **analyzes/interprets** the information gathered to **determine diagnosis** and implements appropriate **interventions** to deliver quality services that correspond to clients' priorities and changing needs."

Learning Goals

1) Screening for Pediatric Feeding Disorder and Dysphagia
2) Assessment and Diagnosis of Pediatric Feeding Disorder and Dysphagia
3) Pediatric Feeding Disorder and Dysphagia management and resources

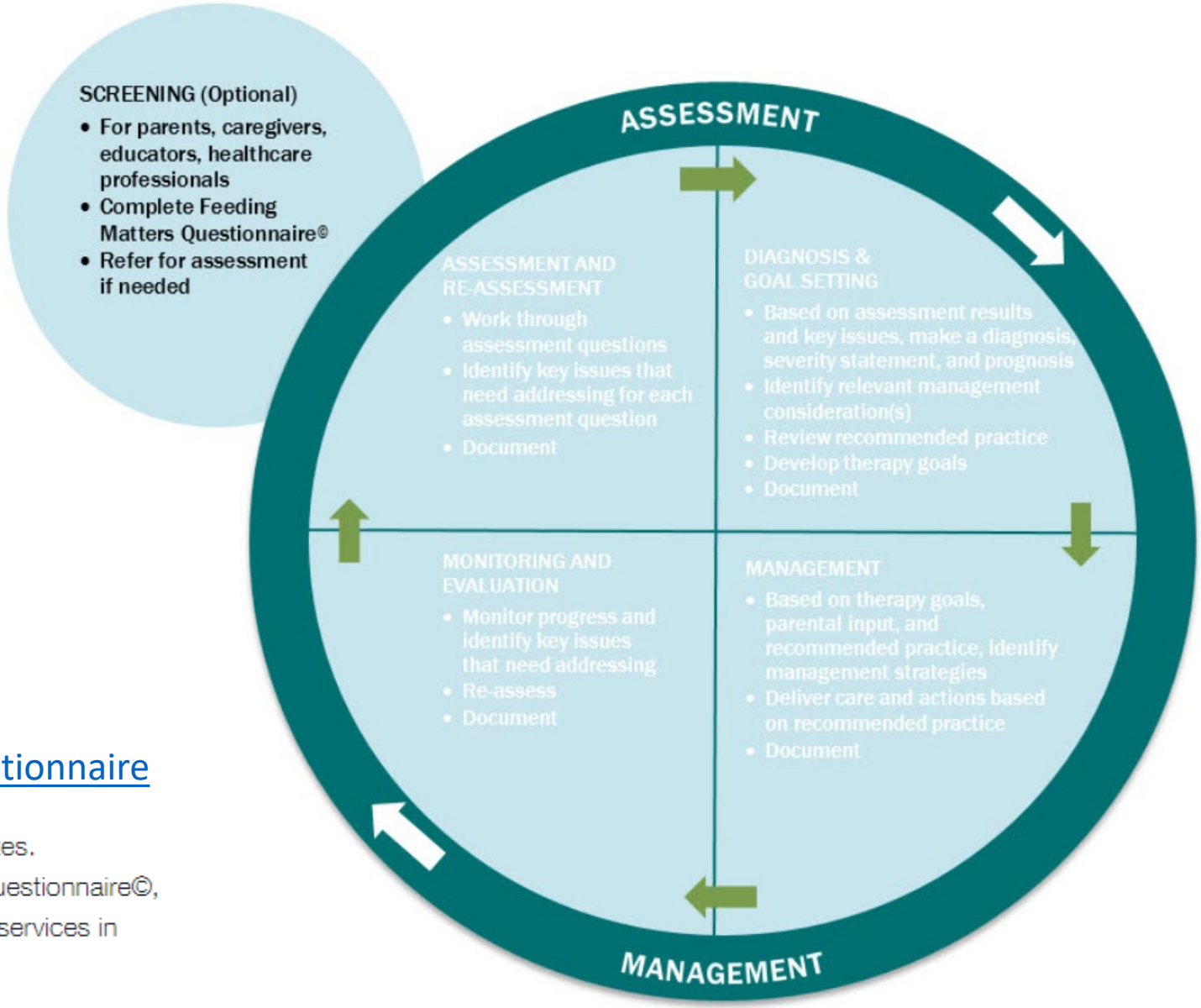
Screening

Pediatric Feeding Disorder
Dysphagia

Screening

Figure 3: Pediatric Feeding Care Cycle

(NSW Office of Kids and Families, 2016)



START QUESTIONNAIRE

http://questionnaire.feedingmatters.org/questionnaire

Note: this link will direct you to Feeding Matters in the United States.
After completing the Feeding Matters Infant and Child Feeding Questionnaire©, please return to this website and click on Find Services to locate services in Alberta

- Screening often limited to the question “are they eating well”, “are they eating a variety of foods”
- Screened by pediatrician and hospital clinic
- Lots of advice around what to offer, less guidance around what typical feeding skills look like
- Red flags for dysphagia- frequent coughing, choking, gagging, puking during meals but it was normally attributed to his ongoing reflux

Screening - William and Alex

Learning Goals

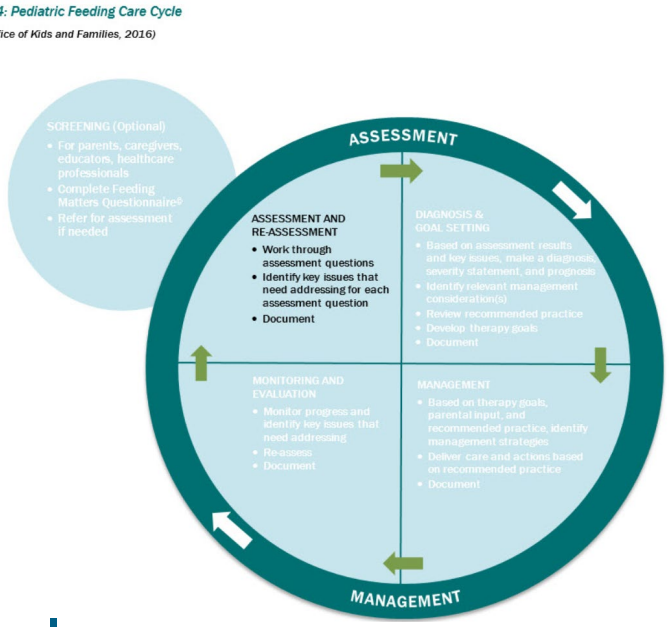
1) Screening for Pediatric Feeding Disorder
2) Assessment and Diagnosis of Pediatric Feeding Disorder and Dysphagia
3) Pediatric Feeding Disorder and Dysphagia management and resources

Assessment

4 Domains of PFD

5 Key Questions of PFD

Assessment: Basis for…



- ✓ a diagnosis
- ✓ a statement of severity
- ✓ a statement of prognosis
- ✓ the development of a comprehensive management plan
- ✓ facilitating inclusion of all relevant healthcare professionals
- ✓ achieving the best possible safety and relational feeding outcomes for the child

World Health Organization, 2002; Skeat & Perry, 2005

4 Health Domains of PFD

- Medical Domain
- Nutrition & Hydration Domain
- Feeding Skill Domain
- Psychosocial Domain

5 Key Questions of PFD

- Question 1: Is the Current Method of Feeding Safe? +
- Question 2: Is Feeding Adequate? +
- Question 3: Is Feeding a Positive Experience for Child and Parent? +
- Question 4: Is Feeding Appropriate for the Child's Developmental Capacity? +
- Question 5: Is Feeding Efficient? +

Assessment

Dysphagia

1 Key Question

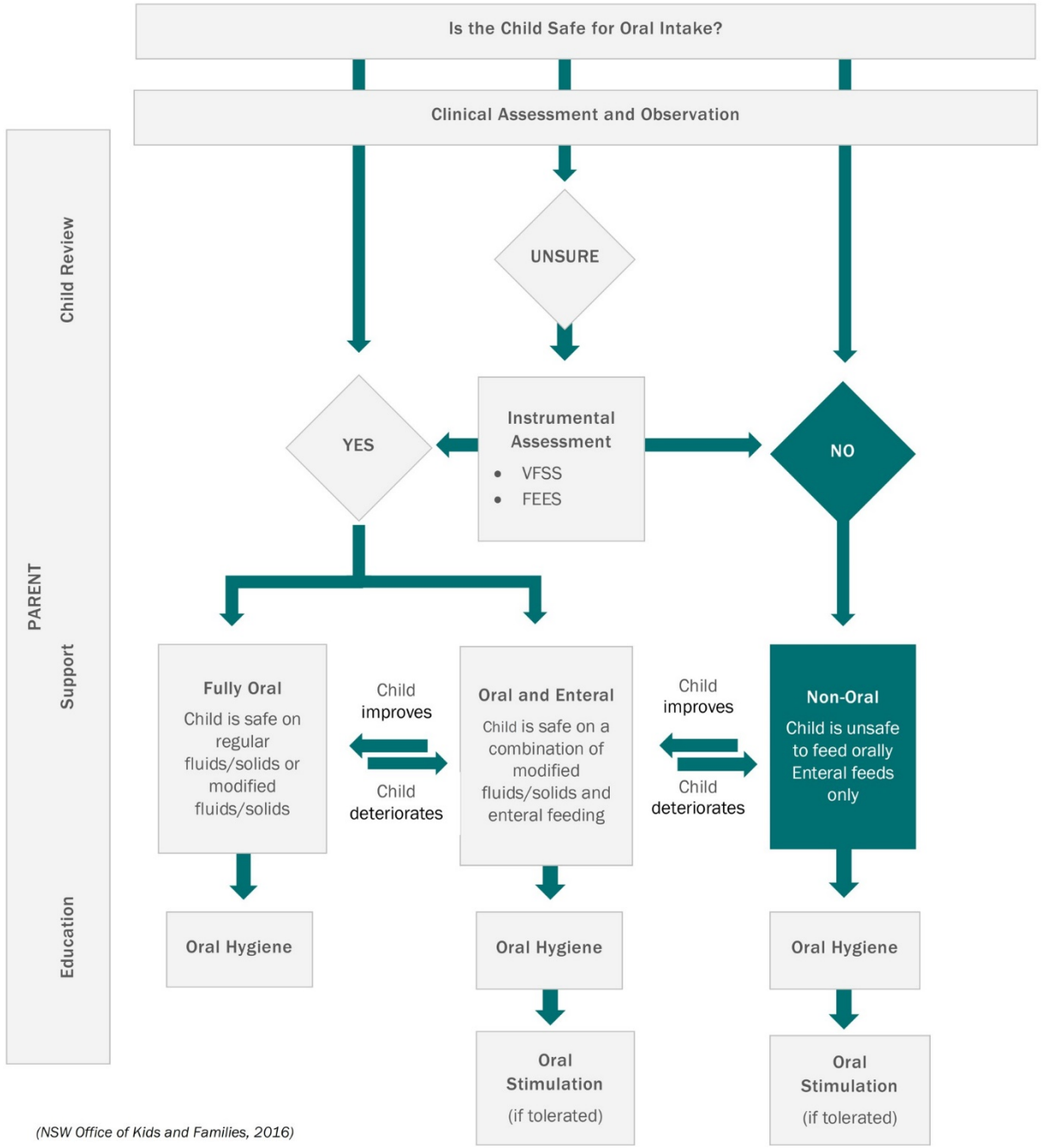
Alberta Health Services

1 Key Question of Dysphagia

Is swallowing safe?

- Are there signs and symptoms of decreased airway protection?
- Can physiological and respiratory stability improve safe oral feeding?
- Can compensatory strategies or diet modifications improve safe?

Figure 8: Safe Swallowing Decision Flow Chart



(NSW Office of Kids and Families, 2016)

TABLE 2: WHEN TO CONSIDER VFSS

WHEN TO CONSIDER VFSS	CONTRAINDICATIONS OF VFSS
• Patient cooperation is maximized • Some exposure to oral intake – a minimal amount is necessary to obtain enough diagnostic information from the study • Fatigue with feeding	• Potential for medical complications or potential for compromised pulmonary function (suboptimal endurance) • Child is NPO

TABLE 3: ADVANTAGES AND DISADVANTAGE O

ADVANTAGES OF VFSS
• Defines oral and pharyngeal stages of swa • Provides dynamic imaging of oral, pharyng esophageal phases of swallowing • Non-Intrusive (although, for some the conf considered intrusive) • Assesses various consistencies • Provides ongoing view of airway protection swallows • Verifies outcomes of modifications

(Logemann, 1991)

TABLE 4: WHEN TO CONSIDER FEES

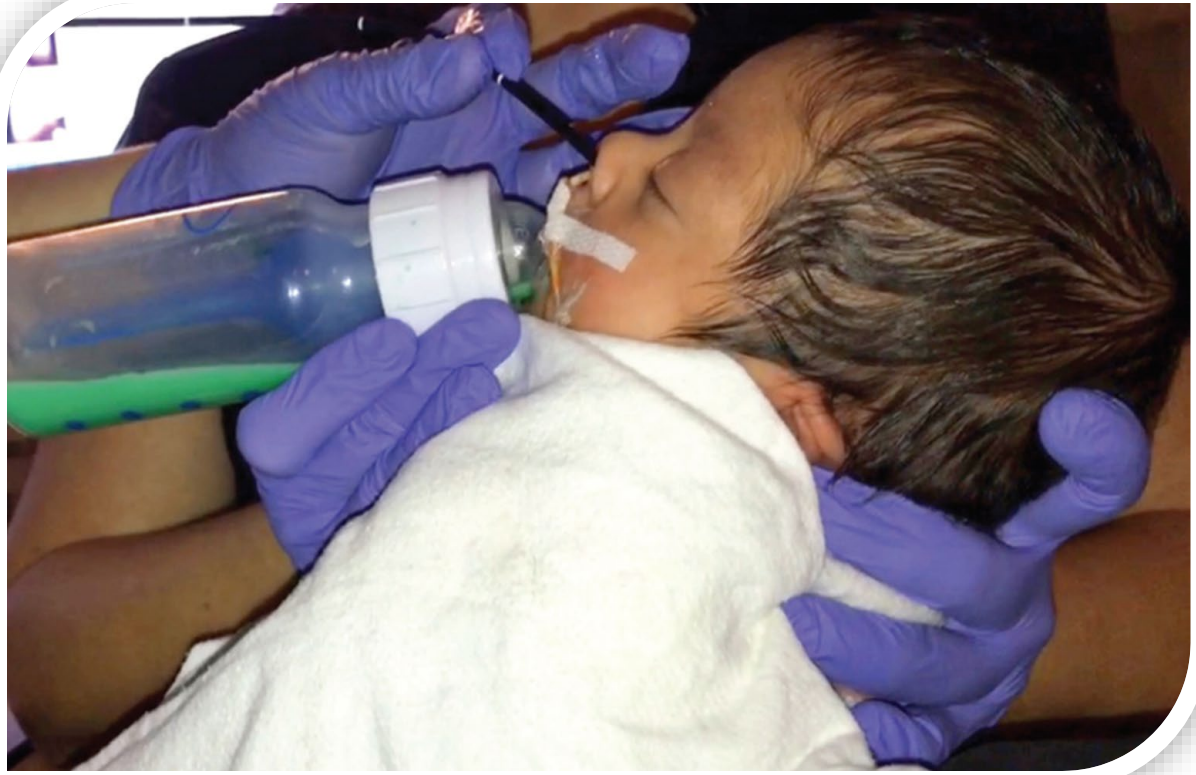
WHEN TO CONSIDER FEES	CONTRAINDICATIONS OF FEES
• clinical signs of aspiration during the clinical evaluation for bottle or breastfeeding • poor or questionable secretion management • stertor • stridor • suspected laryngeal abnormality • fatigue with feeding • considering initiation of oral intake • assess progress or change	• inability to tolerate or pass a nasogastric tube • anatomic conditions such as choanal atresia and nasal or pharyngeal stenosis

TABLE 5: ADVANTAGES AND DISADVANTAGES OF FEES

ADVANTAGES OF FEES	DISADVANTAGES OF FEES
• it is possible to complete if non-oral or limited oral intake • assesses secretion management • visualizes pharyngeal and laryngeal anatomy • visualizes the vocal cords • assesses various consistencies	• intrusive • actual swallow is obscured (white out) • cannot assess esophageal phase • operator dependent and open to subjective interpretation

FEES and VFSS

- An instrumental swallowing assessment is a dynamic evaluation of coordination, timing, and safety of swallowing function.
- It is **not** pass/fail based on aspiration.
- It should never be used only to assess for the presence or absence of aspiration.



Science continues to advance

Dysphagia (2020) 35:90–98
ORIGINAL ARTICLE

BaByVFSSImP© A Novel Measurement Tool for Videofluoroscopic Assessment of Swallowing Impairment in Bottle-Fed Babies: Establishing a Standard

Bonnie Martin-Harris[1,2,3] · Kathryn A. Carson[4,5] · Jeanne M. Pinto[6] · Maureen A. Lefton-Greif[7,8,9]

- Results of screening/assessment not communicated well
- Parents are stressed! Give handouts, offer to write information down for them
- Had to push for referral for swallow assessment

Assessment - William

Diagnosis

Pediatric Feeding Disorder

Dysphagia

Alberta Health Services

ICD Codes

Table 6: Pediatric Feeding Disorders

ICD 10 Code	Description
R63.3	• feeding difficulties (significa dysfunction)
R13.11	• dysphagia, oral phase (oral-f appropriate textures)
P92.9	• feeding difficulty in newborn

Table 7: Pediatric Swallowing Disorders

ICD 10 Code	Description
R13.11	• dysphagia, oral phase
R13.12	• dysphagia, oropharyngeal phase
R13.13	• dysphagia, pharyngeal phase
R13.14	• dysphagia, pharyngoesophageal phase
R13.19	• other dysphagia
R13.10	• unspecified dysphagia

Learning Goals

1) Screening for Pediatric Feeding Disorder
2) Assessment and Diagnosis of Pediatric Feeding Disorder and Dysphagia
3) Pediatric Feeding Disorder and Dysphagia management and resources

Management

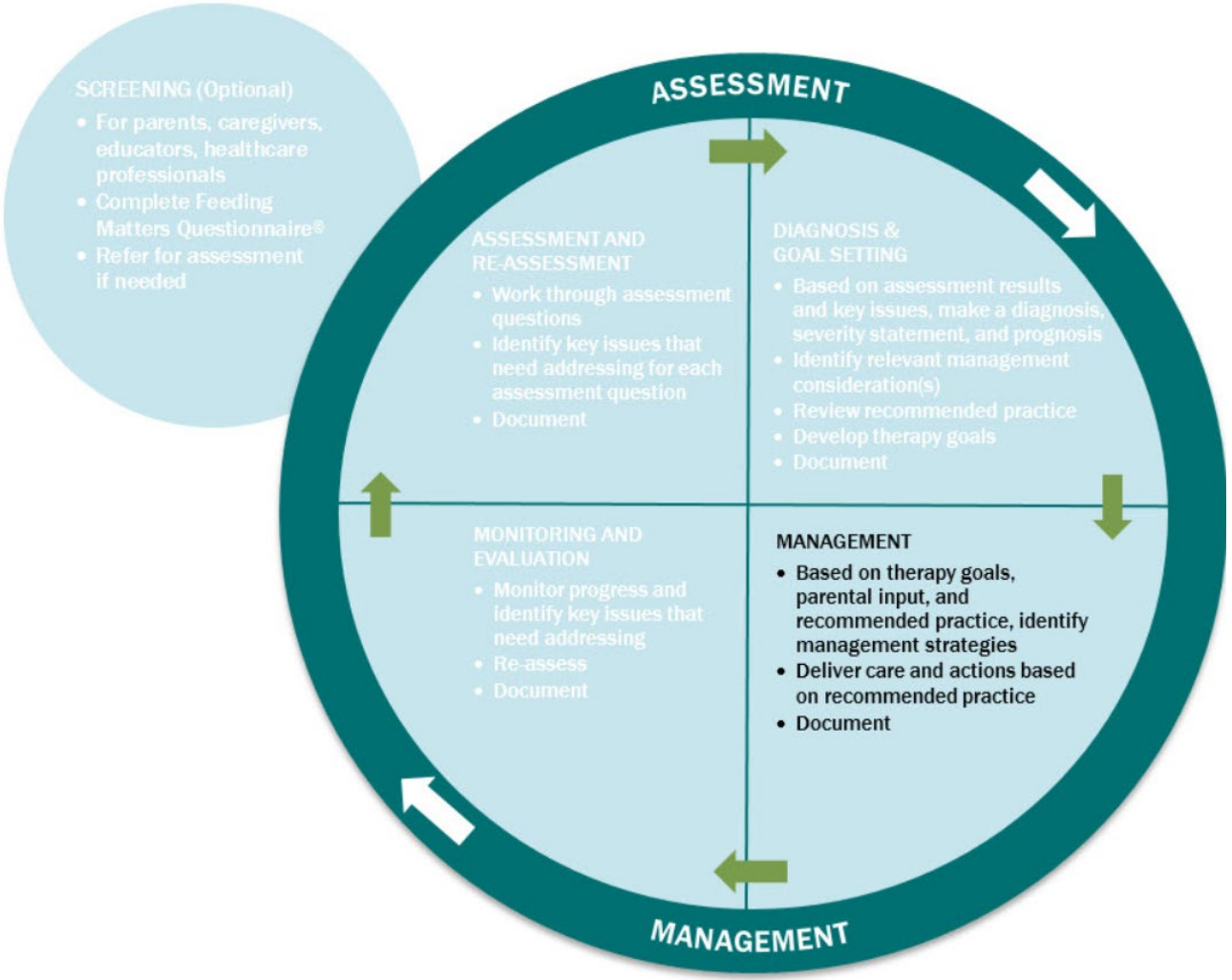
Oral & Enteral Feeding

Alberta Health Services

Management

Figure 6: Pediatric Feeding Care Cycle

(NSW Office of Kids and Families, 2016)



Management: Oral Feeding Overview

1. Medical stability
2. Facilitating safe swallowing
3. Nutrition management to improve nutritional intake
4. Seating and positioning
5. Feeding skill development
6. Feeding environments and routines
7. Sensory processing
8. Oral hygiene and dental health

Medical Stability

To be considered medically stable for oral experiences and feeding trials, children need to be:

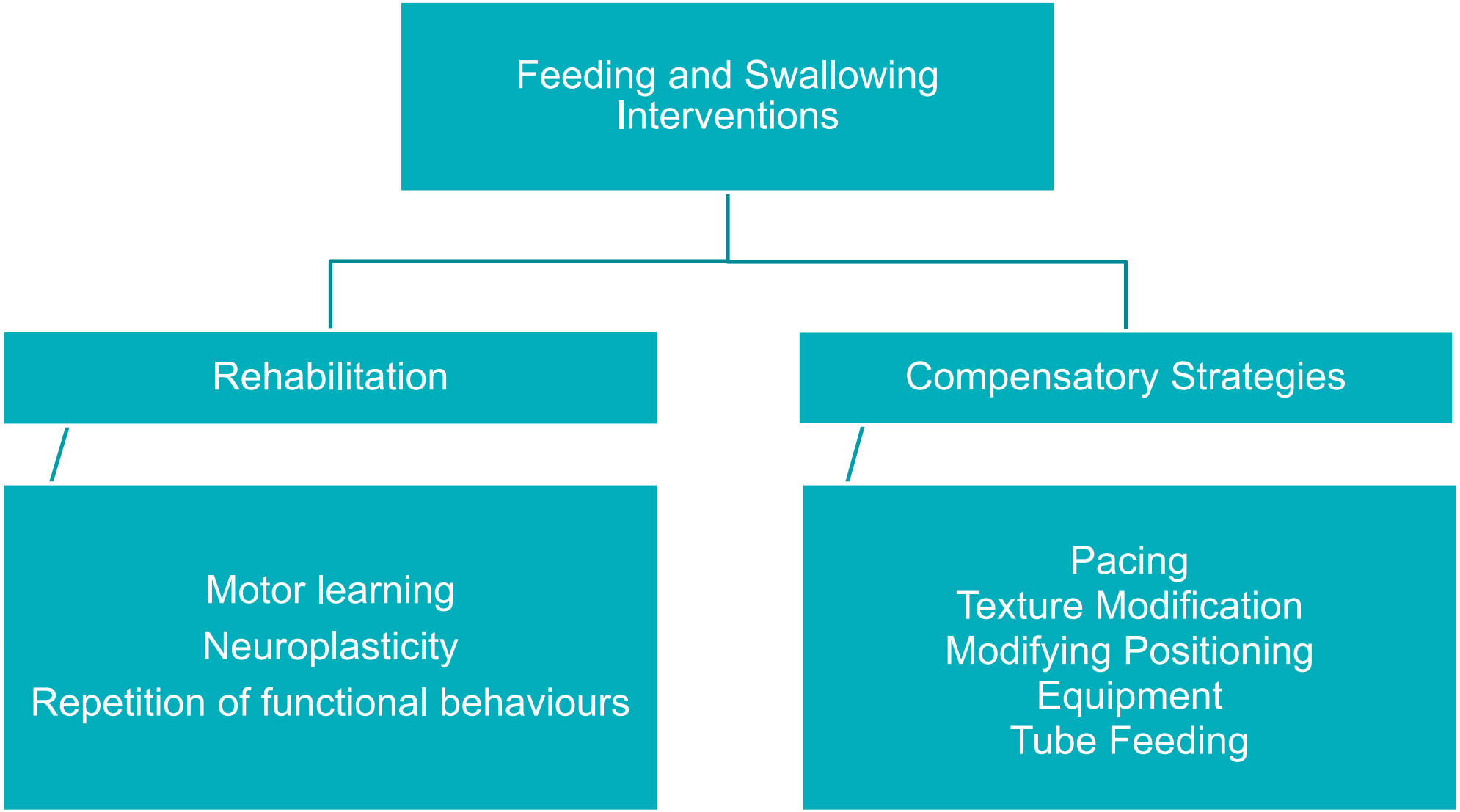
- Medically stable as per a physician
- At least 30 weeks gestation
- Off ventilation for at least 24 hours
- Able to maintain a resting respiratory rate of 60-70 breaths per minute or less with no respiratory distress cues
- Maintaining wakeful periods – quiet alert state
- Managing secretions (oral and pharyngeal)
- Tolerating enteral feeds
- Displaying hunger cues (preferred for feeding trials)

Facilitating Safe Swallow

- Goal is to facilitate oral intake while minimizing risk of airway compromise
- Should involve a team approach
- Reassessment with changes in health
- Medical, Surgical, and Nutrition strategies: Rehabilitation and Compensation principals

Medications Modifications

- Medications in a format that is safe
- Modifying a medicine's format may alter its effectiveness or stability
- Taste, texture, acceptability
- Consultation with pharmacy


Feeding and Swallowing Interventions
Rehabilitation
Compensatory Strategies
Motor learning
Neuroplasticity
Repetition of functional behaviours
Pacing
Texture Modification
Modifying Positioning
Equipment
Tube Feeding

Rehabilitation	Compensatory Strategies
Improve anatomy and physiology	Unlikely to improve physiology
Limited evidence in pediatrics	Responsive
Weak positive effect for motor learning interventions alone	Wean strategy as skills progress
	Goal to decrease reliance on the strategy long term

Evidence based recommendation:

Combination of rehabilitation interventions and compensatory strategies based on oral and pharyngeal physiology

Table 9: Thickener Types, Products, Considerations and Recommendations

Thickeners	Product information	General mixing information See product website for additional details	Recommendations for use
SimplyThick ® Easy Mix™ Xanthan gum	• Free from common allergens • Vegan, Kosher, Halal, Gluten free • No calories (0 kcal) • For more information: www.simplythick.com	• Comes in small gel packages • Mixes into hot or cold liquids • Can be mixed with breastmilk as the amylase does not affect xanthan gum • Will maintain thickness in presence of saliva	• Not recommended for any infant under 12 months of age, including preterm infants • Not recommended for children under 12 years of age who have a history or Necrotizing Enterocolitis (NEC)

Nutrition Management

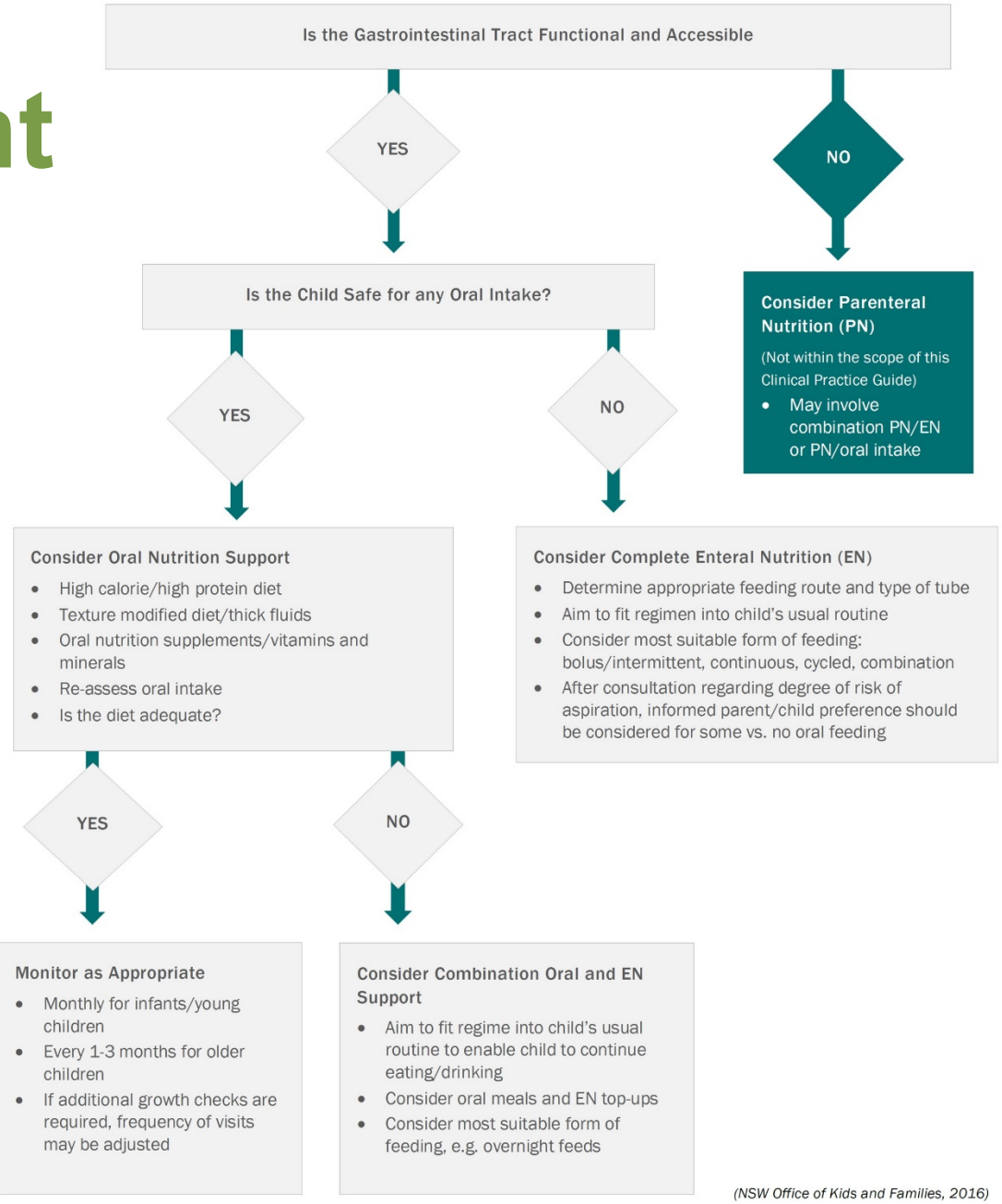
- Children with PFD are at greater risk of malnutrition
- Goal is to support growth and optimal health
- Strategies may vary based on age, medical condition, skill, psychosocial factors and current intake
- Enteral nutrition support may be considered when oral intake cannot be well supported.

Nutrition Management

- High calorie high protein diet, texture modification, oral nutrition supplements, vitamins/minerals
- Enteral nutrition considerations
- A combination of oral and enteral feeds

Figure 7: Nutrition Support Decision Making Tree (Modality Algorithm)

For use when oral intake has been assessed as inadequate or inefficient

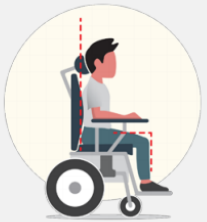
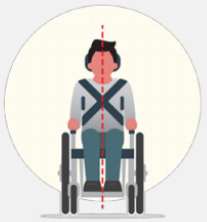
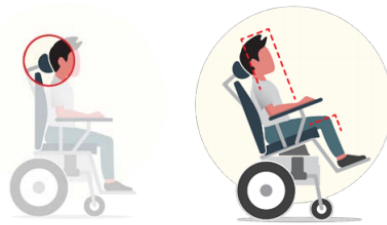


(NSW Office of Kids and Families, 2016)

Seating and Positioning

- Stability-mobility patterns for coordination of suck-swallow-breathe
- Positioning intervention for functional sitting
- Guidance for infants and children, use of highchairs and boosters, and significant postural needs
- Equipment considerations

TABLE 10: POSITIONING FOR INFANTS, CHILDREN AND YOUTH WITH SIGNIFICANT POSTURAL NEEDS

	POSTURAL NEED	PICTURE
Pelvic Stability	• pelvic stability provides the base foundation of support in a sitting position. Pelvis should be positioned at neutral or with slight anterior tilt, with 90 degrees hip flexion	
Feet Support	• support feet on a stable surface as this will influence pelvis and hip stability	
Trunk Control	• poor trunk control can lead to poor upper extremity and head control. Lateral supports may assist with providing adequate trunk stability for those children that cannot independently maintain a midline position of the trunk • monitor the effect of lateral supports on a child's respiration	
Head Support	• head support, e.g. a chair with a high back or a head rest may be required if adequate head control has not yet been achieved • the more upright the seated position the more the head and neck need to work therefore tilt or recline may reduce the amount of effort involved in keeping the head and neck in midline • tilt is preferable as it does not change the position of the pelvis	
Tray Access	• initially provides extra trunk support and stability, and later provides a place for forearms and elbows as the child begins to attempt to self-feed	

FOR FAMILIES
ORAL FEEDING
TUBE FEEDING
FAMILY LIFE & SELF-CARE
YOUR CARE TEAM
CARE COORDINATION
TOOLS & TEMPLATES

QUICK LINKS
IS FEEDING A STRUGGLE?
FIND SERVICES
VIRTUAL HEALTH
EQUIPMENT & SUPPLIES
FUNDING INFORMATION
FAQS

Oral Feeding

Oral feeding challenges (eating by mouth) can be extremely stressful for many caregivers. With these resources, support from your healthcare team and practice, your child's health and nutrition can improve and you can enjoy a positive feeding relationship with your child.

Education Materials

Note for Healthcare Providers: AHS Forms and Handouts can be printed directly or or

Swallowing Difficulties (Dysphagia)

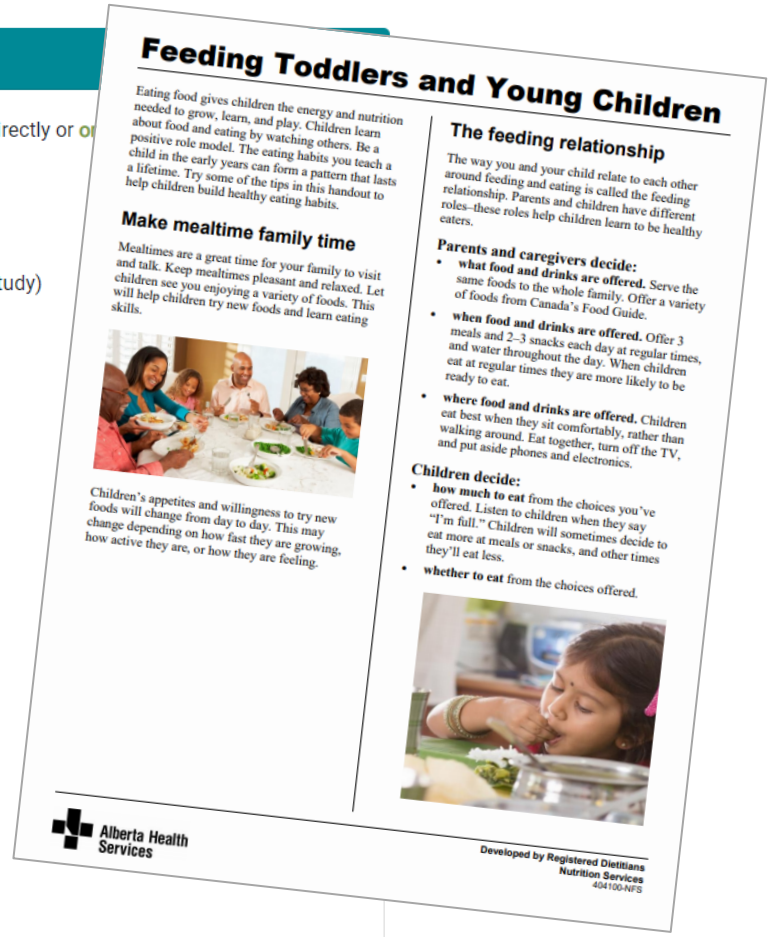
- Tips to Eat and Swallow Safely
- When Your Child is Having a VFSS (Videofluoroscopic Swallow Study)
- Having a Swallowing Test - Videofluoroscopy

Texture Modified Diets

- Dysphagia Soft Diet
- Easy To Chew Diet
- Minced Diet
- Pureed Bread Products
- Pureed Diet
- Thick Fluids

Feeding Skill Development

- Feeding Toddlers and Young Children
- Food Ideas by Colour
- Food Ideas by Flavour
- Food Ideas by Texture
- Food Play
- Food Textures for Children



Feeding Toddlers and Young Children

Eating food gives children the energy and nutrition needed to grow, learn, and play. Children learn about food and eating by watching others. Be a positive role model. The eating habits you teach a child in the early years can form a pattern that lasts a lifetime. Try some of the tips in this handout to help children build healthy eating habits.

Make mealtime family time

Mealtimes are a great time for your family to visit and talk. Keep mealtimes pleasant and relaxed. Let children see you enjoying a variety of foods. This will help children try new foods and learn eating skills.

Children's appetites and willingness to try new foods will change from day to day. This may change depending on how fast they are growing, how active they are, or how they are feeling.

The feeding relationship

The way you and your child relate to each other around feeding and eating is called the feeding relationship. Parents and children have different roles–these roles help children learn to be healthy eaters.

Parents and caregivers decide:

- what food and drinks are offered. Serve the same foods to the whole family. Offer a variety of foods from Canada's Food Guide.
- when food and drinks are offered. Offer 3 meals and 2–3 snacks each day at regular times, and water throughout the day. When children eat at regular times they are more likely to be ready to eat.
- where food and drinks are offered. Children eat best when they sit comfortably, rather than walking around. Eat together, turn off the TV, and put aside phones and electronics.

Children decide:

- how much to eat from the choices you've offered. Listen to children when they say "I'm full." Children will sometimes decide to eat more at meals or snacks, and other times they'll eat less.
- whether to eat from the choices offered.

Alberta Health Services

Developed by Registered Dietitians
Nutrition Services
404100-NFS

Feeding Environments & Routines

- A predictable mealtime routine
- An environment that supports physical and sensory needs
- Parent observation of behaviours, reactions, communications
- Positive mealtime interactions leads to a positive feeding relationship

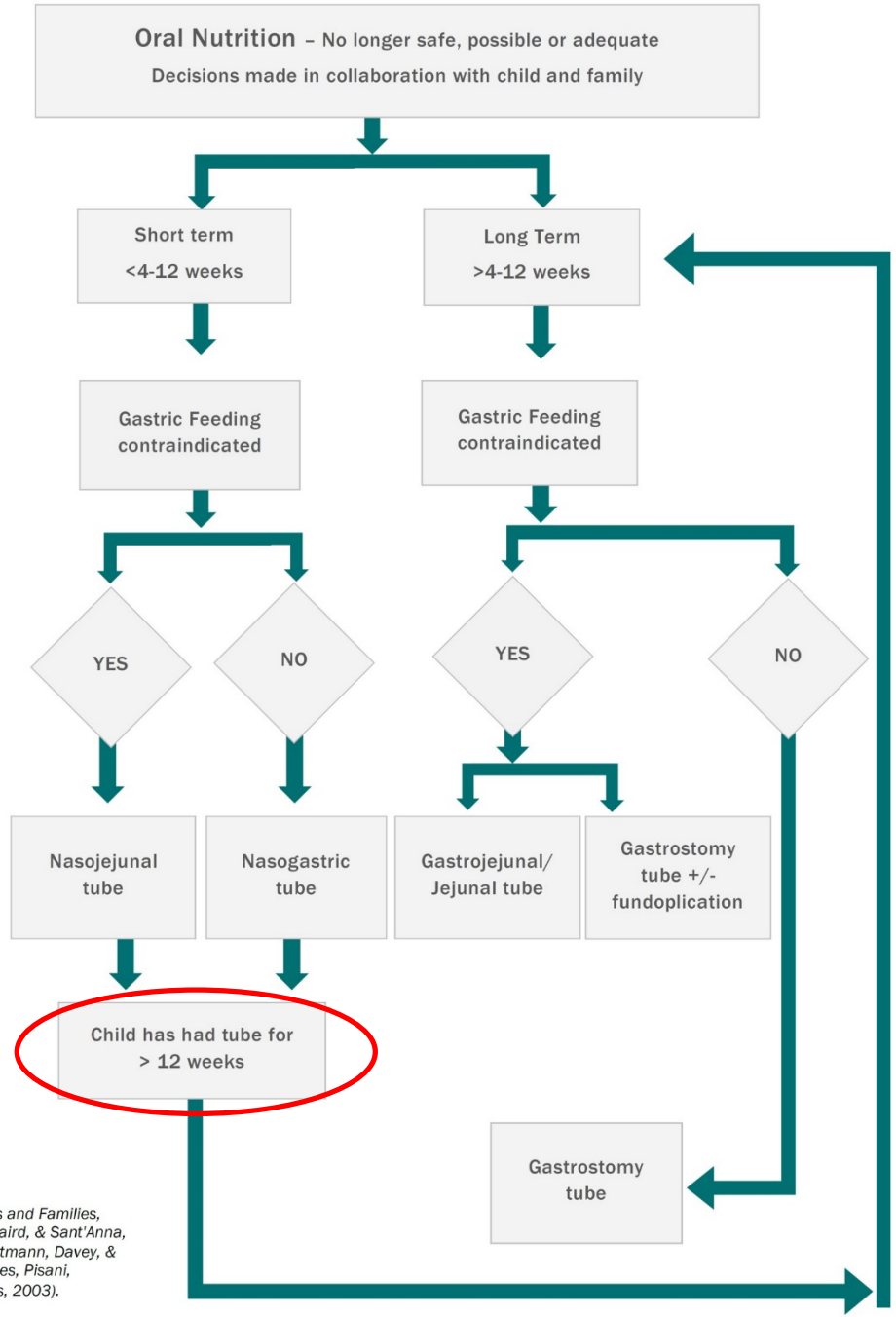
Sensory Processing/Regulation

- Informed by assessment through parent interview and observations
- A child' response to sensory information may impact their feeding development and mealtime experience
- Achieve and maintain a calm but alert state
- Adjustments to accommodate sensory needs is more likely to result in a positive feeding experience

Tube Feeding

- Oral stimulation should be offered; oral feeding if safe
- Early discussions with family are important
- Consider long term tube placement when enteral feeding is expected over 4-12 weeks

Figure 10: Decision Making for Selection of Appropriate Tube Type



(NSW Office of Kids and Families, 2016); (Ricciuto, Baird, & Sant'Anna, 2015) (Wilken, Bartmann, Davey, & Bagci, 2018) (Gomes, Pisani, Macedo, & Campos, 2003).

Transition from Enteral to Oral Feeding

Supporting eating skills:

- Assess readiness
- Set achievable goals
- Oral preparation

*The entire oral management section of the CPG!

Preparing to wean:

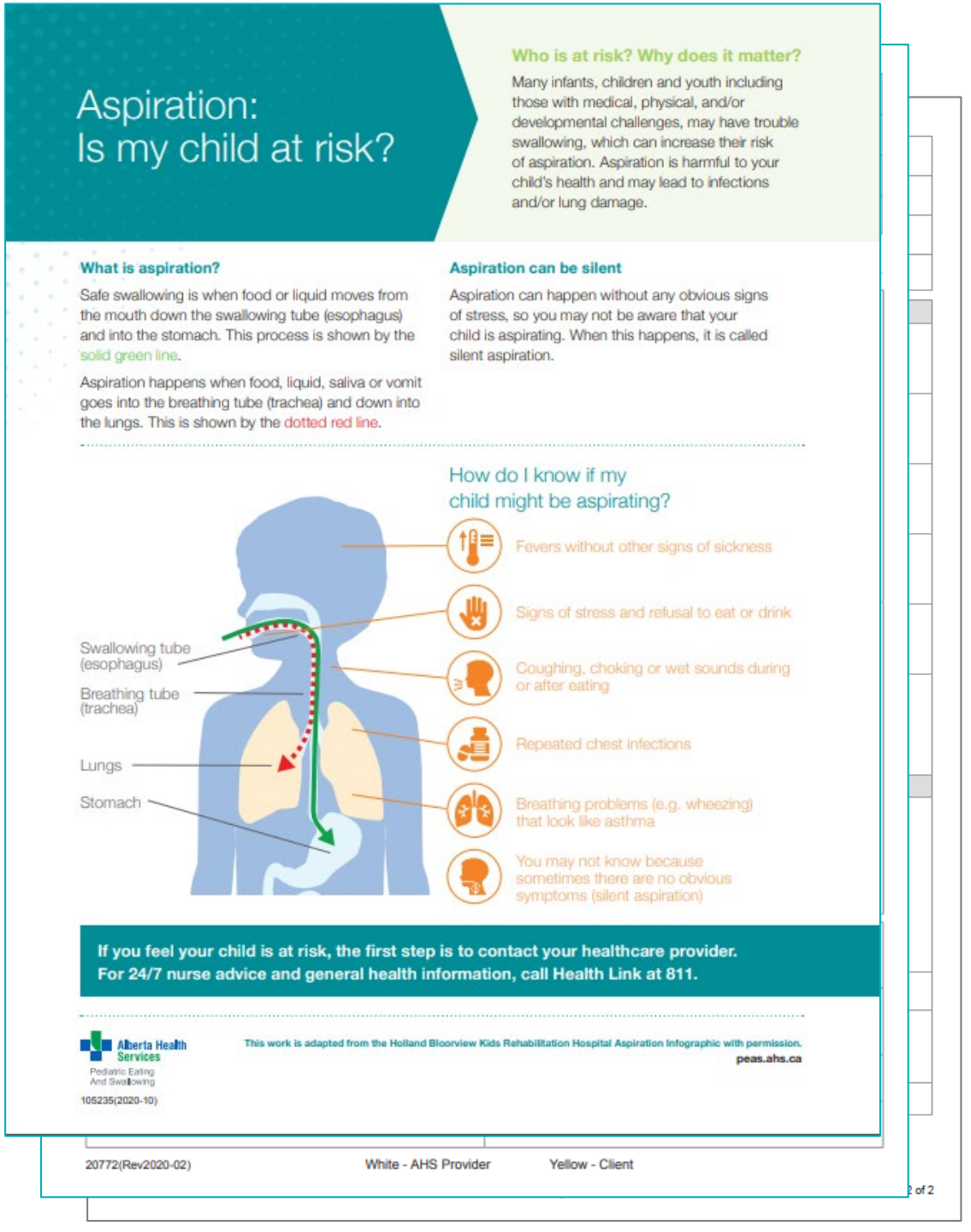
- Hunger provocation
- Support eating skills
- Exposure to food
- Reduce stress
- Acknowledge and respond to the child's cues
- Avoid force feeding

- NICU to Tube to After Tube – different team/health professionals at every step
- Focus was on safety, tube management, calorie intake- mostly compensatory strategies with little focus on rehabilitative strategies
- No goals, no coordinated team

William - Supports

Tools!

- Oral Feeding Care Plan
- Collaborative Goal Whee
- Swallowing Risk



Aspiration:
Is my child at risk?

Who is at risk? Why does it matter?

Many infants, children and youth including those with medical, physical, and/or developmental challenges, may have trouble swallowing, which can increase their risk of aspiration. Aspiration is harmful to your child's health and may lead to infections and/or lung damage.

What is aspiration?

Safe swallowing is when food or liquid moves from the mouth down the swallowing tube (esophagus) and into the stomach. This process is shown by the solid green line.

Aspiration happens when food, liquid, saliva or vomit goes into the breathing tube (trachea) and down into the lungs. This is shown by the dotted red line.

Aspiration can be silent

Aspiration can happen without any obvious signs of stress, so you may not be aware that your child is aspirating. When this happens, it is called silent aspiration.

How do I know if my child might be aspirating?

Swallowing tube (esophagus)
Breathing tube (trachea)
Lungs
Stomach

- Fevers without other signs of sickness
- Signs of stress and refusal to eat or drink
- Coughing, choking or wet sounds during or after eating
- Repeated chest infections
- Breathing problems (e.g. wheezing) that look like asthma
- You may not know because sometimes there are no obvious symptoms (silent aspiration)

If you feel your child is at risk, the first step is to contact your healthcare provider. For 24/7 nurse advice and general health information, call Health Link at 811.

Alberta Health Services
Pediatric Eating And Swallowing
105235(2020-10)

This work is adapted from the Holland Bloorview Kids Rehabilitation Hospital Aspiration Infographic with permission.
peas.ahs.ca

20772(Rev2020-02) White - AHS Provider Yellow - Client

2 of 2

Monitoring, Evaluation, and Transitions

FOR PROVIDERS
CLINICAL PRACTICE GUIDE
CLINICAL TOOLS & FORMS
COLLABORATIVE PRACTICE
PROFESSIONAL DEVELOPMENT
COMMUNITY OF PRACTICE
FAMILY RESOURCES

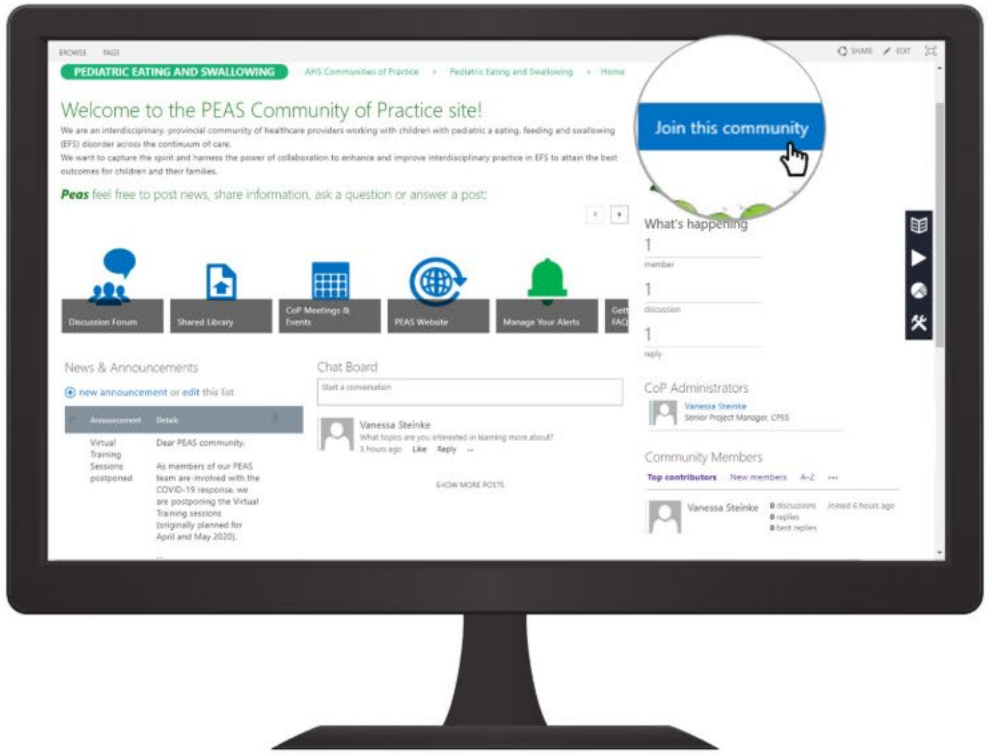
QUICK LINKS
- CPG QUICK REFERENCE
- ORDER FORMS & HANDOUTS
- FIND SERVICES
- VIRTUAL HEALTH
- EQUIPMENT & SUPPLIES
- FUNDING INFORMATION
- FOR FAMILIES
- NEWS AND EVENTS

Community of Practice

We have just launched the Pediatric Eating And Swallowing Community of Practice (CoP) for healthcare providers who work with children with a pediatric eating, feeding and swallowing (EFS) disorder. This virtual CoP is an interdisciplinary community of healthcare providers across the continuum of care in Alberta. The goal of this CoP is to capture the spirit and harness the power of collaboration to enhance and improve interdisciplinary practice in EFS to attain the best outcomes for children and their families.

To join the PEAS Community of Practice:

1. You must be a healthcare provider with an AHS account.
   *See below for information on how to obtain an AHS account.
2. Go to the PEAS CoP website here: https://extranet.ahsnet.ca/teams/CoP/PEAS/SitePages/Home.aspx
   If prompted, enter your AHS account name and password.
3. Click "Join this community" as shown below. That's it!



We appreciate the opportunity to present today!

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Melissa Lachapelle
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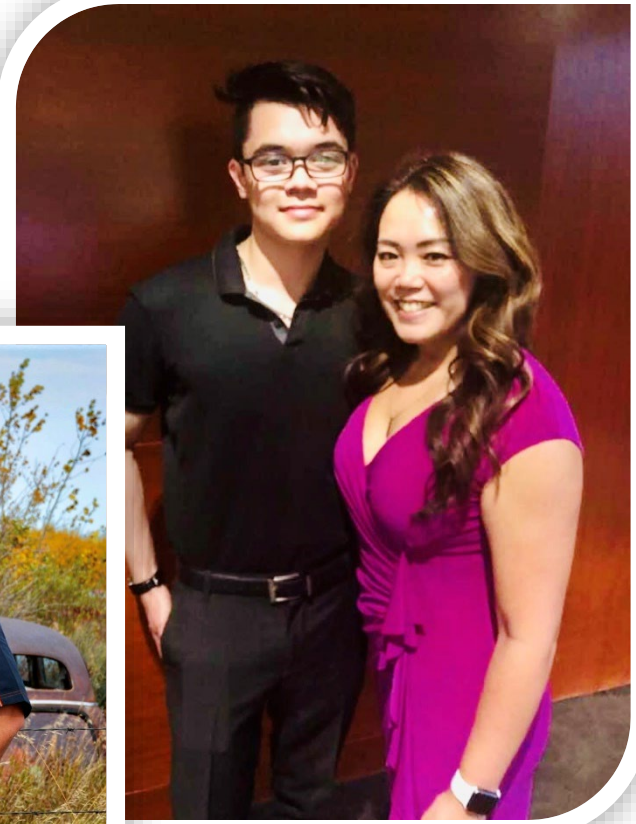
Thank You

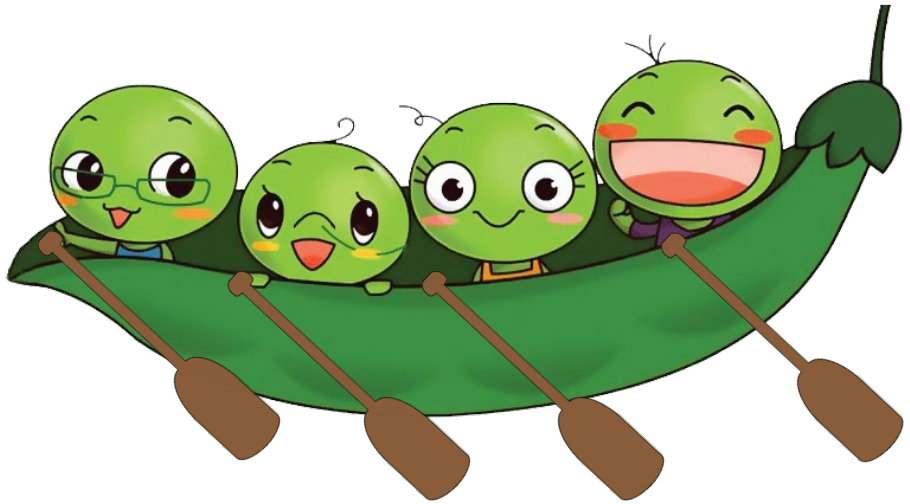
PEAS Standardized Practice & Education Working Group!

- Allison MacDonald, SLP ACH
- Amanda Pack, SLP Home Care & GRH
- Dr. Beverly Collisson, SLP Lead, ACH (PEAS Co-Chair)
- Breanne Black, OT North Zone
- Dr. Carole-Anne Hapchyn, Child Psychiatrist, Edmonton Zone
- Christine Gotaas, SLP EFS Coordinator, GRH
- Christine Pizzey, OT Team Lead, Central Zone
- Cynthia Pruden, SLP Clinical Lead, North Zone
- Donna Dressler-Mund, OT ACH
- Dr. Heather Leonard, Associate Professor, Community Pediatrics
- Jennifer Oliverio, RT Clinical Educator, ACH (PEAS Co-Chair)
- Joanne Kuzyk, Program Manager, Community Rehabilitation
- Julia Giesen, SLP RAH
- Dr. Justine Turner, Professor, Pediatric Gastroenterology
- Karen Hill, RN ACH
- Kristina Van Nest, RD ACH
- Liz Mathew OT Team Leader, Edmonton Zone
- Lori Woods, SLP Calgary Zone
- Megan Terrill, Senior Practice Consultant, HPSP
- Dr. Melanie Loomer, Psychologist, ACH
- Melissa Lachapelle, RD Provincial Practice Lead (PEAS Co-Chair)
- Mini Kurian, SLP Stollery
- Rachel Martens, Family Advisor
- Rachel Williamson, NP ACH
- Rachelle Van Vliet, PCM ACH (PEAS Co-Chair)
- Shobha Magoon, OT Team Lead, Edmonton Zone
- Stacey Dalgleish, NP Calgary
- Tania Vander Meulen, RD GRH
- Tina Nelson, SLP ACH
- Todd Farrell, OT Clinical Lead, North Zone
- Vanessa Steinke, Provincial Project Manager
- Wendy Johannsen, SLP Stollery
- Yolan Parrott, OT Clinical Practice Lead, GRH

Tribute to Wendy Johannsen



Questions & Comments?



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