Management of Common Breastfeeding Problems:
What Primary Care doctors need to know and practice?

Sunday Afternoon Symposium
co-organised by HKMA and PCO (DH)

Dr Vinci MA
FHS (DH)
Self Learning Kit on Breastfeeding
http://bfkit.familyhealthservice.gov.hk/

Online version

Self Learning Kit on Breastfeeding for Health Professionals

Self Learning Kit on Breastfeeding for Health Professionals produced by DH (2011)

Supplementary Chapter on Mother Friendly Childbirth Care & Breastfeeding (2014)

Note: This website is best viewed with Chrome and Firefox.

Login Name: hkdu
Password: hufre5ab
Disclaimer: Declaration of interest

- There is NO affiliation with any organization
- There is NO competing financial and commercial interest, direct or indirect, in the subject matter or materials discussed in the presentation
Outline

1. Maternal Infections & Breastfeeding
2. Maternal Medications during Lactation
3. Milk stasis and Management
CAN A MOTHER CONTINUE BREASTFEEDING DURING AN INFECTIONOUS ILLNESS?
Scenario 1: An Infectious Disease

Mrs. Sun Tsz Yeuk

- Postnatal 13 days
- Exclusively breastfeeding her baby
- c/o low-grade fever & cough/runny nose for 1 day

- Preliminary diagnosis: URTI

Mrs. Sun asks you,

"Will I transmit my sickness to baby via breastmilk?"

"Do I need to withhold from breastfeeding him?"
What is your response?

A. Ask her to **stop** breastfeeding

B. Ask her to **separate** with baby, **pump and discard** her breastmilk until fully recovers

C. Ask her to **separate** with baby, but **feed** baby with **expressed breast milk**

D. Tell her there **may be a risk** of infecting the baby & ask her to **decide it by herself**

E. Advise her to **continue breastfeeding**, practice **hand hygiene** and wear a **surgical mask** when handling her baby
Clinical Approach

1. Make an accurate diagnosis of the maternal infection
   – Site of infection
   – Most likely organism
   – Possible mode of transmission
2. Assess risk of infecting the infant

- Transmission of infection through the close caring relationship between mother & infant (including the act of breastfeeding)
- Transmission of infection via breastmilk
- Estimated virulence of the organism
- Susceptibility of the infant (e.g. premature, sick babies)
- Potential severity of the condition
- Protection from breastfeeding / breastmilk
Clinical Approach

3. Management

– **Treatment** of maternal infection
  • *Most antibiotics are compatible with BF*
– **Prophylaxis** for the infant, if appropriate
– Advice on *infection control* measures
– Advice on *breastfeeding*
1. Mode of transmission
via breast milk?
via the act of breastfeeding?
Blood-borne Infections

• Absolute contraindication to BF in developed countries

• Examples: HIV and HTLV

• Strong evidence of transmission and associated with significant infant illness
Blood-borne Infections: Exceptions

• Hepatitis B carriers
  – Though HBsAg, HBV DNA detectable in breast milk
  – Studies showed no difference in sero-conversion rates between BF and non-BF infants

Source: Hill et al, 2002; Wang et al, 2003; Chen et al. 2013

“Breastfeeding of the infant by a HBsAg+ mother poses no additional risk for acquisition of HBV infection by the infant with appropriate administration of HB vaccine and HBIG”
Source: (AAP, 2009) (CDC, WHO)

• Hepatitis C carriers
  – No documented evidence that BF spreads HCV or HCV is transmitted by human breast milk (CDC, WHO)
**Droplet Infections** *(e.g. Seasonal Influenza)*

- Influenza virus binds to epithelial cell receptors on the upper respiratory tract
- Not transmitted via breast milk

*Safe to direct BF with face mask and hand hygiene*

**Airborne Infections** *(e.g. Open Pulmonary Tuberculosis)*

- The infective agent is transmitted via airborne particles
- Not transmitted via breast milk unless it is TB mastitis

*Act of breastfeeding may warrant temporary interruption of direct BF*

*But feeding expressed breast milk is safe*
Skin Infections in non-breast area
(e.g. Herpes simplex)
- The infective agent is transmitted via direct contact of skin lesion
- Not transmitted via breast milk
Safe to direct BF but avoid baby contact infected lesions

Skin Infections in breast area
(e.g. active herpetic breast lesions)
- Risk of transmission during DBF and expression
Temporary contraindication to BF
Stop direct BF, discard EBM until breast lesions are dried

Exception: Skin warts (Human Papilloma Virus)
- No data to suggest BM / BF is contraindicated
# What about Gastroenteritis?

## Mode of transmission: contact saliva, vomitus or stool

<table>
<thead>
<tr>
<th>Transmission via breast milk?</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission via act of direct breastfeeding?</td>
<td>Yes or No</td>
</tr>
</tbody>
</table>
| If there is chance of transmission via act of breastfeeding, is there any infection control measure to reduce chance of transmission? | - **Meticulous handwashing** before feedings or when having close contact with baby  
- **Clean soiled surfaces and clothing** reduces further spread of infectious agent |

**Conclusion:** continue direct BF with infection control measures
## 2. Infection Control Measures

<table>
<thead>
<tr>
<th>Mode of transmission</th>
<th>Infection control measure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Droplet</strong></td>
<td>Face mask and hand hygiene</td>
</tr>
<tr>
<td><strong>Airborne:</strong> open pulmonary TB</td>
<td>Mother-baby separation till</td>
</tr>
<tr>
<td></td>
<td>- 3 consecutive sputum smears negative</td>
</tr>
<tr>
<td></td>
<td>- 7 – 14 days’ anti-TB therapy</td>
</tr>
<tr>
<td></td>
<td>- Initiated INAH for infant</td>
</tr>
<tr>
<td><strong>Contact:</strong> no breast lesion</td>
<td>- Handwashing</td>
</tr>
<tr>
<td></td>
<td>- Cover the lesions</td>
</tr>
<tr>
<td></td>
<td>- Avoid fondling and kissing with oral lesions till crusted</td>
</tr>
<tr>
<td><strong>Contact:</strong> active breast lesion</td>
<td>Stop breastfeeding &amp; discard EBM until the lesions are dried</td>
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<td><strong>Contact:</strong> GE</td>
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<tr>
<td></td>
<td>- Clean soiled surfaces and clothing</td>
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Management of Breastfeeding During Maternal Infections: a Summary

Temporary Separation of Mother-Infant for the infectious period. Feeds the infant with expressed breastmilk

BF absolutely contraindicated

Suspend Feeding / Expression from 1 or both Infected Breast(s) until Non-infectious

Direct Breastfeeding with Infection Control Measures

slide used with courtesy of Dr Shirley Leung
Protection from breastfeeding / breastmilk

Does the baby have higher chance of being infected if breastfeeding is stopped?
Infants are born with an Immature Immune System

- **Innate immunity**
  - Immature barrier functions (e.g. skin, mucosa)
  - ↓ Phagocyte function
  - ↓ Complement cascade function
  - ↓ Natural killer cell activities

- **Adaptive immunity**
  - ↓ Cell-mediated immunity
  - ↓ Humoral immunity

Infants are More Susceptible to Severe Infections

Examples of Anti-Bacterial, Anti-Viral & Anti-Protozoan Bioactive Factors in Breast Milk

<table>
<thead>
<tr>
<th>Factors</th>
<th>Organisms Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifidus factors</td>
<td>Salmonella e; Shigellae; some E. Coli</td>
</tr>
<tr>
<td>Lactoferrin</td>
<td>E.Coli; Candida albicans</td>
</tr>
<tr>
<td>Lysozme</td>
<td>E.Coli; salmonella</td>
</tr>
<tr>
<td>Lactoperoxidase</td>
<td>E.Coli; Salmonella typhimurium</td>
</tr>
<tr>
<td>Receptor-like glycolipid / glycoprotein</td>
<td>Vibrio cholerae</td>
</tr>
<tr>
<td>Lipids (UFA/MG)</td>
<td>Herpes simplex; Influenza</td>
</tr>
<tr>
<td>$\alpha_2$-Macroglobulin protein</td>
<td>Influenza; Parainfluenza</td>
</tr>
<tr>
<td>$\alpha_1$-Antitrypsin</td>
<td>Rotavirus</td>
</tr>
<tr>
<td>Bile salt-stimulated lipase</td>
<td>Giardia lamblia; Entamoeba Histolytica; Trichomonas vaginalis</td>
</tr>
</tbody>
</table>

*slide used with courtesy of Dr Shirley Leung*
Micro-organisms in contact with & processed by Specialized Epithelial Cells in Mother’s GIT/RT

Antigenic Stimulation of Lymphocytes in Mucosa Associated Lymphoid Tissues (MALT) of GIT /RT

Chemokine-directed Migration of Effector B & T Lymphocytes to Mammary Glands

Micro-organism Specific Effector B&T Lymphocytes; Antibodies (sIgA, sIgM); Cytokines in Breast Milk

Image source: Google images
Slide used with courtesy of Dr Shirley Leung
Infant's Immature Immune System

Breast Milk

- Bioactive factors
- Immuno-modulating Factors
- Anti-inflammatory agents

Enhance the Development

Without causing significant inflammation

Supplement & Complement
The Evidence: UK Millennium Cohort Study

• Birth Cohort N = 15,890; Born 2000 – 2002

• **Outcome:** hospitalization for diarrhea and lower respiratory tract infection in first 8 months

Result

• Exclusive breastfeeding
  – Prevents 53% diarrhoea hospitalizations / month
  – Prevents 27% lower respiratory tract infection hospitalizations / month

• Partial breastfeeding
  – Prevents 31% diarrhoea hospitalizations / month
  – Prevents 25% lower respiratory tract infection hospitalizations / month

• The protective effect of breastfeeding for these outcomes wears off soon after breastfeeding cessation

Risk of Discontinuing Breastfeeding

• **Abrupt cessation of breastfeeding:**
  – **Milk stasis:** blocked ducts, mastitis, breast abscess
  – **Reduction in milk supply:** accumulation of FIL will cause reduction of milk production & mammary involution
  – **Permanent weaning:** since the baby may then not take the breast again

• **What about “Pump & Dump”?**
  – Assuming the mother can afford or has a breast pump or know how to express breastmilk?
  – Assuming the infant can have access to formula milk & know how to take a bottle or other supplementation methods?

• **Exposure of the infant to the risks of formula milk**

• **Infant devoid of the protective benefits of BF**

*Slide used with courtesy of Dr Shirley Leung*
References


For patients

• http://www.patient.co.uk/health/breast-feeding

CAN A MOTHER CONTINUE BREASTFEEDING WHILE TAKING MEDICATIONS?
Scenario 2: Use of an Antibiotic

• Mrs Sun is exclusively breastfeeding her 1-month-old baby. She suffers from urinary tract infection.

• You tell her you’d like to prescribe an antibiotic “Augmentin” for her.

She asks you, “Can I breastfeed my baby while taking this medicine?”

....... She thinks, “I’d rather not take this medicine & continue feeding him......”
What is your response?

A. Ask her to **stop breastfeeding** during the whole course of medication.

B. Ask her to **pump & discard** her breastmilk during the whole course of medication.

C. Tell her “**it may be ok** to continue breastfeeding, but please decide it yourself.”

D. Check **the drug package insert** on “Use in Lactation” before counseling her.

E. Check **updated references & resources** before counseling her.
Prescribing for a Lactating Mother

Clinical Assessment of the Mother

Is drug Treatment Necessary?

What is the Best Drug Choice(s) for the Mother?

Is it Safe to Use this Drug in this Mother-Infant Dyad?

slide used with courtesy of Dr Shirley Leung
AUGMENTIN®
(ampicillin/clavulanate potassium)

Nursing Mothers: Ampicillin-class antibiotics are excreted in the milk; therefore, caution should be exercised when AUGMENTIN is administered to a nursing woman.

Pediatric Use: Because of incompletely developed renal function in neonates and young infants, the elimination of amoxicillin may be delayed. Dosing of AUGMENTIN should be modified in pediatric patients younger than 12 weeks (3 months). (See DOSAGE AND ADMINISTRATION—Pediatric.)

Teratogenic effects: Pregnancy (Category B). Reproduction studies performed in pregnant rats and mice given AUGMENTIN at oral dosages up to 1,200 mg/kg/day, equivalent to 7,200 and 4,080 mg/m²/day, respectively (4.9 and 2.8 times the maximum human oral dose based on body surface area), revealed no evidence of harm to the fetus due to AUGMENTIN. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.
Is it safe to use this drug in this mother-infant?

1. Does the Drug Influence Milk Production?

2. How much of the Drug will be presented to the Infant via BF?

3. Let’s Check the Online Databases / References**

4. What is the Risk of Drug Effects on this Infant?

5. What should the Family Look Out for?
Is it safe to use this drug in this mother-infant?

1. Does the Drug Influence Milk Production?
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3. Let’s Check the Online Databases / References**
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Drugs that Affect Milk Production

May inhibit milk production:

• Bromocriptine
• Cabergoline
• Ergotamine
• Estrogens
• Progestins
• Pseudoephedrine

May stimulate milk production:

• Metoclopramide – not recommended as a galactagogue due to many side effects, e.g. depression
• Domperidone – recommended as a galactagogue (not penetrate blood-brain barrier)


display used with courtesy of Dr Shirley Leung
Is it safe to use this drug in this mother-infant?

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5. What should the Family Look Out for?
Amount of the Drug Presented to the Infant via BF

For most of the medication, only small amount of maternal medication passes to the infant

Diagram: Jennifer Thomas

Medication and Breastfeeding: Tips for Giving Accurate Information to Mothers
Majority of drugs are safe to BF

Dose in infant (mg/kg/day)

\[
\text{RID} (\%) = \frac{\text{Dose in infant (mg/kg/day)}}{\text{Dose in mother (mg/kg/day)}}
\]

Dose in mother (mg/kg/day)

• Bennett suggests a relative infant dose (RID) of less than 10% is probably safe

  (Bennett PN. Use of the monographs on drugs. Drugs and Human Lactation. 2\textsuperscript{nd} ed. Amsterdam: Elsevier;1996:67-74)

• The RID of the vast majority of drugs is <1%
Is it safe to use this drug in this mother-infant?

1. Does the Drug Influence Milk Production?

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5. What should the Family Look Out for?
Useful Resources / References

- LactMed: Drugs and Lactation Database [NIH, US] (App for tablets α/ν)  
- UKDILAS: Drugs in Lactation Advisory Service.  
  http://www.midlandsmedicines.nhs.uk/content.asp?section=6&subsection=17&pageIdx=1
- AAP American Academy of Pediatricians:  
  – The Transfer of Drugs and Other Chemicals Into Human Milk.  
Breastfeeding and Medication Q&A

Q. This lactating lady needs analgesics & antibiotics, should she be told to:
(a) Continue breastfeeding or
(b) Stop breastfeeding or
(c) Express & discard breastmilk while on these drugs?

Generally, most medications including paracetamol and most antibiotics are compatible with breastfeeding. You can refer to the following references:

- www.fhs.gov.hk
- Self Learning Kit on Breastfeeding for Health Professionals
  Chapter 7: Maternal illness, Medication Use and Diet During Lactation
- Lactmed, App
- Lactmed, US
- Drugs in Lactation Advisory Service, UK
LactMed

- US National Institutes of Health (NIH)
- A searchable database of drugs and other chemicals
- Peer reviewed, fully referenced, continually updated and a free service
- AAP American Academy of Pediatrics suggested that clinicians consult the LactMed database for the most up-to-date information on specific drugs for the lactating women.

The Transfer of Drugs and Therapeutics Into Human Breast Milk: An Update on Selected Topics. Hari Cheryl Sachs. Pediatrics Vol. 132 No. 3, 2013. e796 -e809 slide used with courtesy of Dr Shirley Leung
LactMed Search

Augmentin is acceptable to use during breastfeeding...
Restlessness, diarrhoea and rash occurring occasionally...
It is not a reason to discontinue breastfeeding.
UK Drugs in Lactation Advisory Service (UKDILAS)

• The Trent and West Midlands Medicines Information Centre
• Since October 1975, jointly staffed by 12 pharmacists
• Regular updates on “Evidence Links” & “BNF Sections”
• Provides services for all healthcare professionals, breastfeeding counsellors, La Leche League and other breastfeeding support organisations
UK Drugs in Lactation Advisory Service

Risk classification

The compatibility of drugs with breastfeeding has been assessed through a combination of risk to the breastfed infant and the quality/volume of evidence available. Drugs have been assigned to one of three categories which are defined as:

NO

- Serious adverse effects have been reported, or are considered possible, in a breastfed infant.
- Lactation could be compromised because of an impact on milk production.

CAUTION

- Minor and/or reversible adverse effects have been reported, or are considered possible, in breastfed infants, but which are not considered to pose an unacceptable risk to the infant.
- Insufficient evidence of the amount of drug excreted into breast milk.
- Insufficient evidence, or experience of use in practice, to guarantee safe use with breastfeeding.
- Use of a medicine is conditional on risk-reducing actions being taken, e.g monitoring the infant, delaying breastfeeding after a maternal dose, using a lower-risk formulation etc.

YES

- Levels in milk are sufficiently low, or predicted to be low because of the drug’s properties, that they would not present an appreciable risk to the infant.
- Substantial clinical experience of the drug has not indicated any risks.
- The medicine is in clinical use in young infants at doses significantly exceeding those which would be ingested through breast milk.

SEEK ADVICE

- Use of this drug requires an assessment of potentially complex issues, including an assessment of risk and safety in individual cases.
  For example, the drug may normally be used in combination with other drugs which may present additional risks to those posed by the drug alone. This would apply to the treatment of HIV infection or cancer in breastfeeding mothers, although other therapy areas may also fit these criteria.

To seek advice in these situations contact one of the UKDILAS specialist centres:

Trent Medicines Information Centre
0116 258 6491
medinfo@tmc.trent.nhs.uk

slide used with courtesy of Dr Shirley Leung
<table>
<thead>
<tr>
<th>BNF Drug</th>
<th>Use with Breast feeding</th>
<th>Comments</th>
<th>Further Information</th>
<th>Suitable Alternative(s)</th>
<th>Evidence Links</th>
<th>Last Reviewed Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEN 05.01.01 Penicillins</td>
<td>Monitor infant for gastro-intestinal disturbances and oral candida infection, especially if used for prolonged periods or in high doses, although these effects are unlikely to occur, There is also a theoretical risk of hypersensitivity, Choice of drug and alternatives may be directed by local antimicrobial policy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>Yes</td>
<td></td>
<td>Small amounts in breast milk.</td>
<td>-</td>
<td>Q&amp;A</td>
<td>14/5/2014</td>
</tr>
</tbody>
</table>
Lactation Risk category (LRC)

- **L1 Compatible**: Drug which has been taken by a large no. of BF mothers without any observed increase in adverse effects in the infant. Controlled studies in BF women fail to demonstrate a risk to the infant and the possibility of harm to the BF infant is remote; or the product is not orally bioavailable in an infant.

- **L2 Probably Compatible**: Drugs which has been studied in a limited no. of BF women without an adverse effects in the infant. And/or, the evidence of a demonstrated risk which is likely to follow use of this medication in a BF woman is remote.

- **L3 Probably Compatible**: There are no controlled studies in BF women; however, the risk of untoward effects to a BF infant is possible, or controlled studies show only minimal non-threatening adverse effects. Drugs should be given only if the potential benefit justifies the potential risk to the infant. (New medications that have absolutely no published data are automatically categorized in this category, regardless of how safe they may be.)

- **L4 Possibly Hazardous**

- **L5 Hazardous**
AMOXICILLIN

LRC. L1 - Limited Data- Compatible
Trunc: Ertacax Rifamox, Alphamox, Moxacin, Cilamox, Betamox
Category: Antibiotic, Penicillin

Amoxicillin is a popular oral penicillin used for otitis media and many other pediatric/adult infections. In one group of 6 mothers who received 1 gm oral dose, the concentration of amoxicillin in breastmilk ranged from 0.68 to 1.3 mg/L of milk (average: 0.9 mg/L).\(^1\) Peak levels occurred at 4-5 hours. Milk/plasma ratios at 1, 2, and 3 hours were 0.014, 0.013, and 0.043. Less than 0.95% of the maternal dose is secreted into milk. This amounts to less than 0.5% of a typical infant dose of amoxicillin. No harmful effects have been reported.

<table>
<thead>
<tr>
<th>T ½</th>
<th>M/P</th>
<th>Pb</th>
<th>Oral</th>
<th>pKa</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7</td>
<td>0.014</td>
<td>18%</td>
<td>89%</td>
<td>9.48</td>
</tr>
</tbody>
</table>

Adult Concerns: Diarrhea, rashes, and changes in GI flora. Pancytopenia, rarely pseudomembranous colitis.

Pediatric Concerns: None reported via milk at this time, medications is commonly used in neonates and children.

Infant Monitoring: Vomiting, diarrhea, changes in gastrointestinal flora and rash.

Drug Interactions: Efficacy of oral contraceptives may be reduced. Disulfiram and probenecid may increase plasma levels of amoxicillin. Allopurinol may increase the risk of amoxicillin skin rash.

Relative Infant Dose: 1%

Adult Dose: 500-875 mg BID

Alternatives:

References:
Is it safe to use this drug in this mother-infant?

1. Does the Drug Influence Milk Production?

2. How much of the Drug will be presented to the Infant via BF?

3. Let’s Check the Online Databases / References**

Summary of Search (Augmentin®)

<table>
<thead>
<tr>
<th>Resources</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alter milk supply?</td>
<td>No</td>
</tr>
<tr>
<td>Relative Infant Dose (RID)</td>
<td>0.9%</td>
</tr>
<tr>
<td>(a) LactMed</td>
<td>Acceptable to use</td>
</tr>
<tr>
<td>(b) UKDILAS</td>
<td>Yes</td>
</tr>
<tr>
<td>(c) Hale</td>
<td>L1</td>
</tr>
<tr>
<td>Remarks</td>
<td>Occasional reports of restlessness, diarrhea and rash</td>
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4. What is the Risk of Drug Effects on this Infant?
5. What should the Family Look Out for?
Risk of Drug Effects on the Infant

1. Age of the infant
   ✓ Amount of Breastmilk Intake
   ✓ Ability of the Infant to Clear the Drug

<table>
<thead>
<tr>
<th>Estimated Infant Clearance [% adult level] (Begg, 2001)</th>
<th>5%</th>
<th>10%</th>
<th>33%</th>
<th>50%</th>
<th>66%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-conceptual Age [Weeks]</td>
<td>24-28</td>
<td>28-34</td>
<td>34-40</td>
<td>40-44 (Birth)</td>
<td>44-68 (0 – 6 m)</td>
<td>&gt;68 (&gt;6m)</td>
</tr>
</tbody>
</table>

- High Risk
- Moderate Risk
- Low Risk

2. Clinical conditions of the infant
   ✓ Acute or chronic illnesses
   ✓ G6PD deficiency

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Is it safe to use this drug in this mother-infant?

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General considerations

• **Medications in the lactating mom:**
  – Drugs that are used in a *newborn baby* are generally safe
  – *Pregnancy risk* is *not the same* as breastfeeding risk

• When possible, **choose a medication:**
  – Expose the baby to the *least amount* of the medication
  – *Topical therapy* since serum levels are usually very small

• Try taking medication **at time of or immediately following breastfeeding** (best timing can depend on the medication)

• **Watch** the baby for unusual signs and symptoms (e.g., sleepiness, irritability, other potential or known effects of the medication)

• Many drugs are not licensed for use during lactation since the manufacturers have not undertaken research to confirm safety on ethical grounds
Scenario 3: Fever in a lactating woman

• One month later, Mrs Sun came to your office again:
• Postnatal 2 month; returned to work for 1 week
• Presented with:
  fever 39°C, general malaise and headache for 2 days

Is it flu or other diagnosis?
Fever & Flu-like Symptoms in a Lactating Woman

Response A

• Jump to conclusion of Flu
• Rest & Fluids
• Sick-leave
• Prescription:
  – Paracetamol
  – Tamiflu
  – Both compatible with BF
Fever & Flu-like Symptoms in a Lactating Woman

Response A
- Jump to conclusion of Flu
- Rest & Fluids
- Sick-leave
- Prescription:
  - Paracetamol
  - Tamiflu
  - Both compatible with BF

Response B
- Ask for other symptoms e.g. breast pain or lump
- Take breastfeeding Hx
- Physical Examination of the Breast
Fever & Flu-like Symptoms in a Lactating Woman

Response A
- Jump to conclusion of Flu
- Rest & Fluids
- Sick-leave
- Prescription:
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  - Tamiflu
  - Both compatible with BF

Response B
- Ask for other symptoms e.g. breast pain or lump
- Take breastfeeding Hx
- Physical Examination of the Breast
Scenario 3: Fever in lactating woman

Symptoms:
• Fever 39°C, Chills, Flu-like
• Right breast pain & lump x 2/7

Breastfeeding Hx:
• No milk removal for 8 hours
• Skipped lactation break at work
• Wired bra

Physical Examination:
• Breast lump (6cm X 8cm)
• Hot & Tender
• Overlying erythematous skin

DDx: Blocked duct, mastitis or breast abscess?
What is your response?

A. Treat as **blocked duct**: advise breast **massage** and prescribe **analgesic**

B. Treat as **mastitis**: prescribe analgesics & antibiotics e.g. Amoxicillin-clavulanate for **3 days**. Pump & dump.

C. Treat as **mastitis**: prescribe analgesics & antibiotics e.g. Amoxicillin-clavulanate for **7 days**. Pump & dump

D. Treat as **mastitis**: prescribe analgesics & antibiotics e.g. Cloxacillin for **10-14 days**. Continue breastfeeding. Watch out for abscess.

E. Treat as **mastitis**: prescribe analgesics & order a culture of expressed breastmilk, prescribe antibiotics when the sensitivity pattern is available.
A lactating woman who presents with general malaise, chills or sweats, and fever should be assumed to have mastitis until it is proven otherwise.
Milk Flow Problem: the Spectrum

- Milk Stasis
- Blocked Duct
- Non-infectious Mastitis
- Infectious Mastitis
- Breast Abscess
- Galactocele

Make the correct diagnosis & manage accordingly!
## Making the diagnosis
by history taking & physical examination

<table>
<thead>
<tr>
<th></th>
<th>Blocked duct</th>
<th>Mastitis</th>
<th>Abscess</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain</strong></td>
<td>+</td>
<td>+++</td>
<td>+++++</td>
</tr>
<tr>
<td><strong>Fever</strong></td>
<td>Nil or Low-grade</td>
<td>≥ 38.5°C or 101.3°F</td>
<td>±</td>
</tr>
<tr>
<td><strong>Flu-like symptoms</strong></td>
<td>Nil</td>
<td>YES (headache, malaise, general aches, nausea)</td>
<td>YES (headache, malaise, general aches, nausea)</td>
</tr>
<tr>
<td><strong>Pus/blood from nipple</strong></td>
<td>Nil</td>
<td>±</td>
<td>Nil</td>
</tr>
<tr>
<td><strong>Localised signs (Red, tender, hot, size of lump)</strong></td>
<td>Mild tender small lump ± redness NOT hot</td>
<td>+++</td>
<td>+++++</td>
</tr>
</tbody>
</table>
## Treatment of blocked duct/mastitis/abscess

### General Treatment

<table>
<thead>
<tr>
<th>1. Pain relief</th>
<th>2. Frequent effective milk removal i.e. direct BF +/- expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ Medication, e.g. paracetamol</td>
<td>◆ Stimulate let-down reflex, e.g. skin to skin</td>
</tr>
<tr>
<td>◆ Cold compress</td>
<td>◆ Refer to MCHC to improve BF skills</td>
</tr>
<tr>
<td>◆ Well-fitted wireless bra</td>
<td></td>
</tr>
</tbody>
</table>

### Specific Treatment

<table>
<thead>
<tr>
<th>Blocked duct</th>
<th>Mastitis</th>
<th>Abscess</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ ± NSAID e.g. Ibuprofen</td>
<td>◆ NSAID</td>
<td>Refer to hospital for USG ± pus drainage</td>
</tr>
<tr>
<td>◆ FU 1-2 days or</td>
<td>◆ Antibiotic 10-14 days</td>
<td></td>
</tr>
<tr>
<td>◆ Refer to MCHC</td>
<td>◆ FU 1-2 days or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>◆ Refer to MCHC</td>
<td></td>
</tr>
</tbody>
</table>

Expect resolve in 24-48h        | Expect resolve in 48-72h                     |                                              |

UpToDate 2015: Lactational Mastitis
Breast pump is a tool to help mothers achieve successful breastfeeding!
Mastitis is **SAFE** to breastfeed

- **No** evidence of risk to healthy, term infants of continuing breastfeeding

- Women who are unable to continue breastfeeding should express the milk from breast by hand or pump, as sudden cessation of breastfeeding leads to a greater risk of abscess development than continuing to feed  
  (Academy of Breastfeeding Medicine Clinical Protocol #4 : Mastitis, 2014)

- Studies: generally **safe**, even in the presence of **Staph aureus**
- Both mother & infant are usually **colonised** with the same organisms (Taylor 1946, Jeffrey 1947, Devereus 1970, Marshall 1975, Niebyl 1978, Matheson 1988)

- ↑ level of **protective** anti-inflammatory components (Buescher 2001)
- “Resistance Factor” in breastmilk protects against Staph (Gyorgy 1953)
Choices of antibiotics for mastitis

- First line is penicillinase-resistant antibiotics, such as: 
  - dicloxacillin or flucloxacillin or cloxacillin 500 mg qid
- If allergic to penicillin, use clindamycin 300mg qid
- Gram -ve org: cephalexin 250-500 mg qid or amoxicillin 250-500 mg tds
- Many authorities including WHO recommends treatment for 
  10-14 days; shorter courses are associated with higher incidence of relapse. However, this recommendation has not been subjected to controlled trials
- 1st-generation cephalosporin acceptable as 1st-line, but less preferred.
- If risk of MRSA: use clindamycin, vancomycin, septrin or linezolid

(ABM 2014, UpToDate 2015)
If no response to antibiotic Tx, what are the DDx? (ABM Clinical Protocol #4: Mastitis, Revised Mar 2014)

- **Breast abscess**
  If the patient does not respond to symptomatic relief, attention to breastfeeding techniques and antibiotics within **48 to 72 hours**, evaluation with ultrasound imaging and referral to a breast surgeon for assessment of an underlying abscess should be initiated. (UpToDate 2015)

- **Resistant bacteria, e.g. MRSA**

- **Inflammatory or ductal carcinoma**
  Petok (1995) recommended referring the mother to physician for evaluation for the following reasons:
  - Any mass that shows no decrease in size after **72 hours** of treatment
  - Afebrile mastitis-like symptoms that are unresolved after a course of antibiotics
  - **Recurrent mastitis or plugged ducts** that appear at the same location

Breast abscess is preventable!

Small breast abscess:
Treated by USG-guided needle aspiration

Large breast abscess:
Treated by I&D under GA

Photos credit: Fung WH
Take Home Messages:

- Breastfeeding is important and even temporary disruption can bring risk to the infant and affect milk supply.
- Most of the maternal infections and maternal medication are compatible with BF, clinicians have responsibility to offer appropriate advice on BF.
- Resources on use of medications in lactating women is easily available (online) & friendly to use.
- Mastitis and breast abscess are preventable and are not contraindication for breastfeeding. Milk removal is part of the treatment.
- GPs are most welcomed to refer clients with breastfeeding problem to attend MCHC.
Health Education Resources
Booklets on Infant & Young Child Feeding
Health Education Resources
QR Code Posters on Infant & Young Child Feeding
Easily assess the health education resources by scanning QR codes with smartphone devices
Health Education Resources for Healthcare Professionals & Clients

Info for Nursing Mum’ App is launched by the Family Health Service of the Department of Health.

It is a handy mobile app to provide the latest online information on baby nursing including information on breastfeeding news, common FAQs, healthy eating for lactating mums and weaning diets for babies, videos on breastfeeding and childcare tips, and also lists of community resources.

Breastfeeding FAQs
* Can I breastfeed when I am ill?
* Can I take medicines if I am breastfeeding?

Audio-visual resources on breastfeeding
* Hunger cues
* Practical skills
* Expressing breastmilk

Audio-visual resources on childcare
* Umbilical cord cleansing
* Burping skills
* Baby bath time

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Breastfeeding:
Let's give our children the best