Treating the Cause:

Individual Protocols for Pain Management of the Nipple and Breast

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Study: Eileen Park, Shery Leeder, Edith Kernerman

Objectives

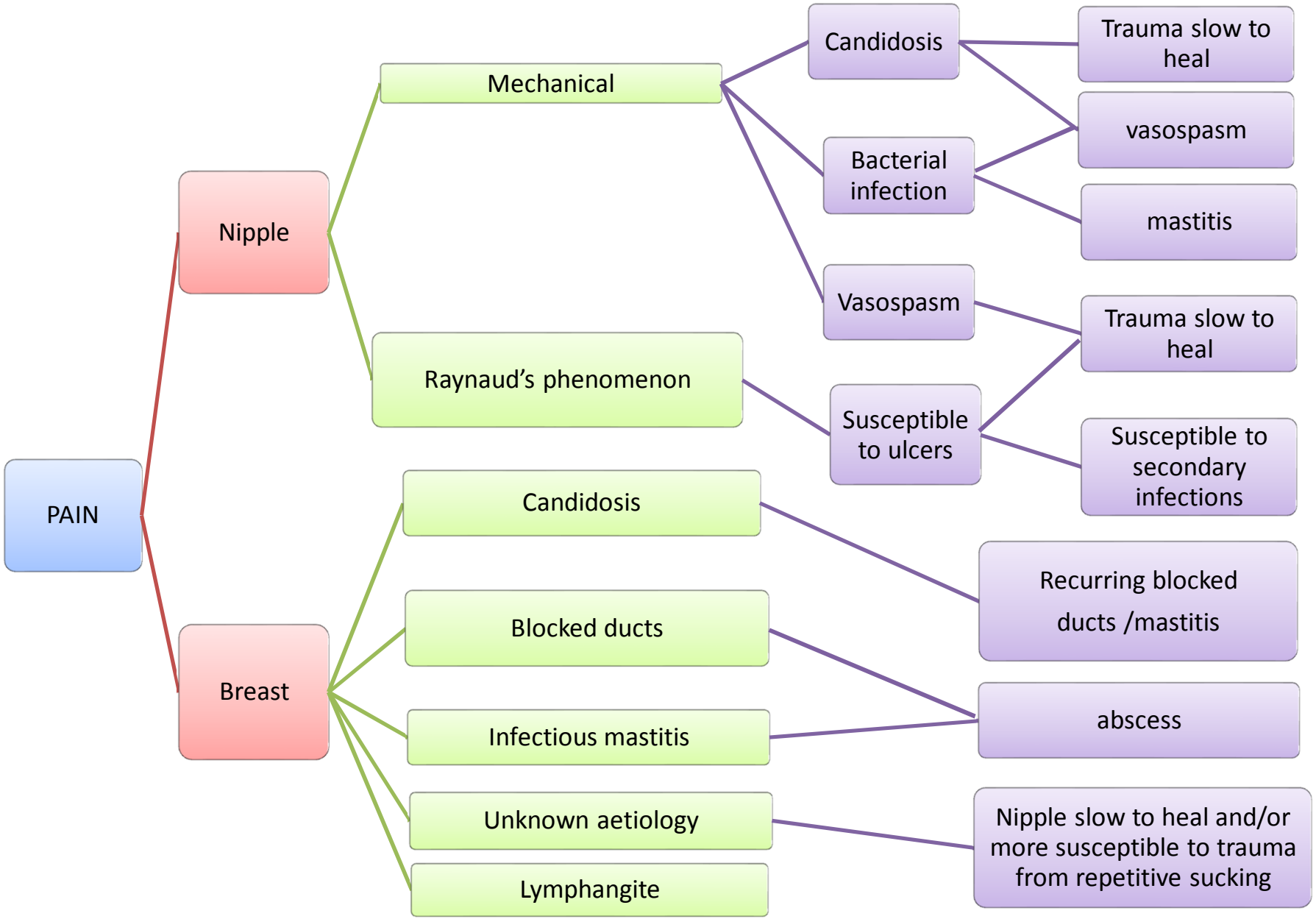
- Participants will be able to differentiate between various **causes** of breast and nipple pain

- At the end of the session participants will be able to choose a course of **individualized treatment(s)** for nipple or breast pain that have been shown to be effective in similar cases

Introduction

- Up to 96% of breastfeeding problems reported in literature are due to nipple/breast pain *(Buchko et al. JOGNN 1993)*
- Inconsistencies and holes in diagnoses and treatments exist throughout the literature/research
- NBCI conducted a case series: 2-phase chart review of ***932*** charts and found that ***53.2%*** were due to nipple and/or breast pain
  - *Inclusion criteria:*
    - *breastfeeding mother presenting at NBCI with sore nipples and/or sore breasts*
    - *having at least one follow-up visit at our clinic*
    - *N= 98 dyads, chosen alphabetically*

Commonly Occurring /Referred to Problems



Breast/ Nipple Problems Seen at NBCI

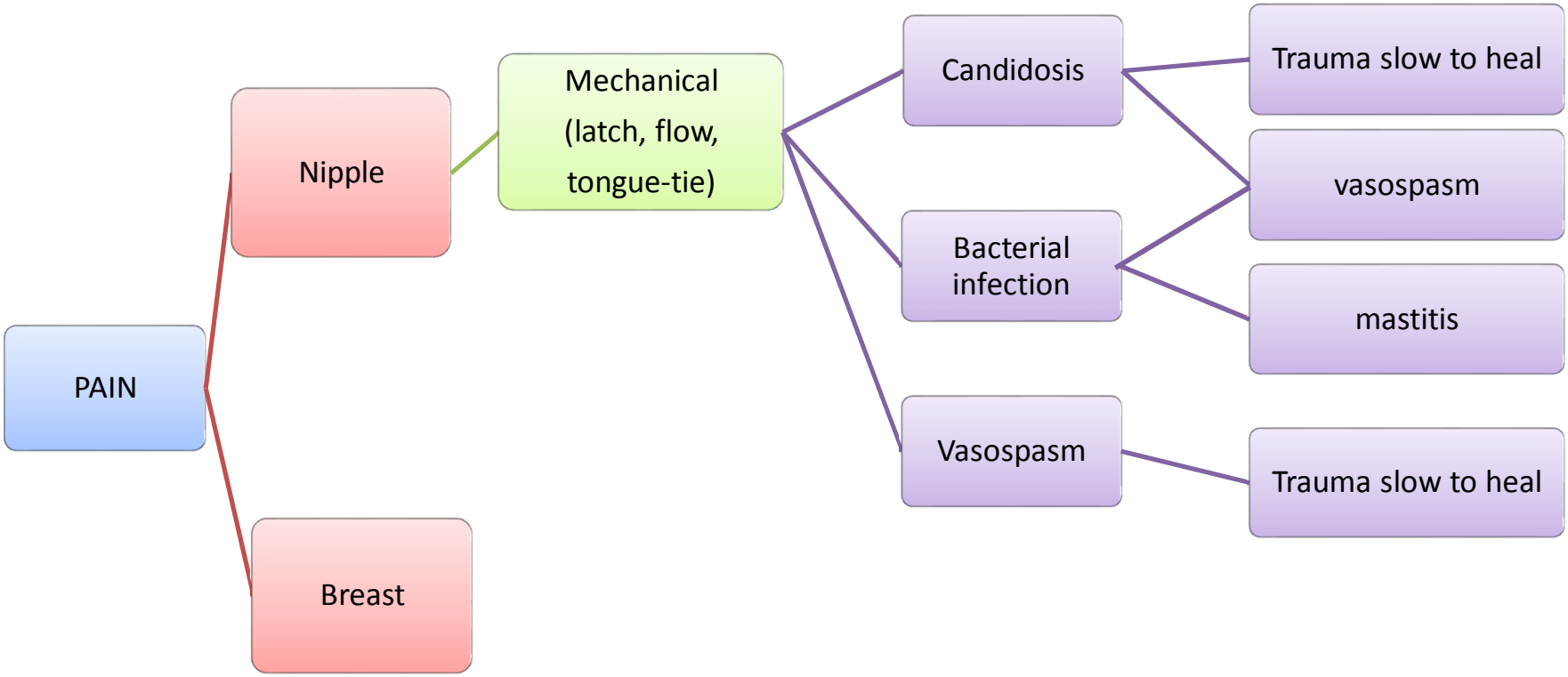
(Associated with breastfeeding not going well)

- *99%* due to **Mechanical problems**— latching, tongue tie, etc...
- *55%* due to **Vasospasm & Raynaud's Phenomenon**
- *36%* due to **Candidosis**
- *13%* due to **Blocked Ducts**
- *36%* due to change in (slower) milk **Flow**

Out of 932 mothers:

- *0.5%* due to **Abscess**
- *40%* due to **Breast Pain** *(including Engorgement, Blocked ducts, Mastitis)*
- *0%* due to **Lymphangite**
- *0% due to* **Subclinical Mastitis**

Trauma and Pain due to Mechanics



Trauma and Pain due to Mechanics: Latching and Positioning

Protocol to Manage Breastmilk Intake (PMBI)

- **Get the best latch possible**
  - Adjust the latch
  - Avoid delatching/relatching
- **Ensure baby is drinking i.e. milk transfer**
  - Know the difference between sucking and drinking
    - Prevents baby from pulling
- **Use breast compressions**
  - If baby is sucking and not drinking, compress the breast to keep baby drinking
- **Switch Sides**
  - If breast compressions are no longer working, offer the other side and repeat above steps

Trauma and Pain due to Mechanics: Latching and Positioning

- All agreed this needs to be the focus
- Not all agreed how latch should look or how to adjust

Trauma and Pain due to Mechanics: Latching and Positioning

NBCI's Treatment Protocol

(99%, 86% success, 11% no follow up)

- Using *L-eat* as our guide in any position:
- Cradle/cross cradle/mother side lying/leaning back/reclining:
- All Purpose Nipple Ointment (APNO) *(60%, 82% success, 10% no follow up)*
- Olive oil to help draw out the nipple before the feeding

Trauma and Pain due to Mechanics: Change in Flow

- Baby pulls at the breast due to a change in flow (almost always slower)
- Often associated with **late onset** nipple pain
- Investigate reason why flow may have slowed
  - New pregnancy
  - Antihistamines
  - Birth control pill

NBCI's Treatment Protocol *(36%; 86% success rate, 11% no follow up):*

- PMBI
- Galactagogues
- Remove underlying cause—if possible
- Discontinue bottles where possible
- Add solids if baby is older
  - To facilitate dropping bottles
  - Have baby less ravenous when going to breast

Trauma and Pain due to Mechanics: Tongue tie (TT)

- Evidence for the effects of TT on nipple pain/trauma is compelling

  Dolberg et al. 2006, Geddes et al. 2008, etc...

- Not enough research done on the effect of posterior (type 3s and 4s) TT on pain/trauma—need more research

NBCI's Treatment Protocol *(53%; success rate 85%, 10% no follow up):*

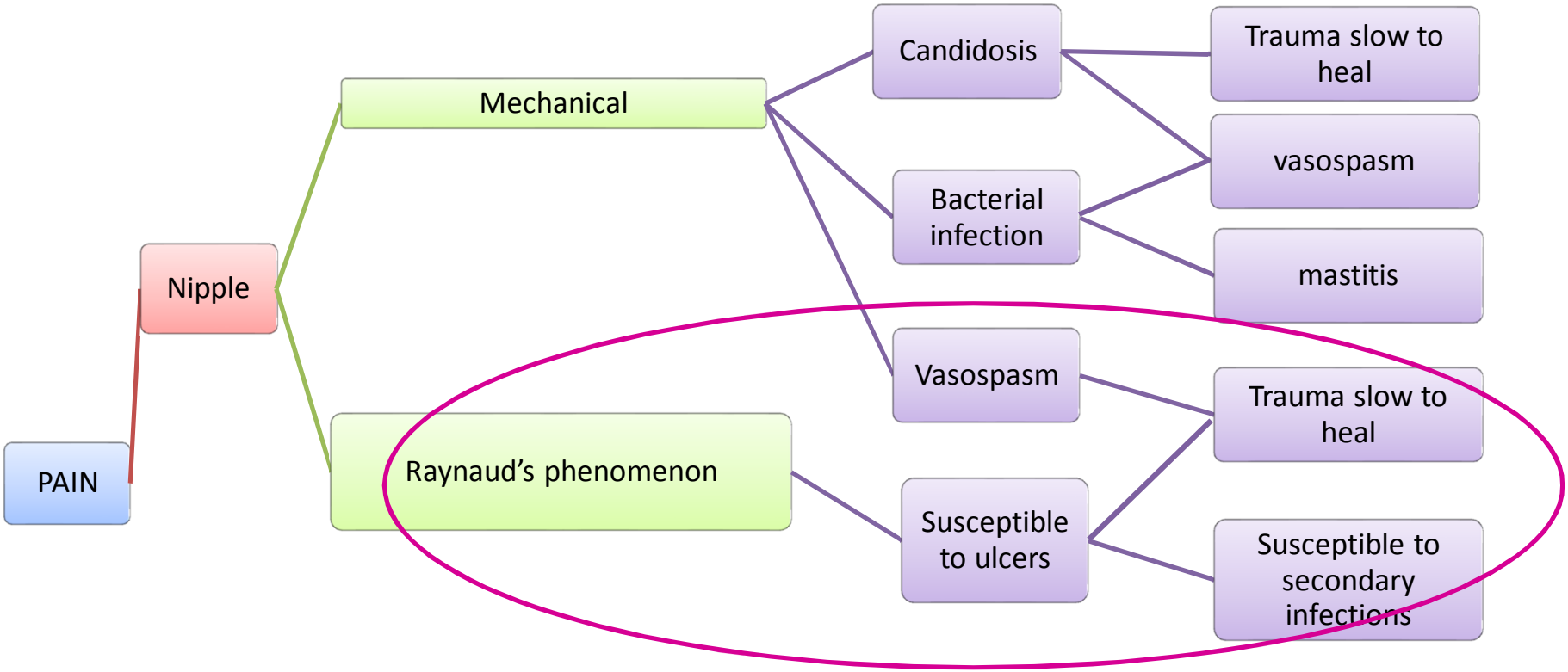
- Feed on the first breast, using PMBI
- Assessed and treated according to the newly developed IATP (international Affiliation of Tongue Tie Professionals) protocols
- Types 1-4 released with short iris scissors in clinic
- Baby put immediately to breast

www.tongue-tie.org, www.tonguetie.net
Ballard et al. Breastfeeding Med. 2009

Nipple Pain on Latch, Nipple Trauma
Prophylaxis

- PMBI
- Probiotics to mother and baby if:
  - presence of trauma and antibiotic use and/or C. albicans susceptibility *(37%; 91% success rate, 6% no follow up)*
- Apply olive oil to:
  - gently pull out the nipples prior to a feeding (here mother is in control as opposed to baby) *(10%; 100% success rate)*
  - prevent nipple skin brittleness if GSE is being used for prolonged period or in higher concentrations

Commonly Occurring /Referred to Problems



Review of Raynaud's Phenomenon

Raynaud's Phenomenon of Nipples

Vasospasm

Burning nipples after/in between feedings

Primary (disease)

Unknown aetiology

Onset usually 15-30 years of age

Vasospasm attacks of pallor followed by rubor precipitated by cold or emotional stress

Might be more responsive to nifedipine, Vitamin B6 multi complex, fish oils, Evening Primrose Oil

Secondary (syndrome)

e.g. to Candidosis, latching, trauma, other

Onset usually older than 30 years of age

Vasospasm attacks of pallor followed by rubor, precipitated by cold or emotional stress

Fingers or toes (or nipples) may appear dry, atrophied, or ulcerated??

Must fix the root cause for effective response to treatment, otherwise, response will be less than optimal

Reilly et al. AJN. 2005
Cooke et al. BMI 1990
DiGiacomo et al. Am J Med. 1989
Pope. BV. 2007

Nipple Pain due to Vasospasm
in the Literature

Cause *(cont'd)*:

- Livingstone and Stringer found that 5 study mothers "complained of severe sore nipples with deep, radiating, burning breast pain and episodic vasospasms of their nipples unrelated to immediate suckling...there appeared to be a clinical correlation between vasospasm of the nipple associated with repetitive gumming of the nipple and *S. Aureus* infection"
    - If vasospasm complications can include digital ulcers, then why can't this be true for nipples?

Lawlor-Smith et al. Br Med J. 1997
Coats. J Hum Lact. 1992
Anderson et al. Ped. 2004
Livingstone et al. J Hum Lact. 1999

Nipple Pain due to Vasospasm:
NBCI's Diagnosis

Subjective:

- May or may not have pain on latching (due to mechanical issues not necessarily the vasospasm itself)
- Unlikely to have pain during the feeding unless something mechanical is causing pain at every suck
- Tends to feel better as the feeding progresses
- Worse once baby comes off the breast
  - Burning starts a few minutes later
  - Often described as "cold burning"

Nipple Pain due to Vasospasm:
NBCI's Diagnosis

Subjective (cont'd):

- Exacerbated by air drying or cold or sudden drop in temperature
- The mother often would like to hold her nipple or breast (but often doesn't because the nipple may have trauma)
- Pain can last for hours, can be debilitating

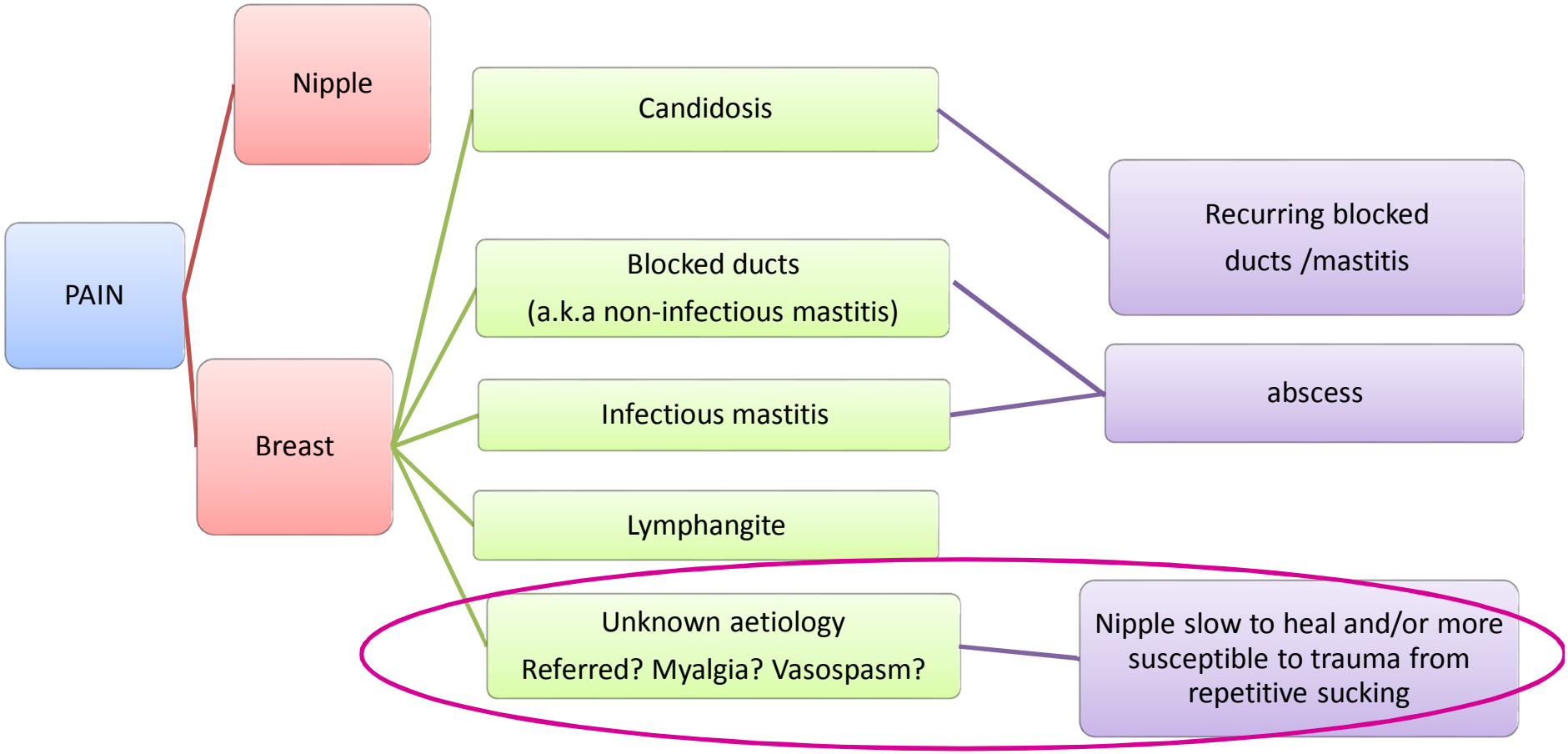
Objective:

- Nipple changes colour
  - May include blanching, but does not have to
  - May not always be observable during appointment

Nipple Pain due to Vasospasm:
NBCI's Treatment Protocol

- Adjust latch & follow PMBI
- Olive oil
  - before the feeding to help draw out the nipple (*18%, 100% success rate*)
  - at onset of burning (*24%, 100% success rate*)
- No air drying at all (*100%, 78% success rate, 11% no follow up*)
- Keep nipple warm (*100%, 78% success rate, 11% no follow up*)
  - Warm dry compresses
- B6 multi complex (*18%, 90% success rate, 10% no follow up*)
- Pectoral massage and stretching (*42%, 83% success rate, 17% no follow up*)
- Massage therapy/chiropractic *(no data, just started)*

Commonly Occurring /Referred to Problems



Deep Breast & Superficial Breast Pain
(with or w/o Nipple Pain)

- This is separate from nipple pain

Cause:

- Unknown underlying aetiology?
- Referred pain from the nipple trauma or repeated improper sucking by the baby (similar to repetitive strain injury) coupled with vasospasm leading to ulcers ?
  - *Walker*: "some mothers with damaged nipples also describe a chronic syndrome of breast tenderness: dull, deep, and aching bilateral breast pain; or sharp, shooting breast pain (without florid symptoms of fever, erythema, and malaise)."
  - *Eglash*: combination of bacterial infection in ducts or an "overlap of both bacterial and candidal infections"

Walker. Perionat Neonat Nurs. 2007
Eglash et al. J Hum Lact. 2006

Why Might Pectoral Massage Work?

- Pain gate theory? Perhaps
- Increasing circulation to the area? Maybe more likely
  - Like thoracic outlet syndrome, carpal tunnel syndrome, or foot falling asleep—circulation is cut off from an extremity→ causing pain and throbbing
  - Much literature about circulation and vasospasm felt in fingers, wrists, arm, etc...
    - Increased blood flow to the area helps to heal ulcers and prevent the vasospasm in the first place *Reilly et al. AJN .2005*
- Pectoral muscle massage might need repeating after a few minutes
- Repeated pectoral muscle massages seem to stop the vasospasm all together
- If the pain continues to return then likely due to something else

Why is Pectoral Muscle Massage a Good Option?

- Costs nothing
- Easy for mother to do quickly, by herself, and without too much exertion
- Causes immediate relief
- Can be a diagnostic tool
- Non invasive
- Non medical/non pharmaceutical
- Can be repeated as often as necessary without fear of “overdose”

Pathophysiology

Nipple trauma

Nipple pain

Emotional stress

Exposure to cold

Immobilization/ Poor posture

Sympathetic Nervous Activity

Pectoral muscle contraction

Local vasoconstriction

Ischemia in the nipple

Ischemia

Pain

Vasoconstriction of nipples

Direct compression due to poor latching

Exposure to cold

Other factors

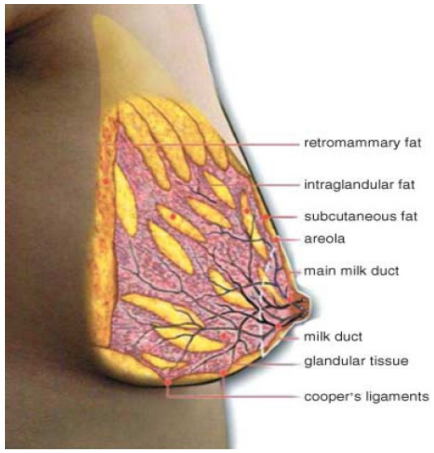
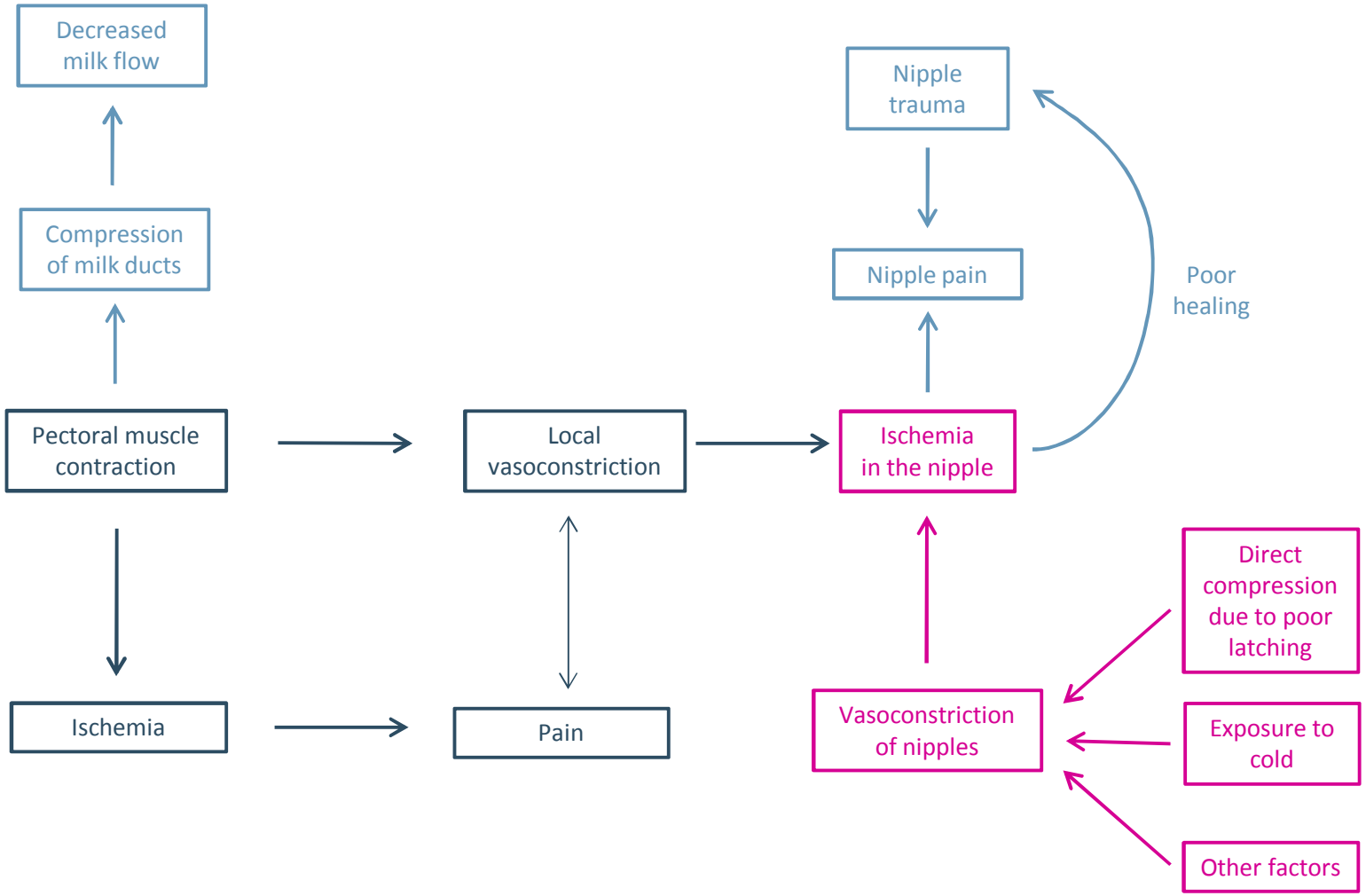


Diagram: J Anat. 2005 June; 206(6): 525–534.

Co-morbidities



Case Study: Zelda

Background

- Mother: 26 yr-old, P2G2
    - Planned C-section, epidural, 2hrs IV
- Baby: GA 38+4; 2.96 kg/6 ½ lbs
    - Special care x 5 days d/t jaundice
        - (given some bottles of EBM in hospital d/t jaundice and weight loss
- Previous BF experience (1st child now 3 yrs old):
    - Terrible pain, cracking, vasospasm, mastitis

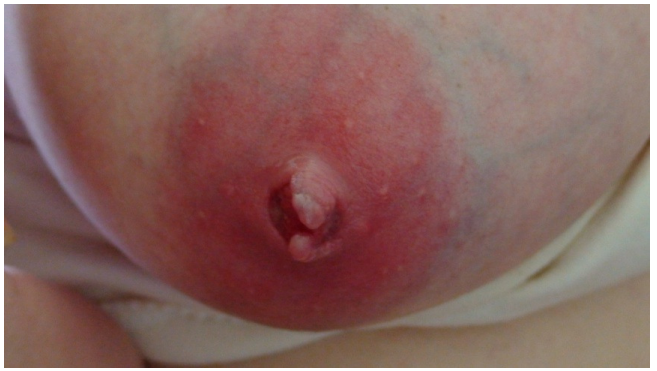
Baby Presenting as

- Healthy baby girl 3 months, 3 weeks
    - 5.89 kg/12lbs, 15 ½ oz
    - Exclusively breastfed (since 5 days old)
    - Excellent output
    - Mild Tongue Tie

Case Study: Zelda

Mother Presents

- 26 yrs old
  - Meds: ABX (Cephalexin) x 4 days (no effect)
    - BCP (Micronor)
    - A version of APNO (not ours)
    - Tylenol 3, Q 4hrs (having no effect)
    - 800 mg Ibuprofen, Q 4hrs (no effect)



Symptoms

- Open wounds on both nipples
- Severe breast pain, no lumps, no fever
- BF has always hurt, more so over the last 3 days
- Throat hurts from crying so much d/t pain
- 15-20 min after each feeding “feels like being ripped apart inside”
- Lasts 5 hours, then becomes tolerable
- Bilateral breast congestion

Case Study: Zelda; The Feeding

The First Breast

- Symmetric, “scooped” latch
- Breast to baby
- Pain on latch which then subsides with adjustments
- Rest of feeding baby drinks very well, no pulling at the breast

After the Feeding

- Extreme pain (mother screaming) about 10 minutes after the feeding

So, What are we Dealing with Here?

- What can we rule out?

Infectious Mastitis
in the Literature

Cause:

- 42% caused by Staphylococcus aureus
  - Enters through the nipple?
  - Reflux of bacteria-laden milk?
  - Fatigue as a contributing factor?

Treatment:

- Most will resolve without oral antibiotics and/or continued breastfeeding, many without professional care
  - Usually within 24-48 hours
- No reason to stop breastfeeding, few negative effects on the baby
- No correlation between washing the nipple either before or after feeding with mastitis incidence

Amir et al. BMC Public Health. 2007
Foxman B et al. Am J Epidemiol 2002
Buescher et al. Cell Immun. 2001
Mass. Clin Obstet Gynecol. 2004
WHO. Geneva 2000
O'Hara et al. Br J Surg. 1996
Niebyl et al. J Reprod Med. 1978

Infectious Mastitis
NBCI's Diagnosis

Local (breast)

- Must have painful hard lump or mass in breast
- Redness (rubor) and or striations may or may not be present

Systemic

- Fever
- Chills
- "Feels like pneumonia"
  - Mother feels she needs to stay in bed

Infectious Mastitis
NBCI's Treatment Protocol

- Rest
- Wait 24 hours before considering antibiotics—many cases will resolve on their own
- Feed as often as possible
- Try Potato Protocol
  - If potatoes come off just warmed it is unlikely there is infection, if they come off hot and "cooked", infection more likely
- Try applying heat to the affected area if potatoes are not bringing relief
- If cold feels better than try cold compresses. NOT cabbage

- If pain or fever is severe, take ibuprofen and/or acetaminophen
- If no improvement after 24 hours, then start cephalexin or cloxacillin 500 mg qid x 10 days

Subclinical Mastitis (SCM)

- Referred to by some as possible (and sometimes probable) cause of persistent and unresolving deep breast pain
  - Others claim it is commonly misdiagnosed as *C. albicans* infection
- In all studies, SCM is referred to as **asymptomatic inflammation**
  - May be of concern b/c of higher rate of HIV transmission, and possible decreased milk supply
- Only definitive marker is the sodium/potassium ratio
- No pain associated with SCM

Richmond et al. Breastfeeding Med. 2009
Rasmussen et al. Breastfeeding Med. 2008
Richmond et al. J Hum Lact. 2008

NBCI's Diagnosis:

We have not seen any sign of this

Blocked Ducts
in the Literature

- Milk stasis leading to blockage
- Some occurrences can present in a way similar to bacterial mastitis—fever, hot red breast, pain, etc) what others might call **non-infectious mastitis**

Cause:

- Compromised milk drainage from:
  - poor latch
  - restrictive or tight bra/clothing
  - Congestion in the breast tissue
  - Candidosis?

Blocked Ducts

NBCI's Diagnosis (13%)

- May appear very suddenly
- Hard mass in the breast (different from little "pluggy" areas that appear before a feeding and disappear after a feeding)
- May be very painful
- May be red
- May have low fever and feel unwell
- Just not as angry as mastitis

NBCI's Treatment Protocol:

- PMBI *(100%; 85% success rate, 8% no follow up)*
- Lecithin 1200 mg qid *(100%; 100% success rate)*
- Ibuprofen, and/or NSAIDs as needed *(not prescribed)*
- Ultrasound therapy if unresolving or recurring in same spot *(not prescribed)*
- None treated with antibiotics

Milk Bleb/Blister

- Sometimes the outward manifestation of a blocked duct/ like a blocked straw—congealed milk inside
- Sometimes more localized and not coinciding with a blocked duct.

Cause:

- Poor drainage (same as blocked duct)
- Candidosis?

NBCI's Diagnosis:

- Visual *(11%)*
- 45% also had blocked ducts

NBCI's Treatment Protocol:

- PMBI *(100%; 64% success, 27% no follow up)*
- Can lance it (less successful the longer it has been there)
- APNO if opened or if baby pulls it off *(81%; 67% success, 22% no follow up)*
- Grapefruit Seed Extract Topical (followed by APNO) if persistent *(64%; 43% success, 43% no follow up)*

Pain Due to *C. Albicans* *in the Literature*

- Related to early termination of breastfeeding
  - 65% of the women with mammary candidosis stopped breastfeeding due to pain

Cause:

- Artificial teats (pacifiers, bottles)
- Iatrogenic factors (antibiotics, steroids)
- Trauma
- History of candidosis

Nipple Pain Due to *C. Albicans* *in the Literature*

Signs & Symptoms for detecting *mammary candidosis* between 2 and 9 weeks postpartum:

- Burning nipple/areola pain—83%
- But just using that one symptom would have missed 17% of cases
- Sensitivity improves with addition of *non-stabbing* pain (84%) and stabbing pain (79%) specificities
- Adding *shiny* or *flaky skin* of nipple/areola, then 90% specificity

Francis-Morill et al J. Hum Lact. 2004

Laboratory diagnosis

- Skin swabs of nipple/areola
- Milk cultures??

Francis-Morill et al J. Hum Lact. 2004
Francis-Morill et al. J Clin Micro. 2003
Panjaitan et al. Breastfeeding Med. 2008
Hale et al. Breastfeeding Med. 2009

Nipple Pain due to Candida
NBCI's Diagnosis

Subjective:

- Often painful upon latching
- Usually painful as feeding continues even while baby is still drinking as opposed to just sucking
  - Rule out baby pulling at the breast or exerting more suction because flow has slowed
- Feels itchy and feels like "carpet burn" or "sandpaper
- Mother wants nothing to touch them and air drying feels good.
- Burning during the feeding, sometimes burning after the feeding
  - Timing of the pain (in relation to the feeding) is critically important to the diagnosis
    - Whether in conjunction with or separate from drinking (as opposed to just sucking)
    - Whether in conjunction with biphasic or triphasic colour change

Nipple Pain due to Candida

NBCI's Diagnosis (cont'd)

Objective:

- Include criteria outlined by *Francis-Morill et al, 2004*—shiny, red, and/or flaky

NBCI's Treatment Protocol

- Adjust latch & PMBI
- APNO *(94%, 82% success rate)*
- Probiotics *(61%, 90% success rate)*
- If not resolving add:
  - Grapefruit seed extract (GSE) topically (diluted)

    (79%, 69% success rate, 19% no follow up)
  - GSE orally 250 mg tid *(52%, 94% success rate, 6% no follow up)*

Nipple Pain due to *C. albicans*

NBCI's Treatment Protocol (cont'd)

- If still not resolving:
  - Increase topical concentration of GSE
  - Fluconazole loading at 400 mg followed by 100 mg bid (sometimes increased to tid if resolving a bit but not completely) until pain free for one week *(15%, 80% success rate, 20% no follow up*)
    - Not on it's own—i.e.. Nipples must also be treated locally and aggressively
    - *Nystatin is not used topically as more than 40% of Candida strains are resistant to it*

Flynn et al. J Pediatr 1995

Breast Pain due to *C. albicans* *in the Literature*

- Pain throughout the breast (stabbing or non-stabbing) is a commonly reported symptom of mammary candidosis
- No discussion of inflammation (i.e.. redness, heat, swelling, pain)
  - this is consistent with NBCI diagnosis

Francis-Morill et al J. Hum Lact. 2004
Panjaitan et al. Breastfeeding Med. 2008

the Controversy

- Could there really be candidosis of mammary tissue?
- *Francis Morrill et al* found positive cultures in the milk

Francis-Morill et al. J Clin Micro. 2003
Francis-Morill et al. J Hum Lact. 2004
Francis-Morill et al. JOGNN. 2005

Breast Pain due to *C. albicans*

the Controversy (cont'd):

- *Hale et al* found **no** evidence in the milk
  - β-glucan levels assays are very sensitive
  - Used a very clean catch
  - Only 1/32 "symptomatic" subjects showed *C. albicans* -with only 1 colony

Hale et al. Breastfeeding Med. 2009

- Reason for differing results?
  - Inclusion criteria?
    - Research results from *Francis-Morill et al* not used or cited in Hale
  - What about intracellular Candida?

Filler et al. PLos Pathog. 2006
Garcia-Tamayo et al. Acta Cytol. 1982

- What about in mammary tissue of goats?

Singh et al. Mycopathologia. 1998

Breast Pain due to *C. albicans*
NBCI's Diagnosis

Pain:

- Anytime during the feeding and often continuing after the feeding
  - Deep in the breast
  - Stabbing
  - Shooting
  - Radiating toward the back
  - Tends to be worse in the evening
  - Tends to be worse as feeding progresses
  - Not necessarily worse after the feedings
- Tends to be worse with letdown
- Independent of latch mechanics (though exacerbated by poor latch)
- May be redness, pain to the touch

Mother/baby's history of:

- Candidosis or recent antibiotics
- Nipple trauma/susceptibility

Breast Pain due to *C. albicans*
NBCI's Treatment Protocol

- 36% of mothers presented with candidosis and latch issues

- Adjust latch & PMBI : 100%

AND

- Probiotics *(61%; 90% success rate, 10% no follow up)*

- Oral Grapefruit Seed Extract (citricidal) 250 mg tid *(52%; 94% success rate, 6% no follow up)*

- If unresolving and repeated DDX indicates Candida, add:
  - Fluconazole 400 mg loading followed by 100 mg bid (sometimes increased to tid if somewhat resolving) until pain free for one week *(15%, 80% success rate, 20% no follow up)*
  - Must continue with the probiotics and the oral GSE

Case Study-*Aaron*

- 2 month old baby Aaron

Chief Concern:

- Mother experienced pain and burning in left breast at the 5 o'clock position, during and after feedings

Subjective:

- Mother had sore nipples since day 3
- Breast pain started at 2 months
- Baby getting breast and bottles of formula b/c of previous diagnosis of low supply
- She had been on Fenugreek 6 tablets/day for 6 weeks for milk supply

Objective:

- Breast very tender on surface
- No redness, no lump
- Scooped and shallow latch

Case Study-*Aaron*

Working Assessment:

- Breast pain due to candidiasis
  - Perhaps a result of bottle use?
  - Perhaps a result of formula supplementation (presence of iron)?
  - Perhaps a result of nipple trauma?

Plan:

- Adjust latch, PMBI
- Use lactation aid (L/A) whenever possible to finish feeding
  - discontinue bottles as/if possible
  - If L/A doesn't work try cup
- Probiotics (30 billion cells 1x/day)
- GSE orally (taken 1 hour apart from probiotics)
- Domperidone (30 mg tid)
- Breast pain resolved a few days after 1st appt

Unresolving Nipple/Breast Pain
in the Literature

- *Panjaitan et al* found that 65% of cases (11 of 17) were positive for broad-spectrum fungi, compared to 33% of controls (6 of 18)

- Only 6 cases and 3 controls tested positive for *C. albicans or C. Parapsilosis*
  - perhaps other fungi may be present---could nipple thrush be due to a different fungal organism or organisms?

- No evidence that S. Aureus is associated with this condition

Panjaitan et al. Breastfeeding Med. 2008

Recurring Blocked Ducts

- Though mastitis secondary to candidosis has not been found in cows and goats, *"mammary tissue invasion (in animals) by Candida species reveals congestion and necrotic area of infection with lymph node enlargement"*

  Singh et al. Mycopathologia. 1998

AND

- *"Epithelium destroyed, milk production reduced...and the numbers and types of cells increase ....indicating a generalized immune response"*
  - could this "congestion" lead to mastitis-like symptoms that are non-bacterial?

  Carmichael et al. The Breast. 2002

Recurring Blocked Ducts

NBCI's Diagnosis:

- Blocked ducts (13%)
- Painful hard mass in the breast (short duration, almost always less than 72 hours)
- May have low grade fever, redness, striations, feelings of malaise
- Mother's subjective history
- Associated with candidosis (*80%*)

NBCI's Treatment Protocol:

- Treatment for candidosis and blocked ducts
  - Lecithin, probiotics, oral GSE, (add fluconazole if extreme)
- 75% success rate, 13% no follow up

Case Study: Zelda
So What Was My Gut Feeling?

Could this be related to muscle tension?
Maybe Mother's posture during the feeding?

Constriction of the muscle?

Was this like Thoracic Outlet Syndrome?

Case Study: Zelda; The Feeding

This is how we treated First Breast (L.)

- Stretching of Pectoral Muscles → slight improvement of pain
- Massage of Pectorals (above breast only) → complete interruption of pain
- No pain returning on that breast while in clinic that day

This is how we Pre-treated Second Breast (R.)

- 3-way Pectoral Stretching in doorway
- Latching with the L-Eat Latch and Transfer Method

Kernerman et al, NBCI, 2007, 2010

- Pectoral Muscle Massage immediately after baby delatched
- Nipple massaged with olive oil immediately post feeding

Zelda: After Feeding

We Waited 15 minutes

- No pain
- Zelda was in shock, she cried out of an overwhelming sense of relief
- Since this pain had begun this was the first time after a feeding she was without pain

- We recommended the TT be released, Zelda refused

Zelda: The Assessment

Mammary Constriction Syndrome

- Still hypothetical
- Group of symptoms caused by vasoconstriction of the chest and/or upper thoracic muscles
- Leading to ischemia
  →vasospasm of the nipple may or may not be accompanied by pain
  → ulcers or slowed healing of the nipples

And/or

  →deep breast pain, sharp shooting pains, dull ache, tingling, itchiness

Zelda: The Plan

Protocol to Manage Breastmilk Intake (PMBI)

- Adjust latch & PMBI : PMBI (100%; 64% success, 27% no follow up)

Vasospasm/MCSProtocol:

- 3-way Pectoral Stretching in doorway prior to feedings when possible
- Draw out nipple before feeding with olive oil if there is time
- Latch with the L-Eat Latch and Transfer Method
- Keep baby drinking well with breast compressions and switching sides PRN
- Pectoral Muscle Massage immediately after baby delatches
- Massage Nipple with olive oil immediately after feeding

Zelda: The Conclusion

1st Follow up (+5 days)

1st f/up (), Emails—1 day after visit and 4 days after 1st f/u

- "I am virtually pain free...I feel like I am just starting to breastfeed again"
- Stopped ointment—burned; had not yet gone out to purchase the gse.
- "Thank you so much for the exercises no pain so far"
- I'll do olive oil---that doesn't hurt

- Breast pain gone , nipples hurting more
- Domperidone 30mg tid →nipples better

Final follow up (+7 weeks)

Email: nipples purple, breasts are fine

- Baby pulling at breast
- ↑Domperidone to correct dose (30mg tid), Stop vit E, reconsider TT release
- GSE and probiotics just in case

Summary:
To Diagnose Pain

- Watch the feeding
- Adjust latch & PMBI
  - *Watch the effects*
- Treat on the spot
  - *Wait for effects*
- Differential Diagnosis
- If unresolved pain/trauma, differentiate between:
  - Fungal or bacterial infection, Raynaud's phenomenon or vasospasm, referred pain, something else? MCS?

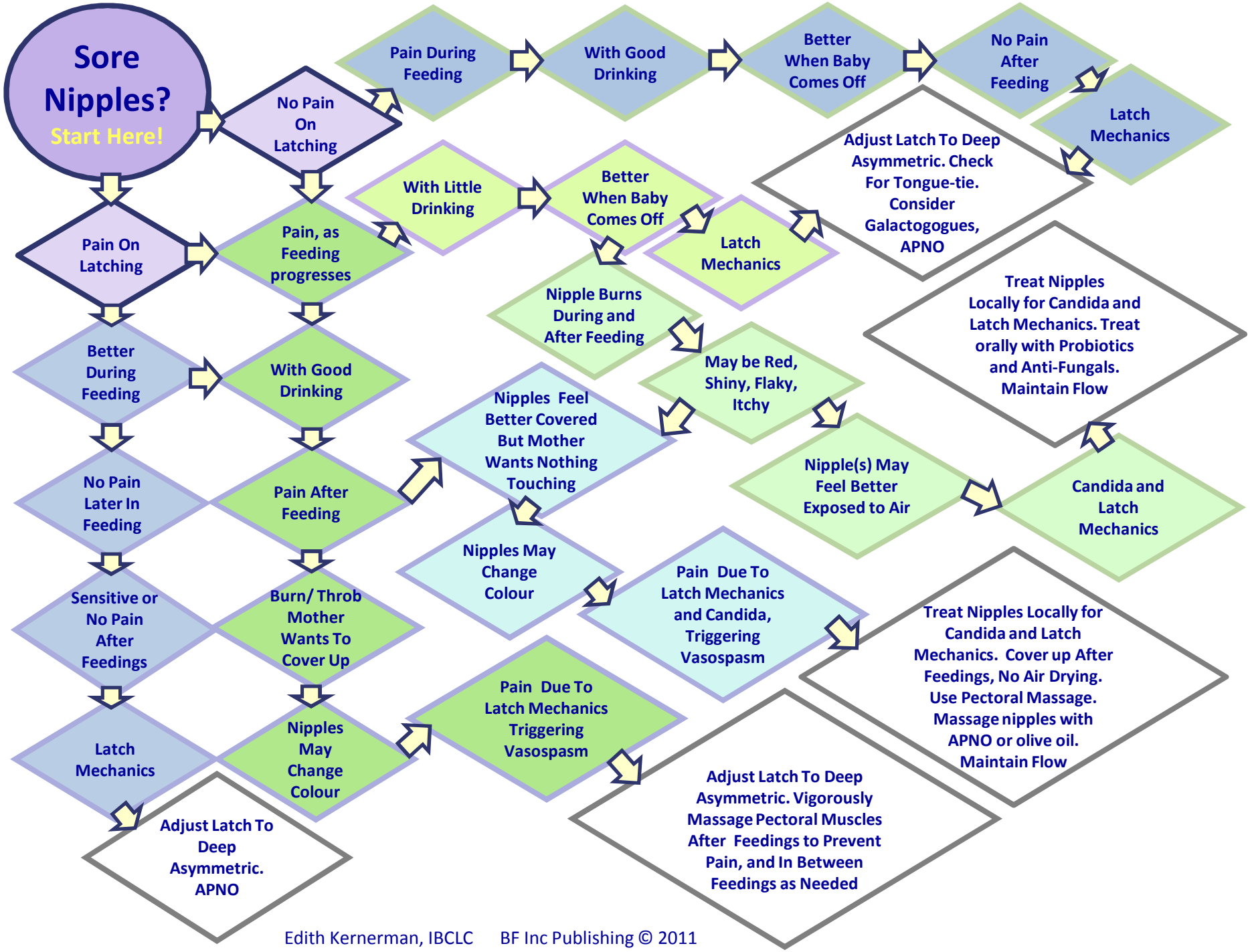
Summary:
Need for Consistency on Diagnosis or Treatment for Pain

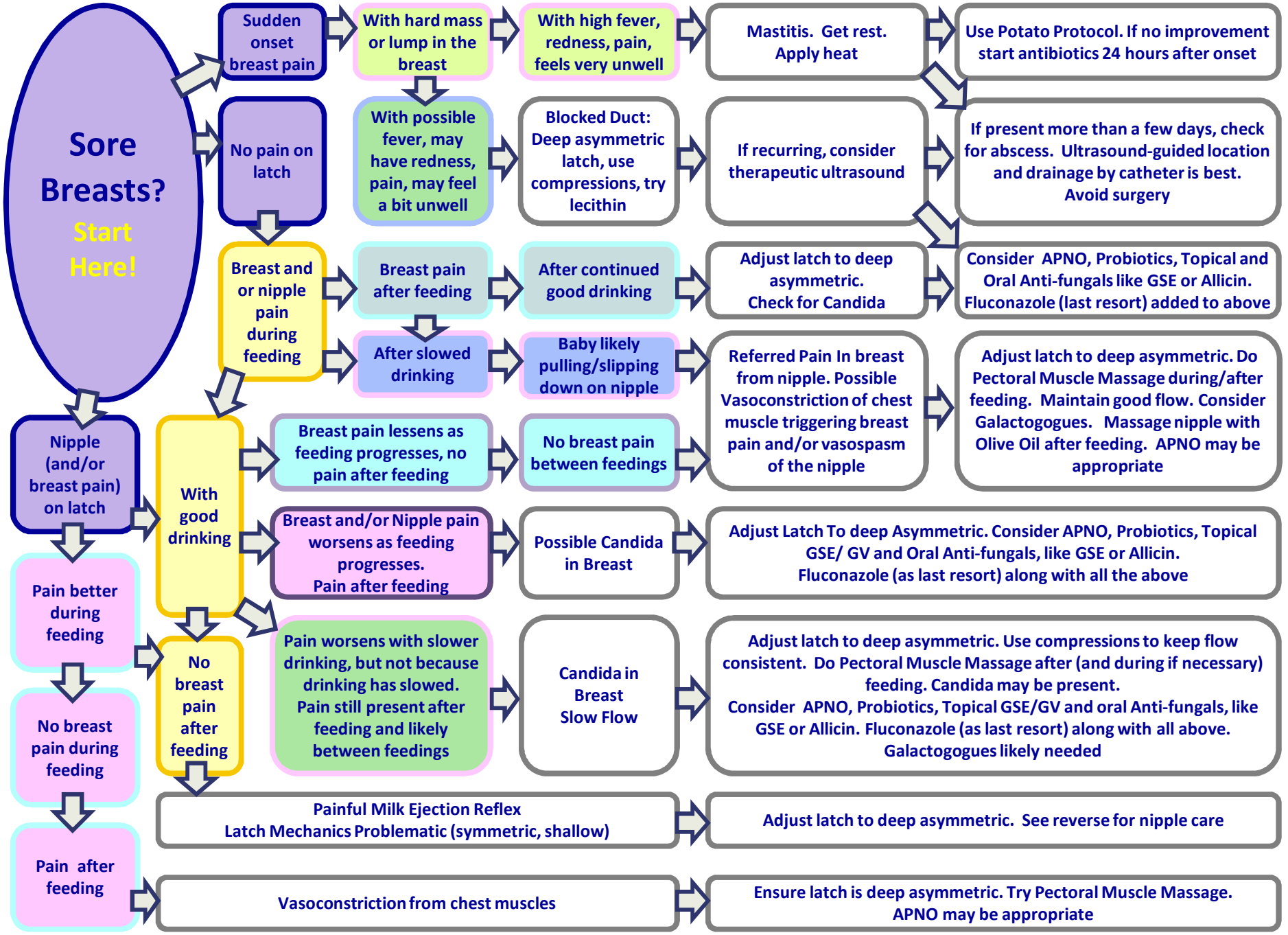
- *Foxman et al* noted "how little is known about the epidemiology and pathogenesis of this common condition" (mastitis)
- Also pointed out that "it was frequently diagnosed and treated over the telephone"
- and "as antibiotic resistance is an increasing concern, **better algorithms to distinguish between milk stasis and mastitis without the benefit of physical examination are required**" (my emphasis)

Foxman B et al. Am J Epidemiol 2002

Pain Diagnosis/Treatment Tool

Can be used in person over phone or via email or internet




Sore Breasts?
Start Here!
Sudden onset breast pain
With hard mass or lump in the breast
With high fever, redness, pain, feels very unwell
Mastitis. Get rest. Apply heat
Use Potato Protocol. If no improvement start antibiotics 24 hours after onset
No pain on latch
With possible fever, may have redness, pain, may feel a bit unwell
Blocked Duct: Deep asymmetric latch, use compressions, try lecithin
If recurring, consider therapeutic ultrasound
If present more than a few days, check for abscess. Ultrasound-guided location and drainage by catheter is best. Avoid surgery
Breast and or nipple pain during feeding
Breast pain after feeding
After continued good drinking
Adjust latch to deep asymmetric. Check for Candida
Consider APNO, Probiotics, Topical and Oral Anti-fungals like GSE or Allicin. Fluconazole (last resort) added to above
After slowed drinking
Baby likely pulling/slipping down on nipple
Referred Pain In breast from nipple. Possible Vasoconstriction of chest muscle triggering breast pain and/or vasospasm of the nipple
Adjust latch to deep asymmetric. Do Pectoral Muscle Massage during/after feeding. Maintain good flow. Consider Galactogogues. Massage nipple with Olive Oil after feeding. APNO may be appropriate
Nipple (and/or breast pain) on latch
With good drinking
Breast pain lessens as feeding progresses, no pain after feeding
No breast pain between feedings
Breast and/or Nipple pain worsens as feeding progresses. Pain after feeding
Possible Candida in Breast
Adjust Latch To deep Asymmetric. Consider APNO, Probiotics, Topical GSE/ GV and Oral Anti-fungals, like GSE or Allicin. Fluconazole (as last resort) along with all the above
Pain better during feeding
No breast pain after feeding
Pain worsens with slower drinking, but not because drinking has slowed. Pain still present after feeding and likely between feedings
Candida in Breast Slow Flow
Adjust latch to deep asymmetric. Use compressions to keep flow consistent. Do Pectoral Muscle Massage after (and during if necessary) feeding. Candida may be present. Consider APNO, Probiotics, Topical GSE/GV and oral Anti-fungals, like GSE or Allicin. Fluconazole (as last resort) along with all above. Galactogogues likely needed
No breast pain during feeding
Painful Milk Ejection Reflex
Latch Mechanics Problematic (symmetric, shallow)
Adjust latch to deep asymmetric. See reverse for nipple care
Pain after feeding
Vasoconstriction from chest muscles
Ensure latch is deep asymmetric. Try Pectoral Muscle Massage. APNO may be appropriate

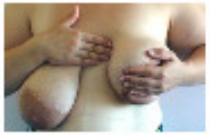
MCS Pec Muscle Stretches and Massage Techniques

Back flap of the Pain Algorithm

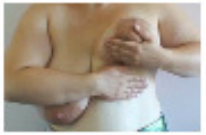
Pectoral Muscle Massage for Pain in the Left Breast

Massage the muscle either quickly, or firmly, for a minimum of 45-60 seconds

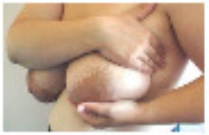
Pectoral:
Mother uses her L. hand to support breast and R. to massage upper Pectoralis with a flat hand



Pectoral:
Mother uses her L. hand to support breast and R. to massage Inner Pectoralis with her finger tips

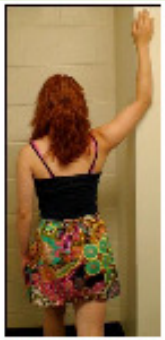


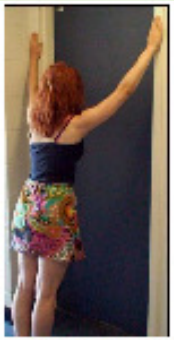
Pectoral:
Mother uses her L. hand to support breast and R. to massage lower Pectoralis with a flat hand

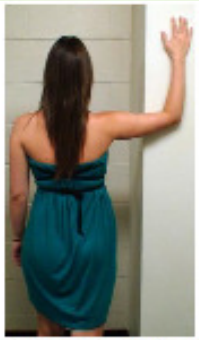


Serratus:
Mother uses her L. hand to support breast and R. To massage Serratus with her fingertips

Pectoral Muscle Stretches in a Doorway







The mother should do these stretches gently and it is best to hold them for at least 30 seconds if possible. It is important that the mother not bend forward from the hips but rather gently push her whole upper body forward while keeping her arm/hand placed against the doorway or wall. The point is to stretch the mother's chest muscles in different ways. By raising her hand to the height of her head (so her arm is parallel to the floor) one area of her pectoral muscles will stretch. By lifting her hand well over her head, so her arm is extended, other parts will stretch as well.

Breastfeeding Support Websites

General
babylatch.com
babymilkaction.org
bfirc.com
breastfeedinginc.ca
cica.ca
drjacknewman.com
haltonbreastfeeding.com
ibfan.org
infactcanada.ca
milcc.org
nbci.ca
olcacanada.ca
unicef.org
waba.org.my
who.int/topics/breastfeeding

Donor Milk
hmbana.org
hm4hb.net

Sleep, KMC, SSC
kangaroomothercare.com
nd.edu/~jmckenn1/lab/index.html

Medications
lbreastfeeding.com

Tongue Tie
breastfeedinginc.ca
brianpalmerdds.com
kiddsteeth.com
nbci.ca
tonguetie.net
tongue-tie.org

Mother Support:
babylatch.com
canadianmidwives.org
cappa.net
dona.org
lalecheleaguecanada.ca
lli.org
nacpm.org
nbci.ca
normalfed.com

Induced Lactation/Supply/Surgery
asklenore.info
bfar.org
breastfeedinginc.ca
lowmilksupply.org
nbci.ca

To find an IBCLC (International Board Certified Lactation Consultant) contact ILCA (International Lactation Consultant Association) www.ilca.org or IBLCE (International Board of Lactation Consultant Examiners) www.iblce.org

New

L-eat 2012

LATCH—EMPOWER, ATTACH, TRANSFER

Updated

GamePlan

for Protecting and Supporting Breastfeeding in the First 24 hours of Life and Beyond

edith@nbci.ca

For printouts: www.nbci.ca

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