



## **Infant Feeding Workbook**

**BSc (Hons) Midwifery**

**September 2019 Cohort**



Name of Student: .....

Student ID number: .....





## **Acknowledgement**

I would like to thank all the Midwifery lecturers who supported development of this work. Formal permission was obtained to reproduce the pictures in this workbook, or they are from free sources for educational purposes.

The completion of this workbook contributes to your formative assessment, and can be used to support your achievement of your yearly infant feeding Essential Skills Cluster and clinical competencies relating to infant feeding. The workbook must be reviewed as part of your Personal Development Plan (PDP)/half-year/end-of-year meetings with your academic adviser. Please ensure that your academic adviser signs the end of year summary form and your clinical mentors have signed the requisite sections within the document.

Please feel free to report any errors or suggest areas for improvement to me, as the workbook is updated annually. It was very kindly updated by Hannah Ashmore in July 2019. Thank you.

Rachel McGann, Midwifery Lecturer  
August 2019

## Contents

End of Year Submission Summary.....	6
Breastfeeding Clinical Practice Summary Form – Year 1 .....	7
Breastfeeding Clinical Practice Summary Form – Year 2 .....	8
Breastfeeding Clinical Practice Summary Form – Year 3 .....	9
Introduction.....	10
How to use this workbook.....	11
Year One Learning Outcomes:.....	13
Year 1 Theory.....	14
Part 1: Reflection on personal and professional attitudes towards breastfeeding .....	14
Part 2. Revision of anatomy and physiology of lactation.....	19
Part 3. Health benefits of breastfeeding.....	23
Part 4. Initiating a close relationship and feeding soon after birth.....	29
Part 5. Positioning and Attachment.....	32
Part 6. Support for breastfeeding locally. ....	35
Year 1: Clinical skills. ....	36
Clinical Practice 1. Clinical skills record. ....	37
Clinical Practice 2: Breastfeeding Observation Form.....	38
Clinical Practice 3: Teaching positioning and attachment to a mother .....	42
Clinical Practice 4: Teaching a mother hand expression .....	45
Year Two Learning Outcomes.....	50
Year 2 Theory.....	50
Part 1. Common breastfeeding concerns and complications and how to deal with these.....	50
Part 2. Mothers and babies with special conditions: .....	53
Year 2, Clinical skills .....	57
Clinical Practice 1. Clinical Experience Log .....	57
Clinical Practice 2. Competencies .....	58
Year Three Learning Outcomes .....	61
Year 3 Theory.....	62
Part 1: Nutritional and lifestyle advice during breastfeeding .....	62
Part 2: Local and global breastfeeding promotion.....	64
Year 3, Clinical skills .....	66
Year 3. Reflection on breastfeeding and evidence .....	67
1. IQ and breastfeeding: .....	67
2. Use of dummies:.....	68
3. Breastfeeding and Public health (short and long term health benefits): .....	69

4. Scenarios:.....	71
5. Caseload reflection: .....	73
Appendix 1 .....	75
The New Baby Friendly Initiative Standards .....	75
UNICEF UK Baby Friendly Initiative - Ten Steps To Successful Breastfeeding	77
UNICEF UK Baby Friendly Initiative - Seven Point Plan for Sustaining Breastfeeding in the Community .....	78
UNICEF UK Baby Friendly Initiative - Learning outcomes for university courses: .....	79
Appendix 2 .....	84
Breast feeding Observation template: Aide Memoir.....	84
Appendix 3 - .....	86
Breastfeeding History Form .....	86
Appendix 4: .....	90
A selection of online infant feeding resources.....	90

## **End of Year Submission Summary**

(to be completed by your academic adviser at your end of year interview)

**Students Name:** .....

**Intake:** .....

**Clinical Base:**

**home:** ..... **companion:** .....

### **1<sup>st</sup> Year Submission**

Comments:

Signature of academic advisor:..... Date:

### **2<sup>nd</sup> Year Submission**

Comments:

Signature of academic advisor:..... Date:

### **3<sup>rd</sup> Year Submission**

Comments:

Signature of academic advisor:..... Date:

**Breastfeeding Clinical Practice Summary Form – Year 1**  
(Student collation and verification form. Please have completed prior to half/end of year interview with your personal teacher)

**Student**

**Name:** .....

**Cohort** ..... **Level of Supervision: Direct**

**Name of Sign-off Mentor supporting you** .....

1. I have successfully undertaken the supervised assessment and completed the appropriate documentation for: Clinical Practice 1 - Observation of a breastfeed.  
Date Undertaken: .....
2. I have successfully undertaken the supervised assessment and completed the appropriate documentation for: Clinical Practice 2 - Teaching positioning and attachment  
Date Undertaken: .....
3. I have successfully undertaken the supervised assessment and completed the appropriate documentation for: Clinical Practice 3 - Teaching hand expression of breast-milk  
Date Undertaken: .....
4. I have successfully undertaken the supervised assessment for making a formula feed including sterilisation of equipment and the safe storage and use of reconstituted formula milk product  
Date undertaken.....
5. I have recorded 5 observations of infant feeding
6. I have read and apply to my practice the principles of the Baby Friendly Initiative Standards (Appendix I)

Local annual infant feeding update attended\*: (date)

.....

Local folder of infant feeding resources read\*:

(resources) .....  
.....

\* optional but desirable

**Signatures**

Student ..... Mentor..... Date .....

**Breastfeeding Clinical Practice Summary Form – Year 2**  
(Student collation and verification form. Please have completed prior to half/end of year interview with your academic adviser)

**Student**

Name: .....  
...

**Cohort** ..... **Level of Supervision: Indirect**

**Name of Sign-off Mentor supporting you** .....

1. I have undertaken, as recorded in the Clinical Skill Competencies, supervised practice in order to further develop my skills in:

- Clinical Practice 2 - Teaching positioning and attachment
- Clinical Practice 3 - Teaching hand and mechanical expression of breast-milk
- Clinical Practice 4 - Making a Formula Feed (including sterilisation of equipment and the safe storage and use of reconstituted formula milk products in diverse situations)

2. I have recorded 5 episodes of caring for sick neonates

3. I have read and apply to my practice the principles of the Baby Friendly Initiative Standards (Appendix I)

Local annual infant feeding update attended\*: (date)  
.....

Local folder of infant feeding resources read\*:

(resources) .....  
.....

\* optional but desirable

**Signatures:**

Student ..... Mentor ..... Date .....

**Breastfeeding Clinical Practice Summary Form – Year 3**  
**(Student collation and verification form. Please have completed prior to half/end of year interview with your academic adviser)**

**Student**

Name: .....

**Cohort** ..... **Level of Supervision: Minimal**

**Name of Sign-off Mentor supporting you** .....

1. I have undertaken supervised practice in order to consolidate my skills in:
- Clinical Practice 2 - Teaching positioning and attachment
  - Clinical Practice 3 - Teaching hand and mechanical expression of breast-milk
  - Clinical Practice 4 - Making a Formula Feed (including sterilisation of equipment and the safe storage and use of reconstituted formula milk products in diverse situations)

As recorded within the Clinical skills assessment document.

2. I have read and apply to my practice the principles of the Baby Friendly Initiative Standards (Appendix I)

Local annual infant feeding update attended\*: (date)

.....

Local folder of infant feeding resources read\*:

(resources) .....  
.....

\* optional but desirable

**Signatures**

Student ..... Mentor..... Date .....

## Introduction

Breastfeeding is increasingly recognised as an ideal option for infants as well as women because of its positive health implications (Bolling, Grant, Hamlyn & Thornton, 2007). Indeed recent evidence demonstrates the benefits of breastfeeding in improving the quality of life for women and children through the reduction of acute and chronic diseases and, interestingly in the current financial climate, the potential implications of this on NHS resources (Renfrew et al., 2012). To achieve the optimum benefit, exclusive breastfeeding for a period of at least 6 months is globally recommended. Although breastfeeding is a natural behaviour, education and appropriate support provided by skilled health workers/professionals can hugely influence its rate of success.

National surveys of infant feeding have shown increases in the rate of breastfeeding, particularly breastfeeding initiation at birth, in all UK countries from 1995 to 2017 (Bolling et al., 2007; Renfrew et al., 2012, NHS England, n.d.) however, the UK has some of the lowest breastfeeding rates in the world (Cheung, 2018). According to UNICEF UK Baby Friendly Initiative (BFI), all relevant organisations, particularly educational authorities have a significant role and responsibility in training health care professionals (HCP) to promote breast feeding for infants (Unicef, 2017). The training should enable HCPs to support families in making an evidence based choice as well as providing sound advice and practical help for women to breastfeed for longer periods of time.

The National Institute for Health and Clinical Excellence (NICE) recommends that *"all maternity Care providers should implement an externally evaluated, structured programme that encourages breastfeeding"* (NICE, 2015). There have been a number of local and national initiatives funded by Department of Health aiming to promote breastfeeding. However, including appropriate infant feeding training as part of educational packages for student midwives (and other related health professionals), is considered to be one of the most important steps in promoting a healthy start for babies and their mothers.

Breastfeeding should be promoted for all women, however, when feeding choice is not breast-milk for any reason, midwives should be able to support women and their families with their choices and should be able to provide appropriate help and instruction for other methods of feeding as well.

### **Aim:**

The aim of this workbook is to equip student midwives with the essential knowledge and skills in line with the BFI "Best Standards for Breastfeeding Education",<sup>8</sup> to support women in making an informed choice as well as providing practical help to mothers in their feeding practices.

### **Objectives:**

- To raise awareness of the importance of breastfeeding and promote a healthy method of infant feeding in line with the Baby Friendly Initiative.
- To develop the theoretical knowledge and practical skills which are necessary in supporting breastfeeding women.
- To provide appropriate information in supporting women who formula feed their babies.

## How to use this workbook

The content of this workbook is complementary to the knowledge of breastfeeding gained through scenario-based learning and clinical experiences. This book is to be used in conjunction with the Infant Feeding Essential Skills Clusters for years 1, 2, and 3 and forms supplementary evidence of your achievements as part of the future application for BFI Accreditation for the BSc (Hons) Midwifery programme\*. It will also support your learning for the summative OSCE in the latter part of the first year of the programme. It should be used in conjunction with the other sources of learning such as teaching sessions, videos, related textbooks, journal articles and experiences in your clinical placements. Learning activities used in this workbook include:

1. Search of the literature, reviewing your care experiences, discussion with midwives, infant feeding advisors, peer support workers and health visitors,
2. Reflection on your own experiences (past and present) as well as analysing cases you have come across during your placement
3. Short answer questions, quizzes, filling in the missing words and completing diagrams
4. Blank spaces are provided for you to write down your thoughts, findings and reflection results. You can also develop your own learning diary in expanding your knowledge.
5. A list of references, sources of databases and reading materials are provided within the text at relevant places
6. You are expected to review your experiences and link theoretical knowledge into practice.

**\* this symbol denotes the BFI University Learning Outcome for each activity: see page 65-68 for full list.**



## References:

Bolling, K., Grant, C., Hamlyn, B., & Thornton, A. (2007) *Infant Feeding Survey 2005*. Retrieved from:

<https://digital.nhs.uk/data-and-information/publications/statistical/infant-feeding-survey/infant-feeding-survey-2005-main-report>

Cheung, R. (2018) *International comparisons of health and wellbeing in early childhood*. Retrieved from:

[https://www.nuffieldtrust.org.uk/files/2018-03/1521031084\\_child-health-international-comparisons-report-web.pdf](https://www.nuffieldtrust.org.uk/files/2018-03/1521031084_child-health-international-comparisons-report-web.pdf)

Kramer, M.S., & Kakuma, R. (2012). Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews* 2012, Issue 8. Retrieved from:

<https://www.ncbi.nlm.nih.gov/pubmed/22895934>

McAndrew, F., Thompson, J., Fellows, L., Large, A., Speed, M., & Renfrew, M. (2012). *Infant Feeding Survey 2010: Summary*. Retrieved from: [http://doc.ukdataservice.ac.uk/doc/7281/mrdoc/pdf/7281\\_ifs-uk-2010\\_report.pdf](http://doc.ukdataservice.ac.uk/doc/7281/mrdoc/pdf/7281_ifs-uk-2010_report.pdf)

National Institute for Health and Clinical Excellence. (2015). *Clinical Guideline 37: Routine postnatal care of women and their babies (Quick reference guide and Full guideline)*. [Online] Retrieved from: <http://www.nice.org.uk/CG037>

NHS England (n.d.) *Statistics: Maternity and Breastfeeding*. Retrieved from: <https://www.england.nhs.uk/statistics/statistical-work-areas/maternity-and-breastfeeding/>

Renfrew, M., Pokhrel, S., Quigley, M., McCormick, F., Fox-Rushby, J.,...Williams, A. (2012). *Preventing disease and saving resources: the potential contribution of increasing breastfeeding rates in the UK*. UNICEF UK. Retrieved from: [http://www.unicef.org.uk/Documents/Baby\\_Friendly/Research/Preventing\\_disease\\_saving\\_resources.pdf](http://www.unicef.org.uk/Documents/Baby_Friendly/Research/Preventing_disease_saving_resources.pdf)

UNICEF (2012). *Baby Friendly Initiative. University Best Practice Standards and Learning Outcomes* [Online] Retrieved from: <http://www.unicef.org.uk/BabyFriendly/Health-Professionals/Going-Baby-Friendly/University/>

## **Year One Learning Outcomes:**

- Observe breastfeeding, undertake clinical practice for teaching a mother about positioning and attachment and hand expression.
- Successfully achieve the Infant feeding Clinical Skills Cluster (Practice documentation)
- Analyse individual, personal and professional's attitude to breastfeeding and reflect upon them in relation to clinical practice
- Identify the historical, social and cultural aspects of breastfeeding
- Consolidate knowledge in relation to anatomy of the breast and physiology of lactation
- Consider and analyse the local application of the UNICEF BFI 10 Steps to Successful Breastfeeding and seven action points for community, and newly proposed replacement standards (see Appendix 1).

## **Theory**

- Part 1. Reflection on personal and professional attitudes towards breastfeeding
- Part 2. Revision on anatomy and physiology of lactation
- Part 3. The health outcomes of breastfeeding
- Part 4. Initiating a close relationship and feeding soon after birth.
- Part 5. Positioning and attachment
- Part 6. Support for breast feeding locally.

## **Year 1 Clinical skills:**

1. Discussing the pre-requisites for and benefits of breastfeeding and helping a mother to initiate breastfeeding
2. Assisting mothers to position and attach babies for breastfeeding and explain why this is important
3. Discuss the principles for promoting successful breastfeeding
4. Teaching mothers to hand express breast milk and justifying why this is important.
5. Demonstration of sterilisation of baby feeding equipment.
6. Advising on how to make up infant formula feeds.



## Year 1 Theory

### Part 1: Reflection on personal and professional attitudes towards breastfeeding

Personal experiences and acceptability of breastfeeding practice by family members and the wider society can greatly influence women's choice of infant feeding.

#### Recommended Reading list:

Baby Friendly Initiative (2016) Call to action campaign BFI. Retrieved from: <https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2016/04/Call-to-Action-Unicef-UK-Baby-Friendly-Initiative.pdf>

Bolling, K., Grant, C., Hamlyn B., & Thornton, A. (2007). *Infant Feeding Survey 2005*. Retrieved from: <https://digital.nhs.uk/data-and-information/publications/statistical/infant-feeding-survey/infant-feeding-survey-2005-main-report>

Bryder, L. (2005). Breastfeeding and Health Professionals in Britain, New Zealand and the United States, 1900–1970. *Med Hist.* 49(2): 179–196. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1088218/>

Baby Friendly initiative (2010) Breast feeding rates in the Uk according to BFI. Retrieved from: <https://www.unicef.org.uk/babyfriendly/about/breastfeeding-in-the-uk/>

Department of Health (2005). *Attitudes to feeding: Report of survey findings* [Online] Retrieved from: [http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/documents/digitalasset/dh\\_4118854.pdf](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4118854.pdf)

Dyson, L., McCormick, F., & Renfrew, M. (2008). *Interventions for promoting the initiation of breastfeeding*. The Cochrane Library. Retrieved from: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001688.pub2/abstract>

Kramer, M., & Kakuma, R. (2012). Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews* 2012, Issue 8. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/22895934>

Lumbiganon, P., Martis, R., Laopaiboon, M., Festin, M., Ho, J., & Hakimi, M. (2012). *Antenatal breastfeeding education for increasing breastfeeding duration*. The Cochrane Library. Retrieved from: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD006425.pub3/abstract>



- Is formula feeding easier than breastfeeding?
- Is formula milk completely identical to breast milk? Explain if there are any differences.

3. Looking at pictures on page 18, discuss breastfeeding in public places.

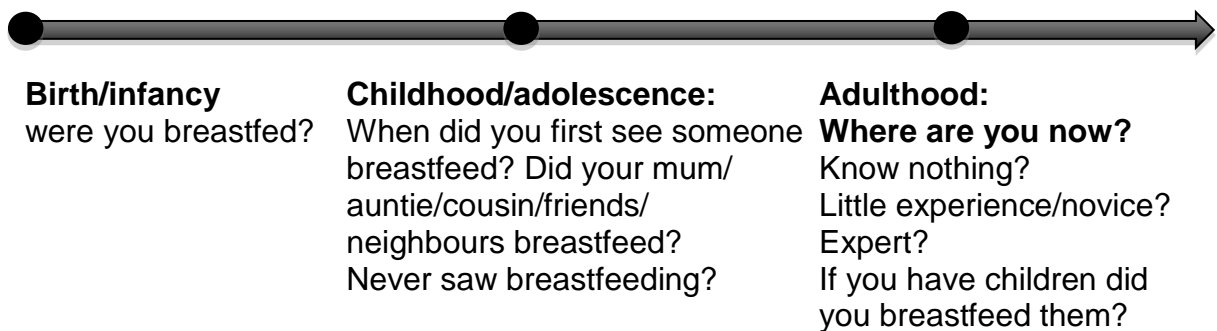
4. In your views, what factors may influence women's choice of breastfeeding. Summarise effective ways of promoting breastfeeding in light of evidence.

5. What proportion of women do you think breastfeed in UK and does it match their rate of intention to breastfeed?



6. Discuss how health professional's attitude to infant feeding can affect their support of women in choosing the appropriate infant feeding method.

8. Can you draw your own breastfeeding experience timeline? e.g.





See also images and discussion at [http://www.007b.com/breastfeeding\\_public.php](http://www.007b.com/breastfeeding_public.php)



## Part 2. Revision of anatomy and physiology of lactation

Although breastfeeding is a natural behaviour and is not a new phenomenon, the art of breastfeeding and consequently women's confidence in their ability to breastfeed are greatly reduced over times. This is partly due to the advanced technology and easy access to the breast milk substitutes as well as other societal factors related to the general perception of breast and its functions (which was discussed in the previous session in depth). To promote a successful pattern of breastfeeding, it is important that the anatomy of breast and physiology of lactation as well as the mechanism by which a baby feeds, are well understood. This enables health professionals to support and advice women in how to initiate and establish breastfeeding efficiently.

### Recommended reading list:

Coad, J., & Dunstall, M. (2012). *Anatomy and physiology for Midwives*. (3rd ed.). Edinburgh: Elsevier Churchill- Livingstone. (Chapter 16)

Geddes, D.T. (2007). Inside the lactating breast: the latest research and clinical implications. *Journal of Midwifery & Women's' Health* 3(2): 59-63. Abstract Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/17983992>

Pollard, M. (2017a) The breasts and lactation. In J. Rankin (Ed.), *Physiology in childbearing with anatomy and related biosciences* (4th ed.) (pp. 565-566). London: Bailliere Tindall.

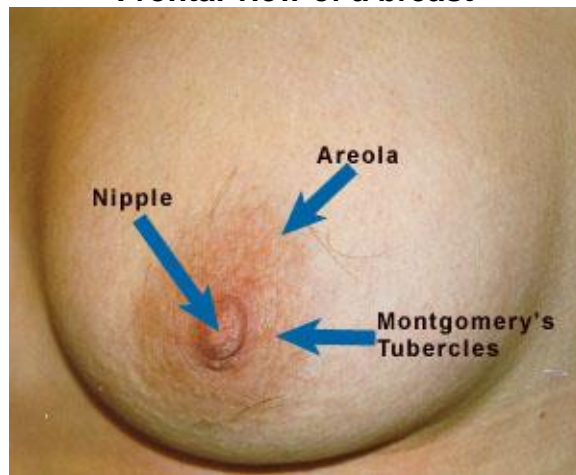
Pollard, M. (2017b) *Evidence-based Care for Breastfeeding Mothers: A Resource for Midwives and Allied Healthcare Professionals*. (2<sup>nd</sup> ed.). Oxon: Routledge.

Royal College of Midwives. (2001). Chapter 2. Understanding how a baby feeds, In *Successful breastfeeding* (3rd edition). Churchill Livingstone. London: 23-35.

Ramsay, D.T., Kent, J. C., Hartmann, R. L., & Hartmann, P.E. (2005). Anatomy of the lactating human breast redefined with ultrasound imaging. *Journal of Anatomy* 206: 525-534. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1571528/>

Vander, A., Sherman, J., & Luciano, D. (2013). *Human Physiology: the mechanisms of body function* (13<sup>th</sup> edition). McGraw-Hill. London: 673-675.

### Frontal view of a breast



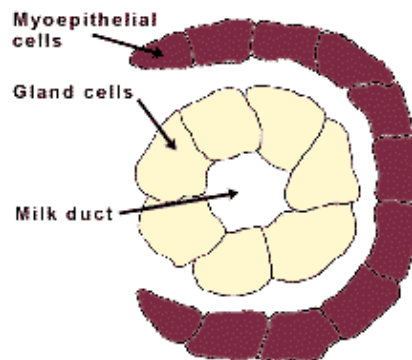
Describe location and function of each item below:

Milk duct:

Alveolus:

Discuss the structure of the human breast in light of the new ultrasonographic evidence. Draw an anatomical overlay of the breast and specify each section.

## A cross-section view of the alveolus



Complete the following sentences:

Breasts are mainly composed of.....tissue, but also of some .....tissue and are covered with skin. They are divided into about .....lobes which are separated by fibrous septa. Each lobe contains 20-40 lobules, composed of 10-100 alveoli. Each alveolus is lined by milk secreting cells, called .....These cells extract essential factors for milk production, from surrounding mammary blood circulation.

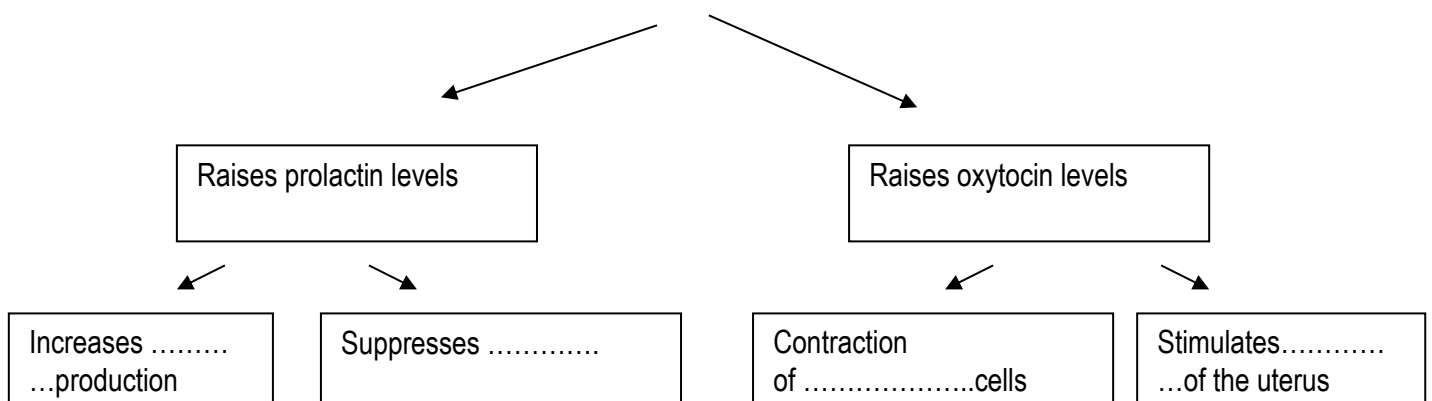
The hormone secreted by anterior pituitary gland:....., is essential for milk production. Although its levels rise during pregnancy, its action is blocked by placental hormones. After expulsion of placenta and reduction of.....and....., prolactin is released and activated.

Raised levels of prolactin, inhibit.....and can have contraceptive effect. Its effectiveness depends on the length and intensity of ..... and women are usually advised to use additional contraceptive methods.

.....is needed for milk ejection (or “let down”) and milk synthesis is under the influence of .....

Complete the following flowchart:

### Infant Suckling



**Reading the recommended references, please answer the following questions:**

1. Compare the two hormones oxytocin and prolactin in terms of their sources of secretion, stimulus, target cells and their final effect in the lactation process.
2. List changes to the breasts during pregnancy.
3. Sonja's baby is one day old and she is worried that her breasts are too small to be able to breastfeed. What is your answer to her concern?
4. Explain how sometimes milk ejection occurs when breastfeeding mothers hear their babies awaken and cry.



### Part 3. Health benefits of breastfeeding

By the third day after the birth, colostrum changes in appearance and becomes more like milk, although for it to completely convert to milk, it may take about 10 to 14 days. The composition of maternal milk is unique not only in its nutritional content but also in its anti-infection protective role. The milk composition is different between individual mothers and even for the same mother it may vary at different times of the day. It is difficult to measure the amount of breast milk production, however it is shown that the milk is produced according to infant demand.

#### Recommended reading list:

Ballard, O., & Morrow, A.L. (2013) Human Milk Composition: Nutrients and Bioactive Factors. [online] last accessed 16/07/19 from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3586783/>

Coad, J., & Dunstall, M. (2012). *Anatomy and physiology for Midwives*. (3rd ed.). Edinburgh: Elsevier Churchill- Livingstone. (Chapter 16) First Steps Nutrition Trust (2017) Breastmilk and breastfeeding: A Simple Guide [online]. Retrieved from: [https://static1.squarespace.com/static/59f75004f09ca48694070f3b/t/5a5a3bdf24a6949edb834d8d/1515863011590/Breastfeeding\\_guide\\_for\\_web+ Oct 20 17.pdf](https://static1.squarespace.com/static/59f75004f09ca48694070f3b/t/5a5a3bdf24a6949edb834d8d/1515863011590/Breastfeeding_guide_for_web+ Oct 20 17.pdf)

Medline Plus. (2015). *Breastfeeding* [Online] Retrieved from: <https://medlineplus.gov/breastfeeding.html>

Pollard, M. (2017) The breasts and lactation. In J. Rankin (Ed.), *Physiology in childbearing with anatomy and related biosciences* (4th ed.) (pp. 565-566). London: Bailliere Tindall.

Truswell, A.S. (2003). *ABC of Nutrition* (4<sup>th</sup> Edition), BMJ books: 24-25.

Verralls, S. (1993) *Anatomy & Physiology Applied to Obstetrics* (3<sup>rd</sup> ed.). London: Churchill Livingstone.

Womensheath.gov (USA). (2017) Breastfeeding: why breastfeeding is important [online]. Retrieved from: <http://www.womenshealth.gov/breastfeeding/breastfeeding-benefits.html>

**Using the above literature, complete following exercises:**

Please state if the following statements are false or true:

- Nutrients such as iron and calcium are lower but easier to absorb, in human milk than cow's milk. TRUE/FALSE

explain:

- Uterus involution is a physiological event and is not influenced by breastfeeding. TRUE/FALSE

explain:

- Women who breastfeed, may lose the excess weight gained during pregnancy faster than formula feeding mothers. TRUE/FALSE

explain:

- Sudden Infant Death Syndrome (SIDS) is not different in breastfed babies compared to formula fed babies. TRUE/FALSE

explain:

- Breastfed babies are more likely to suffer from diarrhoea, ear infection or chest infection. TRUE/FALSE

explain:

List at least two benefits of breast milk for the following:

Nutritional advantages for the babies

Public health related advantages (e.g. long term disease prevention) for babies

Anti-bacterial effects for babies

Benefits for mothers

Benefits for the wider society

Formula milk companies continuously try to replicate maternal milk. Describe why they have failed to achieve this and do you think if this is ever achievable?

**Table 1. Breast milk composition compared with cows' milk and a modified infant formula (All per 100 ml)<sup>1</sup>.**

	Human* (mature)	Cows' (full cream, unfortified)	A modified milk formula** (powder diluted as directed)
Energy (kcal)	70	67	67
Protein (total) (g)	1.1	3.5	1.5
Casein (%protein)	40%	80%	40%
Carbohydrate (g)	7.4	5.0	7.2
(Lactose is the main carbohydrate)			
Fat	4.2	3.7	3.6
Saturated fat (%fat)	46%	66%	44%
Linoleic (%fat)	7-11%	3%	17%
Sodium (mmol)	0.6	2.2	0.71
Calcium (mg)	35	120	49
Phosphorus (mg)	15	95	28
Iron (mg)	0.075	0.050	0.8
Vitamin C (mg)	3.8	1.5	6.9
Vitamin D (µg)	0.8	0.15	1.1

\*The composition of breast milk varies considerably with stage of lactation, between individuals, and with maternal nutrition

\*\*Mean of Cow and Gate premium and SMA Gold.

<sup>1</sup>Table is adapted from: TRUSWELL AS, 2003. *ABC of Nutrition (4<sup>th</sup> Edition)*, BMJ books: 25.

**Table 2. Descriptive comparison of nutritional and other protective factors in mother's milk with formula milk<sup>2</sup>**

#### COMPARISON OF HUMAN MILK AND FORMULA

NUTRIENT FACTOR	BREAST MILK CONTAINS	FORMULA CONTAINS	COMMENT
<b>Fats</b>	Rich in brain- building omega 3s, namely DHA and AA -Automatically adjusts to infant's	-No DHA -Doesn't adjust to infant's needs -No cholesterol -Not completely absorbed	Fat is the most important nutrient in breastmilk; the absence of cholesterol and DHA, vital nutrients for

	needs; levels decline as baby gets older -Rich in cholesterol -Nearly completely absorbed -Contains fat-digesting enzyme, lipase	-No lipase	growing brains and bodies, may predispose a child to adult heart and central nervous system diseases. Leftover, unabsorbed fat accounts for unpleasant smelling stools in formula-fed babies.
<b>Protein</b>	-Soft, easily-digestible whey -More completely absorbed; higher in the milk of mothers who deliver preterm -Lactoferrin for intestinal health -Lysozyme, an antimicrobial -Rich in brain-and-body- building protein components -Rich in growth factors -Contains sleep-inducing proteins	-Harder-to-digest casein curds -Not completely absorbed, more waste, harder on kidneys -No lactoferrin, or only a trace -No lysozyme -Deficient or low in some brain-and-body- building proteins -Deficient in growth factors -Does not contain as many sleep-inducing proteins.	Infants aren't allergic to human milk protein.
<b>Carbohydrates</b>	-Rich in lactose -Rich in oligosaccharides, which promote intestinal health	-No lactose in some formulas -Deficient in oligosaccharides	Lactose is considered an important carbohydrate for brain development. Studies show the level of lactose in the milk of a species correlates with the size of the brain of that species.
<b>Immune Boosters</b>	-Rich in living white blood cells, millions per feeding -Rich in immunoglobulins	-No live white blood cells-or any other cells. Dead food has less immunological benefit. -Few immunoglobulins and most are the	When mother is exposed to a germ, she makes antibodies to that germ and gives these antibodies to her infant via her milk.

		wrong kind	
<b>Vitamins and Minerals</b>	<ul style="list-style-type: none"> <li>-Better absorbed, especially iron, zinc, and calcium</li> <li>-Iron is 50 to 75 percent absorbed.</li> <li>-Contains more selenium (an antioxidant)</li> </ul>	<ul style="list-style-type: none"> <li>-Not absorbed as well</li> <li>-Iron is 5 to 10 percent absorbed</li> <li>-Contains less selenium (an antioxidant)</li> </ul>	Vitamins and minerals in breast milk enjoy a higher bioavailability- that is, a greater percentage is absorbed. To compensate, more is added to formula, which makes it harder to digest.
<b>Enzymes and Hormones</b>	<ul style="list-style-type: none"> <li>-Rich in digestive enzymes, such as lipase and amylase</li> <li>-Rich in many hormones: thyroid, prolactin, oxytocin, and more than fifteen others</li> <li>-Varies with mother's diet</li> </ul>	<ul style="list-style-type: none"> <li>-Processing kills digestive enzymes</li> <li>-Processing kills hormones, which are not human to begin with</li> <li>-Always tastes the same</li> </ul>	Digestive enzymes promote intestinal health. Hormones contribute to the overall biochemical balance and well-being of baby. By taking on the flavour of mother's diet, breast milk shapes the tastes of the child to family foods.
<b>Cost</b>	<ul style="list-style-type: none"> <li>-Around \$600 a year in extra food for mother</li> </ul>	<ul style="list-style-type: none"> <li>-Around \$1,200 a year</li> <li>-Up to \$2,500 a year for hypoallergenic formulas</li> <li>-Cost for bottles and other supplies</li> <li>-Lost income when baby is ill</li> </ul>	

Information Retrieved from: <https://www.askdrsears.com/topics/feeding-eating/breastfeeding/why-breast-is-best/comparison-human-milk-and-formula>



#### Part 4. Initiating a close relationship and feeding soon after birth.

The importance of skin to skin contact between mother and child, particularly in the first hour after birth, is well documented. As well as initiating a close relationship between the two, skin to skin enables the mother to respond to her baby's feeding cues and initiate feeding at the earliest opportunity.

Colson, S. (2012) Biological Nurturing: The Laid-back Breastfeeding Revolution. *Midwifery Today*, **Spring**, 9-11

LaLeche League GB (2017). Sleepy Baby- Why And What To Do. Retrieved from <https://www.laleche.org.uk/sleepy-baby-why-and-what-to-do/>

McAndrew, F., Thompson, J., Fellows, L., Large, A., Speed, M., & Renfrew, M.J. (2012) Infant feeding survey 2010. Retrieved from: [http://doc.ukdataservice.ac.uk/doc/7281/mrdoc/pdf/7281\\_ifs-uk-2010\\_report.pdf](http://doc.ukdataservice.ac.uk/doc/7281/mrdoc/pdf/7281_ifs-uk-2010_report.pdf)

Moore, E.R etal. (2012) Skin to skin contact for mothers and their healthy newborn infants (Review). *Cochrane Collaboration* **5**, 1-21.

National Institute for Health and Clinical Excellence. (2017) Intrapartum care for healthy women and babies. Retrieved from: <https://www.nice.org.uk/guidance/cg190>

Odent, M. (2002) The First Hour Following Birth: Don't Wake The Mother! *Midwifery Today*, **Spring**, 9-12.

Phillips, R. (2013) The Sacred Hour: Uninterrupted Skin-to-Skin Contact Immediately After Birth. *Newborn and Infant Nursing Reviews*, **13**, 67-72

Redshaw, M., Hennegan, J., & Kruske, S. (2014) Holding the baby: Early mother-infant contact after childbirth. *Midwifery*, **30**, e177-e187.

UNICEF. (2017). *Guide to the UNICEF UK Baby Friendly Initiative Standards*. (2<sup>nd</sup> ed.). Retrieved from: <https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2014/02/Guide-to-the-Unicef-UK-Baby-Friendly-Initiative-Standards.pdf>

UNICEF. (2017) Baby Friendly Initiative: Skin to skin contact. Retrieved from: <http://www.unicef.org.uk/BabyFriendly/News-and-Research/Research/Skin-to-skin-contact/>

Walsh, D., & Downe, S. (2010) *Essential Midwifery Practice: Intrapartum Care*. Oxford: Wiley-Blackwell

**Using the sources of literature above, please answer the following questions:**

Discuss when, and for how long, skin to skin should be initiated after birth.

List the benefits of skin to skin for both mother and baby.

What factors can hinder skin to skin contact in the hour following birth and how the midwife can overcome these?

Explain why it is essential that a well mother and baby remain together.

Explain when immediate skin to skin after birth may not be appropriate.

Discuss why skin to skin contact soon after birth helps mothers establish a first successful breastfeed.

Explain what is meant by the term 'responsive feeding'.

List the feeding cues a hungry baby may exhibit



## Part 5. Positioning and Attachment

The aim of this section is to establish an understanding of a correct positioning of the infant to the breast in order to optimise breastfeeding success. This is very important, particularly at the first few days after the birth. It is believed that a lack of appropriate attachment may lead to sore and cracked nipples. The advice on attachment and positioning should be given with a great deal of sensitivity and caution as some women may feel that they are failing if they don't get it right immediately.

### Recommended reading list:

Baston, H., & Hall, J. (2017). *Midwifery Essentials, Vol 4: Postnatal*. (2<sup>nd</sup> ed.). Edinburgh: Elsevier.

Best Beginnings. (2008). *From bump to breastfeeding: following real mothers' stories to find out how* [DVD]. Retrieved from:  
<https://www.bestbeginnings.org.uk/watch-from-bump-to-breastfeeding-online>

Johnson, R., & Taylor, W. (2010). *Skills for Midwifery Practice*. (3<sup>rd</sup> ed.). Churchill Livingstone, Edinburgh.

GOV.UK. (2016). *NHS Choices - Breastfeeding: positioning and attachment*. Retrieved from: <http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/breastfeeding-positioning-attachment.aspx>

Macdonald S and Magill-Cuerden J (Eds.). (2017). *Mayes' midwifery : a textbook for midwives*. (15<sup>th</sup> ed.). Edinburgh: Bailliere Tindall.

Marshall, J.E., & Raynor, M.D. (Eds.). (2014). *Myles Textbook for Midwives*. (16<sup>th</sup> ed.). Edinburgh: Churchill Livingstone.

Marshall, J., Baston, H., & Hall, J. (2017). *Midwifery Essentials: Infant Feeding*. (2<sup>nd</sup> ed.). Edinburgh: Elsevier

Mayo Clinic.(n.d.). *Breastfeeding positions*. Retrieved from:  
<http://www.mayoclinic.org/healthy-lifestyle/infant-and-toddler-health/multimedia/breast-feeding/sls-20076017?s=1>

Newman, J. (2017). *Can you tell when a baby's latch is good?* Retrieved from:  
<http://ibconline.ca/latch-quiz/>

Pollard, M. (2017) Breastfeeding practice and problems. In J. Rankin (Ed.), *Physiology in childbearing with anatomy and related biosciences* (4th ed.) (pp. 577-586). London: Bailliere Tindall.

Pollard, M. (2017) *Evidence-based Care for Breastfeeding Mothers: A Resource for Midwives and Allied Healthcare Professionals*. (2<sup>nd</sup> ed.). Oxon: Routledge.

The Royal College of Midwives. (2001). *Successful breastfeeding* (3<sup>rd</sup> ed.). London: Churchill Livingstone.

Using the references above, as well as watching the breastfeeding dvd, identify the false and true statements, below:

**The signs of correct attachment are:**

1. Baby's mouth is wide open and lips are around the areola and the nipple, not just the nipple. TRUE/FALSE  
why does this matter?

2. More areola is taken in with the top lip than the lower lip. TRUE/FALSE  
why does this matter?

3. It is painful. TRUE/FALSE  
why does this matter?

4. Baby's lower lip is turned out and chin is close to the breast. TRUE/FALSE  
why does this matter?

5. You can hear clicking or sucking noises. TRUE/FALSE  
why does this matter?

6. The nipple is flattened or inverted.  
why does this matter?

TRUE/FALSE

7. There are enough wet and dirty nappies (5-6 nappies from day 3-4).  
why does this matter?

TRUE/FALSE



## Part 6. Support for breastfeeding locally.

What infant feeding support is available in your community placement area?

Midwife-led groups, breastfeeding cafes/drop-ins, peer supporters providing one-to-one/telephone/group support, NCT/LLL/other groups? **Document below.**

Link this information to your locality study for the *Health and Psychosocial Aspects of Pregnancy* module.

## Year 1: Clinical skills.

This workbook should be used in conjunction with the assessment of practice booklet and the clinical skills inventory booklet as an additional source of supporting evidence.

This is specifically related to the following sections:

- Clinical skills inventory p14: Skills related to the activity of eating and drinking.
- Infant Feeding Essential Skills Cluster
- Assessment of practice documentation: Postnatal experience - Care for and monitor women during the puerperium - offering the necessary evidence based advice and support on baby and self care: performance outcomes a, b, and d.



LO 1. 3-4, 13,16

### Clinical Practice:

- Practice positioning and attachment, using a doll. Discuss the essential steps with a friend/classmate. **Use *Breastfeeding Observation Checklist template* as an aide memoir (Appendix 2, page 62).**
- Observe initiation of breastfeeding for a mother and her baby when you are in the clinical area. **Complete *Clinical Practice 1 Form: Breast Feeding Observation Checklist* (page 15-17).**
- Discuss positioning and attachment with your mentor and take opportunities to observe supporting women in this task. When you feel more confident, with the supervision of your mentor, support and advice a new mother to breastfeed her baby. **Complete *Clinical Practice 2 Form: Teaching positioning and attachment to a mother* (page 18-19).**
- Discuss the hand expression of breast-milk with your mentor. **Complete *Clinical Practice 3 Form: Teaching Hand Expression* (page 20-21) when you are ready.**
- Observe and participate and when you are ready undertake ***Clinical Practice 4 Form: Teaching of formula feed preparation and sterilization of equipment* (page 22-23).**
- Most maternity units have an infant feeding adviser. If there are any sessions in your unit for essential feeding information, try to attend with permission. Record them on the **Clinical Practice Summary Form (page 5).**

### **Clinical Practice 1. Clinical skills record.**

Please record your initial clinical experience of infant feeding, below. (A minimum of 5 entries (3 breastfeeding and 2 formula feeding) is required).

	Date	Significant feature and action taken	Midwife signature
1.			
2.			
3.			

4.			
5.			

## Clinical Practice 2: Breastfeeding Observation Form



LO 3

### Observing a breastfeed

The aim of this form is to facilitate accurate, close observation of a breastfeed, as a learning exercise on positioning and attachment and hand expression **prior to undertaking clinical practice**. It is important for you and your mentor to allow plenty of time to carry out the exercise. You should aim to observe a complete breastfeed, from before the start of the feed until after it is concluded.

### Beginning of the Feed

1. Describe the appearance of the nipple(s) and areola(e) before the start of the feed. (Note particularly the shape of the nipple and areola and whether the nipple is centrally positioned).

.....

.....

2. How does the mother hold the baby to bring her/him to the breast?

.....

.....

3. How does she encourage the baby to turn towards the breast? Is it by turning:  
Her/his head .... or her/his body.... towards her?

4. Describe what the baby does when approaching the breast. What do you notice about:

Her/his arms and hands

.....

The angle of her/his head

.....

Her/his mouth

.....

Her/his tongue

.....

Her/his mood

.....

### **During the feed**

5. Describe the mother's body posture. Do any areas appear tense?

.....

6. Which parts of the body are touching the mother's body (i.e. her trunk)?

Chest .... ☐ Hips/tummy.... ☐ Thighs/knees... ☐ Other..... ☐

7. Do the baby's knees point in the same direction as her/his nose? Yes... ☐ No...  
☐ If not, where is her/his body twisted?

At the neck... ☐ At the waist... ☐ Somewhere else.... ☐

8. Which parts of the baby's face are: touching her/his mother's breast during the feed?

Nose ... ☐ Lips ... ☐ Chin .... ☐

9. Describe the appearance of the baby's:

Top lip

.....

Lower lip

.....

## Cheeks

.....

10. Is any of the mother's areola visible? Yes.... ☐ No.... ☐ If so, where do you see more of it?

More by the baby's top lip... ☐ More by the bottom lip... ☐ None is visible... ☐

11. Does the baby appear to let go or pull away during the feed? Yes... ☐ No .... ☐

12. Is there any movement of the mother's breast tissue or skin during the feed? Yes.... ☐ No..... ☐

If so, please describe it.....

13. How does the mother interact with her baby during the feed (e.g. eye contact, talking, stroking)?

.....

14. Does the baby suck: Constantly..... ☐ In bursts..... ☐  
If in bursts, are the gaps between bursts short (i.e. a few seconds).... ☐ Long (15 seconds plus) ..... ☐

15. How would you describe the baby's sucks? Rapid/short ☐ Slow/long ☐

Does the pattern change during the feed? Yes... ☐ No... ☐ If yes, how?

.....

### **End of the Feed**

16. Who ends the feed? Mother..... ☐ Baby..... ☐ How?

.....

17. Describe the appearance of the nipple(s) and areola(e) immediately after the feed.  
Note particularly any changes in colour or shape.

.....

18. How does the mother feel about the feed? Does she report any discomfort? What is her impression of how the baby experienced the feed?

.....

.....

Additional observations:

.....

.....

.....

.....

**Clinical Practice 3: Teaching positioning and attachment to a mother**

Student Name..... Cohort .....

Level of Supervision: Direct

It is important for you and your mentor to allow plenty of time to carry out the exercise. You should aim to observe and participate in a number of complete breastfeeds, before undertaking this practice.

<b>Section A – Underpinning Knowledge – Positioning and Attachment</b>		
<b>Is the student able to:</b>	<b>√ or X</b>	<b>Mentor comments, signature and date</b>
<b>Demonstrate understanding of the importance of breastfeeding &amp; ability to discuss it with the mothers?</b>		
<b>Demonstrate a good knowledge of anatomy and physiology of lactation and is able to communicate it with women?</b>		
<b>Demonstrate understanding of the principles of positioning and attachment of the baby to the breast: is able to assist in supporting a mother to position her baby to the breast using these principles?</b> <u>Principles of Positioning</u> <ul style="list-style-type: none"><li>▪ Head and body in line</li><li>▪ Held close to mother</li><li>▪ Nose opposite nipple</li><li>▪ Head free to tilt back</li><li>▪ Position sustainable for both</li></ul> <u>Enabling effective Attachment</u> <ul style="list-style-type: none"><li>▪ Wait for gape</li><li>▪ Tongue down</li><li>▪ Lead with chin (maintaining extension of head)</li></ul> <u>Effective Attachment</u> <ul style="list-style-type: none"><li>▪ Chin touching breast</li><li>▪ Mouth wide open</li><li>▪ Lower lip turned back</li></ul>		

<ul style="list-style-type: none"> <li>▪ Cheeks full and rounded</li> <li>▪ If visible, more areola seen above top lip</li> <li>▪ Slow, rhythmic suckling with pauses</li> <li>▪ Feeding is pain free</li> </ul>		
<b>Recognise factors that encourage good milk supply and good milk transfer?</b>		
<b><u>Section B – Information giving and communication skills</u></b>		
<b>Is the student developing skills in educating and supporting a mother to attach her baby at the breast through:</b>	√ or X	<b>Mentor comments, signature and date</b>
<b>- explaining why effective positioning and attachment are important</b>		
<b>- establishing what the mother already knew?</b>		
<b>- explaining what constitutes effective positioning and attachment:</b> <ul style="list-style-type: none"> <li>▪ Accurately?</li> <li>▪ Using simple language?</li> <li>▪ In a logical sequence?</li> <li>▪ Using a 'hands off' approach?</li> </ul>		
<b>- Making good use of leaflets/doll/model breasts etc?</b>		
<b>- Checking the mothers understanding?</b>		
<b>- using appropriate body language?</b> <ul style="list-style-type: none"> <li>▪ Posture</li> </ul>		

▪ Eye contact and facial expressions		
<b>Documenting the event appropriately?</b>  <b>- description of baby feeding progress in midwifery notes accurately</b>  <b>- documenting every feed on the Baby Feed Chart (if used within the maternity unit)</b>		
Additional comments by Mentor		

Student  
Signature.....  
.....



## Clinical Practice 4: Teaching a mother hand expression

Student Name..... Cohort .....

Level of Supervision: Direct

<b><u>Section A – Underpinning knowledge – Hand Expression</u></b>		
<b>Is the student able to describe:</b>	<b>√ or X</b>	<b>Mentor comments, signature and date</b>
The relevant breast anatomy?		
Ways to stimulate the Oxytocin reflex? <ul style="list-style-type: none"> <li>▪ Having baby nearby</li> <li>▪ Gentle breast massage, warm compress</li> <li>▪ Use of something to remind mum of baby</li> </ul>		
How the mother can locate milk ducts? <ul style="list-style-type: none"> <li>▪ Cup breast</li> <li>▪ Use her thumb to walk down the breast or backward from nipple</li> <li>▪ Stop when a different texture is felt</li> </ul>		
How to express breast milk? <ul style="list-style-type: none"> <li>▪ Place finger(s) and thumb opposite each other and over breast-milk ducts.</li> <li>▪ Compress and release (+/- pressing back first).</li> <li>▪ Repeat, maintaining a rhythm of press and release</li> <li>▪ Avoid sliding fingers on skin or pinching nipple</li> </ul> <p><i>If more than a few drops are required:</i></p> <ul style="list-style-type: none"> <li>▪ Watch for drips to become squirts, then to subside</li> <li>▪ Rotate fingers and thumb around breast and repeat press and release</li> </ul>		

<ul style="list-style-type: none"> <li>▪ Move to other breast when rotation fails to bring renewed flow</li> </ul>		
<b><u>Section B – Information giving and communication skills</u></b>		
<b>Did the student:</b>	√ or X	<b>Mentor comments, signature and date</b>
Explain why/when hand expression may be useful/necessary?		
Establish what the mother already knew?		
Explain the procedure <ul style="list-style-type: none"> <li>▪ Accurately?</li> <li>▪ Using simple language?</li> <li>▪ In a logical sequence?</li> <li>▪ Using a 'hands off' approach</li> </ul>		
Explain the correct procedure for storing expressed breast milk, in a fridge/freezer, and using safely in the future?		
Make good use of leaflets/doll/knitted breast etc?		
Check the mothers understanding?		
Use appropriate body language? <ul style="list-style-type: none"> <li>▪ Posture</li> <li>▪ Eye contact and facial expressions</li> </ul>		
Document the event appropriately?		
Additional comments by Mentor		

Student Signature.....



## Clinical Practice 5. Artificial/Formula feeding

Although our intention is to promote breastfeeding, a considerable proportion of women request advice on artificially feeding their babies and the making of bottle feeds. Health professionals are required to give advice and support to all women with their choices. Reading the following leaflet will help you understand the principles of how to safely reconstitute powdered milk as well as explaining different methods of sterilising feeding equipment. The latter is useful for breastfeeding women who tend to use their expressed milk as well.

Crawley, H., & Westland, S. (2018) Infant Milks in the UK: A Practical Guide for Health Professionals. First Steps Nutrition Trust.

[https://static1.squarespace.com/static/59f75004f09ca48694070f3b/t/5afc637a575d1f6202db70b0/1526489986355/Infant\\_Milks\\_May\\_2018.pdf](https://static1.squarespace.com/static/59f75004f09ca48694070f3b/t/5afc637a575d1f6202db70b0/1526489986355/Infant_Milks_May_2018.pdf)

Department of Health & Food Standards Agency (2015). *NHS Guide to bottlefeeding - How to prepare infant formula and sterilise feeding equipment to minimise the risks to your baby*. Retrieved from:

[http://www.unicef.org.uk/Documents/Baby\\_Friendly/Leaflets/guide\\_to\\_bottle\\_feeding.pdf](http://www.unicef.org.uk/Documents/Baby_Friendly/Leaflets/guide_to_bottle_feeding.pdf)

Department of Health. (2015). *NHS Choices: Bottle Feeding Advice [online]*. Retrieved from:

<http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/bottle-feeding-advice.aspx>

Student Name..... Cohort .....

Level of Supervision: Direct

<b><u>Sterilisation of infant feeding equipment</u></b>			
	<b>Is the student able to demonstrate and communicate to parents:</b>	<b>✓ or X</b>	<b>Mentor comments, signature and date</b>
a)	An understanding of the reasons why sterilising of feeding equipment is necessary for newborns?		
b)	Knowledge of different methods of sterilising, equipment used and correct techniques for use, and how to advise women on them?		

c)	Knowledge of sources of information on sterilising baby feeding equipment for parents (leaflets, videos, online resources, etc)?		
----	--	--	--

<b>Formula milk feeding</b>			
	<b>Is the student able to demonstrate and communicate to parents:</b>	<b>√ or X</b>	<b>Mentor comments, signature and date</b>
a)	An understanding of the benefits and risks of formula feeding?		
b)	Knowledge of the different types of formula milk and what is meant by modified cow's milk?		
c)	the correct preparation and making up of a formula feed?		
d)	the correct storage of formula milk in hospital and at home?		
e)	the correct technique for bottle feeding a newborn baby?		
f)	awareness of the amount/frequency of milk required to maintain a healthy baby (without being too prescriptive)?		
g)	Knowledge of sources of information on artificial feeding for parents (leaflets, videos, online resources, etc)?		
Additional comments by Mentor:			

Student signature .....

## Year Two Learning Outcomes

The main objectives of this section are to provide information on common complications of breastfeeding and how to manage breastfeeding mothers and their babies in special circumstances. The learning outcomes include:

- Understand common breast complications and their appropriate management
- Provide advice and support for women and babies with complications that may affect their breastfeeding pattern
- Provide support and advice to women in initiation and maintenance of breastfeeding under special circumstances
- Establish knowledge and information in relation to support mechanisms and referral systems available for breastfeeding mothers within the area

### Theory:

Part 1. Common breastfeeding concerns and complications and how to deal with these problems

Part 2. Mother and babies with special conditions

### Clinical skills:

- Feeding infants who require special care:
  - Expressed Breast Milk (EBM): Hand expression or using a pump and mother's milk storage
  - Cup feeding
  - Formula feeding
- Undertake a Breastfeeding History (Appendix 3) as part of the assessment and diagnosis of breastfeeding problems
- Policies and procedures
- Referrals and alternative support systems



## Year 2 Theory

**Part 1. Common breastfeeding concerns and complications and how to deal with these**

### Recommended Reading list

Department of Health. (2015). *NHS Choices – Breastfeeding Problems*.  
Last accessed 19/07/19 from: <http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/problems-breastfeeding.aspx>

Marshall, J., Baston, H., & Hall, J. (2017). *Midwifery Essentials: Infant Feeding*. (2<sup>nd</sup> ed.). Edinburgh: Elsevier

National Institute for Health and Clinical Excellence. (2015). *Routine postnatal care of women and their babies* (Last updated Feb 2015). [Online] Retrieved from: <https://www.nice.org.uk/Guidance/CG37>

National Institute for Health and Clinical Excellence (2017) Clinical Knowledge Summaries: Breastfeeding problems-management. Retrieved from: <https://cks.nice.org.uk/breastfeeding-problems>

Pollard, M. (2017) Breastfeeding practice and problems. In J. Rankin (Ed.), *Physiology in childbearing with anatomy and related biosciences* (4th ed.) (pp. 577-586). London: Bailliere Tindall.

The Royal College of Midwives. (2001). *Successful breastfeeding* (3rd ed.). London: Churchill Livingstone.

**Complete the following table:**

<b>Problem</b>	<b>possible causes &amp; symptoms</b>	<b>advice/action</b>
1. Cracked or sore nipple		
2. Engorgement		
3. Mastitis		
4. Insufficient milk supply		
5. Inverted nipple		
6. Painful breast		



## Part 2. Mothers and babies with special conditions:

The focus of this section is to acquire information on how to help and support women and babies in special circumstances, to initiate and continue breastfeeding.

These conditions include:

- Premature babies
- Babies with Jaundice
- Diabetic mothers
- Multiple birth
- Cleft lip and palate
- HIV

### Recommended reading list:

Best Beginnings (2014) Breastfeeding twins or more [Video file]. Retrieved from: <https://www.youtube.com/watch?v=qmQmNDgpR9U>

Breastfeeding Twins and Triplets (2018). Tandem feeding twins. Retrieved from: <https://breastfeedingtwinsandtriplets.co.uk/2018/01/31/tandem-feeding-twins/>

Hurst, N.M. (2007). The 3 M's of breastfeeding the pre-term infant. *Journal of Perinatal Neonatal Nursing* 21 (3): 234-239.

Kvist, L., Larsson, B., Hall-Lord, M. (2006). A grounded theory study of Swedish women's experiences of inflammatory symptoms of the breast during breastfeeding. *Midwifery* 22(2):137-46. Abstract retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/16356608>

La Leche League International (2019) *Breastfeeding info A-Z* [Online] Retrieved from: <https://www.llli.org/breastfeeding-info/>

La Leche League International (2019) *Breastfeeding babies with special needs* [Online] Retrieved from: <https://www.llli.org/breastfeeding-info/special-needs/>

Lang, S. (2002). *Breastfeeding special care babies*. (2<sup>nd</sup> ed.). London: Baillière Tindall, (Chapters 1, 6 and 7)

National Institute for Health and Clinical Excellence. (2015). *Routine postnatal care of women and their babies* (Last updated Feb 2015). [Online] Retrieved from: <https://www.nice.org.uk/Guidance/CG37>

NCT (2017) Tongue-tie (ankyloglossia) in babies. Retrieved from: <https://www.nct.org.uk/parenting/tongue-tie>

Pollard, M. (2017) Breastfeeding practice and problems. In J. Rankin (Ed.), *Physiology in childbearing with anatomy and related biosciences* (4th ed.) (pp. 577-586). London: Bailliere Tindall.

Smith, A. (2013). Jaundice in the breastfed baby. Retrieved from:  
<http://www.breastfeedingbasics.com/articles/jaundice-in-the-breastfed-baby>

UNICEF. (2010). Summary of research relating to HIV and breastfeeding. Retrieved from:  
[https://www.unicef.org/aids/files/hiv\\_WHO\\_guideline\\_on\\_HIV\\_and\\_IF.pdf](https://www.unicef.org/aids/files/hiv_WHO_guideline_on_HIV_and_IF.pdf)

York University and World alliance for Breastfeeding action (WABA). (2006). *Gender, child survival and HIV/AIDS: From evidence to policy*. Joint statement based on a conference held in Toronto, Canada, May 2006. [Online]. Retrieved from:  
[http://www.waba.org.my/pdf/JointStatement\\_hiv.pdf](http://www.waba.org.my/pdf/JointStatement_hiv.pdf)

Answer the following questions:

1. What is your advice to women whose babies have jaundice. What is the importance of giving colostrum to babies who are at higher risk of jaundice?
2. Describe challenges that mother of premature babies may face and name three advantages of mothers' milk for premature babies.

3. Read women's experiences of feeding a baby with cleft-palate on the *La Leche League International* website (see list above) and describe how you can advise and support women in this position.

4. Can "Human Immunodeficiency Virus" (HIV) be transmitted to babies through mother's milk. Discuss the risks and benefits of breastfeeding for HIV infected (or carrier) mothers in different societal settings.

5. The ability of a baby to feed effectively depends on the co-ordination of which three reflexes?

6. What maternal and other conditions may predispose babies to hypoglycaemia?

7. List four alternative and supplementary methods of feeding and when and why you might use them.

8. True or False:

a. Preterm babies are able to cup feed before being mature enough to suckle the breast. TRUE/FALSE

From what gestational age is efficient breastfeeding possible?  
explain:

b. A baby with short frenulum (tongue tie or Ankyloglossia) may have difficulty sucking at the breast. TRUE/FALSE

explain:

c. Babies who are at risk of hypoglycaemia should be breastfed as soon as possible after the birth and then given feed regularly (i.e. every 2-3 hours).

TRUE/FALSE

explain:

**Year 2, Clinical skills****Clinical Practice 1. Clinical Experience Log**

Please summarise your clinical experience of feeding infants with special conditions below. This include premature and small for gestational age babies, babies with jaundice, hypoglycaemia, tongue tie, cleft-palate, etc.

	Date	condition/summary of care and support	Midwife signature
1.			
2.			
3.			
4.			
5.			



## Clinical Practice 2. Competencies

As an additional source of supporting evidence, this is specifically related to the following sections:

- **Clinical skills inventory:** Page 14: Skills related to the activity of eating and drinking.
- **Assessment of practice documentation:** Postnatal experience: Care for and monitor women during the puerperium offering the necessary evidence based advice and support on baby and self care: performance outcomes a, b, and d.
- **Infant Feeding Essential Skills Cluster (ESC).**

### Recommended reading list:

NHS (2016). *NHS Choices: expressing breastmilk* [Online], last accessed 6/9/16, at: <http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/expressing-storing-breast-milk.aspx>

Department of Health. (2010). *Off to the Best Start* (leaflet). Retrieved from: [http://www.unicef.org.uk/Documents/Baby\\_Friendly/Leaflets/otbs\\_leaflet.pdf](http://www.unicef.org.uk/Documents/Baby_Friendly/Leaflets/otbs_leaflet.pdf)

**Local infant feeding policies and guidelines from your home/companion NHS trust.**

Competency (under indirect supervision): is the student able to demonstrate		Student's comments	Mentor's comments, signature and date
<b>1. Hand expressing</b>			
a)	How often a mother should be advised to express her breast milk (by hand or pump), if separated from her baby, in order to maintain her milk supply?		
b)	How to teach a mother how to prepare her breasts prior to expressing breast milk?		
c)	How to teach a mother the correct technique to hand express milk?		
d)	The correct storage conditions for breast milk at home, in fridge/freezer?		

e)	The correct procedures for storage of expressed breast milk on the maternity unit?		
----	--	--	--

<b>Competency (under indirect supervision): can the student</b>		<b>Student's comments</b>	<b>Mentor's comments, signature and date</b>
<b><u>2. Expressing using a breastpump</u></b>			
a)	Identify and locate all the equipment required to operate the breast pump, and demonstrate its assembly and operation?		
b)	Demonstrate awareness of guidelines for preventing cross infection via the electronic breast pumps and their collecting sets, and apply this to practice.		
c)	Identify common problems with breast pumps, amend or report to appropriate place for help		
d)	Advise women how to continue to express successfully when they are discharged home?		

<b>Competency (under indirect supervision): can the student demonstrate</b>		<b>Student's comments</b>	<b>Mentor's comments, signature and date</b>
<b><u>3. Alternative methods of feeding</u></b>			
a)	How to safely cup feed a baby, and demonstrate this technique to a mother when appropriate?		
b)	How to safely pipette feed a baby and demonstrate this technique to a mother when appropriate?		
c)	An understanding of the reasons why cup and/or pipette feeding may be necessary?		

<b>Competency (under indirect supervision): can the student demonstrate</b>		<b>Student's signature/comments</b>	<b>Mentor's signature</b>
d)	Knowledge of the different types of formula that may be used to feed pre-term babies, why and how it may be given?		
e)	How to calculate a baby's nutritional requirements?		

<b>Competency (under indirect supervision): can the student demonstrate</b>		<b>Student's signature/comments</b>	<b>Mentor's signature</b>
<b><u>4. Policies, referral and support systems</u></b>			
a)	Knowledge of and compliance with infant feeding policy within the maternity unit?		
b)	Knowledge of and application of the maternity unit's hypoglycaemia policy for newborn babies?		
c)	Knowledge of the infant feeding coordinator/s and their roles within the maternity unit?		
d)	Knowledge of the infant feeding initiatives within the area?		
e)	Knowledge of support systems available for breastfeeding mothers in the area (NCT, LLL, peer supporters, support groups)?		

## **Year Three Learning Outcomes**

The focus of this section will be on the public health aspects of breastfeeding, specifically related to maternal nutrition and health as well as infant growth. Worldwide breastfeeding agenda and policies in promotion of breastfeeding will also be explored in light of current evidence. It is also aimed to encourage discussion of controversial research evidence in relation to some elements of breastfeeding promotion such as the use of dummies and infant IQ.

### **Learning Outcomes**

- Consolidate clinical practice skills and become adept in observing breastfeeding and taking a breastfeeding history (appendix 2 &3) in order to manage problem situations
- Understanding global and local strategies in promotion of breastfeeding
- Basic understanding of nutritional requirements of breastfeeding mothers and discussion around use of medication and alcohol during breastfeeding
- Understanding underpinning evidence in support of breastfeeding and promotion of public health
- Cognisant of the evaluation and audit processes of the BFI 10 Steps to Successful Breastfeeding and Seven point plan for sustaining breastfeeding in communities

### **Theory**

#### **Part 1: Nutritional and dietary support and advice during breastfeeding**

- Nutritional requirements of breastfeeding mothers
- WHO infant growth charts
- Alcohol and breastfeeding
- Medication and breastfeeding

#### **Part 2: Local and global breastfeeding promotion**

- Breastfeeding Promotion and support
- World Health Organisation Formula advertising policy
- WHO breastfeeding global strategy

### **Clinical skills**

Consolidation of Clinical Practice skills 2, 3, & 4

Critical use of evidence and implementing breastfeeding policies into practice within hospital and community settings

## Year 3 Theory

### Part 1: Nutritional and lifestyle advice during breastfeeding

#### Recommended reading list

The Breastfeeding Network. (2014). Drugs in breastmilk. Retrieved from:  
<https://www.breastfeedingnetwork.org.uk/detailed-information/drugs-in-breastmilk/>

The Breastfeeding Network. (2014) Drugs Factsheets. Retrieved from:  
<https://www.breastfeedingnetwork.org.uk/drugs-factsheets/>

Department of Health. (2016) *NHS Choices: Healthy lifestyle and breastfeeding*. Retrieved from:  
<http://www.nhs.uk/conditions/pregnancy-and-baby/pages/lifestyle-breastfeeding.aspx>

Department of Health. (2015). *NHS Choices: Have a healthy diet in pregnancy*. Retrieved from:  
<http://www.nhs.uk/conditions/pregnancy-and-baby/pages/healthy-pregnancy-diet.aspx>

Mattison, D. (2013) *Clinical Pharmacology in Pregnancy*. London: Elsevier.

National Institute of Health and Clinical Excellence. (2014). Public health guidance PH11: Maternal and Child Nutrition (updated): Guidance for midwives, health visitors, pharmacists and other primary care services to improve the nutrition of pregnant and breastfeeding mothers and children in low income households. Retrieved from:  
<http://www.nice.org.uk/guidance/PH11>

Royal College of Obstetrics and Gynaecologists (2015) *Alcohol and Pregnancy*. Retrieved from:  
<https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-alcohol-and-pregnancy.pdf>

World Health Organisation. (2001) Healthy eating for pregnancy and breastfeeding Retrieved from:  
<http://www.euro.who.int/document/e73182.pdf>

World Health Organisation. (2006). *The WHO Child Growth Standards*. Retrieved from:  
[http://www.who.int/childgrowth/standards/cht\\_wfa\\_girls\\_p\\_0\\_6.pdf](http://www.who.int/childgrowth/standards/cht_wfa_girls_p_0_6.pdf)  
[http://www.who.int/childgrowth/standards/cht\\_wfa\\_boys\\_p\\_0\\_6.pdf](http://www.who.int/childgrowth/standards/cht_wfa_boys_p_0_6.pdf)

Answer following questions:

Are the new infant growth charts specific to breastfed babies? Describe their limitations. (e.g. infant weight loss in early days after the birth, term or pre-term babies).

Outline basic dietary advice to breastfeeding mothers.

Can alcohol be transferred to babies through breast milk? Summarise the general advice in regard to alcohol and breastfeeding.

Where can you find specific information in relation to medication and its passage to breast milk?



## Part 2: Local and global breastfeeding promotion

### Recommended reading list

Department of Health. (2011). *NHS Choices breastfeeding help and support*.

Retrieved from: <http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/breastfeeding-help-support.aspx>

World Health Organisation (1981). *International Code of Marketing of Breast-milk Substitutes*. from:

[http://www.who.int/nutrition/publications/code\\_english.pdf](http://www.who.int/nutrition/publications/code_english.pdf)

World Health Organisation (2003) Global strategy for infant and young child feeding. [Online] Last accessed 6/9/16 from:

[http://www.paho.org/english/ad/fch/ca/GSIYCF\\_infantfeeding\\_eng.pdf](http://www.paho.org/english/ad/fch/ca/GSIYCF_infantfeeding_eng.pdf)

Answer the following questions:

1. Name two initiatives suggested by Department of Health that may be helpful for promotion of breastfeeding.
2. Summarise some of the steps recommended by WHO strategy (2002) in protection of babies' right to be breastfed (e.g. roles and responsibilities of governments, society and formula milk companies).

3. According to the International Code of Marketing of Breast milk Substitutes, indicate which of the following statements are true or false:

Advertising of breast milk substitutes, feeding bottles or teats, in health care units or to the public are allowed. TRUE/FALSE

Free samples can be given to mothers/ pregnant women or to the hospitals by the formula milk companies. TRUE/FALSE

Free or subsidised supplies to hospitals are allowed. TRUE/FALSE

Materials for mothers and for health professionals should carry clear and full information and warnings. TRUE/FALSE

Companies can give gifts to health workers. TRUE/FALSE

Free samples can be given to health workers for reasons other than evaluation or research at institutional level. TRUE/FALSE

There should be no pictures of babies or idealising images on infant formula labels. TRUE/FALSE

Explain why these matter:

### Year 3, Clinical skills

As an additional source of supporting evidence, this is specifically related to the following sections:

- Clinical skills inventory: Skills related to the activity of eating and drinking.
- Assessment of practice documentation: Postnatal experience
- Infant Feeding Essential Skills Cluster

Competency (under minimal supervision): the student is:		Student's comments	Mentor's comments, signature and date
<b><u>Health promotion and resources</u></b>			
a)	Fully cognisant of the <b>Baby Friendly Initiative Standards</b> and the evidence behind each step.		
b)	Able to facilitate the initiation, and effective positioning and attachment during breastfeeding and can state why this is important.		
c)	Able to confidently identify the indications and process for teaching hand expression.		
d)	Able to identify and manage common breastfeeding problems such as difficulties latching, soreness, poor milk supply, etc. (using Breastfeeding Observation and History Forms).		
e)	Able to identify relevant materials – leaflets, DVDs, online resources, etc - to promote and support breast feeding practices, and gives them routinely to parents.		
f)	Able to facilitate the educational needs of a mother opting to artificially feed her infant.		



### Year 3. Reflection on breastfeeding and evidence

**Reading the following articles (and on line responses) as well as using your own literature search skills and critical analysis of evidence, discuss the following issues:**

#### **1. IQ and breastfeeding:**

Using the following articles (with an emphasis on the conclusion and implications) as well as reading some of the responses to the first article (on the same web-page), discuss your views on the link between IQ and breastfeeding.

Belfort, M.B., Rifas-Shiman, S.L., Kelenman, K.P. et al. (2013). Infant Feeding and Childhood Cognition at Ages 3 and 7 Years: Effects of Breastfeeding Duration and Exclusivity *JAMA Pediatr.* 2013. Retrieved from:  
<http://archpedi.jamanetwork.com/article.aspx?articleid=1720224>

Der, G., Batty, G.D., & Deary, I.J. (2006). Effect of breast feeding on intelligence in children: prospective study, sibling pairs analysis, and meta-analysis. *BMJ*; 333:945 (4 November), doi:10.1136/bmj.38978.699583.55. Retrieved from: <http://www.bmj.com/cgi/content/full/333/7575/945>

Kramer, M.S., et al. (2008). Breastfeeding and Child Cognitive Development: New Evidence from a Large Randomized Trial. *Arch Gen Psychiatry* 2008;65:578 Retrieved from:  
<http://archpsyc.jamanetwork.com/article.aspx?articleid=482695>

McCartney, M. (2007). Observations: Medicine and the Media: Mixed messages over breast milk and brainy babies. *BMJ* 2007;335:1074 doi:10.1136/bmj.39401.651146.0F Retrieved from:  
<http://www.bmj.com/content/335/7629/1074.full>

## 2. Use of dummies:

As part of breastfeeding promotion, the use of dummies is not recommended in the first month. However, the following evidence (2), which was widely publicised by media, created a huge amount of confusion for general public and health professionals. Reading the literature below, summarise your views on the robustness of this evidence and its relevance to practice of breastfeeding promotion.

Blair, S., Hauck, F., Horne, R., L'Hoir, M., Moon, R (2014) Dummy (pacifier) use and sudden infant death syndrome: Potential advantages and disadvantages. Vol 50, Issue 3, page 170-174. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/24674245>

Jaafar, S.H., Ho, J.J., Jahanfar, S., Angolkar, M. (2016) Effect of restricted pacifier use in breastfeeding term infants for increasing duration of breastfeeding. Cochrane Database of Systematic Reviews. Issue 8. DOI: 10.1002/14651858.CD007202.pub4. Retrieved from: <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD007202.pub4/epdf/standard>

Li, D., Willinger, M., Petittii, D.B., Odouli, R., & Hoffman, H.J. (2005). Use of a dummy (pacifier) during sleep and risk of sudden infant death syndrome (SIDS): population based case-control study. BMJ. 2006 Jan 7;332(7532):18-22..

Moon, R.Y., Tanabe, K.O., Yang, D.C., Young, H.A., Hauck, F.R. (2012). "Pacifier Use and SIDS: Evidence for a Consistently Reduced Risk". Maternal Child Health J. 16(3)609-14 Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/21505778>

Further information can be found at:

Lullaby Trust (Formerly The Foundation for Study of Infant Deaths). Fact Sheet 7. Dummies. Retrieved from: <http://www.lullabytrust.org.uk/file/Fact-Sheet-Dummies.pdf>



### 3. Breastfeeding and Public health (short and long term health benefits):

Kries, R., Koletzko, B., Sauerwald, T., Mutius, E., Barnert, D., Grunert, V., & Voss, H. (1999) Breast feeding and obesity: a cross sectional study. *BMJ*, **319**:147-150. Accessed 19/07/19 from: <http://www.bmj.com/content/319/7203/147>

Soltani, H., Dickinson, F., Payne, K., & Kalk, J. (2008) Breastfeeding practices and views among diabetic women: a retrospective cohort study. *Midwifery*, **24**, 461-479. Retrieved from: <http://shura.shu.ac.uk/277/1/fulltext.pdf>

Further articles can be found by searching the Baby Friendly pages below:

<https://www.unicef.org.uk/babyfriendly/news-and-research/baby-friendly-research/infant-health-research/>

<https://www.unicef.org.uk/babyfriendly/news-and-research/baby-friendly-research/maternal-health-research/>

Reading above references and other related literature, briefly discuss the following issues:

a. Breastfeeding and risk of being overweight or obese and developing diabetes in the offspring.

b. Breastfeeding pattern in the general population as well as in diabetic women.

**c. Describe the complications that diabetic mothers experience when breastfeeding.**

#### 4. Scenarios:

**Using the knowledge that you have acquired through this workbook and other related learning materials within this course, please choose at least three of the following scenarios and work through them.**

1. Kelly's baby is 5 days old and she thinks the milk has not come through yet. What do you need to do to assess the situation and advise accordingly?
2. Jane had planned to breastfeed but due to complications during the birth, she did not manage to breastfeed her baby who is eight days now. The baby has been bottle fed up to now, and Jane is feeling better and really wants to breastfeed now. Is it too late for her to start breastfeeding, what is your advice?
3. Helen's baby is 2 weeks old and she feels her breasts are engorged. There is a red patch on one of her breasts and she feels a bit hot. Could this be mastitis? What would be the best advice and support for Helen?
4. Julie's first baby is 3 days old and one of her nipples is very sore and cracked. She is wondering if it is best to stop feeding from the affected breast for a while until the discomfort is settled. What is your advice and help in this situation?
5. Sam was born at 28 weeks. What would be your advice to his mother in choosing a method of feeding (assuming she has not decided yet) and if she decided to breastfeed how do you support and help her with her decision?
6. Sonja has been breastfeeding her 2nd baby who is 2 weeks old, but she thinks her son is not growing well and is constantly hungry. Her mother in law suggested a top up feed. How do you advice and help her to feel confident in her feeding choice.
7. Sally was born 1 week ago and her birth weight was 3400g. She has lost 300g in weight and her mother is worried that she has not been very keen on breast. What would be your advice and support to Sally's mum?
8. Julie has given birth to twins at 37 weeks. She is very keen to breastfeed but she is worried that she may not be able to feed them both successfully. What advice and support would you give her?

**Scenarios:**

## **5. Caseload reflection:**

**Reflect on three women from your caseload, including both women who breastfed and women who bottle fed or mixed fed, in relation to their chosen infant feeding method and your role in supporting them with this. Describe some of the challenges they have faced and how you have used your knowledge and experience to support them, including practical help and information you have given them.**

**1.**

**2.**

**Caseload reflection (continued):**

**3.**

## **Appendix 1**

### **The New Baby Friendly Initiative Standards**

#### **Stage 1**

Building a firm foundation

- Having written policies and guidelines to support the standards
- Plan an education programme that will allow staff to implement standards according to their role.
- Have processes for implementing, auditing and evaluating the standards.
- Ensure that there is no promotion of breast milk substitutes, bottles, teats or dummies in any part of the facility or by any staff.

#### **Stage 2**

An educated workforce

- Educate staff to implement the standards according to their role and service provided.

#### **Stage 3**

Parents experiences of maternity services

- Support pregnant women to recognise the importance of breast feeding and early relationships for the health and wellbeing of their baby.
- Support all mothers and babies to initiate a close relationship and feeding soon after birth.
- Enable mothers to get breast feeding off to a good start.
- Support mothers to make informed decisions regarding the introduction of food or fluids other than breast milk.
- Support parents to have a close and loving relationship with their baby.

Parents experiences of neonatal units

- Support parents to have a close and loving relationship with their baby.
- Enable babies to receive breast milk and to breast feed when possible.
- Value parents as partners in care.

Parents experiences of health visiting/ public health nursing services

- Support pregnant women to recognise the importance of breast feeding and early relationships for the health and wellbeing of their new baby.
- Enable mothers to continue breast feeding for as long as they wish.
- Support mothers to make informed decisions regarding introduction of food or fluids other than breast milk.
- Support parents to have a close and loving relationship with their baby.

Parents experiences of children's centres or equivalent early years settings in Wales, Scotland and Northern Ireland

- Support pregnant women to recognise the importance of breast feeding and early relationships for the health and wellbeing of their baby.
- Protect and support breast feeding in all areas of the service.
- Support parents to have a close and loving relationship with their baby.

ref: <http://www.unicef.org.uk/BabyFriendly/>

Retrieved from:

<https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2014/02/Guide-to-the-Unicef-UK-Baby-Friendly-Initiative-Standards.pdf>

The new standards incorporate the previous standards as specified in the Ten Steps to Successful Breastfeeding and Seven Point Plan for Sustaining Breastfeeding in the Community but update and expand them to fully reflect the evidence base on delivering the best outcomes for mother and babies in the UK.

### **UNICEF UK Baby Friendly Initiative - Ten Steps To Successful Breastfeeding**

Every facility providing maternity services and care for newborn infants should:

1. Have a written breastfeeding policy that is routinely communicated to all health workers.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers to initiate breastfeeding within a half an hour of birth.
5. Show mothers how to breastfeed and how to maintain a lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming in, allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

ref: <http://www.unicef.org.uk/BabyFriendly/>

### **UNICEF UK Baby Friendly Initiative - Seven Point Plan for Sustaining Breastfeeding in the Community**

1. Have a written breastfeeding policy that is routinely communicated to all healthcare staff.
2. Train all staff involved in the care of mothers and babies in the skills necessary to implement the policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Support mothers to initiate and maintain breastfeeding.
5. Encourage exclusive and continued breastfeeding, with appropriately-timed introduction of complementary foods.
6. Provide a welcoming atmosphere for breastfeeding families.
7. Promote co-operation between healthcare staff, breastfeeding support groups and the local community.

ref: <http://www.unicef.org.uk/BabyFriendly/>

## **UNICEF UK Baby Friendly Initiative - Learning outcomes for university courses:**

By the end of their training students should:

### **Basic knowledge and skills:**

#### **1. Understand the importance of breastfeeding, and the consequences of not breastfeeding, in terms of health outcomes.**

- the evidence-based health benefits, short- and long-term, of breastfeeding for mothers and babies
- the risks associated with formula feeding, both full and partial
- the differences between breastmilk and formula milk
- the value of colostrum
- current recommendations regarding the duration of exclusive breastfeeding.

#### **2. Have developed an in-depth knowledge of the physiology of lactation and be able to apply this in practical situations.**

- external anatomy of the breast; normal variations of the size and shape of breast, nipple and areola
- relevant internal anatomy of the breast (with discussion of new evidence in this area)
- normal changes in the breast during puberty, pregnancy and lactation
- the role of the pituitary gland and the action of the lactational hormones, including their effects on behaviour
- the prolactin receptor theory
- the role of the Feedback Inhibitor of Lactation (FIL) in the maintenance of lactation
- the significance of the fat gradient of a breastfeed
- the importance of early feeding/expression and frequent, effective drainage of the breast to ensure adequate ongoing milk production.

#### **3. Be able to recognise effective positioning, attachment and suckling and to empower mothers to develop the skills necessary for them to achieve these for themselves.**

- the difference between positioning and attachment
- definition and recognition of effective attachment and its importance for effective drainage of the breast
- the mechanism of suckling the suck/swallow cycle and recognition of effective feeding
- the principles of positioning for breastfeeding, and why these matter
- communication skills; effective teaching techniques, including identification of suitable resources (for example, visual aids) for teaching positioning and attachment.

#### **4. Be able to demonstrate knowledge of the principles of hand expression and have the ability to teach these to mothers.**

- why mothers should be enabled to learn hand expression of breastmilk
- how hand expression differs from mechanical (pump) expression and reasons why it may be preferable
- the technique of hand expression

- ways to assist the milk ejection reflex
- communication skills; effective teaching techniques including identification of suitable resources (for example, visual aids) for teaching hand expression.

### **Initiation and management of normal breastfeeding:**

#### **5. Understand the potential impact of delivery room practices on the well-being of mother and baby, and on the establishment of breastfeeding in particular.**

- the innate reflexes, responses and abilities of the normal newborn baby
- the physiological changes that occur at birth and the needs of the neonate for warmth, food and maternal contact
- the role and importance of a period of unhurried skin contact between mother and baby at birth
- the importance of breastfeeding as a means of promoting and assisting the adaptation of the infant to extra-uterine life.
- the impact of medications that may be used during labour on the condition and behaviour of the neonate
- the role of the midwife in facilitating early mother-infant interaction and breastfeeding
- the role of the midwife in ensuring the safety and well-being of the mother and baby in the immediate postnatal period.

#### **6. Understand why it is important for mothers to keep their babies near them.**

- the benefits of mothers keeping their babies near for early recognition of the infant's feeding cues and therefore for demand feeding
- the relevance of mothers keeping their babies near for the prevention of infection
- the relevance of mothers keeping their babies near for the prevention of Sudden Infant Death Syndrome
- the information that must be shared with parents to enable informed decisions and safe practice around adult-infant bed sharing.

#### **7. Understand the principle of demand feeding and be able to explain its importance in relation to the establishment and maintenance of lactation.**

- the principle of supply and demand and its importance in promoting and ensuring adequate breastmilk production
- the nature and recognition of infant feeding cues
- the importance of explaining demand feeding to parents.

#### **8. Be equipped to provide parents with accurate, evidence-based information about activities that may have an impact on breastfeeding.**

- the nature and basis of different attitudes to breasts and breastfeeding and of how these may be influenced
- the potential impact of mother-infant separation, restricted feeding practices, supplementation and the use of teats and dummies on breastfeeding and infant health
- the definition and importance of informed choice

- communication skills, including the importance of giving full, unbiased information in a non-judgmental way.

### **Breastfeeding beyond the newborn period:**

#### **9. Understand the importance of exclusive breastfeeding for the first six months of life and possess the knowledge and skills to enable mothers to achieve this.**

- the reasons for the current recommendations regarding the duration of exclusive breastfeeding
- the impact of supplementary feeds on successful breastfeeding
- The common situations that lead to the introduction of supplementary feeds and how these may be avoided
- the incremental benefits associated with how exclusively and for how long breastfeeding is practised
- the importance of getting breastfeeding off to a good start.

#### **10. Understand the importance of timely introduction of complementary foods and of continuing breastfeeding during the weaning period, into the second year of life and beyond.**

- the reasons for the current recommendations regarding the appropriate age for the introduction of solid food
- the value of longer-term breastfeeding to the health and well-being of both mother and baby.

#### **11. Understand the importance of community support for breastfeeding and demonstrate an awareness of the role of community-based support networks, both in supporting women to breastfeed and as a resource for health professionals.**

- the importance of support for women in enabling both initiation and continuation of breastfeeding
- the existing sources of support for breastfeeding families, both professional and voluntary, and how to access them
- the role of voluntary sector breastfeeding counsellors/supporters
- the role and value of support groups and peer support schemes
- the importance of effective communication and handover of care between agencies, (for example, between midwife and health visitor).

### **Special situations and common complications**

#### **12. Be able to support mothers who are separated from their babies (for example, on admission to SCBU or when returning to work) to initiate and/or maintain their lactation and to feed their babies optimally.**

When separation occurs from birth:

- the importance of breastmilk for all babies, including those who are preterm, ill or compromised
- the importance of early breastmilk expression in initiating and establishing lactation
- how to optimise lactation through frequent expression, breast 'switching', dual expression
- the value of skin contact/kangaroo mother care for the baby's well-being and for stimulating lactation and mothering

- the unique role of hand expression in the first few days.

Ongoing care and later separation:

- the importance of frequent, effective breastmilk expression in maintaining breastmilk production
- the value of skin contact whenever mother and baby are together
- methods of stimulating/assisting the oxytocin reflex
- the ongoing value of hand expression and the appropriate use of breast pumps
- ways to help mothers re-establish/induce lactation
- storage of breastmilk, both for home use and for baby in SCBU.

**13. Be able to demonstrate a knowledge of alternative methods of infant feeding and care that may be used where breastfeeding is not possible, and that will enhance the likelihood of a later transition to breastfeeding.**

- the alternative feeding methods available when babies are unable to breastfeed
- the benefits and risks of alternative feeding methods
- how to feed a baby safely using these methods
- the benefits of skin-to-skin contact during feeding.

**14. Identify babies who require a managed approach to feeding and describe appropriate care.**

- identification and appropriate management of babies who cannot demand feed (for example, premature, small for gestational age, infected)
- recognition and appropriate (pro-active) management of healthy, term newborns who are reluctant to feed
- recognition and management of the baby who is not receiving an adequate breastmilk intake
- the management of neonatal jaundice in the breastfed baby
- acceptable clinical indications for supplementation
- the prevention and management of breast refusal.
- the definition, diagnosis, prevention and management of neonatal hypoglycaemia
- the management of the breastfed baby of a diabetic mother.

**15. Know about the common complications of breastfeeding, how these arise, and how women may be helped to overcome them.**

- the normal appearance of the lactating breast
- aetiology, recognition and appropriate management of nipple trauma, blocked duct, engorgement, mastitis, and candida infection
- diagnosis and management of insufficient milk production in the mother
- ways to help mothers to re-establish or induce lactation, including managing supplementary feeding.

**16. Understand the limited number of situations in which exclusive breastfeeding is not possible and be able to support mothers in partial breastfeeding or artificial feeding in these circumstances.**

- the few, rare conditions of the mother and/or infant in which breastfeeding is contra-indicated
- the safe preparation and feeding of infant formula

- the importance of practices such as skin-to-skin contact and rooming-in and demand feeding for all babies.

**The Baby Friendly Initiative and the International Code:**

**17. Appreciate the main differences between the WHO International Code of Marketing of Breastmilk Substitutes and the relevant current UK legislation, and understand the relevance of the Code to their own work situation.**

- explanation of the International Code and the UK law in relation to the advertising of breastmilk substitutes, bottles, teats and dummies
- key stipulations of the code
- how to ensure that the practices of individual health -are staff, and the workplace environment, are in line with the code.

**18. Be thoroughly conversant with the Baby Friendly Initiative best practice standards, understand the rationale behind them and what the Baby Friendly Initiative seeks to achieve through them, and be equipped to implement them in their own workplace, with appropriate support from colleagues.**

- how the Ten Steps/Seven Points work together to enable women to initiate and maintain breastfeeding
- the background to the Baby Friendly Initiative and its value as an accreditation scheme
- evidence for the effectiveness of the Baby Friendly Initiative as a public health intervention
- the importance of being fully acquainted with the individual workplace's breastfeeding policy
- the student's individual role and responsibility in implementing best practice related to breastfeeding.

Retrieved from: <https://www.unicef.org.uk/babyfriendly/accreditation/universities/>

## Appendix 2

### Breast feeding Observation template: Aide Memoir

BREASTFEEDING OBSERVATION CHECKLIST							
Signs that breastfeeding going well	√	Signs of difficulty	√	Signs that breastfeeding going well	√	Signs of difficulty	√
<b>BEFORE ATTACHMENT:</b>				<b>DURING THE FEED:</b>			
<b>Mother's position</b>				<b>Observations</b>			
Mother relaxed and comfortable		Mother not relaxed e.g. shoulders tense		Baby's chin touches the breast		Baby's chin does not touch the breast	
Breast hanging or lying naturally		Breast squashed or restricted		Baby's mouth wide open		Baby's mouth pursed lips pointed forward	
Easy access to nipple/areola		access to nipple/areola restricted		Baby's cheeks soft and rounded		Baby's cheeks tense or pulled in	
Hair/clothing do not restrict mother's view		Mother's view restrict hair/clothing		Baby's lower lip turned outwards		Baby's lower lip turned in	
<b>Baby's position</b>				If visible, more areola seen above baby's top lip		More areola seen below bottom lip (or equal)	
Baby's head and body in line		Baby has to twist head and neck to feed		Breasts remain round during feed		Breast looks stretched or pulled	
Baby held close to mother's body		Baby not held close to mother's body		Signs of milk release (e.g. leaking)		No sign of milk release	
Baby's whole body supported		Only shoulders or head supported		<b>Baby's behaviour</b>			
Baby's nose opposite nipple		Baby's lower lip/chin opposite nipple		Baby stays attached to the breast		Baby slips off the breast	
<b>Attaching to the breast</b>				Baby calm and alert at the breast		Baby restless or fussy	
Baby reaches or roots for the breast		No response to the breast		Slow, deep sucking bursts with pauses		Rapid shallow sucks	
Mother waits for		Mother does		No noise other		Smacking or	

baby to open mouth wide		not wait for baby to 'gape'		than swallowing		clicking sounds	
Baby opens mouth wide		Baby does not open mouth wide		Rhythmic swallowing seen		Occasional or no swallowing seen	
Mother brings baby swiftly towards the breast		Mother does not move baby in swiftly		<b>AT THE END OF THE FEED:</b>			
Baby's chin/lower lip/tongue touches breast first		Baby's top lip touches the breast first		Baby releases the breast spontaneously		Mother takes baby off the breast	
				Breasts appear soft		Breasts are hard or inflamed	
				Nipple is same shape as before feed		Nipple is wedge shaped or squashed	
				Skin of nipple/areola appears healthy		Nipple/areola is sore or cracked	

### Appendix 3 - Breastfeeding History Form

This adapted History Form can be successfully used in conjunction with the Breast feeding Observation checklist (Appendix 2) to aid the diagnosing of suspected problems related to feeding during the puerperium.

**DETAILS:** Mother's Name/ID..... Baby's name/ID.....

Baby's DOB..... Baby's Age: .....

#### REASON FOR CONSULTATION:

#### 1. CURRENT FEEDING SITUATION:

<b>BREASTFEEDS</b>	<b>Comment</b>	<b>SUPPLEMENTS (if any)</b>	<b>Comment</b>
Approximate number of feeds in 24hrs:		What type (water/formula/solids/others):	
Average length of feeds (mins):		Frequency and quantity:	
Longest gap between feeds:		Age when started:	
One breast or both?		At whose suggestion?	
		How given (bottle/cup/other):	
<b>MILK EXPRESSION (if any)</b>		<b>DUMMY/SOOTHER (if any)</b>	
Frequency of expression:		How often used and for how long at a time:	
Quantities expressed:		Age started:	
		At whose suggestion?	
<b>SEPARATION OF MOTHER &amp; BABY</b>			
Where does baby sleep?			
By day:			
By night:			
Hours mother away from baby (e.g. at work):			

## 2. BABY'S CURRENT HEALTH & BEHAVIOUR

<b>FEEDING BEHAVIOUR</b>	<b>Comment</b>
Does baby demand feeds?	
Any vomiting?	
Behaviour during feeds:	
<b>GENERAL HEALTH</b>	
Weight: Centile:	
Length: Centile:	
Head Circumference (HC): Centile:	
Urinary output (frequency, colour):	
Stools (frequency, colour, consistency):	
Illnesses to date:	
Mother's feelings about baby's health & behaviour:	

## 3. THE EARLY POSTNATAL PERIOD

<b>CONDITION AT BIRTH</b>	<b>comment</b>	<b>EARLY POSTNATAL CARE</b>	<b>comment</b>
APGAR @ 1, 5, & 10 MINS		Skin to skin contact begun at	mins
Weight: Centile:		Duration:	
Length: Centile:		Reason for ending (or why not possible):	
HC: Centile:		Age at first breath:	
		Rooming-in:	

		If not – reason why not?	
		Any Supplements given (type, when/what/how):	
Mothers experience of early postnatal period:			

#### 4. PREGNANCY AND BIRTH

<b>PREGNANCY</b>	<b>comment</b>	<b>LABOUR &amp; BIRTH</b>	<b>comment</b>
Duration of pregnancy:		Nature of Labour (normal/induced/augmented):	
Multiple Pregnancy?		Type of birth:	
Progress of Pregnancy:		Analgesia, anaesthesia (if any):	
Breastfeeding discussed?		Estimated blood loss: Placenta intact?	
Mother's experience of pregnancy:		Mother's experience of labour & birth:	

#### 5. MOTHER'S HEALTH

	comment		comment
Age:		Smoker?	
First Language:		Alcohol consumption:	
Disabilities:		Current family planning method:	
Allergies/Dietary needs:		Health & medication history:	
Current medication(caffeine consumption?)			

## 6. PREVIOUS INFANT FEEDING EXPERIENCE

Number & Ages of previous babies:	Nature of breastfeeding experience (complications/supplements):
How many breastfed:	Mother's feelings about these experiences:

## 7. FAMILY & SOCIAL SITUATION

Household consists of (other family members):	Support from partner for breastfeeding:
Mothers working/intending to return to work?	Support from other family members for breastfeeding:
Mother's occupation:	Help with child care:
Working hours:	Mother's feelings about her situation:
Financial concerns (if any):	

**Appendix 4:**  
**A selection of online infant feeding resources**

**Association of Breastfeeding Mothers UK:**

<http://abm.me.uk/>

**Best beginnings:**

<http://www.bestbeginnings.org.uk/>

**Breastfedbabies.org** (Health Promotion Agency for Northern Ireland (HPA))

<http://www.breastfedbabies.org/>

**Breastfeeding Basics (USA):**

<http://www.breastfeedingbasics.com/>

**Breastfeeding Network:**

<https://www.breastfeedingnetwork.org.uk/>

**Jane's breastfeeding Resources:**

<http://www.breastfeeding.co.uk/>

**Lactation Consultants Great Britain:**

<http://www.lcgb.org/>

**La Leche League GB:**

<http://www.laleche.org.uk/>

**National Childbirth Trust:**

<http://www.nct.org.uk/parenting/feeding>

**NHS Choices (DoH):**

<http://www.nhs.uk/Conditions/pregnancy-and-baby/Pages/why-breastfeed.aspx>

**UNICEF Baby Friendly Initiative:**

<http://www.unicef.org.uk/babyfriendly/>

**womenshealth.gov (US Dept of Health and Human Services):**

<http://www.womenshealth.gov/Breastfeeding/>

