

S1: Bottle-feeding Assessment form

1. Introduction, safety procedures and disconnection procedures Camera Position 1 – Wide angle view of parent and child	
<input type="checkbox"/>	1. Introduction: Introduce yourself, the purpose of the session and clarify who is present
<input type="checkbox"/>	2. Emergency procedures: Verbally establish and clarify the emergency procedures: <ul style="list-style-type: none"> <input type="checkbox"/> Provide the family with your contact number <input type="checkbox"/> Clarify the family's best contact number <input type="checkbox"/> Verbal agreement with plan in case of emergency e.g. <i>"In the case of a medical emergency, you are responsible for commencing first aid and for calling emergency services. I will stay on the line and can provide you with support as needed. Do you understand what to do in case of an emergency?"</i>
<input type="checkbox"/>	3. Disconnection procedures: Verbally establish and clarify what to do in the event of a session disconnection e.g. - <i>"If the appointment cuts out and doesn't reconnect within 1 minute, try logging out of the appointment and re-connecting. If you are still unable to establish a connection please call me on the phone number I've given you"</i>

2. Case history and review of sent images ¹ Camera Position 1 – Wide angle view of parent and child	
<input type="checkbox"/>	1. Case History: Review the case history information received prior to the telehealth session and clarify/discuss further information as needed.
<input type="checkbox"/>	2. Discuss images: Discuss the photos sent through prior to the appointment and clarify that the picture/s are representative of the child's usual feeding position. If the soft palate and uvula are not visible on the photo, consider asking the following question: <ul style="list-style-type: none"> ▪ Does the child ever have milk come out of their nose (nasal regurgitation)? <ul style="list-style-type: none"> ○ If the parent answers yes and you are unable to fully assess the integrity of the palate suggest local assessment (e.g. GP, Child Health Nurse, Speech Pathologist)

3. Developmental screen ¹ Camera position 2 – Full view of child's head and body with child positioned on flat surface (e.g. cot) or in supportive seating position (e.g. bouncer). The parent will need to have both hands free.	
<i>Observe the child playing with a toy for 1-2 minutes. Use this time to informally screen the child's overall development; note gross motor screen may be incomplete due to positioning of the child.</i>	
<input type="checkbox"/> WNL (No concerns) <input type="checkbox"/> Unable to assess <input type="checkbox"/> Concerns in the following area/s: <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <input type="checkbox"/> Gross motor <input type="checkbox"/> Fine motor <input type="checkbox"/> Play <input type="checkbox"/> Communication <input type="checkbox"/> Other </div>	
Comments: <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div>	

4. Infant state, color and respiration ²			
Camera position 2. Note- you will need to complete the 'during' and 'after' feeding section at the appropriate time during the assessment.			
	State	Color	Respiration
Before feed	<input type="checkbox"/> Deep Sleep <input type="checkbox"/> Light sleep <input type="checkbox"/> Drowsy <input type="checkbox"/> Quiet alert <input type="checkbox"/> Active alert <input type="checkbox"/> Alert agitated <input type="checkbox"/> Crying	<input type="checkbox"/> Well perfused <input type="checkbox"/> Pale <input type="checkbox"/> Dusky <input type="checkbox"/> Mottled <input type="checkbox"/> Cyanotic <input type="checkbox"/> Flushed <input type="checkbox"/> Grey	<input type="checkbox"/> Tracheal tug <input type="checkbox"/> Recessions <input type="checkbox"/> Stridor <input type="checkbox"/> Apnoea <input type="checkbox"/> Congested breathing <input type="checkbox"/> Cough <input type="checkbox"/> Wet airway noise
During feed	<input type="checkbox"/> Deep Sleep <input type="checkbox"/> Light sleep <input type="checkbox"/> Drowsy <input type="checkbox"/> Quiet alert <input type="checkbox"/> Active alert <input type="checkbox"/> Alert agitated <input type="checkbox"/> Crying	<input type="checkbox"/> Well perfused <input type="checkbox"/> Pale <input type="checkbox"/> Dusky <input type="checkbox"/> Mottled <input type="checkbox"/> Cyanotic <input type="checkbox"/> Flushed <input type="checkbox"/> Grey	Mark on feeding observations
After feed	<input type="checkbox"/> Deep Sleep <input type="checkbox"/> Light sleep <input type="checkbox"/> Drowsy <input type="checkbox"/> Quiet alert <input type="checkbox"/> Active alert <input type="checkbox"/> Alert agitated <input type="checkbox"/> Crying	<input type="checkbox"/> Well perfused <input type="checkbox"/> Pale <input type="checkbox"/> Dusky <input type="checkbox"/> Mottled <input type="checkbox"/> Cyanotic <input type="checkbox"/> Flushed <input type="checkbox"/> Grey	
5. Oral motor assessment ^{2, 3, 4}			
Camera position 2 (full view of head/body) + asynchronous photos			
Assess the child's oral motor skills during play/at rest. If no differences are observed tick 'NAD'. If differences are observed, tick areas of difference/concern the side (left- L or right – R) if applicable.			
Face	<input type="checkbox"/> Asymmetrical at rest L R		<input type="checkbox"/> Asymmetrical in movement L R
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess	<input type="checkbox"/> Hyposensitive response to touch		<input type="checkbox"/> Hypersensitive response to touch
Lips	<input type="checkbox"/> Asymmetrical at rest L R		<input type="checkbox"/> Asymmetrical in movement L R
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess	<input type="checkbox"/> Other (e.g. cleft, scar)		<input type="checkbox"/> Reduced rate of movement
Tongue	<input type="checkbox"/> Asymmetrical at rest L R		<input type="checkbox"/> Asymmetrical in movement L R
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess	<input type="checkbox"/> Impaired protrusion		<input type="checkbox"/> Impaired lateralisation
	<input type="checkbox"/> Fasciculations		<input type="checkbox"/> Reduced rate of movement
Fat Pads	<input type="checkbox"/> Absent		
<input type="checkbox"/> NAD			
Jaw	<input type="checkbox"/> Asymmetrical at rest L R		<input type="checkbox"/> Asymmetrical in movement L R
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess	<input type="checkbox"/> Hanging open at rest		<input type="checkbox"/> Clenched
	<input type="checkbox"/> Micrognathia/retrognathia		
Palate	<input type="checkbox"/> Soft palate cleft		<input type="checkbox"/> Hard and soft palate cleft
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess	<input type="checkbox"/> Requires further assessment (report of nasal regurgitation, unable to visualise palate fully)		
Saliva control	<input type="checkbox"/> Thick/vicious saliva		<input type="checkbox"/> Unable to manage secretions
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess			
Cry	<input type="checkbox"/> Weak		<input type="checkbox"/> Other
<input type="checkbox"/> NAD <input type="checkbox"/> Unable to assess			

6. Infant oral reflex exam ⁴ <input type="checkbox"/> Not attempted <input type="checkbox"/> Unable to complete Camera position 3 – Close up view of the child's mouth. The parent/carer will need to have both hands free.				
<i>Instruct the parent/carer how to conduct the exam using the specific instructions below</i>				
Reflex	Diminishes	Parent instruction	Present	Not stimulated
Rooting	4-6 months	"Gently touch the side of their mouth and see if they turn towards you"	<input type="checkbox"/>	<input type="checkbox"/>
Tongue protrusion	4-6 months	"Gently touch the tip of their tongue and see if they poke their tongue out"	<input type="checkbox"/>	<input type="checkbox"/>
Transverse tongue	4-6 months	"Gently touch the side of their tongue and see if their tongue moves towards your finger"	<input type="checkbox"/>	<input type="checkbox"/>
Phasic bite	9-12 months	"Gently rub your finger along their gums and see if they try to bite down"	<input type="checkbox"/>	<input type="checkbox"/>
Gag	Continues into adulthood	* Not to be directly assessed, just note if the baby gags during sucking task	<input type="checkbox"/>	<input type="checkbox"/>
7. Tongue Tie Screen ^{2, 3, 4, 5, 6.} <input type="checkbox"/> Not attempted <input type="checkbox"/> Unable to complete Use the previous oral motor assessment and the pictures the family sent through to screen for tongue tie to determine if further assessment/management is indicated.				
	Unable to assess	Typical	Of concern/needs further investigation	
Tongue posture during crying	<input type="checkbox"/>	<input type="checkbox"/> Elevation of tongue	<input type="checkbox"/> Elevation of lateral edges of tongue only	
Shape of elevated tongue	<input type="checkbox"/>	<input type="checkbox"/> Round or square	<input type="checkbox"/> Heart or v-shaped	
Tongue lateralisation	<input type="checkbox"/>	<input type="checkbox"/> Complete	<input type="checkbox"/> No lateralisation	
Lingual frenulum	<input type="checkbox"/>	<input type="checkbox"/> Visible	<input type="checkbox"/> Very short/not visible	
Frenulum thickness	<input type="checkbox"/>	<input type="checkbox"/> Thin	<input type="checkbox"/> Thick	
Frenulum attachment to tongue	<input type="checkbox"/>	<input type="checkbox"/> Midline	<input type="checkbox"/> At apex of tongue	
Extension of tongue	<input type="checkbox"/>	<input type="checkbox"/> Protrudes past lips	<input type="checkbox"/> Does not protrude past lips	
Assessment	<input type="checkbox"/> WNL <input type="checkbox"/> Concerns – recommend further assessment			
8. Non-nutritive suck assessment <input type="checkbox"/> Not attempted <input type="checkbox"/> Unable to complete Camera position 3 – Close up view of child's mouth. The parent/carer will need to have both hands free.				
<i>Assess the child's sucking on dummy and/or finger.</i> <ul style="list-style-type: none"> Dummy: <i>Observe the child sucking for a short period then ask the parent to try to remove the dummy from the child's mouth. Ask the parent to describe if the child provides weak or strong resistance (negative pressure)</i> Finger: <i>Instruct the parent to gently place their little finger (nail side down) into the child's mouth and describe what the sucking feels like. Have the parent count out loud each time they feel a suck to help you get an idea of rhythm. Once you have finished this, ask the parent to try to remove their finger from baby's mouth and describe if the child provides weak or strong resistance (negative pressure).</i> 				
Response to stimulus within 3 seconds			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Positive pressure generated (compression)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Negative pressure generated (suction)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Rhythmic pattern observed (6:1 – 8:1 suck/swallow ratio)			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Small rhythmic jaw excursions			<input type="checkbox"/> Yes	<input type="checkbox"/> No
Tongue cupping reported/felt			<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> NA

Evaluating the use of telepractice for bottle-feeding assessments

9. Bottle-feeding assessment ^{2, 3}			
Camera position 4 - Device on 45-degree angle from child with parent/carer in frame			
<i>Ask the parent/carer to feed their child how they usually would</i>			
Volume offered:		Feed time:	
Set up #1 (bottle type, teat type, position and fluid thickness e.g. thin, slow flow teat, semi-upright):			
Set up #2 (if applicable):			
Set up #3 (if applicable):			
	#1	#2	#3
Oral Phase	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Nil anticipatory mouth opening			
Inadequate flange			
Poor lip seal			
Impaired milk transfer			
Clicking during feeding			
Gagging			
Tongue thrust			
Anterior fluid loss			
Suck-swallow	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Uncoordinated suck- swallow breath			
3-6 sucks per swallow			
6+ sucks per swallow			
Physiological changes	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Sweating			
Color change – red			
Color change – blue			
Hiccups			
Eye tearing			
Sneezing			
Startle			
Twitching			
Tremor			
Gasp			
Sigh			
Fluctuating tone from normal to flaccid			
Excessive diffuse movements			
Disengagement cues	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Gaze aversion			
Grizzle			
Crying			
Refusal			
Dozing			
Turning away			
Hyperextension of trunk, arms, hands or legs			
Hypertonicity (arching, finger splaying, fisting)			
Shut down response (e.g. falling asleep)			

Evaluating the use of telepractice for bottle-feeding assessments

Feeder response to cues	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Feeder not recognising and/or responding to infant stress/disengagement cues			
Respiratory changes	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Wheeze			
Stridor			
Apnoea			
Nasal flaring			
Tracheal tug			
Intercostal recession			
Substernal recession			
Increased respiratory rate			
Laboured/noisy breathing			
Indicators of penetration +/- aspiration	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference	<input type="checkbox"/> WNL <input type="checkbox"/> Difference
Coughing (developmental)			
Coughing (of concern)			
Choking			
Wet vocal quality			
Wet breathing			
Multiple swallows			
Other			
Nasal congestion			
Nasal regurgitation			

10. Assessment summary - Complete after observation of feeding				
Overall feeding skills	<input type="checkbox"/> WNL		<input type="checkbox"/> Impaired	
Ranking on Functional Oral Intake Scale – Suckle Feeds and Transitional Feeds ³	<input type="checkbox"/> 1 – No oral intake (NBM)			
	<input type="checkbox"/> 2 – Tube dependent with minimal attempts at food or liquids			
	<input type="checkbox"/> 3- Tube dependent with consistent intake of food or liquids			
	<input type="checkbox"/> 4- Total oral diet, but requiring special preparation (e.g. foods different texture to those of peers, thickened liquids, liquid supplements) +/- compensations (e.g. special feeding equipment, feeder uses special strategies)			
	<input type="checkbox"/> 5- Total oral intake without special preparation (e.g. thin liquids, foods same as peers) but with compensations (e.g. special feeding equipment, feeder uses special strategies)			
	<input type="checkbox"/> 6- Total oral intake with no restrictions relative to peers			
Eating and Drinking Ability Classification System (EDACS) level ⁷	<input type="checkbox"/> I – Eats and drinks safely and efficiently			
	<input type="checkbox"/> II – Eats and drinks safely but with some limitations to efficiency			
	<input type="checkbox"/> III – Eats and drinks with some limitations with safety; may be limitations to efficiency			
	<input type="checkbox"/> IV – Eats and drinks with significant limitations to safety			
	<input type="checkbox"/> V – Unable to eat or drink safely – tube feeding may be considered to provide nutrition			
11. Recommendations - Complete after observation of feeding				
Recommended fluid	<input type="checkbox"/> Thin	<input type="checkbox"/> Slightly thick	<input type="checkbox"/> Mildly thick	<input type="checkbox"/> Nil
Modification to feeding equipment required?	<input type="checkbox"/> Yes (please specify below)		<input type="checkbox"/> No	
	<input type="checkbox"/> Wide based teat	<input type="checkbox"/> Standard neck teat	<input type="checkbox"/> Syringe	
	<input type="checkbox"/> Slow flow teat	<input type="checkbox"/> Medium flow teat	<input type="checkbox"/> Fast flow teat	
	<input type="checkbox"/> X/Y cut teat	<input type="checkbox"/> Cleft teat	<input type="checkbox"/> Special needs feeder	
	<input type="checkbox"/> Change teat brand		<input type="checkbox"/> Other (specify)	
Modification required to positioning?	<input type="checkbox"/> Yes (please specify below)		<input type="checkbox"/> No	
	<input type="checkbox"/> Swaddled		<input type="checkbox"/> Upright	
	<input type="checkbox"/> Side-lying		<input type="checkbox"/> Semi-upright	
Feeding strategies required?	<input type="checkbox"/> Yes (please specify below)		<input type="checkbox"/> No	
	<input type="checkbox"/> Jaw support	<input type="checkbox"/> Cheek support	<input type="checkbox"/> Pacing	
	<input type="checkbox"/> Volume/time limit		<input type="checkbox"/> Drop tastes	
12. Session outcome				
<input type="checkbox"/> Discharge	<input type="checkbox"/> Review			
	<input type="checkbox"/> Urgent		<input type="checkbox"/> Non-urgent	

References:

1. American Speech-Language-Hearing Association. Pediatric Dysphagia. Available online: <https://www.asha.org/practice-portal/clinical-topics/pediatric-dysphagia/> (accessed on 30 March 2019).
2. Wolf, L.S.; Glass, R.P. *Feeding and Swallowing Disorders in Infancy: Assessment and Management*; Hammill Institute on Disabilities: Austin, Texas, United States of America, **1992**.
3. Hall, K. *Pediatric Dysphagia Resource Guide*, 1st ed.; Cengage Learning: Boston, MA, USA, 2000.
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6. Martinelli, R.L.C.; Marchesan, I.Q.; Berretin-Felix, G. Lingual frenulum protocol with scores for infants. *Int. J. Orofac. Myol.* **2012**, *38*, 104–112.
7. Sellers, D.; Mandy, A.; Pennington, L.; Hankins, M.; Morris, C. Development and reliability of a system to classify the eating and drinking ability of people with cerebral palsy. *Dev. Med. Child Neurol.* **2014**, *56*, 245–251, doi:10.1111/dmcn.12352.