

# **Connection of arm lines and mastitis in breastfeeding woman during first 2 years postpartum**

## **INTRODUCTION**

A 37 year old woman presented with h/o 4 episodes of mastitis in the last one year. She is 1 year postpartum and breastfeeding. The client has h/o natural birth with min tearing and she had only one episode of mastitis after her first born. The client is doing her PhD and she has to spend time in front of the computer for her thesis. The client is an active runner. Her menstrual cycle returned 9 month postpartum.

## **CLIENT CHARACTERISTICS**

The client does not have any medical history. The client is under stress with her dissertation otherwise she is healthy. The client stated she gets slight breast pain/clogged duct every 3 months followed by fever next day and she gets mastitis. She had to be on antibiotics for that for 4 times in the last one year. She is breastfeeding her child mainly in the evening and at night on demand. Her child goes to daycare during the day. The client really wants to avoid the pattern of mastitis and antibiotics every 3 months.

## **EXAMINATION FINDING**

Posture: Slightly rounded shoulders and slouched while seated and while breastfeeding, she mostly carries her child on the right side with hips shifted on the right side.

Breathing mechanics: Decreased rib mobility, upper back tightness present

ROM:

Thoracic spine mobility: extension: mod loss, rotation to R/L: mod loss tightness of rib cage/thoracic spine present.

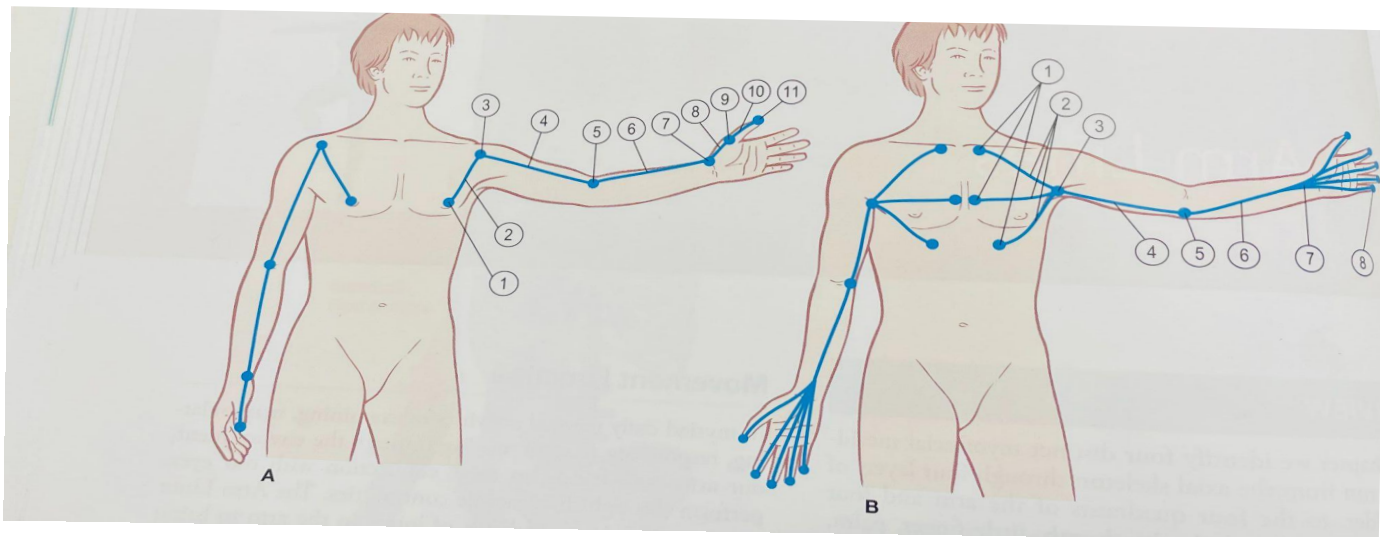
Muscle strength:

Both UE and LE grossly graded: 5/5

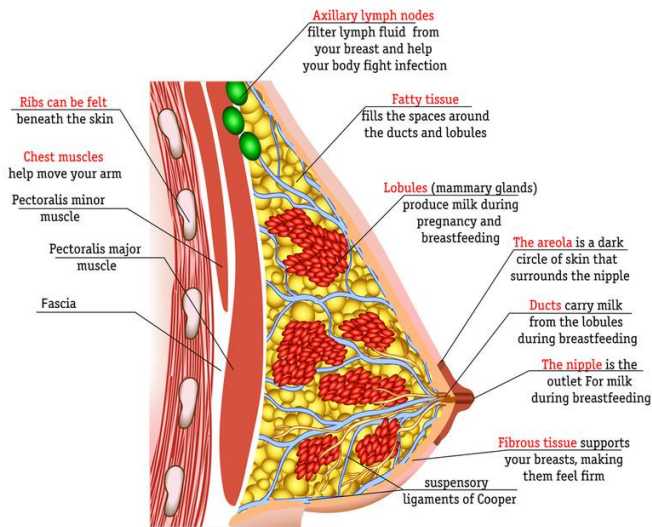
The client presented with tight superficial and deep front arm lines. The arm lines are myofascial meridians that run from the axial skeleton through the four layers of the shoulder, to the four quadrants of the arm, and four sides of the hand. The arm lines

provide more mobility and require more variable lines of control and stabilization through interline links (lateral, spiral and functional). These arm lines (deep) connect the shoulders contralaterally to the pelvic girdle. (Ref: Anatomy Trains). The posture can affect the arm lines. For example, slouch posture can lead to shortening of front arm line and lengthening of back arm line which creates compensatory patterns and muscle dysfunction. The client had to do work in front of the computer- typing (using fingers) along with posture affected her arm lines.

Superficial front arm line consists of palmar muscles of hands and fingers, carpal tunnel, lower arm flexors, intermuscular septum, and pectoralis major/latissimus dorsi, and medial third of clavicle, costal cartilages, lower ribs, thoracolumbar fascia, and iliac crest. The deep front arm line consists of 3rd, 4th, 5th ribs with pectoralis minor muscles, subclavius, claviopectoral fascia, coracoid process, biceps brachii, coracobrachialis, brachialis, radial tuberosity, pronator teres, supinator, radial periosteum, styloid process of radius, radial collateral ligament, scaphoid, trapezium, thenar muscles, and outside of the thumb. The information and image is taken from Anatomy Trains by Thomas Myers.



## MEDICAL STRUCTURE OF THE FEMALE BREAST



The image is taken from Breast Tissue Anatomy & Physiology 101- JACKIE BELL NATURAL HEALTH

Based on the breast anatomy, it consists of rib cage, pectoralis minor/major muscle, subclavius, and clavipectoral fascia which is fascially connected to superficial and deep front arm lines to hand. Any postural deviations can lead to restrictions of the fascial lines and can affect the function. The ducts and mammary glands are supported by suspensory ligaments, fatty tissues, muscles, and skeletal structure (ribs/clavicle). The lymphoid tissue connects the breast around the edge of pectoralis to the armpit. The ducts carry the milk from the mammy glands and the nipple is the outlet for the milk during breastfeeding. Now any restrictions on the fascia/muscle/ligaments can affect the duct function and can lead to clogged ducts. Clogged ducts can lead to mastitis.

Based on the assessment, the treatment was focused on

- 1) Posture education
- 2) Hand and forearm fascial release
- 3) Breast massage
- 4) Thoracic spine and rib cage mobility

The client's goal was to be able to prevent mastitis and avoid the use of antibiotics if possible.

The client was not seen in the clinic. The client was performing exercises at home everyday for 6 months and meanwhile she was still breastfeeding, which consists of

- 1) Hand MELT - using a ball- client was releasing palmar surface of hands, fingers and thenar muscles.
- 2) Forearm MELT- using a ball - the client was releasing flexor group/ carpal tunnel, supinator muscles.

This is MELT method developed by Sue Hitzmann

- 3) Seated thoracic extension
- 4) Side lying thoracic rotation
- 5) Foam rolling thoracic spine and rib cage

The client was able to identify a clogged duct and was doing her exercises twice and used the electric toothbrush on the breasts and she was able to prevent the incidence of mastitis.

#### SUMMARY:

The client presented with tightness of thoracic spine/rib cage which was aggravated by posture and computer use. The rib cage mobility can be affected during the pregnancy due to the position of the baby and the breathing mechanics. Some people get their mobility back after childbirth. Some people can still be presented with the stuck ribs which can affect the thoracic spine mobility and also shoulder mobility/arm line function to hands. It can also affect the breast tissue function. About 20% of women experience painful mastitis while breastfeeding and need to use antibiotics. Some women need it multiple times during the breastfeeding journey. It makes the breastfeeding journey uncomfortable for some women. The lymph nodes are very important to filter the fluid from the breast and it helps the body to fight an infection. The lymph drainage can also be affected by the posture and fascial restrictions. That way clogged ducts and restriction of drainage of lymph fluid from the breast can lead to infection and inflammation. The computer work can lead to slouch posture or rounded shoulders along with wrist position and use of fingers can affect the front arm line mobility and fascial mobility and function. The client worked on the arm line by working on thoracic spine/ribs, hand/forearm MELT to improve mobility of the fascia chain and allow the breast to drain. When she developed the clogged duct, she also used the electric brush a night before along with exercises and was able to facilitate lymphatic drainage, break the clogged duct, and prevent the development of mastitis.

The arm lines are so important not only for breast health but also for shoulder and hand function. If I can just think about the incidence of carpal tunnel during the pregnancy 2-70%, the defined major factors that contribute to CTS are hormones, fluid retention, glucose levels, nerve hypersensitivities, and a very poorly identified factor is posture or even arm lines. Most times women are given braces. Very few women are referred for Physical Therapy. The cases I have seen in practice are just pain relief so they can sleep at night. Whenever I worked on their posture/arm line they felt significant relief. So the arm line is something to consider for CTS for

women during pregnancy. Unfortunately, medical science would not do anything for hormone fluctuations and fluid retention (besides the brace) during the third trimester. But we can work on posture and arm lines and it would not cause any side effects. So women do not have to wait till they give a birth to find relief.