Natural Family Planning

CURRENT MEDICAL RESEARCH

SUPPLEMENT

Editor: Hanna Klaus, M.D.
Contributor Reviewers: Dr. Ruth S. Taylor and Dr. Lorna Cvetkovich

DIOCESAN ACTIVITY REPORT

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Contraceptive Technology & Use

Henshaw, S.K. & Kost, K. **Abortion Patients in 1994-1995: Characteristics and Contraceptives Use.** *Family Planning Perspectives* 28 (July/August 1996): 40-147.

The Alan Guttmacher Institute surveys abortion clinics even in states where there are no state reporting requirements. Of 9,985 abortion patients studied in 1994-95, non-white women aged 18-24, Hispanic Americans, separated and never married women, and those whose annual income is less than $15,000/year or who are enrolled in Medicaid are 1.6-2.2 times as likely to have abortions. Residents of metropolitan counties have a slightly higher probability than rural residents. When controlled for age, women who have had a live birth are more likely to have an abortion than those who have never had children. Catholics are as likely in the general population to have an abortion [*This study does not make clear if the women studied were practicing Catholics as opposed to nominal Catholics. Other studies indicate that practicing Catholics are less likely to have abortions. Ed.*], while Protestants are only 69% as likely, and Evangelical and Born Again Christians - 39%. Fifty-eight percent (58%) of abortion patients have used a contraceptive during the conception month. Contraceptive non-use is most common among women with low education and income, African Americans, Hispanic Americans, unemployed women, and those who want more children. Thirty-two percent (32%) of abortion patients attribute their pregnancy to condom failure, while failure of other barrier methods and spermicides was lower than the 1987 survey.

Baker, B. **Hormonal Contraception Linked to NIDDM Risk: Threefold risk after gestational diabetes.** *Ob.Gyn.News* 31 (August 1, 1996): 1-2.

Women with a recent history of gestational diabetes have a threefold increased risk of developing non-insulin dependent diabetes mellitus 6-12 months after delivery if they use hormonal contraception, especially progestin-only contraceptives such as Depo-provera or Levonorgestrel. Of the 942 Hispanic American women who had gestational diabetes but reverted to normal after birth, 10% per year became diabetic over the next 7 years reported Dr. Kjos from USC, Los Angeles. [*Progestin-only contraception is often prescribed during lactation. How much simpler it would be to offer these women NFP or LAM. Ed.*]

Contraceptive Technology and Use Collaborative Group on Hormonal Factors in Breast Cancer. **Breast Cancer and hormonal contraceptives: collaborative, of individual data on 53,297 women with breast cancer and 100,239 women without breast cancer from 54 epidemiological studies.** *Lancet* 347 (June 22, 1996):1713-1727.

In 1992 the Collaborative Group on Hormonal Factors in Breast Cancer was formed with headquarters in England to collect and reanalyze worldwide epidemiology studies to study the relationship between breast cancer risk and the use of oral contraceptive pills. Data from 54 studies from 25 countries were collected which included data on 53,000 women with breast cancer and 100,000 without breast cancer - 90% of all studies done. The principal investigators of all the studies were invited to be a part of the collaborative group.

The studies examined were those which included at least 100 women with breast cancer on which the reproductive history as well as use of hormonal contraceptives had been obtained. At the time of diagnosis of breast cancer, 9% of women were younger than 35, 25% were 35-44, 33% were 45-54 and 33% were 55 and older. The median age at diagnosis was 49 years. Of the total,

42% of women with breast cancer and 40% of women without breast cancer had ever used combined oral contraceptive pills (OCs). Most women in the OC group had begun use of the pill 10-20 years before diagnosis.

Four indices were determined: total duration of use, age at first use, time since first use and time since last use. The median duration of OC use was 3 years—25% had less than one year's use. There was a weak indication of increasing risk with increasing duration of use (p=0.05). The age at first use ranged from early teens to early 40s, with median of 26 years; 24% had begun use before age 20 and 27% at age 35 or older. In both duration and age at first use the relative risk was greater than 1.00 for each of the five age groups and greatest for women who started OCs as teens.

Current use include women taking OCs at time of diagnosis or in the preceding 12 months. The increased relative risk for breast cancer among current users was 1.24 (1.15-1.33) 2p<0.00001. The increase risk was evident for women 1 to 4 years after stopping the pill: 1.16 (1.08-1.23) 2p=0.00001; and for women 5 to 9 years after stopping the pill 1.07 (1.02-1.13) 2p=0.009. For women who had been off OCs 10 years or more, the relative risk was not significant: 1.01-(0.96-1.05) NS.

No significant variation in relative risks was noted with any specific type of combined pill. Interruption of pill use by less than 24 months (pregnancies excluded) shows no significant breast cancer increase. Relative risk among women using OCs before age 20 was consistently higher, but decreased with increasing age at diagnosis. In all studies, breast cancer in women using the pill was significantly less clinically advanced than in never-users. (relative risk 9.90 (SD 0.04).

According to the authors, the studies "provide strong evidence of two main conclusions":

1. There is a small increase in the relative risk of breast cancer (95% CI) among current users of the combined pill and for the first 10 years after stopping the pill.
2. No significant risks were found 10 years after stopping the pill.

Duration of use, age at first use and dose and type of hormonal contraceptive had little additional effect on the risk for breast cancer.

The authors claim it is not possible to determine whether this increase of risk of breast cancer among contraceptive users is due to an earlier diagnosis in ever users of the pill, the biological effects of OCs, or

In the News

Thérèse Bermpohl

It seems there is a new and improved diaphragm, Lea's Shield, awaiting FDA approval. At least that is what Yama Inc., the manufacturer of the device, and woman's advocacy groups would have you believe. The FDA's panel of scientific advisors panned the device in a 7-1 vote saying there had been too few studies done to ascertain its effectiveness.

The manufacturers of the contraceptive tested only 55 woman for a 6 month period. During that time 9% of the women became pregnant. Usually the FDA will not approve such devices unless tested by at least 200 women. The company defended their study saying that had the women used Lea's Shield for a year, the pregnancy rate would have been 18%, which is equivalent to the rate of most diaphragms.

According to *The New York Times* and *The Washington Post*, women's advocacy groups are urging the FDA's immediate approval of this barrier method arguing that women are desperate for better contraceptive choices. Apparently the fact that no significant studies have been done on the effectiveness of Lea's Sheild is of little or no consequence to these "women's advocacy" groups.

It was also more than a little disheartening to read a comment in *The New York Times* made by the panel's chairman, Dr. Gary Englinton of Georgetown University. "I'm not going to recommend it to my daughter at this point," said Dr. Englinton. One can only wonder at which point Dr. Englinton would recommend a birth control device to his daughter. Perhaps if he's considering such a recommendation he should read, *The Best Intentions: Unintended Pregnancy and the Well Being of Children and Families*, by the Committee on Unintended Pregnancy, Institute of Medicine which reveals that after 90 or so years of contraceptive use-the over-all unintended pregnancy rate in the United States is 57.3%. (For a brief summary see Sheila and Charles Potter's review in the *NFP Forum*, Vol. 7, #4, Fall 1996.)

The good news is the FDA usually follows the recommendations of the panel; however, the old news is that it's an uphill battle against the contraceptive mentality which has been so deeply ingrained into our culture.

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a combination of reasons. Further analysis of this monumental work is in press to be published in Contraception.

Fertility/Infertility

Aeby Todd C. et al. **The Effect of Peritoneal Fluid from Patients With Endometriosis on Human Sperm Function In vitro.** *Amer J Obstet & Gynec* 174 (April 1996).

Minimal endometriosis is a common finding among women undergoing evaluation for infertility. It has long been thought that there is a substance from the endometrial implants in the peritoneal fluid which interferes with the reproductive process in some way. This study was designed to evaluate the effect of peritoneal fluid from women with endometriosis on sperm motility and function in an in vitro model. The study was done by comparing peritoneal fluid from ten women who had minimal endometriosis at laparoscopy with peritoneal fluid from ten patients who had a normal pelvis. The peritoneal fluid was obtained and a zona free hamster egg penetration test was performed on all 20 specimens. Secondly, computer assisted motion analysis was then performed on all samples to which a 200 ml sperm suspension had been added. Both study and control populations were comparable in mean number of deliveries and cycle day at laparoscopy. However, the endometriosis group was found to be significantly older. The results showed a significant difference in that the sperm mixed with fluid from patients with endometriosis penetrated an average of 22.9 zona free eggs as compared to 44 for the sperm mixed with peritoneal fluid from control patients. Further, sperm mixed with peritoneal fluid from patients with endometriosis were noted to have a slower mean swimming velocity, 5.4 versus 5.9. The authors speculated that these results might be due to a 32 kd protein which has recently been shown to predominate in peritoneal fluid from women with endometriosis. [*Although one might question scientific techniques, i.e. the ethical use of donor sperm and the hamster free egg penetration test, this seems to be another in a long list of articles which indicate that there is indeed something in the peritoneal fluid of women with endometriosis that is probably the cause of their subfertility. Ed.*]

Endocrine & Fertility FORUM, 19 (Summer 1996), within *Fertility News* 30 (Summer 1996).

Dr. Damewood summarizes four papers from the March '96 Society for Gynecological Investigation Meeting which report significantly higher pregnancy loss after ICSI (intra-cystoplastic sperm injection) than after standard IVF (in vitro fertilization). Embryonic loss was 9% in the IVF group and 50% in the ICSI group. Significantly higher loss rate in the IVF ICSI group suggest either male factor infertility or ICSI per se as the factor related to the abnormal embryo. Another investigation found evidence of sperm head decondensation while others reported an absence of zona reaction among ova which failed to fertilize. *[John Billings had already suggested that the avoidance of natural selection by the ICSI technique may lead to fertilization by sperm which could not accomplish egg penetration in the normal course. Ed.]*

Menstrual Cycle

Koff, E. & Rierdan, J. **Premenarcheal Expectations and Postmenarcheal Experiences of Positive and Negative Menstrual Related Changes.** *J of Adol Health* 18 (April 1996): 286- 291.

Expectations of menarche and menstrual cycle related changes of 80 pre-menarchial girls were rated for 14 positive and negative changes on three occasions: 1) in grade 6 when the girls were pre-menarchial; 2) within 6 months of each girl's own menarche, and 3) in grade 9 when the girls were post-menarchial. A four-point scale studied 14 menstrual related changes of positive and negative somatic events, for instance cramps, emotional changes, moodiness, and behavioral, such as burst of energy both before and during menses.

Questions?

Do you need further information regarding research reported in this Supplement? Have you a specific question which you'd like to ask the Editor? Please direct your letter to the Editor, ***Current Medical Research,*** *DDP/NFP, 3211 Fourth St., N.E., Washington, D.C. 20017.*

We look forward to hearing from you.

Positively rated items included burst of energy, feelings of well-being, self-confidence, increased ability to concentrate, feelings of excitement and of happiness. Negative items were bloating, moodiness, cramps, acne, increased appetite, breast tenderness, soreness, fatigue, and general bodily rates. Ratings for positive and negative changes were similar at pre-menarche, decreased at menarche, but ratings for negative changes increased while those of positive changes decreased once menstruation had become established. Negative changes were rated higher in the menstrual phase, while positive changes in the premenstrual phase. Premenarchial expectations of changes contributed to the prediction of menarchial experiences. Longer term experience of negative changes could be predicted from ratings of pre-menarchial expectations and menarchial experi-ences, along with (anticipated) emotional response, while menarchial experiences, coupled with preparation for, and emotional response to menarche contributed to longer term experience of positive changes. The increase of dysmenorrhea experienced with the increase of ovulatory cycles probably contributed to the increase of negative items.

Letters to the Editor

Wilcox et al. **Pregnancy and the Timing of Intercourse.** *New England J of Med* 333 (Dec. 7, 1995): 1517-1521. Previously reviewed in *Current Medical Research* 7 (1996; no.1&2), still attracts correspondence. The following Letter to the Editor by Thomas W. Hilgers appeared in *New England J of Med* (May 9, 1996): 1266:

As one who has worked in the field of natural family planning for over 20 years, I find it rewarding that Wilcox et al. have shown that pregnancy does not occur after the day of ovulation. That has been used as a principle in natural family planning for many years, and the strict basal-body-temperature system (which is a postovulatory method) has been referred to as a "highly reliable" means of avoiding pregnancy.

In 1978, my colleagues and I reported that the average length of the mucus cycle leading up to the peak day in the Billings ovulation method was 5.9 days (*J of Obstet & Gynec* 1978; 52:575-82). Ovulation occurred most frequently on the peak day, although there was a range around the time of the peak day when ovulation occurred. Nonetheless, it is of some interest that the average length of the mucus cycle coincides with the length of the six-day "window" described by Wilcox et al. Although these two concepts are not equivalent, there is some relation between them. Our study also involved healthy women.

What is perhaps more difficult to explain is the difference between their data and ours with regard to cumulative pregnancy rates in patients with apparently normal fertility using fertility-focused intercourse (*J Reprod Med* 1992; 10:864-866.) The effectiveness of the ovulation method of natural family planning (a method based on the discharge of the normal cervical mucus produced up to the time of ovulation) to achieve a pregnancy was assessed with the use of a pregnancy rate based on fertility-focused intercourse that was compiled in a cumulative fashion from one cycle to the next. In our study, multiple acts of intercourse may have occurred during the course of the defined fertile time. Fifty consecutive patients were followed as they began using the method to become pregnant after having previously used it with 100 percent success to avoid pregnancy. Seventy-six percent of these patients became pregnant in the very first cycle of use. Ninety percent were pregnant by the third cycle, and 98 percent by the 6th cycle.

Similar results, showing an increased pregnancy rate as the peak day approached (66.7 percent), were obtained in the World Health Organization trials of the Billings ovulation method (*Fertil Steril* 1983; 40:773-8). Indeed, even Barrett and Marshall (*Popul Stud* 1969; 23:45-61) observed a 68 percent rate of pregnancy when the frequency of intercourse was increased to every day around the presumably fertile period.

These data are substantially different from those of the Wilcox et al. and suggest that the efficiency of the human reproductive system is actually greater than previously thought.

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[Dr. Hilgers is also Director, Pope Paul VI Institute, Omaha. Ed.]

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1 Campbell, K.L. "Methods of monitoring ovarian function and predicting ovulation: summary of a meeting," *Res Front Fertil Regul* 3 (1985):1-16.

2 Barrett, J.C., Marshall, J. "The risk of conception on different days of the menstrual cycle." *Popul Stud* 23 (1969):455-61.

3 Royston, J.P. "Basal body temperature, ovulation and the risk of conception with special reference to the lifetimes of sperm and egg." *Biometrics* 38 (1982):397-406.

Reply:

The correspondents ask about the precision of the six-day window of fertility reported in our paper. Our data came from women who were trying to become pregnant. Because such women typically have regular and frequent intercourse, they are likely by chance to have intercourse at least once during the most fertile days of the cycle. In our data, intercourse on days outside the six-day interval statistically contributed nothing to the chance of conception. If our statement that nearly all couples conceive during this six-day interval seems too bold to Dr. Strickler, perhaps it is because he overlooked the crucial first half of the sentence: "Among healthy women trying to conceive."

However, the probability of conception outside this interval is not necessarily zero, a point underscored by Drs. Waller and Sweeney. A far larger study than ours would be required to pinpoint the small or nonexistent chance of conception outside this period. For that purpose, a more efficient alternative would be to study couples trying to avoid pregnancy by periodic abstinence.

Besides statistical precision, there is an issue of biologic precision. The use of basal body temperature to identify the day of ovulation is subject to considerable error[1] Therefore, studies based on the use of basal body temperature (such as the one by Dr. Strickler) will predictably find some conceptions attributed to intercourse on the days "after" ovulation. This can happen solely because of random error in identifying the day of ovulation.

The remarkably high rate of conception reported by Hilgers is not consistent with our data, nor with the subsequent reanalysis of data from a study he cites. The maximal rate of conception of 68 percent reported by Barrett and Marshall[2] was later revised by Royston,[3] who applied an extension of Barrett and Marshall's model to the same data and estimate a maximal conception rate of 38 percent.

Finally, we hope readers will distinguish between media versions of our findings and the findings themselves. We think our data bring us a step closer to describing the physiologic window of human fertility. However, in determining the day of ovulation, we had the advantage of using steroid patterns present before and after ovulation. It is easier to identify the day of ovulation retrospectively than prospectively. Before our findings can be fully translated into practice, better predictors and markers of the fertile interval are needed.

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Adolescent Sexuality

Kisker, E.E. et al. **Adolescent Sexuality: Do School-Based Health Center Improve Adolescents Access to Health Care, Health Status and Risk Taking Behavior?** *J of Adol Health* 18 (1996): 335-343.

Twenty-four school-based health clinics (SBHC) were evaluated from self-reports concerning health center utilization, and use of other health care providers, knowledge of key health facts, substance use, sexual activity, contraceptive use, pregnancies, and birth and health status. Comparisons were made from data obtained from 859 urban youths nationally.

The SBHC youths (3050) were surveyed before and after attending high school as to knowledge of effective contraception, sexual activity, use of effective contraceptives with last intercourse and use of contraceptive consistently within past month.

The percentage of SBHC students who knew all contraceptive methods increased from 30% before to 64% at last survey. Rates of sexual activity rose as the students grew older. By the senior year most males and females had had sexual intercourse. A significantly lower percentage (.05 level) of SBHC youth than urban youth used effective contraception during the month before the last survey. Use of condoms at last intercourse and consistently during past month were about the same for both groups. Fewer than two-thirds reported using a condom. Pregnancy rates for SBHC girls increased to 25% by end of senior year.

The authors found that compared to national youth, SBHCs did not have an impact on high-risk sexual behaviors, pregnancies, or birth rates, nor substance abuse among health center school youths.

Although SBHCs are a promising approach for comprehensive medical psychosocial services to students, particularly those without access to other health care, the authors conclude the intensity of intervention of risky behaviors was inadequate. They recommend earlier intervention before students engage in risk-taking behaviors. *[No reference was made of using abstinence/character building programs. Ed.]*

Jaccard, J.J. et al. **Maternal Correlates of Adolescent Sexual and Contraceptive Behavior.** *Family Planning Perspectives* 28 (July/August 1996): 159-165.

Studies of the relationship between familial variables and adolescent sexual behavior have generally examined the nature and extent of parent-adolescent communication about sex and birth control and the influence which parents have on the sexual behavior of their teens. The results have been equivocal. More recent studies found fairly consistent associations between parental variables and sexual behavior. For instance, the higher the degree of parental supervision of dating behavior of teens, the lower the incidence of intercourse. The style of parent-child communication and its effect on sexual activity and contraceptive behavior has also been examined to seek to establish which variables can be useful predictors of adolescent sexual behavior in a number of contexts. This article examines 745 male and female African American teenagers from Philadelphia and related it to the relationship to the mother. Sexual activity by age:

Table 1
Percentage of male & female African American adolescents aged 14-17 who were sexually active, by age, Philadelphia, 1993 (N=745)

Age	Total		Females		Males	
	%	N	%	N	%	N
14	36	115	26	53	43	62
15	54	273	43	140	64	133
16	65	223	63	110	67	113
17	74	134	64	69	85	65

Table 2
Mothers' Marital Status - %

Single	26
Married	24
Live-in Boy Fr.	15
Separated	14
Divorced	17
Widowed	7

Table 3
Mother's Education - %

<HS	23
HS	30
Some College	22
College Degree	25

Mean age was 40. Forty-eight percent (48%) of mothers were employed full-time; 14% part-time; 28% unemployed; 8% on disability. Mean annual family income - $16,000. Half the women were Baptist, 8% Catholic. Average number of children raised - 3.5. Adolescent perceptions of maternal disapproval of premarital sex and satisfaction with the mother/child relationship were significantly related to abstinence from adolescent sexual activity or to less frequent intercourse and more consistent use of contraceptives among sexually active youths. Teens who reported low level of satisfaction with their mother were more than twice as likely as those highly satisfied to engage in sexual intercourse. Discussions about birth control were usually associated with the perception that the teen was sexually active. These discussions were not significantly related to consistent contraceptive use for females, but with increased contraceptive use by males.

Of Interest

Heller, D. S. et al. **The Relationship Between Perineal, Cosmetic Talc Usage and Ovarian Talc Particle Burden.** *Amer J Obstet & Gynec* 174 (May 1996): 1507-1510.

Perineal talc exposure has been associated with increased risk for ovarian cancer in epidemiologic studies. This study was undertaken to correlate the history of perineal talc usage with the talc particle burden found in the ovaries. Women undergoing surgery for benign ovarian tumors at Columbian Presbyterian Medical Center from 1992 to 1993 were interviewed regarding talc usage. Sections of ovarian tissue from 12 women who reported the most talc usage were compared with those of 12 women closest in age who were unexposed. Ovaries from two stillborn fetuses were used as negative controls. Tissue digestion techniques were used for the identification and quantification of talc particles. Surprisingly, talc was detected in all ovaries and to a similar extent in both exposed and unexposed subjects. Therefore there was no correlation of ovarian talc particle burden with exposure history, even though the EM microscopic particle was higher in talc users. Several explanations were advanced to explain this lack of correlation such as 1) method of application 2) type of talc and 3) possible contribution of inhaled particles as well as possible uneven distribution throughout the ovarian tissue. Undocumented exposure may also play a part in the lack of correlation as ten of eleven mothers reported using talc while diapering their babies. Even so, talc may still be related to the development of ovarian cancer as it is chemically similar to

asbestos, a known carcinogen. The study does demonstrate that talc can reach the upper genital tract, while more study is needed to determine whether the presence of talc in ovarian tissue is pathogenic. [*Editor's note: I will still continue to recommend avoidance of any kind of perineal talc usage to patients.*]

Fife, Kenneth H. et al. **Cancer Associated Human Papilloma Virus Types Are Selectively Increased in the Cervix of Women in the First Trimester of Pregnancy.** *Amer J Obstet & Gynec* 174 (May 1996): 1487-1493.

In this study the researchers wanted to determine whether pregnancy is an independent risk factor for the detection of human papilloma virus (HPV) infection. HPV, the etiologic agent associated with Condyloma Acuminata and implicated in the development of cervical cancer has been found in several previous studies to have a higher frequency in pregnancy women than non pregnant when tested. The reasons for these findings were not clear, but possibilities included stimulation of viral replication by the hormonal changes associated with pregnancy making it easier to detect or possibly increased HPV replication due to the immunologic changes seen in pregnancy, such as decreased natural killer cells or reduction in helper T cell mediated responses.

Seven hundred thirty-nine (739) patients (245 obstetrical, 246 gynecological, 248 STD) were tested using a Hybrid Capture Probe assay. Overall, 17.7% of STD clinic patients and 18.7% of GYN patients had positive findings compared to 31% of the OB patients. There was no difference between probes for "low risk HPV types" and "high risk types" (16, 18, 31, 33, 35, 45, 51, 52) among the groups. Of note, of 706 patients who had cervical cytology at the same time, 16.3% were abnormal. In summary, pregnancy was found to be an independent risk factor for the detectable presence of high risk HPV types. This was not related to other risk factors such as number of sexual partners. Since the STD clinic patients had significantly more lifetime partners than either the GYN clinic or OB clinic patients (17.0 versus 8.2 and 5.5 lifetime partners, respectively.)[*This study then seems to support the anecdotal clinic experience that HPV infection worsens during pregnancy and improves postpartum and certainly has implications for the concern about perinatal infection and development of respiratory papillomas in children. It also indicates how very epidemic these infections are in the sexually active population with one in three pregnant patients in this clinic infected with one of the HPV types. Ed.*]

Albrecht, Jan L. & Tomich, Paul S. **The Maternal and Neonatal Outcome of Triplet Gestations from Loyola University Stretch School of Medicine.** *Amer J Obstet & Gynec* 174 (May 1996): 1551-1556.

This was a retrospective review of 57 triplet deliveries between April 1, 1989 and July 31, 1994 done to determine the contemporary maternal and neonatal outcome of triplet gestations. The natural incidence of triplet gestations has been reported in the past to range from 1/7,921 to 1/9,828 pregnancies. With the advent of ovulation inducing agents and artificial reproductive technologies (IVF, GIFT, ZIFT, PROST) the incidence has dramatically increased to a range of 1/849 to 1/2,083 pregnancies. Since many of these triplet and greater pregnancies will be counseled and considered candidates for "selective reduction," data concerning the maternal risks and neonatal outcome are of crucial societal and moral importance.

Records of these triplet pregnancies were reviewed. Throughout the time of study, a uniform management scheme was used which utilized prophylactic bedrest and HUAM (Home Uterine Activity Monitoring) initiated between 20 and 24 weeks gestation. Hospitalization was utilized for preterm labor requiring IV medication (tocolytics), hyperemesis, preeclampsia, preterm rupture of membranes and severe intrauterine growth retardation. Ultrasound evaluation of fetal growth was carried out every three to four weeks. The average hospital stay was 22 + or minus 16 days (range 5 to 65 days). The mean gestational age was 33.0+ 2.7 weeks (24.1 to 37.1 weeks). Only four of 57 (7%) of patients delivered prior to 28 weeks and 41 (71.9%) were delivered at 32 weeks gestation. This might have been even higher except for the policy of doing amniocentesis at 34 to 35 weeks and proceeding with elective Cesarean Section if there was documentation of fetal lung maturity. The overall perinatal mortality was 41/1000 which was much

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better than other previously reported series but significantly increased when compared to the 12/1000 for the State of Illinois in 1993. Maternal morbidity was also increased and included preterm labor, anemia, preeclampsia, preterm premature rupture of membranes, postpartum hemorrhage, endometritis, HEELP Syndrome, gestational diabetes, pulmonary edema, abruptio placenta, Caesarean hysterectomy, acute fatty liver, peripartum cardiomyopathy, gastro intestinal bleeding, pulmonary embolus, but no mortalities. Most of these complications were the result of the physiologic changes seen with triplet gestation, such as uterine overdistention as well as the treatments used, i.e. prolonged bed rest and tocolytic therapy. These results seem to point to several things: the first being that prevention of multiple gestation is much preferable to managing these complicated pregnancies no matter how good that management. Logically, these triplets could have been prevented by avoiding the Assisted Reproductive Technologies in the first place. Secondly, although the perinatal mortality and maternal morbidity remain high for triplets, there were no maternal deaths, whereas had each of these pregnancies been "reduced" to twins, there would have been 57 fetal mortalities compared to the 23 (41/1000) neonatal and perinatal mortalities that were reported in this study.

Palomaki, G. et al. **Prenatal Screening for Down's Syndrome in Maine, 1980 to 1993.** (Letter to the Editor). *New England J of Med* 334 (May 23, 1996): 409-420, 423.

Data about the outcome of prenatal screening for Down's syndrome is scarce. In this study, the authors assessed 245 prenatal diagnoses of Down's syndrome made in Maine from 1980-1993 by amniocentesis or multiple serum markers. The outcomes of these cases were ascertained through vital statistics, cytogenetic laboratory records and physicians' reports (after adjustment for spontaneous fetal losses). In 29% of these cases, the mothers were over 35 and 71% were under 35 years of age. The percentage of cases which were terminated by abortion were: 89% during 1980-85; 83% during 1986-90; and 92% during 1991-93. The overall prevalence of Down's syndrome among live births was reduced by 7%, 23%, and 46% during the three periods. [*These figures give concrete evidence that prenatal screening for Down's syndrome is used to search and destroy. Ed.*]

S. Boschert. **ART Tied to Risk of Prematurity.** *Ob.Gyn. News* 31 (August 1, 1996): 1-2.

At a symposium of the University of California, San Francisco School of Medicine, Dr. Mary C. Martin addressed a meeting on ante and intrapartum management. The incidence of premature birth is considerably higher among children born after ART than the general population. US ART registries do not track premature births, but other countries do, providing data on tens of thousands. While birth defects and early pregnancy complication rates are similar to spontaneous pregnancies, heterotopic pregnancies (tubal and other sites) are twice as common in ART, 25-30% of ART pregnancies are multiple gestations which entail greater risk for prematurity and perinatal mortality. But the rate of prematurity on Singleton ART pregnancies is double or triple the rate for spontaneous pregnancies even when when controlled for age and parity. Among 10,000 ART pregnancies studied in France, Britain, Israel, and Australia, there were significantly more low birth weight and small for gestational age babies (SGA), requiring far more intense perinatal care, but perinatal mortality rates are no higher than in comparable populations. Deliveries are twice as likely to be induced or to be Caesarian Sections - aggregate 39-43%. The high multiple gestation rate is due to the practice of transferring 3-4 embryos per at a time. Even at that, the clinical pregnancy rate is only 30% which would mean "lowering 'success' rates for the benefit of eventual outcomes—a tough pill to swallow for the competitive ART industry." They propose asking patients who produce multiple embryos to cryo-preserve some as back-up. [*With the recent destruction of embryos in UK which passed the 5-year storage limit, is any further comment needed? Ed.*]

Current Medical Research, a supplement of ***NFP Forum (Diocesan Activity Report)***, is published quarterly. Hanna Klaus, M.D. is the editor. Theresa Notare is the managing editor. The purpose of the supplement is to serve the Roman Catholic diocesan NFP programs of the United States through providing them with up-to-date information on research within the field of fertility, family planning, and related issues. The Diocesan NFP teacher should be equipped to understand the various methods of contraception and be able to explain their incompatibility with the practice of the natural methods of family planning.