

# TRISOMY 21 AND FEEDING DIFFICULTY

## What is Trisomy 21?

Trisomy 21 is the most common type of Down Syndrome. It is a genetic condition where people are born with an extra copy of a chromosome, in this case on chromosome 21. There are about 6,000 babies born with this condition every year. Trisomy 21, or Down Syndrome, is associated with various differences in physical, cognitive, and behavioral development. Because these differences vary, no two children with Trisomy 21 are the same!

(“Down Syndrome: Symptoms and Causes”, 2024)



## How does Trisomy 21 affect feeding?



Children with Down Syndrome have particular anatomical and physiological features, such as craniofacial structural or motor coordination differences, decreased muscle tone, and delayed oral motor skills. Characteristics like these can impact the development of typical feeding skills, causing negative consequences on growth, nutrition, and psychosocial well-being.

(Anil et. al, 2019)

# Feeding Difficulties

Because each child born with Down Syndrome is unique, there is a variety of feeding differences and difficulties that may be seen. Below are common difficulties.

(Hielscher et al., 2023)

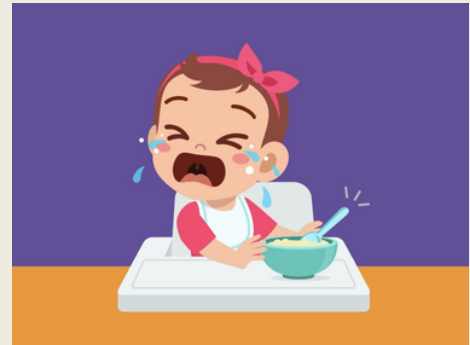
- Difficulty latching to nipple
- Difficulty sucking
- Delayed or ineffective chewing pattern
- Increased risk of aspiration
- Impaired swallowing (dysphagia)



(Jackson et. al, 2019)

(Anil et. al, 2019)

- Difficulty self-feeding (ie: using utensils independently)
- Food aversion or refusal
- Texture or food type preferences and avoidances



(Kurdzhukyan, 2022)

## Some Statistics

“Children with DS have experienced significantly higher rates of coughing during swallowing (41.7%) and chewing disorders (40.6%)”  
(Serel Arslan, 2022).

In infants with Down Syndrome ages 0-6 months, 57% had clinical concerns for feeding and swallowing disorders, 55% had some oral and pharyngeal dysphagia, and 39% had severe dysphagia warranting diet alterations.  
(Stanley et. al, 2019).

# Assessing for Feeding Difficulty

A physical exam, an oral mechanism exam, clinical observation, and parent report should all be factors considered when assessing a feeding disorder in children with Trisomy 21/Down Syndrome.



Pediatricians can refer families to specialists, such as a Feeding Clinic, SLPs, OTs, or dietitians for assessment!



## Parent-Report Assessment Tools Used with Trisomy 21

Child Oral and Motor Proficiency Scale (chOMPs)

Pediatric Eating Assessment Tool (PediEAT)

Feeding Impact Scales

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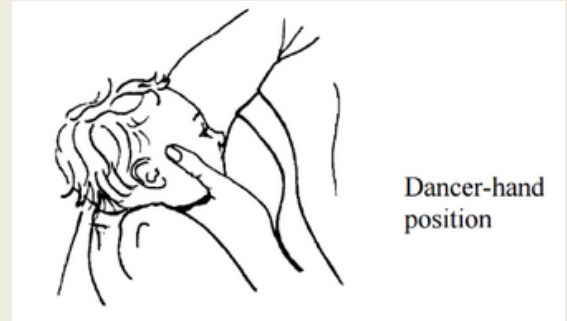
A videofluoroscopic swallow study may be recommended to assess swallowing impairment in children with this condition.

# Managing Feeding Difficulties and Treatment

## Breastfeeding

Due to reduced muscle tone, children with Down Syndrome tend to have difficulty breastfeeding. Support includes:

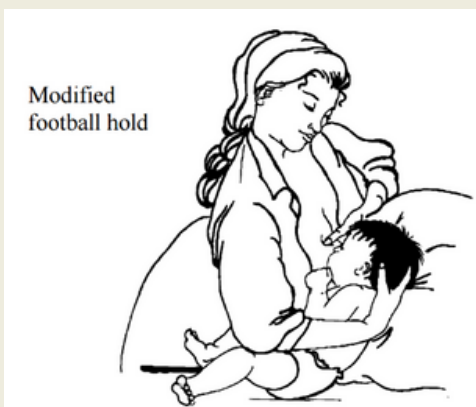
- Look for jaw and ear movement to ensure strong sucking (during breastfeeding)
- Utilize “The Dancer” hold position for jaw support
- Gently push down on baby’s tongue if protruding tongue pushes against nipple
- Utilize the “Football” hold position to support head and observe sucking
- Breast milk could be pumped and fed via bottle



Frequent barriers to breastfeeding are due to hypotonia, affecting sucking. In a study of 10 mothers, only 3 were able to breastfeed exclusively up to 6 months (Barros et. al, 2019)

## Dysphagia

Some children with Down Syndrome have impaired swallowing. A speech language pathologist can help to make diet recommendations to support swallowing and reduce risk of choking. This may include adjustments to food consistencies, food types, and supplemented liquids.



# Managing Feeding Difficulties and Treatment

## Food Aversion

To help a child with Down Syndrome try new foods, allow them to

- Explore new textures, tastes, and looks of foods
- Eat new foods with together
- Pair new foods with favorite foods
- Continuously offer new foods

An SLP or OT may try sensory behavioral approaches like SOS (Sequential Oral Sensory) treatment.

## Oral Motor Exercises

Oral motor exercises can be practiced to increase muscle strength, which can support feeding and swallowing.

**Beckman Oral Motor Therapy** is a protocol that SLPs and OTs use to strengthen the lip, jaw, cheek, and tongue muscles, all of which are necessary for feeding.

## Additional Resources

There are several resources available to learn more about Trisomy 21/Down Syndrome and Feeding!

**Down Syndrome**



Resource Foundation [www.dsrf.org](http://www.dsrf.org)



**GLOBAL**

DOWN SYNDROME FOUNDATION

[www.globaldownsyndrome.org](http://www.globaldownsyndrome.org)



[www.ndss.org](http://www.ndss.org)



**ASHA**

[www.asha.org](http://www.asha.org)

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## Peer Reviewed Journal Articles

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## Other Sources

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