# LOW MILK SUPPLY: A PROVIDER'S GUIDE

KELLY GRUMMER-SMITH, MSN, FNP-C, IBCLC



# **OBJECTIVES**

- 1.BASIC UNDERSTANDING OF LACTOGENESIS 2
- 2. MATERNAL RISK FACTORS FOR LOW SUPPLY
- 3. INFANT RISK FACTORS OR LOW SUPPLY
- 4. WHAT IS LOW SUPPLY
- 5. STRATEGIES TO IMPROVE MILK SUPPLY
- 6. GALACTOGUES



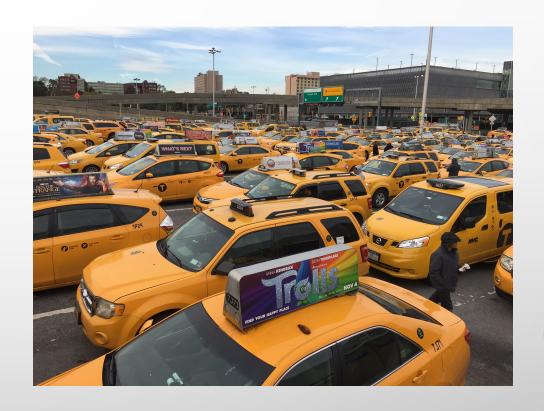
# SCOPE OF PRACTICE

- WE ALL MUST PRACTICE WITHIN OUR SCOPE.
- IBCLE HAS RELEASED GUIDELINES IN 2017.
  - THE IBCLC NEITHER PRACTICES MEDICINE NOR DIAGNOSES A DISEASE OR DISEASE PROCESS UNLESS THE CERTIFICANT IS SEPARATELY LICENSED OR AUTHORIZED TO PERFORM SUCH PROCEDURES.
  - AN IBCLC DOES CAREFULLY ASSESS, DOCUMENT FINDINGS, AND REFER APPROPRIATELY AS NEEDED TO OBTAIN MEDICAL DIAGNOSIS AND POSSIBLE TREATMENT
- CLCS ARE COUNSELORS
- NURSES MUST FOLLOW THEIR SCOPE
- DIETICIANS
- LAY IBCLCS



# LACTOGENESIS 2

- THIS IS THE ONSET OF COPIOUS MILK PRODUCTION
- DEPENDENT ON DELIVERY OF THE PLACENTA AND FREQUENT MILK REMOVAL
- SOME MILK WILL COME IN EVEN WITHOUT STIMULATION AND REMOVAL BUT FOR GOOD MILK SUPPLY NEED FREQUENT AND IMMEDIATE MILK REMOVAL AFTER BIRTH





- IT IS TIME CONSUMING
- HAVE TO HAVE OUR DETECTIVE HAT ON
- IS IT MOM?
- IS IT BABY?
- IS IT A ZEBRA??
- NEED A QUALIFIED LACTATION PROFESSIONAL TO PERFORM EVALUATION
- CANNOT JUST SAY......
- LETS TRY THIS WITHOUT AN EVALUATION



# MATERNAL ASSESSMENT

- NO BREAST GROWTH DURING PREGNANCY
- HORMONAL INSUFFICIENCY
- PREVIOUS FAILURE
- AGE
- SURGERIES
  - BREAST
  - WEIGHT LOSS
  - OTHERS
- MEDICATIONS
  - EARLY BIRTH CONTROL
  - HYPERTENSION
  - ILLICIT DRUGS



# MATERNAL WARNING SIGNS

- DELAYED LACTOGENESIS II
- SLOW PRODUCTION
- SORE NIPPLES
- FLACCID BREASTS
- SEPARATION FROM INFANT
- DELAYED PUMPING (IF SEPARATED)
- WIDE SPACED BREASTS
- HAVE TO EVALUATE THE BREASTS



# INFANT ASSESSMENT

- OBVIOUS ONES
  - CLEFT PALATE
  - HEART DEFECTS
  - GENETIC DISEASES
  - ADMISSION TO NICU
- PREMATURITY
- GREAT PRETENDERS
- BIRTH EXPERIENCE

- ANATOMY
  - HIGH PALATE
  - TONGUE TIE
  - TORTICOLLIS
  - LOW TONE
- SUCK FUNCTION
- PRE AND POST WEIGHT AFTER DAY 5



# INFANT WARNING SIGNS

- FAILURE TO START GAINING WEIGHT BY DAY 5
- NOT REGAINING BIRTHWEIGHT BY DAY 10
- SLEEPING TOO MUCH
- GOOD GAIN INITIALLY THEN CURVE DECELERATES
- NOT VOIDING AND STOOLING APPROPRIATELY

- SLOW GROWING BABY
- FUSSY INFANT
- INFANT THAT WAKES TO NURSE BUT FALLS ASLEEP QUICKLY AT BREAST AND IS SATISFIED



# EVIDENCE BASED GROWTH

- OLD
- LOSE UP TO 10%
- REGAIN BIRTHWEIGHT BY DAY 14
- GAIN 20GRAMS A DAY AFTER DAY 5

- NEW (WHO GUIDELINES)
- LOSE UP TO 7%
- REGAIN BIRTHWEIGHT BY 2-7 DAYS AFTER BIRTH
- GAIN 30-45GRAMS A DAY AFTER DAY 5



# WHAT IS LOW SUPPLY

- ANY CONDITION WHERE THE MOTHER'S MILK SUPPLY IS NOT SUFFICIENT ENOUGH FOR THE INFANT TO GAIN 30GRAMS A DAY
- DO NOT CONFUSE WITH POOR TRANSFER
- IT IS A VICIOUS CYCLE
- GOT TO FIND THE CAUSE AND FIX TO CONTINUE POSITIVE SUCCESSFUL BREASTFEEDING



- FLUIDS (1/2 MATERNAL BODY WEIGHT IN OZS) A DAY
- CALORIES, A MINIMUM OF 1800 A DAY
- PROTEIN
- FIBER
- MAGNESIUM
- ZINC
- FREQUENT MILK REMOVAL
- SLEEP



- ANY SUBSTANCE THAT TAKEN CAN INCREASE MILK SUPPLY
- REMEMBER TEAS AND TINCTURES REQUIRE A LOT OF VOLUME
- CAN BE MEDICATIONS
  - KNOW THE CONTRAINDICATIONS
  - KNOW THE SIDE EFFECTS
  - UNDERSTAND WHY IT WOULD WORK
- CAN BE HERBS
  - KNOW THE CONTRAINDICATIONS
  - KNOW THE SIDE EFFECTS
  - UNDERSTAND WHY IT WOULD WORK



### FENUGREEK

- IT IS AN HERB USED IN COOKING
- CONTAINS PROTEIN, IRON, VIT C, NIACIN, AND POTASSIUM
- ONE OF THE OLDEST DOCUMENTED MEDICINAL HERB
- HAS SMALL BODY OF RESEARCH PROVING INCREASE IN SUPPLY
- IN ANIMAL STUDIES, IT HAS BEEN SHOWN TO INCREASE PROLACTIN OR GROWTH HORMONE
- SIDE EFFECTS: MAPLE SYRUP SMELL, DECREASES T3, DIARRHEA
- AVOID IN PT WITH ALLERGIES TO PEANUTS, LEGUMES, OR ASTHMA



- GOATS RUE
  - FIRST MENTIONED IN 1873
  - IT CONTAINS PRECURSOR TO METFORMIN
  - MAY HELP WITH PATIENTS WITH PCOS
  - MILD DIURETIC,
  - MAY INCREASE BREAST TISSUE



## SHATAVARI

- USED IN INDIA AND CHINA
- TRADITIONALLY USED FOR INFERTILITY
- NO CLEAR DATA ABOUT EFFECTIVENESS
- MAY INCREASE PROLACTIN
- MAY BLOCK OXYTOCIN
- DO NOT USE DURING PREGNANCY
- MAY INCREASE VAGINAL LUBRICATION AND SEX DRIVE



## MORINGA

- GO-LACTA AND OTHER BRANDS
- COMES FROM A TREE GROWN IN INDIA AND PHILLIPINES
- DO NOT EAT FLOWERS, OR ROOTS
- HAS 9 AMINO ACIDS
- FIBER
- VITAMIN A, E
- POTASSIUM, CALCIUM, MAGNESIUM
- SUPPORTS NUTRITION
- SMALL STUDY DOES DEMONSTRATE INCREASE IN MILK SUPPLY
- MECHANISM OF ACTION NOT KNOWN



- BLESSED THISTLE
  - BEEN USED SINCE THE 1600S
  - POSSIBLE HORMONE BALANCE
  - USUALLY USED IN PILL FORM
  - TEAS AND TINCTURES VERY BITTER
  - USUALLY USED IN CONJUNCTION WITH FENUGREEK



- LACTATION COOKIES
- SO MANY DIFFERENT RECIPES
- PREDOMINANT IN MOST ARE OATMEAL (FIBER), BREWERS YEAST (B VITAMINS) AND FLAXSEED (FIBER, DIGESTION, AND OMEGA 3S)
- CALORIES

- ESSENTIAL OILS
- MY PERSONAL BIAS
- DO NOT USE ON BREAST TISSUE (REMEMBER INFANT WILL BE LAYING OR EATING AT THE BREAST
- MANY ARE CONTRAINDICATED IN INFANTS
- CLARY SAGE AND PEPPERMINT CAN DECREASE SUPPLY
- MOMS ARE USING, FENNEL, LAVENDER, GERANIUM, HELICHRYSUM, JASMINE, MELALEUCA, ROMAN CHAMOMILE



- REGLAN-
  - INCREASES PROLACTIN
  - IT DOES CROSS BLOOD BRAIN BARRIER
  - CAN CAUSE POSTPARTUM DEPRESSION
  - IN SAME CLASS AS DOMPERIDONE AND RISK OF LONG Q-T SYNDROME
  - SHOULD NOT BE USED MORE THAN 3 WEEKS
- DOMPERIDONE- ORPHAN DRUG STATUS, 2015 FDA MADE IT IMPOSSIBLE TO COMPOUND WITHOUT FACING PUNISHMENT
  - GREAT FOR MILK INCREASE
  - DOES NOT CROSS BRAIN BARRIER
  - INCREASES PROLACTIN
  - BLACK BOX WARNING OF LONG Q-T SYNDROME (SAME AS REGLAN)
- CISPRIDE
  - SHOULD NOT BE USED
  - CAN CAUSE SEVERE HEART CONDITIONS
- OXYTOCIN NASAL SPRAY –HAS TO BE COMPOUNDED
  - ONLY BENEFIT IS IF THERE IS A SLOW MER



# **RESOURCES**

- DR. JANE MORTON AT STANFORD
  - HANDS ON PUMPING VIDEO
  - 15 MINUTES OF BREASTFEEDING HELP
- ASKLENORE.COM
- BFAR.ORG
- LOWMILKSUPPLY.ORG
- DR. FRANK NICE
  - WWW.NICEBREASTFEEDING.COM
- DR. THOMAS HALE
  - INFANT RISK CENTER



- MALE INFANT BORN VAGINALLY AT 41 WEEKS
- PRIMIP
- NO COMPLICATIONS AT BIRTH
- MOM WANTS TO BREASTFEED
- FIRST VISIT AT DAY 5 DUE TO HOLIDAY
- BIRTHWEIGHT 9-2 BORN AT NEIGHBORING FACILITY, IN CLINIC WITHOUT RECORDS
- FIRST APPT. LENGTH 94%, WEIGHT 8-2 (3680 GRAMS) HC NOT COLLECTED?



- PT BROUGHT BACK 72 HOURS LATER
- WT 3700 GRAMS, 61%, HC 78%
- INFAT WAS STARTED ON SUPPLEMENTATION AND OUNCE A FEEDING AFTER BREASTFEEDING
- LACTATION APT AT ONE WEEK OF LIFE (REALLY DAY 9)
  - 3650 GRAMS, 53%
  - ON EXAM, POSTERIOR TONGUE TIE
  - ON EXAM, MOTHER HAS HAD BREAST SURGERY, WITH QUESTIONING REDUCTION SURGERY 7 YRS AGO
  - POOR ORAL FUNCTION IN INFANT WITH POOR ORAL TONE
  - PT TRANSFERRED ABOUT AN OUNCE
  - POSITIONING, LATCHING, ORAL STIMULATION, AND FEEDING PLAN DEVELOPED



- FU WITH LACTATION
  - WT 3960 GRAMS, 52%, LENGTH 87% HC 80%
  - FEEDING PLAN REINFORCED
  - REVIEWED HOW TO INCREASE SUPPLY



- PT MISSED APPTS
- NEXT HEALTH CHECK AFTER ONE MONTH OF AGE (6 WEEKS)
- PT KEPT 2 MONTH WELL CHECK
  - WT 4530 GRAMS, 1%, LENGTH 36% HC48%



- LACTATION VISIT AFTER 2<sup>ND</sup> MONTH
- WEIGHT 4620GRAMS 3%, HC 17% LEGNTH 35%
- WEIGHT CHECK AT 3MONTHS WEIGHT 5520 GRAMS 8%



# THE BIG PICTURE

- INFANT BORN AT 9-2
- LOST MORE THAN A POUND IN FIRST WEEK
- SLOW GROWTH AT 3WEEKS
- MISSED APPTS
- FAILURE TO THRIVE AT 2 MONTH WELL CHECK
- MOM UNAWARE, FELT INFANT WAS A "GOOD BABY"



# THE CURVE

- LENGTH 94%- 35% (AT LAST VISIT)
- WEIGHT 99% TO 1% BY 2MONTHS OF AGE WEIGHT COMING UP AND AT 3 MONTHS 8%
  WITH HEAVY SUPPLEMENTATION
- HC: 78% TO 39%



# REFERENCES

GENNA, CATHERINE. (2008). SUPPORTING SUCKING SKILLS IN BREASTFEEDING INFANTS. JONES & BARTLETT PUBLISHING, BOSTON.

WEST, D., MARASCO, L. (2009). THE BREASTFEEDING MOTHER'S GUIDE TO MAKING MORE MILK. MCGRAW HILL, NEW YORK.

NEWMAN, J., PITTMAN, T. (2014) DR. JACK NEWMAN'S GUIDE TO BREASTFEEDING. COLLINS. NEW YORK.

LAWRENCE, R., LAWRENCE, R. (2015) BREASTFEEDING: A GUIDE FOR THE MEDICAL PROFESSION. 8ED. ELSEVIOR, PITTSBURGH.

ANDERSON, P. (2017). DOMPERIDONE: THE FORBIDDEN FRUIT. BREASTFEEDING MEDICINE. VOL 12. PP258-260.

FOONG, SC. (2015). ORAL GALACTOGUES FOR INCREASING BREASTMILK PRODUCTION IN MOTHERS OF NONHOSPITALIZED TERM NEWBORNS. COCHRANE REVIEW

BAZZANO, A. (2016). A REVIEW OF HERBAL AND PHARMACEUTICAL GALACTOGUES FOR BREASTFEEDING. THE OSCHSNER JOURNAL.

ABM PROTOCOL (2011). CLINICAL PROTOCOL #9: USE OF GALACTOGUES IN INITIATING OR AUGMENTING THE RATE OF MATERNAL MILK SECRETION, BREASTFEEDING MEDICINE. VOL 6., NO1.

### WWW.ASKLENORE.COM

- WWW.BFAR.ORG
- IBCLE (2017). ADVISORY OPINION: ASSESMENT, DIAGNOSIS, AND REFERRAL.. WWW.IBCLE.ORG
- ACADEMY OF BREASTFEEDING MEDICINE PROTOCOL COMMITTEE. ABM CLINICAL PROTOCOL #9: USE OF GALACTOGOGUES IN INITIATING OR AUGMENTING THE RATE OF MATERNAL MILK SECRETION (FIRST REVISION JANUARY 2011). BREASTFEEDING MED. FEBRUARY 2011, 6(1): 41-49.
- BYSTROVA K, ET AL THE EFFECT OF RUSSIAN MATERNITY HOME ROUTINES ON BREASTFEEDING AND NEONATAL WEIGHT LOSS WITH SPECIAL REFERENCE TO SWADDLING. EARLY HUM DEV, 2007; 83(1): 29-39.
- DAVIES DP, EVANS T: THE STARVED BUT CONTENTED BREASTFED BABY. ARCH DIS CHILD 53: 763, 1978.
- DECARVALHO MDEA. EFFECT OF FREQUENT BREAST-FEEDING ON EARLY MILK PRODUCTION AND INFANT WEIGHT GAIN. PEDS 72:307-311, 1983.
- DEWEY KG, HEINIG J, NOMMSEN LA ET AL: MATERNAL VERSUS INFANT FACTORS RELATED TO BREAST MILK AND RESIDUAL MILK VOLUME: THE DARLING STUDY. PEDS 87(6):829-837, 1991.
- DEWEY KG, LONNERDAL B: INFANT SELF-REGULATION OF BREASTMILK INTAKE. ACTA PAEDIATR SCAND 75:893-898, 1986.
- FRANCO P ET AL INFLUENCE OF SWADDLING ON SLEEP AND AROUSAL CHARACTERISTICS OF HEALTHY INFANTS. PEDIATRICS 2005;115;1307-1311
- GABBAY MP: GALACTOPHARMACOPEDIA. GALACTOGOGUES: MEDICATIONS THAT INDUCE LACTATION. J HUM LACT 18(3), 274-279, 2002.
- MOHRBACHER, N. BREASTFEEDING ANSWERS MADE SIMPLE: A GUIDE FOR HELPING MOTHERS.AMARILLO TX: HALE PUBLISHING, 2010
- MORTON, J. ET AL. BREAST MASSAGE MAXIMIZES MILK VOLUMES OF PUMP-DEPENDENT MOTHERS, ABSTRACT 444. PEDIATRIC ACADEMIC SOCIETY MEETING, TORONTO, MAY 2007
- NELSON SE, ROGERS RR, ZIEGLER EE, FOMON SJ: GAIN IN WEIGHT AND LENGTH DURING EARLY INFANCY. EARLY HUM DEV 19:223-239, 1989.
- NEVILLE, MC. MILK SECRETION: AN OVERVIEW. ONLINE REVIEWS, BIOLOGY OF THE MAMMARY GLAND. HTTP://MAMMARY.NIH.GOV/REVIEWS/LACTATION/NEVILLE001/INDEX.HTML
- NEVILLE, MC. OXYTOCIN AND MILK EJECTION. ONLINE REVIEWS, BIOLOGY OF THE MAMMARY GLAND. HTTP://MAMMARY.NIH.GOV/REVIEWS/LACTATION/NEVILLE002/INDEX.HTML
- POWERS NG, SLUSSER W: BREASTFEEDING UPDATE. 2: CLINICAL LACTATION MANAGEMENT. [REVIEW]. PEDIATR
- REV18:147–161, 1997.THE ONSET OF LACTATION AND FULL LACTATION. AM J CLIN NUTR 48: 1375-86, 1988
- SMILLIE CM TESTING A THEORY OF SLOW WEIGHT GAIN IN BREASTFEED INFANTS. ABSTRACT, PLATFORM OCT 2010. BREASTFEEDING MEDICINE, 5(6): 333. 2010.