

PROTOCOL OF SUCKING SKILLS OF NURSING INFANT

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Breastfeeding is the optimal way of feeding for the health and development of newborns, infants and young children. The proper course of breastfeeding is influenced by maternal and infant factors. Sucking skills and effective milk removal are key factors for the process of natural feeding. Detailed assessment of oral structures and function, latching and sucking skills, effectiveness of milk removal, mother's and newborn's position during breastfeeding and the analysis of diurnal indicators of effective breastfeeding allow for early diagnosis of any problems and the initiation of appropriate intervention. This protocol was developed in cooperation with physicians with IBCLC certification and speech therapists specializing in early intervention. This is a tool that may be useful in many different clinical situations.

The assessment tool presented here can be useful for:

1. assessment of sucking skills of nursing infants in the early days in maternity wards
2. assessment of sucking skills of nursing infants after discharge in first days/weeks
3. practice training of lactation consultants and speech therapists and all health practitioners working with mothers and nursing infants,
4. research in human lactation

The usefulness of the protocol was assessed in our study (2015-2017). 100% users confirmed usefulness of the tool in their daily practice. The research allows to find some abnormalities in the period when appropriate intervention can stimulate mothers' lactation.

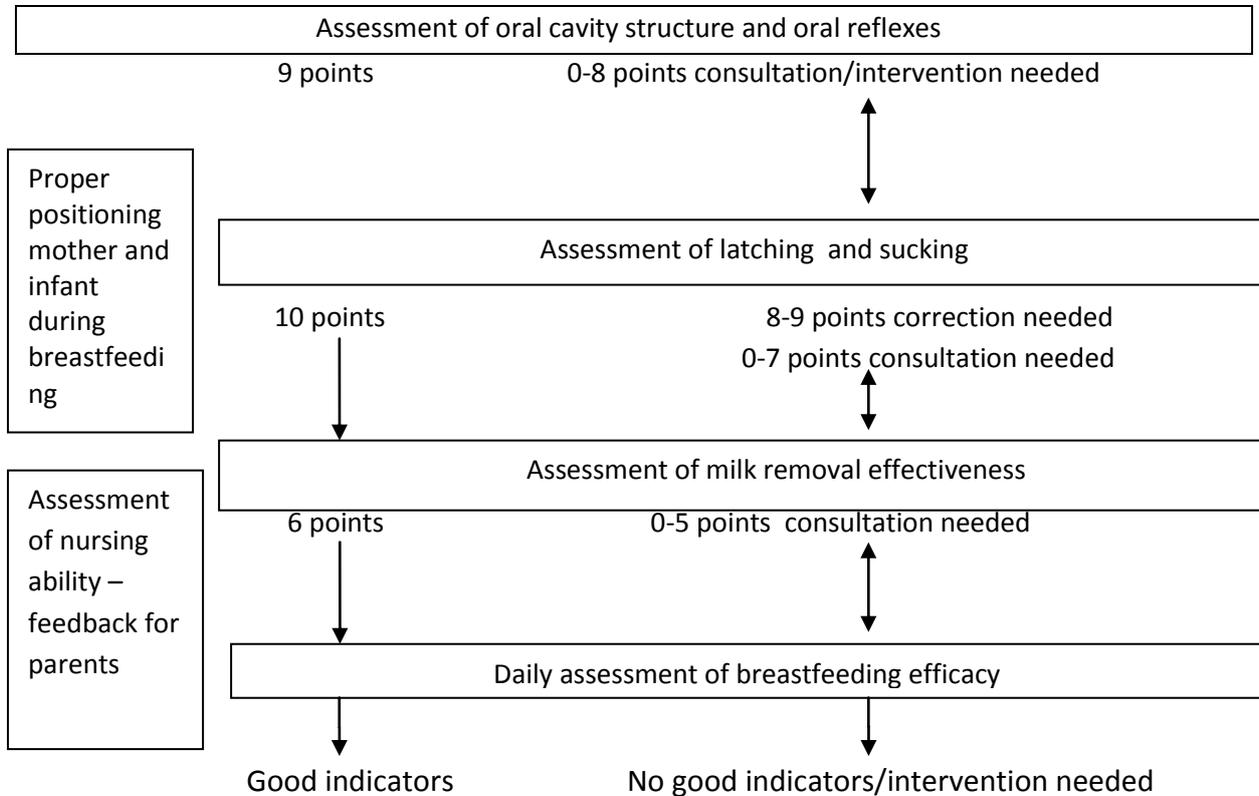
NOTE: This protocol can be use in the assessment of newborns between 37 and 42 weeks gestational age or premature infants, who achieved 37 weeks gestational age, in first days/weeks of lactation. For assessment of premature infants we propose using additional tools created for such infants because the assessment with our tool can be not sufficient.

The protocol of sucking skills of nursing infants includes 6 parts as below:

1. Assessment of the oral cavity structure and oral reflexes (table 1)
2. Assessment of latching and sucking (table 2)
3. Assessment of effectiveness of milk removal (table 3)
4. Daily assessment of breastfeeding efficacy (table 4)
5. Proper positioning mother and newborn during breastfeeding (table 5)
6. Assessment of nursing ability – feedback for parents (table 6)

The protocol should be used according the algorithm and time frame which are presented below:

ALGORITHM OF THE PROTOCOL USE:



RECOMMENDED TIME FRAME FOR THE PROTOCOL USE

First assessment	1	First 12 h after delivery
	2	Between 2nd day and discharge
	3	Between 2nd day and discharge, optimally after the start of lactogenesis II
	4	After birth and 1-2 times a day at hospital
	5	1-2 times a day at hospital
	6	After collecting data give parents information before discharge
Second assessment	1	In the following days if the result of first assessment is 0 - 8 points
	2	3-5 days after intervention if 0-7 points scored in first assessment
	3	3-5 days after intervention if 0-5 points scored in first assessment
	4	Repeated at every visit with the mother until the desired effect is achieved
	5	3-5 days after discharge, every 3-5 days if there are breastfeeding problems or every few weeks if no abnormalities were observed
	6	After collection of data give updated feedback

If during the second assessment the infant does not achieve the required score the situation requires specialized care (lactation consultant, speech therapist, doctor). Subsequent assessment to be carried out according to the needs.

Table 1. Assessment of oral cavity structure and oral reflexes

Element assessed	<i>For correct 1 point, for incorrect 0</i>	Score	<i>If incorrect Underline as applicable</i>	Action/treatment (if 0 points)
lips	Correct tone, closed/sealed		Flaccid, open Tense, clenched	Lactation consultant/ Early intervention speech therapist consultation
cheeks	Well developed fat pads		Underdeveloped fat pads	Lactation consultant/ Early intervention speech therapist consultation
jaw	Physiologically withdrawn		Excessively withdrawn retrognathia	Lactation consultant/ Early intervention speech therapist consultation
tongue	High, physiological position		withdrawn flaccid, extended flat	Lactation consultant/ Early intervention speech therapist consultation
Hard palate	correct		high gothic	Lactation consultant/ Early intervention speech therapist consultation
frenulum	correct		Short, but flexible Short, anterior type Short, posterior type	Further observation frenulotomy neonatologist/pediatrician frenulotomy (ENT specialist/dental surgeon)
Reflexes:				
rooting	correct		weak absent	Further observation neurologist
sucking	correct		weak absent	Further observation neurologist
biting	correct		excessive	Early intervention speech therapist consultation
	Total score			
If 9 points Normal oral cavity structure and reflexes.		If 0-8 points Abnormalities in oral cavity structure and function requiring further intervention.		

Table 2. Assessment of latching and sucking			
Element assessed	Correct	Score	Incorrect
	<i>for correct element 1 point</i>		<i>for incorrect 0 points</i>
Assessed before the nipple is grasped			
Preparation for latching on – after touching infant’s philtrum with a nipple	Wide opening of mouth, tongue extension		Mouth not wide open, attempts to suck in the nipple, shutting of mouth
Assessed after the latching on the breast			
Angle between lips	Obtuse, over 130°		Straight, acute Less than 130 °
lips	Lower flanged out, upper slightly averted		One or both lips sucked in
Nose and chin	Tip of the nose close to breast, chin touching breast		Nose and chin do not touch the breast
cheeks	Not collapsing or dimpled		Collapsing or dimpled
Depth of latch	Mouth covers large part of areola (1,5 - 2 cm from the base of the nipple)		Mouth covers small part of areola or only nipple
Position of areola	Lower lip covers larger part of areola than the upper lip		Upper lip covers larger part of areola than the lower lip
Clicking sound	absent		present
Mother’s feeling	Nursing not painful for the mother Discomfort only at the beginning of feeding		Nursing painful throughout feeding
After feeding			
Nipple shape	Nipple round		Nipple flat, “pinched”
Total points			Recommendations
Correct latching and sucking		10	Assessment of milk removal effectiveness (tab. 3)
Latching or sucking requires slight correction		8 - 9	Correction of latching or sucking
Incorrect latching and sucking		0 - 7	Lactation consultant/ Early intervention speech therapist consultation

Table 3. Assessment of effectiveness of milk removal				
Element assessed	Correct <i>For correct element 1 point</i>	Score	Incorrect <i>For incorrect 0 points</i> <i>Underline</i>	
Assessed before milk ejection				
Sucking	Fast, about 2/sek (1-2 day irregular)		lazy	
			absent	
Assessed during milk ejection				
Sucking	present deep, 1/sec slower than before milk ejection (change of rhythm!)		Shallow, biting	
			Still fast (no change of rhythm)	
Sucking bursts (the sequence of sucks)	long (10-30 sucks per burst)		short	
			(less than 10 sucks per burst)	
Sucking rhythm	Rhythmic, regular (30-60/min), with short breaks between sucking bursts (3-5 sec)		irregular, slow, with long breaks between sucking bursts	
Swallowing	Present Regular Suck per swallow ratio 1:1; 2:1, 3:1		Absent Irregular Suck per swallow ratio > or = 4	
Length of feedingminutes of sucking (On average 15 minutes from one breast, 30 min from both breasts, minimum 10 minutes from one)	minutes of sucking (Less than 10 minutes from one breast)	
Total points			Recommendations	
Infant effectively nursed from breast during assessed breastfeeding act		6	Daily assessment of breastfeeding efficacy (Tables 5)	
Features of ineffective nursing observed		0 - 5	Lactation consultant consultation	

Table 4. Proper positioning of mother and infant during breastfeeding

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Mother's position		Tick	If not well chosen, suggest change.
	Sitting, cradle hold		
	Sitting, cross-cradle hold		
	Sitting, football hold		
	Side -lying		
	Lying supine, lateral prone		
	Natural (australian)		
		IF Yes, tick ✓	IF NO, THEN:
Mother's position	Back and feet supported		Encourage back and feet support
	Forearms supported (eg. with pillows)		Encourage support, offer pillows
	Mother is comfortable		Encourage to find comfortable position
Supporting breast	Fingers not on areola		Suggest placing fingers away from areola
	Support the breast with C – hold or U – hold, nipple directed up, hand does not squeeze breast		Show correct way of support the breast and offering the nipple
	Mother is latching on the breast when infant's mouth is wide open, does not push nipple in		Advise mother to encourage the infant open his mouth wide before latching on the breast
Infant's position	Head and body in one line Infant close to mother Infant's body well supported Nose opposite to the nipple		Suggest correcting infant's position to include all elements
	Head slightly flexed back		
Mother's manner of latching on	skillful insecure nervous		If mother has a problem with proper latching on the baby to the breast, suggest practice with a lactation consultant

Table 5. Daily assessment of breastfeeding efficacy

Question to mother	Mother's answer	Correct answer	What if incorrect?
How often does the baby nurse during a day (24 hours)?		8-12 times	Increase number of feeds, if below 8 If over 12 – control position and nursing ability
Do you breastfeed at night?		Yes, 1-2 time	At least 1 feed a night, mother should wake him up to nurse
How many stools a day (24 hours) does the infant pass (up to 6 week)?		3-4 mushy stools	Check infant's body weight
How many diapers does infant wet in the day (24 hours) (from 3 day to 6 week)?		6-8 wet diapers	Check infant's body weight
How many grams a day does infant gain on average, from the lowest weight to the last measurement?		26-31 grams/day (between 0-3 months) Check on WHO growth charts (differences based on percentiles)	If weight gain is slower than average – individually chosen intervention: - correct position and latching on - increase number of feeds (day and night) - offer both breast at each feeding - monitor feeding effectiveness - stimulate lactation by pumping - consider supplementary feeds Intervention should be conducted by a lactation consultant

Table 6. Assessment of nursing ability – feedback for parents

Infant’s name: Date

Infant’s age(days) (weeks) (months)

Oral cavity structure and reflexes	9 points points	
	Correct oral cavity structure and correct oral reflexes	Interpretation: 0 - 8 points incorrect oral cavity structure and function	Recommendations: <input type="checkbox"/> lactation consultant advice <input type="checkbox"/> speech-therapist advice <input type="checkbox"/> neurologist advice <input type="checkbox"/> If short frenulum - frenulotomy
Latching and sucking	10 points points	
	Correct attachment and sucking	Interpretation: 8-9 points Grasping or sucking requires some correction	Recommendations: <input type="checkbox"/> correction of latching and nursing <input type="checkbox"/> lactation consultant advice
		0-7 points incorrect latching and nursing	<input type="checkbox"/> lactation consultant advice <input type="checkbox"/> neuro speech-therapist advice
Nursing effectiveness	6 points points	
	Infant nursed effectively during observed feeding	Interpretation: 0-5 points ineffective sucking	Recommendations: <input type="checkbox"/> lactation consultant advice
Assessed by:		Date of next assessment:	

..... **CAN NURSE WELL**
 (Infant’s name)

..... **NEEDS TIME TO LEARN TO NURSE WELL**
 (Infant’s name)