

Medications and More

NEWSLETTER

Volume 31 • June, 2008

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HAPPY FATHERS' DAY



Notes from the Editor:

We've been busy at Hale Publishing. In addition to the newest *Medications and Mothers' Milk*, we also are planning to have three, maybe four other new books ready for the ILCA conference in July! Be sure to stop by the ILCA bookstore and see our newest selections!

The contest to name the breastfeeding WIKI site is still going on this month. See page 2 for details.

We have 55 affiliates and our goal is 100. See page 8 for information on how you can join this exciting new program!

Medications and More Newsletter is a monthly e-newsletter publication of Hale Publishing LP, Amarillo, TX.

Notes from Dr.Hale

IS IRON REALLY THAT NECESSARY FOR INFANTS?

BY DR. THOMAS W. HALE

We are in the midst of a revolution in thinking about iron supplementation in infancy. While all of us understand the necessity for sufficient iron in fetal and neonatal development and the importance of this metal in biologic function, we are now beginning to see some problems associated with the over-abundant use of this mineral.

As you all know, iron is mandatory for the creation of hemoglobin. Hemoglobin is the iron-containing oxygen-transport metalloprotein found in the red blood cell. Hemoglobin transports oxygen from the lungs of mammals to other tissues, where it subsequently releases oxygen to the tissues. In the last trimester of pregnancy, the liver is packed full of additional iron. But this is only enough to last the full-term infant for about six months postpartum. The biologic relevance of this is obvious. It is to supply the infant with sufficient iron while the infant is fed with human milk, a food source that is relatively deficient in iron. Nature intended the GI tract to be deficient in iron to prevent the overgrowth of hazardous bacteria and to maintain Bifidus species of bacteria, which, interestingly, don't require iron to grow. Thus, the infant has plenty of iron to create hemoglobin and grow for the first six months of life while its' GI tract is relatively deficient in iron. Why? We are only now becoming aware that high levels of exogenous iron has some problems.

Interestingly, the point that is now becoming apparent is that too much iron may not be beneficial to the infant's development. Hemoglobin concentrations change as we age from quite high in the fetus and at birth, to much

CONTINUED

lower levels over the next two months. We know with certainty that during gestation, iron-deficiency anemia may lead to developmental delays in one to two-year-old children that subsequently may not respond to prolonged iron therapy.

But the intriguing question now posed is, does the supplementation of infants with high oral doses of iron cause problems?

Iron is an essential growth stimulant for microbes and malignant cells. Human milk has lactoferrin that effectively chelates iron in an attempt to keep it away from microbes. Biologic fluids contain several other proteins that chelate iron and keep it in a form that is unavailable to microbial or neoplastic cells. Some evidence suggests that high iron loads may actually be a risk factor for certain malignancies because iron is a rate-limiting factor in neoplastic cellular growth.¹

Studies in my laboratories have shown that iron dramatically stimulates bacterial and candida growth. In some of my studies, candida growth increased by as much as 35-fold with the addition of iron. The iron content could also account for the widely different bacterial content of the gut in formula-fed infants as compared to human milk-fed infants. When used routinely, iron has been found to increase the prevalence of severe sepsis by approximately 20-fold,² and even the risk of malaria.³

New evidence just presented found that in a large cohort of infants fed iron-fortified formulas, these infants scored an average of 11 points lower on IQ tests at ten years of age compared to similar children fed low-iron formulas.⁴

Other such evidence in animal models suggests high oral iron loads may actually lead to reduced capillarization of various tissues, including the myocardium, leading to reduced function later in life. This work suggests that super iron-rich blood may lead the infant to produce fewer capillaries per cubic centimeter of tissue - because the blood is so rich, you don't need as many capillaries.

All this data suggests, as we all know, that human milk continues to be the most perfect nutrition for a human infant. Everything we may have formerly deemed 'deficient' (such as iron) now seems to be just perfect. So do we need to supplement breastfed infants with oral iron? The answer is probably yes, but only premature infants who may not have the hepatic stores of iron. Do we need to supplement term infants? Probably not, unless they have documented iron deficiency anemia.

Do infants fed formula need supplementation? Maybe, but they need only minimal supplementation because the iron in formula may not be biologically well absorbed. Do they need high doses of exogenous iron? Probably not if we want them to be smart.

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1. Herrinton LJ, Friedman GD, Baer D, Selby JV. Transferrin saturation and risk of cancer. *Am J Epidemiol.* 1995 Oct 1;142(7):692-8.
2. Barry DM, Reeve AW. Increased incidence of gram-negative neonatal sepsis with intramuscular iron administration. *Pediatrics.* 1977 Dec;60(6):908-12.
3. Oppenheimer SJ, Gibson FD, Macfarlane SB, et al. Iron supplementation increases prevalence and effects of malaria: report on clinical studies in Papua New Guinea. *Trans R Soc Trop Med Hyg.* 1986;80(4):603-12.
4. Kerr ML, D. Neurodevelopmental delays associated with iron-fortified formulas for health infants. *Medscape medical news* 2008 [cited 2008; Available from: www.medscape.com/viewarticle/574363

All it takes is one smart idea. What's yours?

The staff at Hale Publishing need your help. It's your turn to submit an original name for our upcoming MediaWiki on breastfeeding subjects. Submit as many names as you like and as many topics as you like. Remember, no idea is too big or too small, and yours could win you a free *Medications and Mothers' Milk 2008*. When you're finished, let your friends and family know you need their support. Have them visit the site and submit their own idea by emailing books@hale-publishing.com.

ALLERGY/ASTHMA

Impact of maternal atopy and probiotic supplementation during pregnancy on infant sensitization: a double-blind placebo-controlled study.

Neonatal antibiotic treatment is a risk factor for early wheezing.

Prospective study of breast-feeding in relation to wheeze, atopy, and bronchial hyperresponsiveness in the Avon Longitudinal Study of Parents and Children (ALSPAC).

Protein-losing enteropathy associated with egg allergy in a 5-month-old boy.

Survey of physicians' approach to food allergy, Part 2: Allergens, diagnosis, treatment, and prevention.

ENVIRONMENTAL ISSUES

Persistent organochlorine pesticides and risk of testicular germ cell tumors.

HIV/AIDS

18-month occurrence of severe events among early diagnosed HIV-infected children before antiretroviral therapy in Abidjan, Cote d'Ivoire: a cohort study.

Acceptability of measures aimed at preventing mother-to-child transmission of HIV among pregnant women.

Awareness and acceptability of strategies for preventing mother to child transmission of HIV among antenatal clients in Calabar, Nigeria.

HIV Testing and Prevention Strategies.

Low rates of mother-to-child transmission of HIV following effective pregnancy interventions in the United Kingdom and Ireland, 2000-2006.

Maternal HLA homozygosity and mother-child HLA concordance increase the risk of vertical transmission of HIV-1.

Messages about dual contraception in areas of high HIV prevalence are not heeded.

Potential impact of infant feeding recommendations on mortality and HIV-infection in children born to HIV-infected mothers in Africa: a simulation.

IMMUNOBIOLOGY

Effect of lactoferrin on enteric pathogens.

INFANT/CHILD ISSUES

Associations of birth size and duration of breast feeding with cardiorespiratory fitness in childhood: findings from the Avon Longitudinal Study of Parents and Children (ALSPAC).

Breastfeeding and child cognitive development: new evidence from a large randomized trial.

[Cerebral damage due to hypoglycaemia in otherwise healthy breast-fed term infants]

Correlation of 4-month infant feeding modes with their growth and iron status in Beijing.

Cytomegalovirus infection via mother's milk: could distinct virus strains determine different disease patterns in preterm twins?

Does prolonged breastfeeding reduce the risk for childhood leukemia and lymphomas?

Early attainment of breastfeeding competence in very preterm infants.

Effect of breastfeeding and sociodemographic factors on visual outcome in childhood and adolescence.

Infants of mothers with persistent nipple pain exert strong sucking vacuums.

Mixed-longitudinal growth of breastfeeding children in Moroto District, Uganda (Karamoja subregion). A loss of biological resiliency?

Risk factors for sudden infant death syndrome in a developing country.

The effect of maternal T1DM on the fatty acid composition of erythrocyte phosphatidylcholine and phosphatidylethanolamine in infants during early life.

Unlocking evidence of early diet from tooth enamel.

Vitamin D &/or calcium deficiency rickets in infants & children: a global perspective.

Vitamin D deficiency in exclusively breast-fed infants.

What next in necrotizing enterocolitis?

MATERNAL ISSUES

Assisting pregnant women to prepare for disaster.

Bottle feeding during the first month of life: determinants and effect on breastfeeding technique.

Breast-feeding, but not oral contraceptives, is associated with a reduced risk of rheumatoid arthritis.

Breastfeeding in polycystic ovary syndrome.

Comparison of Centering Pregnancy to Traditional Care in Hispanic Mothers.

Correlates of bone mineral density among postmenopausal women of African Caribbean ancestry: Tobago women's health study.

Gendered dimensions of disaster care: critical distinctions in female psychosocial needs, triage, pain assessment, and care.

Immigration, breastfeeding and smoking habit.

Impact of hospitalization on breastfeeding practices in a pediatric hospital in Salvador, Bahia State, Brazil.

Induced lactation: gaining a better understanding. Jordanian women's experiences with the use of traditional family planning.

Meeting the needs of the postpartum woman with epilepsy.

Risk factors for postpartum depression: a retrospective investigation.

State of the Science on Postpartum Depression: WHAT NURSE RESEARCHERS HAVE CONTRIBUTED-PART 2.

The breastfeeding surgical patient.

The effect of gestation on initiation and duration of breastfeeding.

MEDICATION

High-dose carisoprodol during pregnancy and lactation.

Is infliximab safe to use while breastfeeding?

Study of the newborn feeding behaviors and fentanyl concentration in colostrum after an analgesic dose of epidural and intravenous fentanyl in cesarean section.

OBESITY

Breastfeeding and risk of becoming overweight in offspring of mothers with type 1 diabetes

Decreased full breastfeeding, altered practices, perceptions, and infant weight change of pre-pregnant obese women: a need for extra support.

Developmental Origins of Childhood Overweight: Potential Public Health Impact.

Do breast-fed children have a lower risk for later obesity? Discussion of a meta-analysis

How pre- and postnatal risk factors modify the effect of rapid weight gain in infancy and early childhood on subsequent fat mass development: results from the Multicenter Allergy Study 90.

Impact of early postnatal weight gain and feeding patterns on body mass index in adolescence.

Predictors of overweight and obesity in five to seven-year-old children in Germany: results from cross-sectional studies.

PROMOTION

An interventional study to improve breast-feeding conditions in obstetric clinics of a model region in Bavaria

Assessing midwives' breastfeeding knowledge: Properties of the Newborn Feeding Ability questionnaire and Breastfeeding Initiation Practices scale.

Breastfeeding among the Ontario James Bay Cree: a retrospective study.

Breastfeeding duration and postpartum psychological adjustment: role of maternal attachment styles.

Breast-feeding, frequency and problems - results of the bavarian breast-feeding study

Breast-feeding knowledge and practices among mothers in Manisa, Turkey.

Breastfeeding programme--right policy, wrong target?

Development and Validation of the Infant Feeding Intentions Scale.

Effect of an extended midwifery postnatal support programme on the duration of breast feeding: A randomised controlled trial.

Exclusive breastfeeding in Vietnam: an attainable goal.

Formula labeling violations to the WHO Code: a quantitative and qualitative analysis.

Malama project in the region of murcia (Spain): environment and breastfeeding.

Marketing Breastfeeding-Reversing Corporate Influence on Infant Feeding Practices.

Promotion of breast feeding in paediatric outpatient settings

Psychometric properties of the Breastfeeding Self-Efficacy Scale-Short Form in an ethnically diverse U.K. sample.

Supporting breastfeeding mothers: qualitative synthesis.

Survey of patient satisfaction with the Breastfeeding Education and Support Services of The Royal Women's Hospital, Melbourne.

The Determinants of Exclusive Breast Feeding in Urban Slums: A Community Based Study.

We are now taking Pre-orders for Hale & Hartmann's Textbook of Human Lactation Study Guide.

To pre-order <http://www.ibreastfeeding.com/catalog>

MAY 27, 2008 – News.scotsman.com reports that Simpson’s Centre for Reproductive Health has received the UNICEF Baby Friendly Award. This is the seventh time the Centre has won this award.

MAY 25, 2008 – AMEinfo.com reports that the Saudi Ministry of Health banned the advertisement of infant formula and food substitutes, including handing out promotional samples in hospitals, in an effort to promote breastfeeding. The new law covers 28 items, including baby bottles and pacifiers.

MAY 24, 2008 – ShanghaiDaily.com reports that a 29-year-old Chinese policewoman and lactating mother was breastfeeding 8 babies in addition to her own. Three of the babies had mothers who were too traumatized by the earthquake to breastfeed, five were orphans of the earthquake.

MAY 19, 2008 – Medical News Today reports that Indiana passed a law that requires employers to provide a private place for employees to breastfeed. The new law will take effect on July 1.

MAY 15, 2008 – West Lothian Courier reports that the Five Sisters Zoo in Polbeth became the first to receive the West Lothian Community Health and Care Partnership Breastfeeding Friendly Award for its Jungle Tums Café. The Jungle Tums Café has a policy to support breastfeeding women in all public areas, providing clean and comfortable facilities.

MAY 15, 2008 – Medical News Today reports on a study from the Annals of the Rheumatic Diseases that found that women who breastfeed for a long period of time are less likely to get rheumatoid arthritis.

MAY 13, 2008 – The New York Times reports on a study in the May issue of The Archives of General Psychiatry. In a large randomized trial, researchers found that 6 ½ year old children who were exclusively breastfed for six months scored significantly higher on tests of vocabulary, word matching, and verbal IQ. The lead researcher, Dr. Michael S. Kramer, said the results could not be explained by the characteristics of the mother or the way she related to her child. He thought the increased IQ was due to breastfeeding.

May 12, 2008 – WABC (New York) reports that a new study from the University of Wisconsin suggests that women who were breastfed as infants have a 17% lower risk of developing breast cancer.

MAY 8, 2008 – Centredaily.com reports that the California Breastfeeding Coalition recognized Kaiser Permanente Southern California and Northern California regions for being a leader in helping new moms learn how to breastfeed and how to successfully continue nursing their babies. The hospital’s rate for initial breastfeeding is 90%, with 60% exclusively breastfeeding on discharge, and up to 50% continuing to breastfeed for the first six months. The Kaiser Permanente system has four hospitals that have earned the baby friendly designation.

MAY 2, 2008 – The Herald Sun reports that the Foundation for the Study of Infant Deaths says that even a few days of mother’s milk offers vital protection against infant death. This advice is based on research conducted by the US Agency for Healthcare Research and Quality. In a review of six studies of cot deaths and breastfeeding in developing countries, researchers found that any breastfeeding reduced the risk of cot death by 36%.



WHAT'S NEW

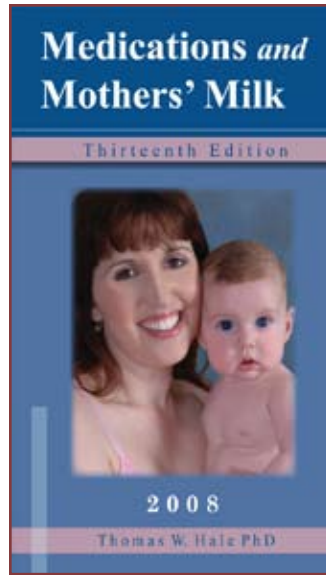
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Medications and Mothers' Milk 2008 13th Edition

Thomas W. Hale, PhD



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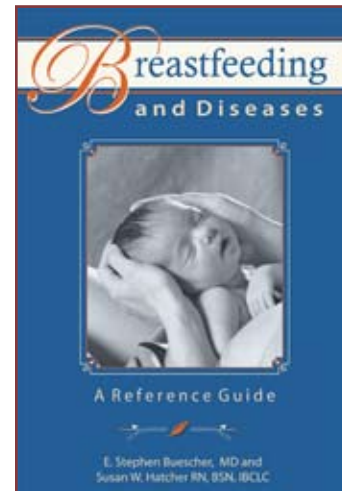
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E. Stephen Buescher, MD and Susan Hatcher, RN

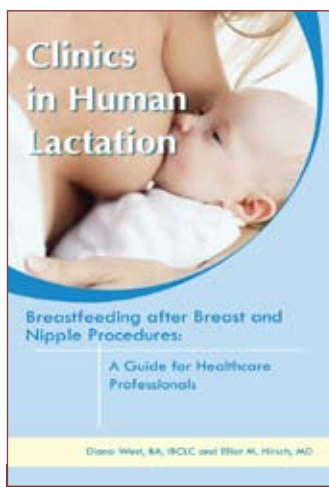


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New Monograph by Diana West and Elliot Hirsch

Clinics in Human Lactation Breastfeeding after Breast and Nipple Procedures

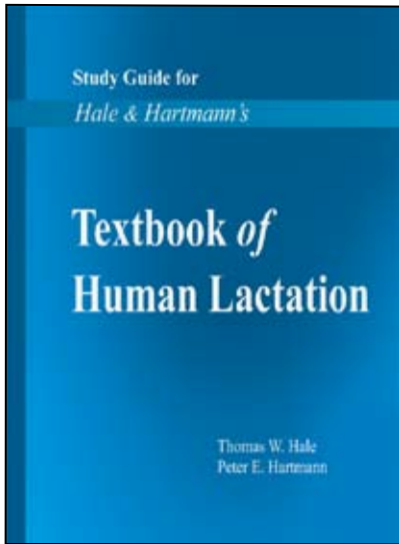
Diana West, BA, IBCLC
and Elliott Hirsch, MD

Do you work with pregnant or breastfeeding mothers who have had breast surgeries or other breast procedures? Breastfeeding after breast surgery can be challenging. Breastfeeding expert Diana West and Plastic Surgeon Elliot Hirsch have teamed up to write *Breastfeeding after Breast and Nipple Procedures: A Guide for Healthcare Professionals*. **\$18.95**

WHAT'S NEW

Study Guide for Hale & Hartmann's Textbook of Human Lactation

Editors: Thomas W. Hale, PhD and Peter Hartmann, BRurSc PhD



\$34.95

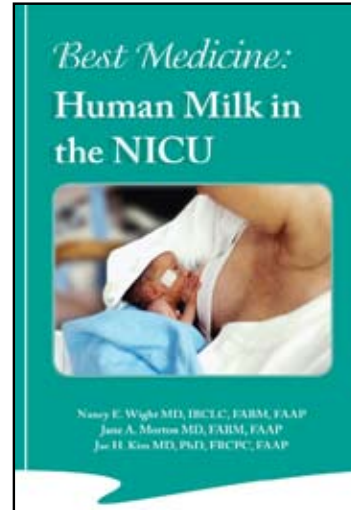
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The **Study Guide** is designed to be used in conjunction with *Hale & Hartmann's Textbook of Human Lactation*. It can be used by instructors to test the knowledge of their students or by individuals to deepen their understanding of the information in each chapter of the *Textbook of Human Lactation*.

Now Available

Best Medicine: Human Milk in the NICU

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July Shipment

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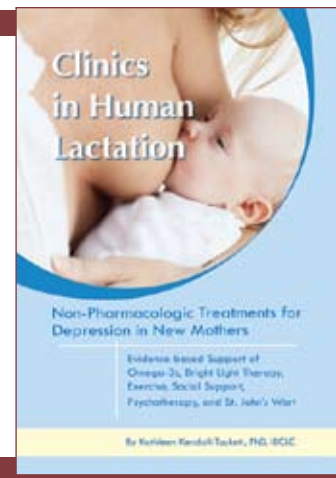
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Now Available by Kathleen Kendall -Tackett

Pregnant and postpartum women are at increased risk for depression, and the health effects of depression for both mother and baby are too serious to ignore. As important as it is, however, to promptly treat depression, some are voicing concern over whether the risks of antidepressant medications outweigh the benefits. In this monograph, Kathleen Kendall-Tackett describes the various non-drug treatment modalities being used to treat even major depression. In most cases, the non-drug treatments are as effective as medications with far fewer side effects. **\$18.95**

Clinics in Human Lactation Non Pharmacologic Based Treatments Kathleen Kendall -Tackett, PhD, IBCLC



WHAT'S NEW

Hale Publishing is Announcing its' New Affiliate Program.

What is the Hale Publishing Affiliate Program? It's really quite simple: you place banner ads illustrating our books on your web site with a special link to our e-commerce site. If a customer uses that link to arrive at our web site and makes a purchase, you earn 8% commission on that and any other sale that customer makes on our website. Even better, you continue to receive a commission on any sales that customer makes from our website for the next 30 days!

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Hale Publishing Announces New Monograph Series.

Hale Publishing is launching two new series of books on breastfeeding—one on clinical management and breastfeeding promotion entitled *Clinics in Human Lactation* and the other on breastfeeding research entitled *Annals of Breastfeeding Research*.

These exciting new monograph series will bring you the latest information and research on hot topics of interest on breastfeeding and human lactation. The monographs will help clinicians and health providers keep up to date on the fast changing science of this exciting field. Look for the first ones to be published in late spring/early summer.

What Are Monographs?

Monographs are small books, approximately 100 pages in length, on a single topic of current interest to the breastfeeding world.

Where will the monographs be available?

The monographs will be available through the Hale Publishing website and will be sold at the ILCA conference and the *Hartmann/Hale Human Lactation Research Conference*. New monographs will be announced in the Medications and More Newsletter.

How many monographs does Hale Publishing hope to publish?

Hale Publishing plans to publish 8 – 10 monographs a year. So, watch for new ones to be published frequently.

CONFERENCE

save this date

June 4-6, 2009

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Human Lactation Research Conference

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Julie Mennella
James McKenna
Donna Geddes
Sue Cox
Lee Gettler
Kathleen Kendall-Tackett

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