TOTs: Who, When, Why

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Course Objectives

01 Identify potential team members to ensure optimal TOTs evaluation and release

02 Identify important skills to ensure that baby has before release

03 Identify skills that are important for parents to acquire in preparation for release

04 Discuss importance of post release work

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Disclosure

I have no financial or non-financial disclosure to report

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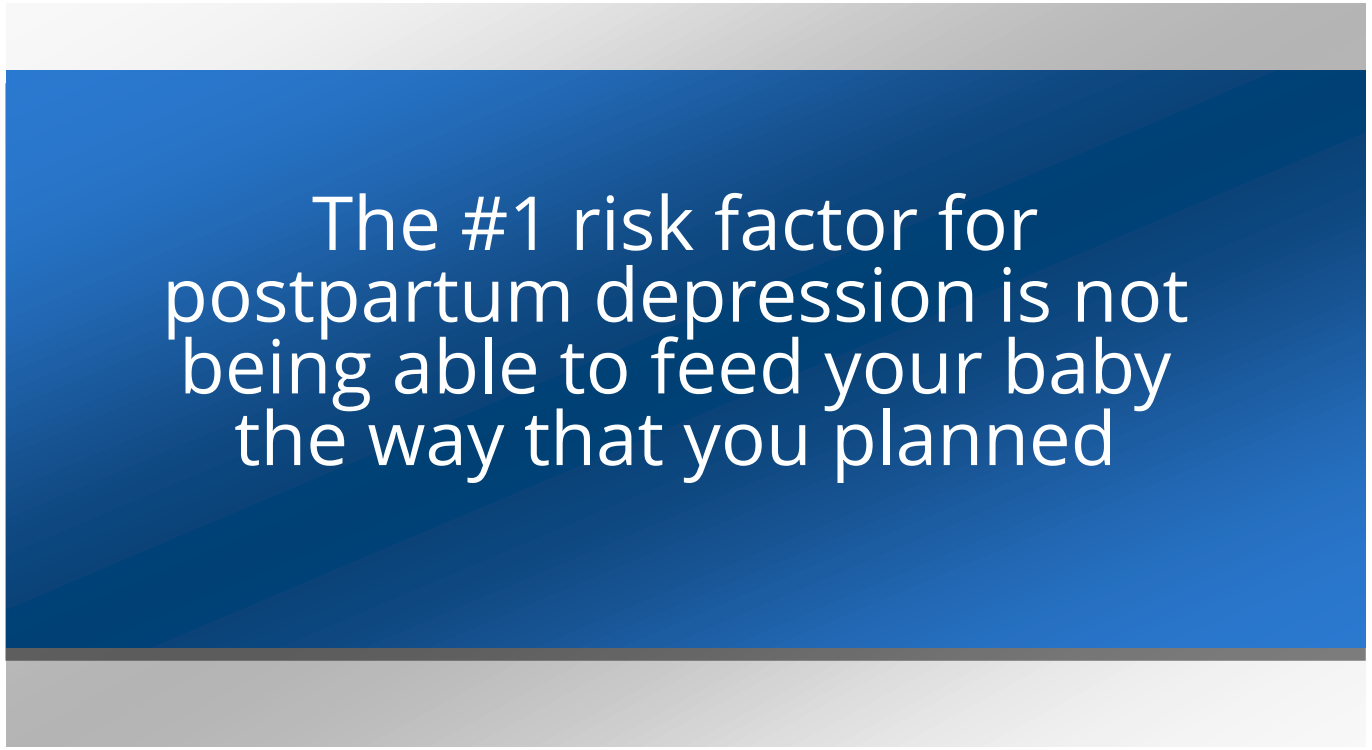
Postpartum Depression



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Definition: Ankyloglossia

Congenital mid-line anomaly

Result of incomplete cell division between the tongue and the floor of the mouth at the 7th gestational week

The result of a short fibrous lingual frenulum or a highly attached genioglossus muscle

(Pandraki et., all, 21)

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12 weeks Gestation

Frenulum thins and recedes

Infant begins to swallow amniotic fluid

If frenulum does not recede, baby will swallow incorrectly and begin compensating for reduced oral, lingual labial and buccal function

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Common Complications of TOTs

Speech Deficits	(77.6%)
Breastfeeding dysfunction	(71.8%)
Midline spacing between teeth	(71.4%)
Development of atypical swallowing	(67.7%)
Dentoskelatal alterations	(43.2%)
Sleep issues (sdb)	(31.8%)
Unexpected unexplained asphyxia	(15.6%)
Reflux-Aerophagia	

(Pandraki, et al, 21) (Pereira, 22)

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Common Complications of Ankyloglossia

25-60% of infants have breast and/or bottle difficulties (Messner et al., 00)

78% of infants with breastfeeding symptoms had posterior tongue tie (Ghaheri et all, 17)

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All About Function

If there are symptoms, function is impaired

When structure is compromised, function is compromised

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Compensations

Are common

Are not typical development

Will not support competent function

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Education
Education
Education

It’s a disservice to parents to let them have the expectation that if you get the release everything will be ok

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TOTs Release

Is a process

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It Takes a Village

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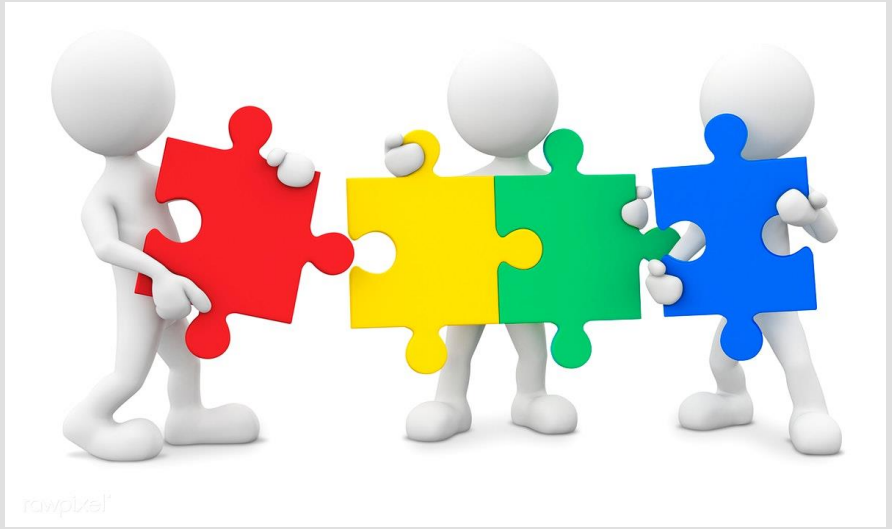
Collaborative Team Approach



We each have a piece of the puzzle

Each set of eyes/hands see different things

The timing of each team members' intervention is an important component of the process

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Best Patient Care:

When we change the way we look at things, the things we look at changes

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Best Patient Care:

Collaborative Approach

Optimized timing: Pre work

Skilled release provider

Post work

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Importance of Pre-work

Better outcomes

R/o medical complications

Confirm TOTs-Functional restriction

Reduce tension patterns

Reduce oral sensitivities/aversions

Train competent feeding skills

Help parents' comfort level

When you teach parents, you empower them

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Maybe it is not TOTs?

Tension patterns can make someone appear more tied than they are or when they are not

There can be other reasons for restricted tongue movements and poor function

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Other Reasons for Poor Function: Torticollis Sternocleidomastoid

- Poor latch
- Head positioning challenges
- Poor head rotation can cause tongue tension and poor lingual mobility
- Weaker sucking (Genna, 15)
- Linked to GERD/Aerophagia
- Impact on hyoid bone

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Other Reasons for Poor Function: Occipital Condyles

- Injury to Hypoglossal Nerve (CN XII)
- Other swallowing CN are there too (IX, X,XI)
- Impact on hyoid bone
- Linked to GERD/Aerophagia

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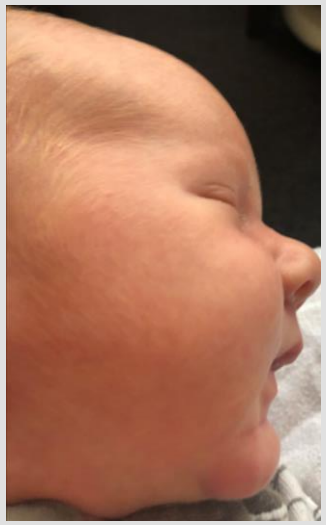
Other Reasons: Mandibular Hypoplasia, Retracted jaw/ Micrognathia

TOTs can often co-occur with mandibular hypoplasia, and in such circumstances, if the tethering is released, it can provoke Glossoptosis and airway obstruction



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Importance of Pre-work

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Why?

Standard of care: 1-4 weeks of pre-release therapeutic exercises

Oral therapy for 15 min, BID, improved suction and compression (Fucile et al., 11)

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Reduce Aversions: Integration of Sensory and Motor Skills

Incorporates motor learning and motor control

Integrated sensory information is essential for developing motor planning skills for feeding (Roley, Blanche, & Schaaf, 2001)

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Reduce Tension Patterns Parent Training

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Oral Posture/Rest Position

Ensure patent nasal airway

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When to Refer?

- Medical issues have been r/o-addressed
- Feeding reflexes are intact
- No oral sensitivities
- Working towards/establishing nasal breathing and correct tongue rest position

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When to Refer?

- Baby's function is as competent as can be
- Baby's progress has plateaued
- Baby is gaining weight
- Optimal self regulation
- Parents are ready, prepared & comfortable

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What is the Treatment for TOTs?

Release (frenotomy/frenectomy)

Laser or scissor

Good wound healing

Stretching

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What to Expect From a Release

A change in anatomy

The restriction is released

Increased passive range of motion

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Remember

The release is NOT a functional change

Muscle memory: change requires training

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Why Continued Feeding Difficulties Post Release?

Was baby/family ready?

- Restricted movement patterns
- Unchanged compensatory patterns
- Muscle memory
- Reduced strength to maintain new ROM
- Reduced endurance to maintain ROM
- Babies need skilled training

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Continued Difficulty Feeding Post Release

Infants do not automatically use new movement patterns because of the compensatory patterns and muscle memory

Compensatory patterns must be undone before proper feeding skills and movement patterns can be trained

If not addressed feeding difficulties will continue

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Remember

- Functional success comes through skilled feeding therapy
- Feeding therapy allows baby to translate the new ability into functional skills
- Feeding therapy utilizes neuromuscular re-education and myofascial release of the swallowing musculature

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Impact on Swallowing: Decreased Elevation and Base of Tongue Movement

- Impaired central tongue grooving
- Poor lingual undulation
- Poor lingual transport
- Aerophagia
- Impaired pharyngeal pressure generation
- Diffuse pharyngeal residue-↑aspiration

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