



# Breastfeeding Update

“Good health begins with breastfeeding.”

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## MATERNAL NUTRITION AND BREASTFEEDING: A RECIPE FOR SUCCESS

**Diana Lee, RD, CNSD, CLE**

Many women fear they cannot breastfeed because they do not eat “well enough.” Others believe they have to adhere to complex dietary rules and restrictions. Health care providers can help dispel these myths and promote breastfeeding by reinforcing general principles of moderation and balance versus the “perfect diet.”

Only in rare cases of long term, severe nutritional deficiency will breastmilk be affected. Research shows that during lactation, most nutrients in breastmilk remain consistent by means of complex homeostatic mechanisms independent of maternal intake.

General diet guidelines during lactation include:

- Maintain increased calorie intake. The 1989 RDA recommend an additional 500 calories per day. However, current research suggests that women with wide varieties of energy intakes adequately breastfeed their infants. Therefore, energy intakes at 2200-2300 calories per day may be compatible with full lactation, full activity and gradual weight reduction to pre-pregnancy weight. Diets too restrictive in calories (<1800 calories per day), however, have been shown to decrease milk supply. A gradual rate of weight loss up to 4 pounds per month is considered safe.
- No need to *routinely* eliminate specific foods from the mother’s diet in *prevention* of colic, or allergic reactions, except in the patient with documented family allergies. In this case, a hypoallergenic diet avoiding common allergens such as wheat, eggs and peanuts could be recommended. In some cases of severe cow’s milk protein allergy, elimination of dairy products may be warranted. Chocolate can be

- consumed in moderation without causing colic, diarrhea, or constipation in most infants.
- Dietary supplements are generally not necessary unless vitamin-mineral deficiency is identified or mother has a limited diet. As long as a mother is consuming a balanced diet from a variety of foods, her nutrient needs may be met from food alone.
- Caffeine in moderate amounts ( $\leq 300$  mg daily) presents no significant dose to the normal full term infant. This would be equivalent to 18 oz of regular coffee, 8 oz of espresso, or 48 oz of tea per day. Both chocolate and soda contain low amounts of caffeine, 10 mg per 1.5 oz bar and 50 mg per 12 oz can.
- Strict vegetarian diets (vegans or macrobiotic) may require additional diet planning due to decreased B12, B2, vitamin D, calcium, iron and protein intake.
- “Gassy” foods have no scientific basis. However, if a mother questions the effect of a food, she should eliminate it for a period of time to note the effect. Maternal experience is the best gauge.
- Drink fluids to thirst. Many mothers may need reminders, such as drinking every time she breastfeeds or pumps. However, it is not beneficial to force extra fluids.
- A safe level of alcohol consumption during lactation has yet to be determined. Alcohol does enter breastmilk and is metabolized from breastmilk at about the same rate as from the bloodstream i.e. 1½ to 2 hours per ounce. The Institute of Medicine (IOM) considers an occasional social drink of little risk.

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# ASK THE EXPERT

**Question:** Do I need to give my breastfed infant vitamin/mineral supplements?

**Answer:** Human milk with its unique and dynamic composition is nutritionally complete, and there is no need to give an infant a broad-spectrum vitamin/mineral supplement. However, there are some specific nutrients that should be given close attention.

Vitamin K is given one time at birth, as there are only small amounts found in breastmilk, and it takes time for the intestinal flora in the gut to start producing adequate amounts of vitamin K. The reemergence of vitamin D deficiency (Rickets) among breastfed infants in the United States has generated discussion and debate about universal vitamin D supplementation for breastfed infants. Human milk does not contain large amounts of vitamin D, but all breastfed infants are not at risk for vitamin D deficiency, as the need for the vitamin can also be met through exposure to the sun. However, dark skin acts as a sunscreen and decreases the amount of vitamin D produced; thus, infants who are not exposed to the sun, who are dark-skinned, or who are covered with sunscreen are at the greatest risk. Therefore, vitamin D supplementation may be prudent for infants living in the northern part of the country, especially if they are dark-skinned. Adequate sun exposure for a light-skinned infant is two hours per week clothed. If it is determined that vitamin D supplementation is needed, a safe and adequate amount is 200 IU/day.

Iron and fluoride are two more often-debated supplemental nutrients. Minerals in human milk are largely protein bound and balanced, which enhances bioavailability. Independent of the mother's iron status, a term infant is born with adequate iron stores and utilizes little dietary iron before the age of 4-6 months. And, as stated previously, the iron in breastmilk is readily absorbed. There is no need to supplement a term

infant's diet with iron before the age of six months, however, a premature infant may need iron supplements at two months of age because they lack the iron stores. After six months of age iron should come from dietary sources such as iron-fortified infant cereal, meats, dried beans and green leafy vegetables.

Fluoride levels in human milk are not abundant. It is found in varying concentrations in all drinking water as well as in soil. The American Academy of Pediatrics and the American Academy of Dentistry recommend that all children older than six months of age, breastfed or formula fed, be given fluoride supplements if they live in an area where the fluoride level of the water is less than 0.3 ppm. Optimal fluoride concentration in water for teeth is .7-1.2 ppm. Use of fluoride supplements is indicated for children in non-fluoridated areas, such as San Diego County. Since fluoride levels in water naturally vary, it is best to contact your local water district to obtain information on current levels. As a supplement, a daily dose of 0.25 mg. of fluoride is recommended between the ages of six months and three years. The quantity increases with age. It is important not to give excess fluoride as it can cause damage to teeth in the early stages of development. For more information on fluoride dosage see the American Academy of Pediatrics, Committee On Nutrition, Pediatrics 95: 777,1995.



*Kelly Barger, R.D., C.L.E., C.D.E.*

*Kelly has worked for WIC, Naval Medical Center's Midwifery Program and most recently Palomar/Pomerado Health System as their outpatient dietitian.*

## SAVE THE DATE

**LLL Conference—Costa Mesa Hilton, Costa Mesa, CA, May 25-26, 2002.**

"Breastfeeding: A Gift of Love." The 2002 Southern California/Nevada Area Conference is designed to enable participants to gain a broader perspective of the health ramifications of breastfeeding, to identify factors which influence the breastfeeding experience, and to develop strategies to assist mothers in overcoming difficulties. Activities include: continuing education sessions; Friday night, Saturday and Sunday keynotes; children's activities; ad hoc sessions on Saturday afternoon; Saturday night dinner, entertainment and family dancing; lots of exhibits; great bookstore; drawings for exhibitor donations; and drawing for theme baskets. For more information, email Tina Pulice, Assistant Area Conference Supervisor, at [TMPulice@aol.com](mailto:TMPulice@aol.com), or visit <http://www.attachusa.com/III/>

**La Leche League International 30<sup>th</sup> Annual Seminar for Physicians on Breastfeeding—Hilton Sedona, Sedona, Arizona, July 18-20, 2002.**

"Breastfeeding: Where Art and Science Meet." This conference will be co-sponsored by LLLI, AAP, ACOG. For more information visit: [www.lalecheleague.org/ed/PhysSem02.html](http://www.lalecheleague.org/ed/PhysSem02.html).

**Academy of Breastfeeding Medicine 7<sup>th</sup> International Meeting—Vancouver, BC, Canada, November 14-18, 2002.**

"International Breastfeeding: From Evidence to Action." Basic Breastfeeding Course for Physicians. Main meeting with plenary sessions, research abstracts, posters and platform presentations (Physicians only). Follow-up meeting for other healthcare/lactation professionals. More information TBA.

# MATERNAL NUTRITION AND BREASTFEEDING

Continued from page 1

Lactation is a good time to continue healthy eating habits implemented during pregnancy. Healthier choices established during pregnancy and lactation will help form and influence the future eating habits of the entire family.

## Nutrition Resources for Lactating Mothers:

### Pamphlets:

**Be a Healthy Mom** WIC Supplemental Nutrition Branch of DHS; to order copies, call (916) 928-8500.

**Daily Food Guide for Women** California Department of Health Services Maternal and Child Health Branch; For photo-ready originals call: (916) 657-1347; or email: [MCHBranch@dhs.ca.gov](mailto:MCHBranch@dhs.ca.gov).

### Websites:

[www.eatright.org](http://www.eatright.org) to locate an RD in your area and for general diet information.

[www.storknet.com/ip/](http://www.storknet.com/ip/) is a good website for general diet information.

## Nutrition Resources for Health Professionals:

California Department of Health Services, Maternal and Child Health Branch; and California Department of Health Services, WIC Supplemental Food Branch **Nutrition during pregnancy and the postpartum period: A manual for health care professionals SUMMARY** 1990. 70pp. Telephone: (916) 324-8976; \$5.00

National Center for Education in Maternal and Child Health **Update for Nutrition During Pregnancy and Lactation: An Implementation Guide**. National Center for Education in Maternal and Child Health, 1998. 2 pp. Contact: (703) 524-7802; email: [info@ncemch.org](mailto:info@ncemch.org); Photocopy available at no charge. Document Number: NMCHC inv. code F033.

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*Diana Lee works as a neonatal nutritionist in the NICU at Sharp Mary Birch Hospital for Women.*

## JOB CENTER

Volunteer Opportunities: If you have experience with coordinating membership and fundraising activities, the SDCBC needs you!

Paid Opportunities: Are you IBCLC certified? We need presenters for our in-office lactation education program. (\$50/session)

Please contact the SDCBC office at (858) 966-5981 or email [mmkennedy@chsd.org](mailto:mmkennedy@chsd.org) for more info.

### Registered Dietitian / Lactation Educator

(\$3380 mo + benefits)

FT position will provide home visits to first time mothers in North County, assisting with access to nutrition and lactation services. Contact Lisa Vandervort at (858) 505-3068 regarding this Palomar Pomerado Health Systems / SDSU Foundation WIC Program granted position.

### Lead Lactation Specialist Position

Sharp Mary Birch Hospital for Women

Job Summary: Coordinates, assesses, and communicates to ensure the delivery of quality patient care in a defined clinical area. Scope of role includes: shift operational coordination, quality control and improvement, regulatory compliance, policies and procedures.

Key roles and responsibilities: Coordinates and supervises quality through direct patient care and process improvement activities; manages resource utilization; manages unit shift daily operations; manages human resources; ensures customer service; manages self/professional responsibility/ safety.

This is a .6 position working 8 hrs shifts. IBCLC required. CPR Certification. Minimum of 2 years recent clinical experience. Current California Registered Nurse License. Please contact Bridget Fisher, lactation manager, at [bridget.fisher@sharp.com](mailto:bridget.fisher@sharp.com) or (858) 541-4957.

**Interested in having your jobs posted here? All lactation related jobs can be posted here for free!** For more information, please call us at (858) 966-5981 or email us at [mmkennedy@chsd.org](mailto:mmkennedy@chsd.org).

# ABOUT THE SDCBC

## Have you renewed your SDCBC membership for 2002?

Your continued support is needed! If you are interested in becoming a member or renewing your membership, visit our website at [www.breastfeeding.org](http://www.breastfeeding.org) or contact our office for more information; (858) 966-5981 or email: [mmkennedy@chsd.org](mailto:mmkennedy@chsd.org). If you would like to be listed in the **2002 Resource Guide**, join with a sponsor membership\* now!

## Become a member of the San Diego County Breastfeeding Coalition!

### What is the San Diego County Breastfeeding Coalition?

The San Diego County Breastfeeding Coalition (SDCBC) is a non-profit association whose mission is to promote and support breastfeeding through education and outreach in our community.

### What are the benefits of being a SDCBC member?

As a member of the SDCBC you will:

- Network with a growing body of people dedicated to the promotion and support of breastfeeding.
- Have access to lactation professionals and the most up -to-date breastfeeding resources.
- Receive a free supply of Breastfeeding Resource Guides in English and Spanish.
- Receive a discount for Coalition sponsored education programs.
- Receive our newsletter, "Breastfeeding Updates".
- Have a home page or link, as appropriate, on the SDCBC website: [www.breastfeeding.org](http://www.breastfeeding.org)
- With a sponsor membership\*, be listed, as appropriate, in the "Breastfeeding Resource Guide" without a fee.

### You can show your support of the SDCBC by:

- Making a monetary contribution to support Coalition activities.
- Donating your time by serving on a committee:

Community Outreach	Professional Outreach
Grant Research	Research and Evaluation
- Attending Coalition meetings and providing your expertise and experience.

### We offer the following types of membership with the SDCBC:

- \*Sponsor - \$100 (Business/Organization /Professional)
- Contributing Member - \$50 (Individuals)
- Friends of the Coalition - any amount under \$50

### The SDCBC and the Children and Families "Prop 10" Commission

The SDCBC has promoted and supported breastfeeding through education and outreach in San Diego County since May 1994. With an entirely volunteer work force, minimal annual dues, small grants and

significant contributions from many San Diego institutions, we have managed to address many of the County's needs in a limited, but effective, manner. In October 2000, \$100,000 in grant funding was received from the Children and Families "Prop 10" Commission to expand the SDCBC's activities and to establish a formal office and organizational structure.

The California Children and Families Commission was established by the California Children and Families Act (Proposition 10), passed by voters in November 1998. This statewide ballot initiative increased the tax on cigarettes and tobacco products. The revenue is used to provide health, child development, and parent support programs to promote the well-being of children from the prenatal period to age five.

The San Diego County Children and Families Commission was established to implement Prop 10 on a local level. The Commission's vision is that all children in San Diego County will enter school physically, mentally, emotionally and developmentally ready to learn.

We would like to thank the San Diego County Children and Families Commission for their continued support of our efforts. Visit the San Diego County Children and Families Commission website at [www.cfc.ca.gov/sandiego](http://www.cfc.ca.gov/sandiego).

#### **SDCBC Project Coordinator:**

**Meredith Kennedy, MPH**

#### **SDCBC Current Board Members:**

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# COMMUNITY SPOTLIGHT

## **The WIC Program: Your Partner in Breastfeeding Promotion and Support**

**Teresa Echegaray, RD, CLE**

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a nutrition program for low to mid-income pregnant or postpartum women, infants, and children under the age of five. In addition to vouchers for nutritious foods, WIC participants receive nutrition education, referrals to other health and social services, and breastfeeding support. Applicants must meet income guidelines (a family of four can make up to \$2722 monthly), reside within the county, and be determined to be at "nutritional risk" by a health professional. Since its beginning in 1974, the WIC Program has earned the reputation of being one of the most successful and cost-effective federally funded nutrition programs in the United States. Many people are aware of findings that demonstrate WIC's role in improving birth outcomes and containing health care costs; however, few may realize that WIC has been playing an important role in improved infant feeding practices as well.

Studies show that between 1989 and 1995, the percentage of WIC mothers breastfeeding in the hospital increased by 36.3 percent (from 34.2 to 46.6 percent), while the percentage for non-WIC mothers breastfeeding in the hospital increased by 12.9 percent (from 62.9 to 71 percent). The percentage of WIC infants breastfeeding at six months of age increased by 51.2 percent (from 8.4 to 12.7 percent), while for non-WIC infants, the percentage of breastfeeding at six months of age increased by 22.7 percent (from 23.8 to 29.2). WIC serves 45 percent of all infants born in the United States.

WIC Program regulations have always had a requirement that all pregnant women "shall be encouraged to breastfeed unless contraindicated for health reasons." WIC health professionals are indeed committed to promoting breastfeeding as the optimal method of infant feeding. Local agencies offer a variety of breastfeeding support services, including classes, support groups, peer counselors, incentive gifts, pump loan programs, and helplines. Every agency has a Breastfeeding Promotion Coordinator and many WIC nutritionists and assistants are certified lactation educators.

In San Diego County, the WIC Program is administered through five local agencies. Although the specifics of their services may differ, all are committed to the promotion and support of breastfeeding. To apply or refer to the WIC Program, or for more information about breastfeeding support services, call your local WIC office for details.

**American Red Cross WIC Program** (800) 500-6411  
**No. County Health Services WIC Program** (760) 471-2743  
**Scripps Mercy Hospital WIC Program** (619) 260-7054  
**SDSU Foundation WIC Program** (888) 999-6897  
**San Ysidro Health Center WIC Program** (619) 426-7966



## **Update:**

### **Kit for New Parents San Diego Welcome Baby Program**

**Elizabeth Creer, RN, FPN, MPH**

The San Diego County Children and Families Commission (SDCCFC) celebrated the arrival of the *Kit for New Parents* on January 28, 2002, with a ceremony at the Beacon Family Resource Center/Vista Square School in Chula Vista. The Commission, along with members of the Board of Supervisors, distributed the first *Kits* to parents to begin the distribution process in San Diego County. The crowd of 250 adults and many young children included parents and representatives from community agencies, health care facilities and educational programs. It is planned that 45,000 *Kits* will be distributed to parents in San Diego County annually. These *Kits* include six videos, a children's book and informational pamphlets.

The SDCCFC has contracted with the Regional Perinatal System (RPS) to distribute *Kits* in San Diego. RPS is working with a large number of community agencies, educational programs, hospitals and clinics to reach all pregnant women and new parents. More than 50 agencies and institutions have developed plans for utilizing the *Kits* in their work. The agencies, known as "partners", are located in all regions of the County. Partners are using a variety of strategies to assist parents to become familiar with the information in the *Kit*, such as home visits, clinic visits, support group meetings, and parenting classes. There is no time limit for joining as a partner in this educational activity. A listing of the San Diego County partners is available on our web site: [www.regionalperinatalssystem.org/welcome\\_baby.htm](http://www.regionalperinatalssystem.org/welcome_baby.htm). Please contact [ecreer@ucsd.edu](mailto:ecreer@ucsd.edu) for more information.

## LEGISLATIVE UPDATE

### **Susan Kobara --HealthShare Lactation Services**

Governor Gray Davis signed Assembly Bill 1025, by Assemblyman Dario Frommer (D-Glendale), effective January 1, 2002. AB 1025 (Lactation Accommodation) requires employers to provide a reasonable amount of unpaid break time to accommodate an employee desiring to express breast milk. As introduced, the employer is also required to make reasonable efforts to provide the employee with the use of a room or other location, other than a toilet stall, in close proximity to the employee's work area. AB 1025 is designed to meet the needs of women who wish to continue breastfeeding their babies after they return to work.



**BREASTFEEDING FRIENDLY BUSINESS PROGRAM  
BEGINS AGAIN**

## **SDCBC's BREASTFEEDING FRIENDLY BUSINESS PROGRAM**

### **WANTED: BABY FRIENDLY BUSINESSES**

*Maggie Dahms, RN, IBCLC*

Help support the resurgence of breastfeeding in our society and enjoy the patronage of these customers. Display a "**BREASTFEEDING WELCOME HERE**" sticker (as shown left) near your entrance. This shows visible community support to mothers, who are away from home, that it is acceptable to feed their hungry baby if the need arises. California Law also states that a mother may breastfeed her child in public.

We look forward to hearing from merchants soon so that we can tell new mothers that they are welcome in these businesses -- with their babies! If we can help with any of the above or with information about other ways you can be of help to breastfeeding mothers, including your employees, please call us. Contact the SDCBC at (858) 966-5981 or [mmkenedy@chsd.org](mailto:mmkenedy@chsd.org) if you or someone you know would like a sticker and more information.

Many mothers in San Diego County choose to breastfeed their infants. These women, who are at a critical juncture in their lives, are vital to any business. One of the most important aspects to successful breastfeeding is the support of the public which is around them when mothers must feed their infants while away from home. Merchants play an important part in this support as breastfeeding women enter their business.

If merchants wish to inform breastfeeding women that they are welcome in their establishment, they can do the following:

1. Display a "Breastfeeding Welcome Here" (see example above and contact SDCBC if you need stickers).
2. Treat women who breastfeed in their store just like women who offer their babies a bottle.
3. Share with employees the meaning of this sticker and the store's policy to make breastfeeding mothers as welcome as possible, especially when they need to feed a hungry or fussy baby in your store.

If merchants let us know of their plans to support breastfeeding mothers in these simple ways, SDCBC will offer the following:

1. The name of the establishment will be included in a website directory of baby-friendly businesses for distribution to pregnant and nursing mothers.
2. We would be happy to speak to employees regarding the advantages of breastfeeding and ways to make women who breastfeed feel welcome.

### **ARRIVING THIS SPRING, THE SDCBC RESOURCE GUIDE 2002!**

The Resource Guide is a tool to link community members to breastfeeding support services. In the guide there are listings for information, support, and technical assistance, both before and after the baby is born.

We often assume that breastfeeding is such a natural process that anyone should be able to do it. The truth is, breastfeeding is a learning process for both mother and baby. Problems that arise can often be managed with help.

To be listed in our 2002 Guide, please join the SDCBC with a Sponsor Membership (\$100 level) and be listed, as appropriate, for free! For further information, please contact Meredith Kennedy at [mmkenedy@chsd.org](mailto:mmkenedy@chsd.org) or (858) 966-5981.

# BREASTFEEDING AND OBESITY PREVENTION

**Elaine Hiel, MPH**

Another important childhood issue is being addressed in San Diego County through the formation of a new Coalition on Children and Weight. This new Coalition will focus on strategies to decrease the growing number of overweight children. Breastfeeding education and advocacy can play an important role in the prevention of this public health crisis.

Recent studies by Dr. William Dietz of the Centers for Disease Control and Prevention suggest that breastfeeding may offer some protection against obesity. "We have relatively few strategies for obesity prevention" said Dietz. "Although breastfeeding will by no means prevent all cases of obesity, it's a start." Breastfeeding can be a good start to prevent an epidemic in children that requires varied approaches to its solution.

Those who are interested in working on this aspect of breastfeeding are urged to join a variety of other health professionals to find so-

lutions to this important public health problem. This new Coalition will meet monthly on Tuesdays from 5:00 – 7:00 p.m. at the San Diego County Health Services Complex. The next meeting will be held on March 19, 2002. Please contact Elaine Hiel at (619) 692-8390 or ehielexhe@co.san-diego.ca.us, if you are interested in participating.

**Interested in what we do? Attend one of our meetings!**

**General Coalition Meetings** are held the second Thursday of each odd month at Sharp Mary Birch Hospital for Women, 3003 Health Center Drive, San Diego in the Grace Benbough Room, located on the 2nd floor, 3:00 – 5:00 pm. Please call (858) 541-4185 for directions. 2002 meeting dates are as follows: March 14, May 9, July 11, September 12, and November 14.

## **Does Breastfeeding Reduce the Risk of Diabetes?**

*continued from page 8*

**Type 2 Non-Insulin Dependent Diabetes (NIDDM)** is characterized by insulin resistance and a relative decrease in insulin secretion. Although onset is usually in adulthood, Type 2 diabetes now accounts for about 30% of diabetes in childhood and adolescence. Primary risk factors are genetic susceptibility, obesity, lack of exercise and female gender. Unlike Type 1 diabetes, Type 2 diabetes does not appear to have either autoimmune or infectious causes. However, the life-threatening health consequences of Type 2 diabetes are similar. The incidence of Type 2 diabetes in the US is rising steadily, especially in African American, Hispanic and Native American women and children. Many Hispanic mothers with "gestational diabetes" actually have Type 2 diabetes with abnormal glucose tolerance persisting between pregnancies. In Pima Indians, who have the highest known rate of Type 2 diabetes in the world, breastfeeding is associated with a dose-related decrease in the risk of developing the disease; exclusive breastfeeding being most protective.<sup>4,5</sup> Breastfeeding appears to reduce the risk of Type 2 diabetes indirectly by decreasing the risk of childhood obesity.

**Conclusion: Exclusive breastfeeding for six months and continued breastfeeding for at least 12 months should be strongly recommended and supported for all infants born to diabetic mothers, diabetic fathers, families with diabetic siblings or those with a family history of diabetes.** Breastfeeding is associated with a lower risk of developing both Type 1 and Type 2 diabetes. The reasons for this benefit are unclear. For genetically susceptible infants born to mothers or into families with Type 1 diabetes, it

is possible, but not yet demonstrated, that reducing early exposure to intact cow's milk protein will decrease the infant's risk of developing Type 1 diabetes. For these high risk infants, the American Academy of Pediatrics recommends exclusive breastfeeding and avoiding commercial cow's milk and products containing intact cow's milk protein in the first year. Standard infant formula remains the recommended alternative to breastfeeding.<sup>1</sup> Soy based formula is contraindicated. Maternal dietary exposure to cow's milk products need not be restricted as exposure to small amounts of cow's milk protein present in breastmilk does not appear deleterious. There is no rationale or evidence to suggest that avoiding cow's milk protein or the use of protein hydrolysate formulas will reduce the risk of Type 2 diabetes.

## **References:**

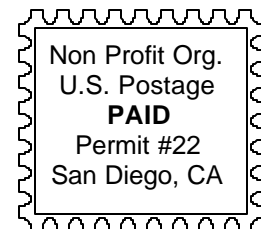
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# Breastfeeding Update

## “Nutrition and Breastfeeding”

March is National Nutrition Month

SDCBC's Newsletter for March 2002



### San Diego County Breastfeeding Coalition

c/o Children's Hospital and Health Center  
3020 Children's Way, MC 5073  
San Diego, CA 92123-4282

Phone: (858) 966-5981

Fax: (858) 966-7563

Please call us if you receive multiple copies.

“Good health begins with breastfeeding.”

SEE THIS NEWSLETTER ON THE WEB AT  
[www.breastfeeding.org](http://www.breastfeeding.org)

## RESEARCH CORNER

### Does Breastfeeding Reduce the Risk of Diabetes?

Yvonne E. Vaucher, MD, MPH

**Type 1 Insulin Dependent Diabetes (IDDM)** is due to a lack of insulin production as a result of autoimmune destruction of the pancreatic b cells. Type 1 diabetes is multifactorial. Environmental factors (e. g., viral infection, nutrition, stress, toxins) are thought to trigger the disease in genetically susceptible individuals.<sup>1</sup> Less than 5% of genetically susceptible individuals ever develop the disease. Diabetic fathers confer a higher genetic risk to their offspring than do diabetic mothers.

Breastfeeding is associated with lower risk of developing Type 1 diabetes, particularly in those children at the highest genetic risk, although methodological questions regarding selection and recall bias can be raised for many studies. Early weaning or exposure to cow's milk in the infant's diet at < 3 months of age as well as high individual or national levels of cow's milk consumption are associated with an increased incidence of Type 1 diabetes. Children with early onset Type 1 diabetes have more autoantibodies that crossreact with various cow's milk proteins. In addition, an increased number of autoantibodies directed against the pancreas have been found in genetically high risk infants who were weaned before 2 months of age.<sup>2</sup> Hence the intriguing, but still unanswered, question: *does early exposure to cow's milk protein in infancy*

*result in sensitization and production of autoantibodies that destroy the pancreas and cause Type 1 diabetes?*<sup>3</sup> Of note, early exposure to soy and wheat proteins has also been associated with an increased risk of Type 1 diabetes in susceptible animals. Benefits of breastfeeding which might decrease the risk of Type 1 diabetes include reducing the infant's exposure to immunogenic proteins such as cow's milk protein and/or strengthening the infant's own immunologic protection. Immunologic protection might be conferred by reducing the risk of viral infection, by decreasing intestinal permeability to foreign proteins, or by increasing immunologic tolerance of foreign proteins.

A protective effect of feeding formula containing hydrolyzed cow's milk protein instead of standard formula containing intact cow's milk protein has been demonstrated only in genetically susceptible, experimental animals. However, a multinational, randomized, double-blinded, controlled, “Trial to Reduce IDM in the Genetically at Risk” (**TRIGR**) has just begun to test the cow's milk sensitization hypothesis in high risk infants. In this trial, 3000 genetically susceptible infants will be weaned from exclusive breastfeeding to either standard cow's milk based formula or to protein hydrolysate formula. The long-term effect of the two weaning regimens on the development of cow's milk antibodies and the risk of developing diabetes will be determined.

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