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A Multidisciplinary Approach to the Treatment of Pediatric Feeding Disorders

Ochsner Hospital For Children

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Pediatric Feeding and Swallowing Disorders

Feeding is an intricate combination and coordination of skills. It is the single most complex and physically demanding task an infant will complete for the first few weeks, and even months, of life. 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. When one or more pieces of the feeding puzzle are missing, out of order, or unclear, infants and children can have difficulty with eating and drinking.

- *Bass, N.H. and Morrell, R.M. The neurology of swallowing. In: M.E. Groher (Ed.), Dysphagia, Diagnosis and Management. Butterworth–Heinemann, Boston, MA, 1992, pp. 1–29*

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Surviving or Thriving?

- We recognize that feeding struggles are often an underlying symptom of more than 200 overarching medical diagnoses and must be addressed to ensure children not only survive, but thrive.

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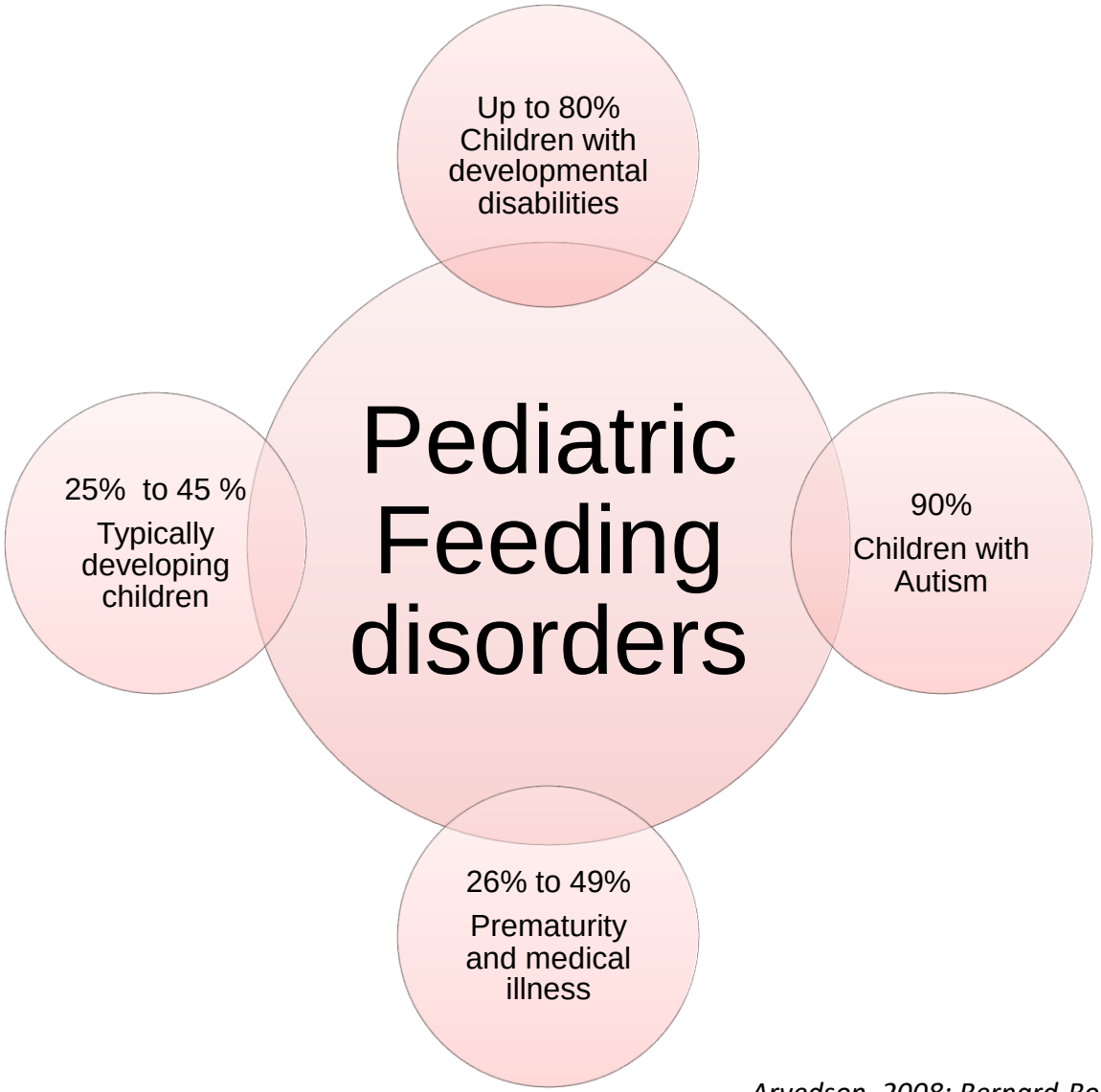
Who?



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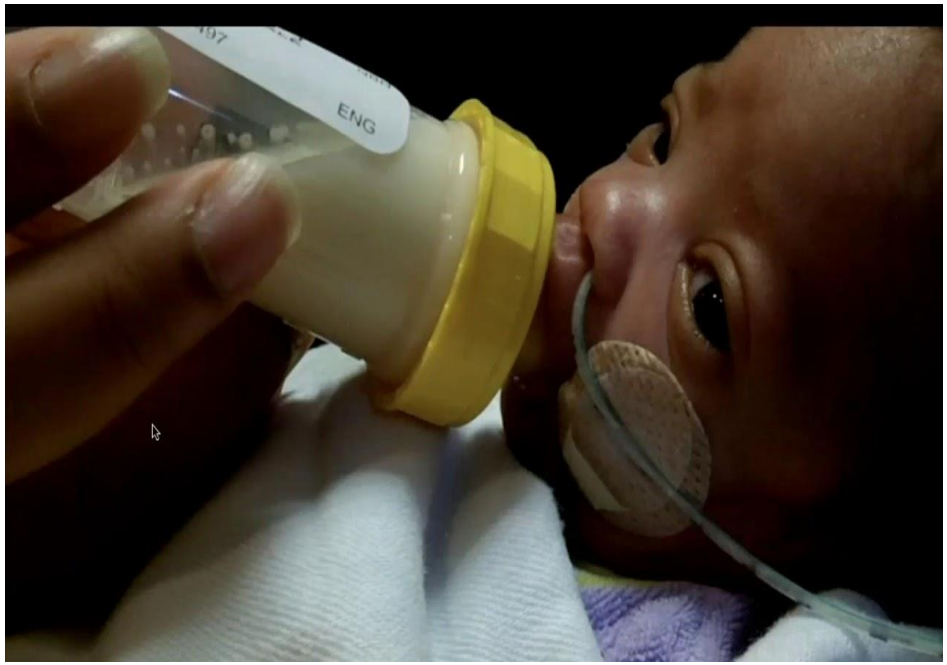
Arvedson, 2008; Bernard-Bonnin, 2006; Brackett, Arvedson, & Manno, 2006; Burklow, Phelps, Schultz, McConnell, & Rudolph, 1998; Lefton-Greif, 2008; Linscheid, 2006; Manikam & Perman, 2000; Rudolph & Link, 2002

Why?

Children can develop disordered feeding for a variety of reasons and frequently the underlying cause can be difficult to pinpoint. The following are risk factors that can contribute to a feeding disorder…



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Comorbid Conditions

- Autism Spectrum Disorder
- Sleep Disordered Breathing
- Impairments in family feeding patterns
- Metabolic disorders
- Behavioral disorders
- Gastroesophageal reflux
- Food allergies
- Eosinophillic esophagitis
- Rumination Syndrome
- Sensory Processing Disorders
- Complex medical conditions

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2.3 million children …..

"Conservative evaluations estimate that PFD affects more than 2.3 Million children under the age of 5 in the United States each year. For these infants and children, every bite of food can be painful, scary, or impossible, potentially impeding nutrition, development, growth, and overall well-being."

- *Barkmeier-Krammer, 2017*

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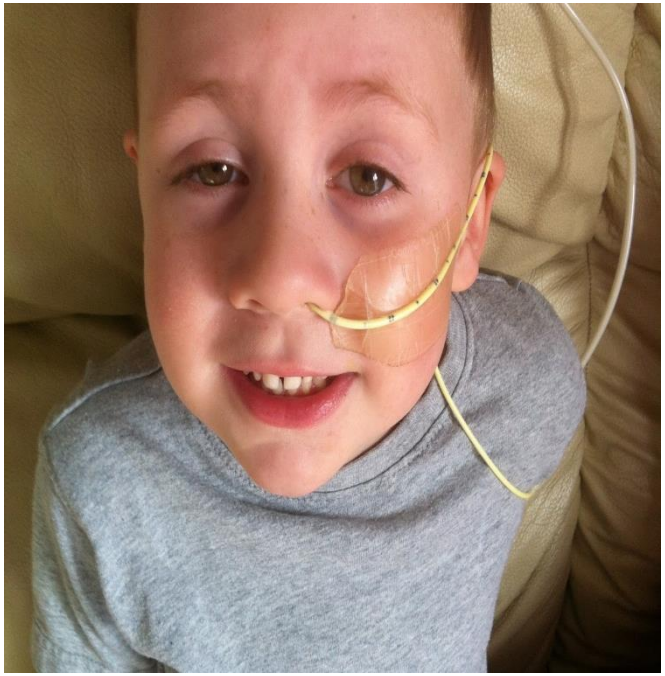
Understanding the big picture…..

- Symptoms of feeding and swallowing disorders in children have many manifestations and clinical presentations including food refusal, failure to thrive, oral aversion, recurrent pneumonia, chronic lung disease or recurrent emesis. Anatomic or functional disorders that make feeding difficult or uncomfortable for the child may result in a *learned aversion* to eating, **even after the underlying disorder is corrected**. Delays in the initiation of feeding may affect the normal acquisition of feeding skills. The complexity of the feeding process and multiple interacting factors that affect the acquisition of feeding skills make the diagnosis and treatment of feeding disorders particularly challenging and complicated."
  - *Rudolph C, Link D: Feeding Disorders in Infants and Children. Pediatric Clinics of North America. Vol 49 (1), February 2002.*



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Why is this population challenging?

- Lack of specialized education for providers
- Lack of unified diagnosis/definition
- Delayed identification and treatment
- Limited research on evidence-based treatment
- Disputed insurance coverage
- Impact on family
- Disruption to child's education

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Difficulties present from a lack of uniformed diagnosis and fragmented definitions

Feeding Disorder, FTT, AFRID, Feeding Difficulties, Oral Dysphagia, Oropharyngeal Dysphagia, Oral Aversion, Pediatric Undernutrition, Growth Deficiency, Feeding Difficulty of a newborn, Feeding mismanagement, Developmental Delay, Dysphagia

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Pediatric Feeding Disorder-Consensus Definition and Conceptual Framework

"Pediatric feeding disorder (PFD) is impaired oral intake that is not age-appropriate and is associated with medical, nutritional, feeding skill, and/or psychosocial dysfunction"

- *Goday PS, Huh SY, Silverman A, Lukens CT, Dodrill P, Cohen SS, Delaney AL, Feuling MB, Noel RJ, Gisel E, Kenzer A, Kessler DB, de Camargo OK, Browne J, Phalen JA. Pediatric feeding disorder: consensus definition and conceptual framework. JPGN 2019;68(1):124-129.*

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TABLE 1. Proposed diagnostic criteria for pediatric feeding disorder

A disturbance in oral intake of nutrients, inappropriate for age, lasting at least 2 weeks and associated with 1 or more of the following:

Medical dysfunction, as evidenced by any of the following:
- Cardiorespiratory compromise during oral feeding
- Aspiration or recurrent aspiration pneumonitis

Nutritional dysfunction, as evidenced by any of the following:
- Malnutrition
- Specific nutrient deficiency or significantly restricted intake of one or more nutrients resulting from decreased dietary diversity
- Reliance on enteral feeds or oral supplements to sustain nutrition and/or hydration

Feeding skill dysfunction, as evidenced by any of the following:
- Need for texture modification of liquid or food
- Use of modified feeding position or equipment
- Use of modified feeding strategies

Psychosocial dysfunction, as evidenced by any of the following:
- Active or passive avoidance behaviors by child when feeding or being fed
- Inappropriate caregiver management of child's feeding and/or nutrition needs
- Disruption of social functioning within a feeding context
- Disruption of caregiver-child relationship associated with feeding

Absence of the cognitive processes consistent with eating disorders and pattern of oral intake is not due to a lack of food or congruent with cultural norms.

Caption: The proposed diagnostic criteria for pediatric feeding disorder in Table 1 represent our multidisciplinary diagnostic framework for acute and chronic PFD.

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The symptoms of a feeding disorder can vary and not all children will exhibit all symptoms

- Persistent difficulty with feeding
- Refusal to eat food (refusal behaviors)
- Extended feeding times
- Difficulty with age-appropriate foods or textures
- Pain or distress with feeding
- Poor weight gain (failure to thrive)
- Bottle or breast feeding only while the child is asleep
- Family history of feeding disorders
- Child can only eat small amounts
- Aspiration (swallowing difficulty)

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When to refer?

- Infant demonstrating signs of difficulty with coordinating the suck/swallow/breath pattern during bottle or breastfeeding.
- Feeding time taking longer than 30 minutes for infants, and 30 to 40 minutes for toddlers or young children.
- Difficulty chewing foods, typically swallowing food in whole pieces.
- Difficulty swallowing foods or refuses to swallow certain types of food consistencies.
- Refuses to eat certain food textures or has difficulty transitioning from one texture to another texture (ex: from bottle feedings to purees, from purees to soft solids or mixed textured foods).
- Gags on, avoids or is very sensitive to certain food textures, food temperatures and/or flavors.
- Struggles to control and coordinate moving food around in mouth, chewing and preparing to swallow food.
- Fussy or irritable with feeding.
- Signs/symptoms of aspiration

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When to refer?

- The child seems congestion during feedings or after.
- Frequently coughs when eating.
- Gags and chokes when eating.
- Frequently vomits during or immediately after eating or drinking.
- Refuses or rarely tries new foods.
- Pushes food away.
- Has difficulty transitioning from gastric tube (G tube) feedings to oral feedings.
- Negative mealtime behaviors (infant cries, arches, pulls away from food; child refuses to eat, tantrums at mealtimes or “shuts-down” and does not engage in mealtime).
- Known to be a “picky eater” who eats a limited variety of foods or consistencies

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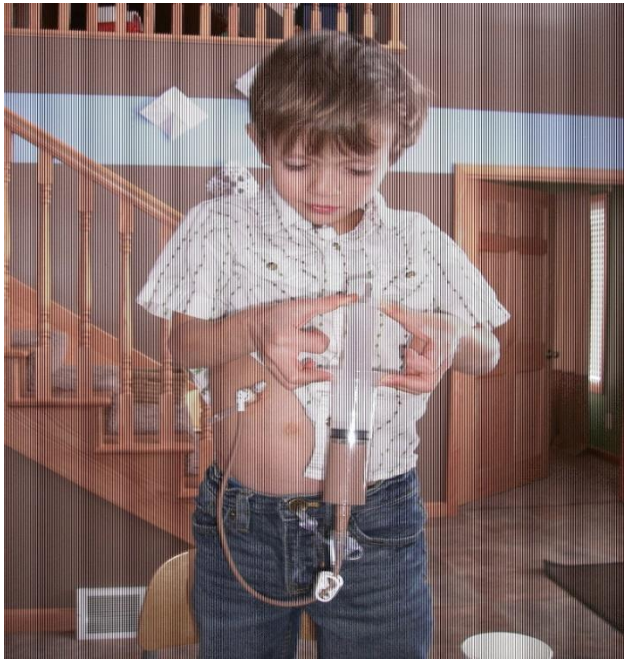
Long term consequences



- Cognitive development
- Physical development
- Emotional development
- Social development
- Adverse effects on caregiver-child relationships
- $$ on the healthcare system and for the family

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A Multidisciplinary Team Based Approach

Preferred practice for health care delivery to complex populations

- feeding is a highly integrated, multisystem skill
- signs and symptoms often cross traditional boundaries
- team approach allows for a more comprehensive assessment and accurate identification of the underlying causes of feeding and swallowing disorders

- *(Mullins et al., 1997; McCallin, 2001; Williams et al., 2006)*

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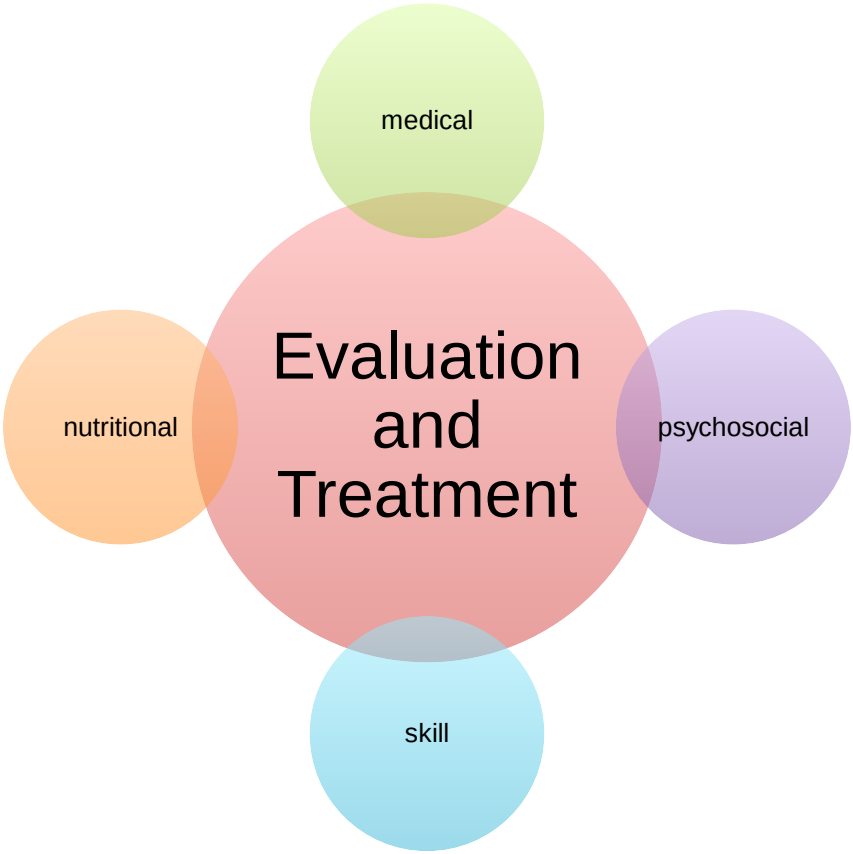
Multidisciplinary Team Approach: Seeing the Whole Child

- Medical
- Cognitive
- Communications
- Food choices and nutrition
- Environment
- Sensory
- Motor Skills
- Dysphagia
- Behavioral
- Social and Emotional



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Team Members

- **Multidisciplinary Core Feeding Team:**
- Physicians
- Nurse clinicians
- Registered Dietitians
- Speech Language Pathologists
- Lactation Consultants
- Occupational Therapists
- Physical Therapists
- Behavioral Psychologists
- Social Workers

- **Other Important Sub Specialists:**
- Gastroenterologist
- Ear Nose Throat
- Pulmonologist
- Cardiologist
- Allergist
- Etc.

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The Michael R. Boh Center for Child Development

The Pediatric Feeding and Swallowing Disorders Program

- The PFSD Program was created to be a center of excellence for these children and their families. Our model of care is to provide comprehensive multidisciplinary team-based services in one location. By bringing together multiple pediatric specialists in one clinic, we are able to provide the highest quality, most efficient and collaborative care possible. It also provides the most comprehensive treatment plan for the family in that they are seen by all the specialists in one day and in one location.

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The Pediatric Feeding and Swallowing Disorders Program at the Boh Center

- Coordinated and collaborative care within a multidisciplinary framework
- Multiple levels of service provision employing evidence based evaluation and treatment
- Early identification and initiation of appropriate services
- Research
- Training
- Resource for families across the country dealing with feeding and swallowing disorders

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The Pediatric Feeding and Swallowing Disorders Program at the Boh Center

Multidisciplinary Team Evaluations

- Starting in Fall of 2019, we will provide multidisciplinary evaluations for children with feeding and swallowing disorders throughout the Gulf South region.

Outpatient Therapy and Virtual Visits

- We provide outpatient feeding therapy in the clinic or through virtual visits. This type of therapy focuses on increasing both volume and variety of foods consumed, establish or strengthen oral motor skills required for feeding, as well as decreasing problem behaviors associated with mealtimes. Our therapists specialize in pediatric feeding and swallowing disorders and provide individualized treatment plans for each child, as well as training and education for families to ensure successful oral feeding at home.

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Future Programming

Intensive Outpatient Therapy

- Intensive outpatient treatment is for children who need more help than traditional outpatient services. This model of care provides various types of therapy that is provided throughout the day for an extended period of time, as well as training and education for families to ensure successful oral feeding at home.

Intensive Inpatient Therapy

- Intensive inpatient treatment is always our last resort, only considered if it is medically necessary. This program involves ongoing assessments with 24-hour supervision, intensive feeding therapy, as well as training and education for families to ensure successful oral feeding at home.

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Our Goal……

…is to help children with pediatric feeding and swallowing disorders not only survive but THRIVE

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Case study

- 1 year, 9 month old female
- Born 26 weeks gestation weighing 1 lb 4 oz
- On a ventilator for 6 weeks
- Intubated for 90 days
- 4 months in NICU
- Chronic lung disease
- No GI abnormalities
- Diagnosed with Failure to thrive
- Microcephaly
- G-tube dependent, emesis with tube feeds
- Had been in speech and PT with minimal progress on feeding skills for six months
- Upon beginning treatment:
- Refused all foods and liquid by mouth
- Would scream, cry, gag when food presented

Treatment:

- Received weekly outpatient services for four months from behavior psychology and speech (back to back sessions with collaborative treatment plan)
- Follow up care for 2 months (once per month)
- Upon discharge from therapy:
- zero tube feeds
- Eating wide variety of textured food by mouth
- Significant increase in verbal skills
- Heavy focus on parent training (both parents)

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