Smoking Cessation
Why Nurses and Patients Need to Quit

Achieving ‘SUCCESS’
Nursing Care for Pregnant Women Who Smoke

Nurses Can Play a Significant Role in Reducing Tobacco Use in the U.S.
Includes Patient Education Pages

Nursing Leadership Convenes to Help Nurses, Patients Quit Smoking

Screening for Domestic Violence
A Team Approach for Maternal/Newborn Nurses

Blood Refusal and Obstetrics
A High-Risk Case Scenario

Hepatitis C & Pregnancy
What Nurses Need to Know

Antepartum Maternal-Fetal Assessment
Using Surveillance to Improve Maternal and Fetal Outcomes
As this issue of Lifelines goes to print, I am busy preparing my presentations for the AWHONN Convention in Tampa. As you read this column, I hope you are making your way toward what promises to be an exciting three and a half days of learning and sharing. I have been attending these conventions for almost 10 years, and I know that there are many of you who have been going for much longer.

Attendees experience convention in different ways. Each year there seem to be more sessions, more meetings, and more possibilities. The choices can be overwhelming, and it’s difficult for some to decide what to do and which sessions to attend. Some of you develop highly effective strategies for covering as many sessions as possible. I have seen you with your programs color-coded with tabs that correlate to highlighted sessions on the pages. You move from one presentation to the other with military precision and cannot be distracted from your task of learning as much as possible in the most efficient manner. Others are less organized and talk to other attendees about the hot topic sessions and who is going where and then you move off in small groups. The ability to organize is an essential factor, and nurses use our formidable skills in that regard to make the most out of convention. I tend to go to sessions that reflect my passions in nursing. This year I am going to challenge myself by going to sessions on subjects that I know little about so...
that I can stretch my mind and perhaps develop new contacts. There are some interesting new features planned this year: the “big picture” sessions on the opening day, the learning labs and journal clubs—I plan to be at as many as possible. I will be facilitating one of the journal clubs (“The 10 ‘Must Read’ Articles in Women’s Health During the Last 5 Years”), and I welcome you to join in what I hope will be a lively and interesting session of discussion and debate. On Monday afternoon, Lifelines Executive Editor Carolyn Davis Cockey and I will be presenting a session on reviewing for scholarly publication. Join us to learn how you can become part of the reviewer pool for this journal, which will keep you on the cutting edge of clinical practice and inspire you to contribute to this and other scholarly publications too!

I will never forget my first AWHONN convention, standing with the throngs waiting for the Exhibit Hall to open, and then the mad dash into the brightly lit hall with the tempting displays, exciting promotional items and enthusiastic representatives at each booth. I found the variety of sessions overwhelming and had a difficult time deciding what to attend and how to pace myself. I was so busy taking it all in that I am sure I missed an important aspect of the experience: networking and meeting colleagues with similar interests. The first year that I presented at convention is another that I will never forget. I was so proud of the “Presenter” ribbon that I proudly attached to my name tag! I was amazed at the number of people who attended my session and stayed afterward to talk to me. In the back of my mind I had prepared myself for an empty room and an apologetic moderator. I most often attend convention alone in contrast to the many of you who come as a group with work colleagues. It can be pretty lonely; however, I have started to initiate conversations with people sitting near me at a session. I have learned so much from these short conversations and have made new connections and collaborations from these “chance” encounters. While there is comfort in hanging out with people you know, try talking to the stranger sitting next to you; who knows what can come out of it?

Last year in Milwaukee is another one of those milestone conventions for me, as it was the first one that I attended as the new editor of Lifelines. I spent many hours at the AWHONN publications booth, talking to you, the readers, and hearing your stories and your hopes for publishing one day. I heard what you like about Lifelines and what you would like to see in the pages in the future. We’re working on that! I met nurses who were not members of AWHONN (yet!) who were attending convention for the first time and were amazed at all that the convention and the organization had to offer. I hope that some of you reading this column are those nurses who have since joined AWHONN and are receiving this journal as one of the benefits of membership. Some attendees stopped me in the hallways to wish me luck as editor. How did you know who I was? Was it my beaming face, so proud of what I had been entrusted to do? Or was it the look of terror as it dawned on me that I had taken on this task and was I capable of fulfilling my hopes for the journal? Either way, you really made my day and confirmed for me that this is a great organization with wonderful members.

I fully expect that this year will once again exceed my expectations. Please visit the Lifelines booth and introduce yourself to me. Tell me what you like most about the journal and, as important, what you would like to write about. I will have company at the booth: Carolyn Davis Cockey, MLS, our talented executive editor, will be there as will members of the Editorial Advisory Board. We are eager to hear your comments, commendations, and complaints too! Stop me in the hallways or after a session to chat or offer suggestions. The personal contacts that are possible at convention are so important to ensuring that Lifelines continues to provide you with what you need for meeting your professional needs. My image graces this column so you know what I look like. Please take that as an open invitation to approach me, introduce yourself and begin a conversation. Ultimately that is the quintessential convention experience for me and I hope you too—connecting and conversing and communicating with each other.
Violence within health care has reached epidemic proportions. It's a multifaceted problem that has had an adverse effect on the nursing profession causing poor morale and large staff turnover. For most nurses risk of violence in the workplace is a source of great concern. According to the International Council of Nurses, “Nurses are the health care workers most at risk. Further, that 72 percent of nurses don’t feel safe from assault in their workplace.” The nursing profession has as a result of this dilemma lost many of its members and, more important, a lot of its talent. Furthermore, violence may well be the deterrent to many considering nursing as a career, the result being a shortage of nurses in Illinois and the rest of the country. Studies have shown the shortage of staff to be a contributing factor to the problem of violence in health care.

The nursing literature supports the theory that nurses, and administrators, have long held the belief that violence is part of the job, an occupational hazard, inherent in the practice of nursing. Historically nurses have been undervalued by their employers, and consequently not supported by them when encountering violence in their workplace.

Through the efforts of organizations such as the American Nurses Association (ANA), the profession as a whole has come to realize that this very belief has perpetuated the violence in health care, largely because administrators did not take the issue of violence seriously. In 1996, in response to the escalating violence in health care settings, The Occupational Safety and Health Administration (OSHA) released their guidelines for the prevention of violence in health care settings.

Employers of health care are legally obligated to provide a safe work environment. While OSHA does not mandate to employers how to provide for the safety of its employees, it does provide guidelines. It’s up to each employer of health care to develop its own plan for violence prevention. Identified in the OSHA guidelines are the four components of an effective violence prevention program:

1. Management commitment and employee involvement
2. Work site analysis: assessing the workplace for potential risk for violence
3. Hazard prevention and control: designing and implementing measures to prevent the identified risks
4. Safety and health training: development and implementation of training for workers on violence prevention, including a postviolence response

Central to the discussion contained here is “Management commitment and employee involvement,” which recommends that employee and management work together. Essentially,
If education is the answer to preventing violence in health care, then why are we as nurses and as a profession not insisting on more of it?

This means that every worker within health care, from the CEO to the housekeepers, should contribute to the safety of all workers. OSHA recommends that a prevention program should include training and education of workers on violence, and this is consistent with what has been written in the nursing literature.

The vast majority of articles written in the last two decades identify education as the most effective intervention in reducing the amount of violence against nurses. With the release of the OSHA guidelines, a plethora of articles on the subject of “violence” appeared in a variety of nursing journals, and as diverse as the journals were, so were the definitions given for “workplace violence.” Even in the recommended guidelines set forth by OSHA violence is not defined. What is missing in the nursing literature is a universal definition of “workplace violence” and the events that constitute it. If nurses cannot identify potential violence, how can they report it, much less prevent its occurrence? This is a major consideration when we learn that the documented incidence of violence in health care settings is underreported.

After all the articles addressing violence against nurses, there is still no reduction in the growth of abuse. The latest worker’s comp statistics support that violence against nurses is on the rise, and if our work environments continue to be breeding places for violence, the amount of violence against nurses will continue to climb. As an occupational health nurse, I identify the needs of the practicing nurse. With the encouragement of a former professor, I have written a continuing education program for nurses titled “Violence in Health Care.” The Illinois Nurses Association approved the program for contact hours. I encouraged employers of health care to teach the program to their nurses. To my dismay, the program was not well received. One nursing supervisor and a nurse educator for a large institution located in Chicago were very receptive to the idea at first, but both added they would need to obtain permission from their director. When I made follow-up calls to them, my calls were never returned.

I was provided several times with the opportunity to teach the program to registered nurses in a degree completion program at a university. I found the experience an enlightening one, as I soon discovered it was a much-needed program. The class participants were for the most part seasoned nurses working within a variety of health care settings in, and around, the city of Chicago. What was incredible to me was that seasoned nurses lacked basic knowledge on the subject of workplace violence. Many of the participants denied receiving annual training, although some acknowledged receiving some training as a new employee during their orientation. In the first class there were 17 nurse participants. I asked the group if they were aware if their employer had a written policy on workplace violence. Only 4 of the 17 were aware of such a policy. I then asked if they knew what the policy stated, and only one nurse was able to tell me the po-

For more information, go to:

cy of her institution. The OSHA guidelines recommend that each employer should have a written policy on workplace violence and that the policy should state “zero tolerance.” A copy of the policy should be given to all employees. The ANA has long advocated mandatory standards from OSHA for employers of health care. With mandatory standards there would be a universal plan for violence prevention to benefit nurses.

As part of the course evaluation, I received written comments, many expressing that the information was helpful to them in their practice and that it had raised their knowledge on the subject, which made them more aware. A nurse in one class told of an incident where she had been slapped by a female physician and then pushed into a chair. Another written comment said, “I now feel empowered to make a difference in my own rights as a health care worker.” Reflecting on the comments, I began to speculate that this might be the very reason the employers I approached were not willing to provide a program on violence; knowledge can be a source of empowerment. Or perhaps employers are concerned this type of education would stimulate unwanted litigation against them. To the contrary, experts on the topic of workplace violence identify the education of staff as a deterrent to lawsuits. The literature identifies the inexperienced and uninformed at highest risk for violence. The better educated the staff, the better able they are to deal with violence when it occurs in their practice settings.

If education is the answer to preventing violence in health care, then why are we as nurses and as a profession not insisting on more of it? 

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“Violence in Health Care” was approved as a Continuing Education Program by the Illinois Nurses Association in February 2002.

Attn: Nurse Practitioners!

Join the AWHONN Lifelines Editorial Advisory Board and make a difference in practice!

AWHONN Lifelines is seeking advance practice registered nurses to join its Editorial Advisory Board.

To be eligible, you must be an AWHONN member and in active clinical practice. As an Editorial Advisory Board member, you’ll:
• review manuscripts for publication
• solicit manuscripts from colleagues on targeted topics
• travel to the board’s annual meeting to help direct the publications’ ongoing development
• make a difference in how nurses are caring for women and newborns

Interested? Please email your current CV and a short note of interest to Editor Anne Katz at Anne_Katz@Umanitoba.ca or Executive Editor Carolyn Davis Cockey at ccockey@awhonn.org.

Questions? Call Carolyn Cockey at (866) 445-0333 toll-free or direct at (970) 947-9793.
Approximately one in four women in the U.S. smoke (Ebrahim, Merrett, & Floyd, 2000). Smoking causes 29 percent of all cancers, 55 percent of all cardiovascular deaths in people ages 65 and younger, and increased rates of emphysema and bronchitis (U.S. Department of Health and Human Services, Public Health Service, 2000).

Among younger women who smoke, reduced fertility occurs, including changes in ovulatory function and tubal motility (American College of Obstetricians and Gynecologists, 1997).

Pregnant Women Who Smoke
When a pregnant woman smokes, there are consequences to both the mother and the infant. The risk for low birth weight is doubled, and there is also an increased risk for placental dysfunction (including previa or abruption), prematurity and possible perinatal loss.

Since 15 to 29 percent of pregnant women smoke, these conditions are a threat to a significant number of mothers and their children. A practice resource issued by the March of Dimes states that babies of parents who smoke are more likely to suffer (March of Dimes, 2000). Children of smoking mothers suffer from respiratory and ear conditions, reduced lung capacity, behavioral and learning disabilities, and conduct disorders, and have twice the risk of dying from sudden infant death syndrome.

Given these risks and conditions, not to mention the staggering costs of these health disparities, AWHONN synthesized the literature to develop a research-based practice project to demonstrate that changed nursing practice can reduce the number of pregnant women smoking. Specific goals for the SUCCESS (Setting Universal Cessation Counseling, Education, and Screening Standards) initiative are to:

- educate nurses and health care providers about the efficacy of brief smoking cessation intervention for pregnant smokers
- evaluate an evidenced-based practice guideline and cessation and intervention strategies in primary prenatal care settings to help pregnant smokers to quit
- educate and counsel childbearing women about the importance of smoking cessation prior to and during their pregnancy and postpartum period

SUCCESS utilizes an office-based protocol that systematically identifies pregnant women who smoke and offers treatment proven to increase quit rates.
SUCCESS utilizes an office-based protocol that systematically identifies pregnant women who smoke and offers treatment proven to increase quit rates. The 5- to 15-minute intervention, most effective with pregnant women who smoke less than 20 cigarettes per day, is appropriate for use during routine prenatal office visits and includes the following “5 A’s” steps:

• Ask
• Advise
• Assess
• Assist
• Arrange

This brief intervention was adapted from the U.S. Public Health Service clinical practice guideline, Treating Tobacco Use and Dependence, and is based, in part, on previous research by the National Cancer Institute.

The “5 A’s” intervention and use of descriptive statements for smoking status assessment were synthesized into the SUCCESS project protocol for AWHONN’s sixth research-based practice project. The project utilized volunteer AWHONN members to use and evaluate this protocol in everyday practice during their care of women in the preconception, pregnant and postpartum periods. Education about the protocol and data collection tools was utilized at 13 sites in the U.S. and Canada. More than 500 pregnant women were screened. Subsequent follow-up reports about the protocol’s effectiveness to reduce smoking among pregnant and postpartum women are forthcoming.

Intervening

Smoking cessation interventions are proven to be successful and cost-effective. SUCCESS takes minimal clinician time and can impact the “state of change” of the client. Change can lead to SUCCESS and have a direct effect on the health outcomes of the mother and infant. The clinician can, and should, give positive feedback for all attempts and every goal that is closer and closer to total abstinence. Ideally, smoking cessation interventions should begin during preconception care. Health care providers must reinforce the SUCCESS program during all encounters and at every visit. Evidence-based, pregnancy-specific smoking cessation interventions can increase the rate of quitting by 30 percent to 70 percent, compared to no intervention at all (Melvin, Dolan-Mullen, Windsor, Whiteside, & Goldenberg, 2000; Mullen, 1999). Smoking cessation at any point during pregnancy can prevent health disparities and increase birth weight.

Smoking cessation is not easy. Women smoke for complex reasons. However, the benefits of quitting are so worthwhile. For example, if a pregnant woman stops smoking prior to her 30th week of gestation, she can positively affect the birth weight of her baby (American College of Obstetricians and Gynecologists, 1997). The costs of interventions are a fraction of the cost of the complications of smoking for women and their children and families. Brief counseling sessions are best, and women must be screened during every health care encounter. The SUCCESS program can save money and lives.

References

All people with type 2 diabetes mellitus and coronary artery disease (CAD), and all people with diabetes and any other risk for cardiovascular disease, should be taking cholesterol-lowering drugs called statins, the American College of Physicians (ACP) said in new guidelines published in the April 20, 2004, issue of *Annals of Internal Medicine*.

This is the second ACP guideline on aggressive management of risk factors for cardiovascular disease in people with type 2 diabetes. In April 2003, ACP called for tight control of blood pressure for people with diabetes.

An estimated 80 percent of people with type 2 diabetes will develop or die of complications of heart and vessel disease, and about 65 percent of deaths among people with diabetes are due to heart disease and stroke, according to the American Diabetes Association.

In making the revisions the physicians’ group said that both health care providers and consumers need to know that when treating diabetes, controlling cardiovascular risk factors, particularly cholesterol levels and high blood pressure, is as important as controlling blood sugar.

The number of people with type 2 diabetes is growing rapidly in the U.S. An estimated 18.2 million Americans, or about 6 percent of the population, have type 2 diabetes, and an additional 1.3 million people aged 20 or older are diagnosed with the disease each year, according to the American Diabetes Association. Some call this increase an epidemic.

The new ACP guidelines are targeted at both consumers and primary care providers.
Diabetes is the seventh most common reason patients visit their internists and the second most common diagnosis made by internists, according to 2001 data from the National Center for Health Statistics. ACP says that to control cholesterol in people with diabetes:

- All adults with type 2 diabetes and known CAD should be taking statins regardless of their cholesterol levels
- All adults with type 2 diabetes and another risk factor for coronary artery disease, such as high blood pressure, high cholesterol, smoking, physical inactivity or obesity, should be taking statins or the nonstatin drug gemfibrozil, regardless of cholesterol levels. This group includes premenopausal women with diabetes and another risk factor.
- Once started on cholesterol-lowering therapy, patients with type 2 diabetes should remain on at least moderate doses of a statin.
- Health care providers should not delay starting statin treatment until cholesterol reaches a certain level and should not “treat to a target” level of cholesterol.
- Routine monitoring of liver function or muscle enzymes is probably not needed for those patients with type 2 diabetes who are taking statins, except if they also have a liver abnormality or muscle pain or are taking drugs that interact with statins.

The ACP guidelines call special attention to premenopausal women with diabetes because women with diabetes who have not reached menopause may think their female hormones protect them from CAD, but statistics show that premenopausal women with type 2 diabetes and at least one other cardiovascular risk factor are as likely as men to develop CAD. So ACP says that women with diabetes and other risk factors for CAD should take a statin.


WHI Study Finds Increased Stroke Risk With Estrogen Alone

A large, multicenter heart disease prevention study, part of the Women’s Health Initiative (WHI), found that estrogen-alone hormone therapy had no effect on coronary heart disease risk but increased the risk of stroke for postmenopausal women. The study also found that estrogen-alone therapy significantly increased the risk of deep vein thrombosis, had no significant effect on the risk of breast or colorectal cancer and reduced the risk of hip and other fractures.

The estrogen-alone study was stopped at the end of February 2004 because the hormone increased the risk of stroke and did not reduce the risk of coronary heart disease, a key question of the trial. The study was to have ended in March 2005. Initial findings appear in the April 14 issue of The Journal of the American Medical Association. A separate report on the WHI Memory Study of estrogen alone’s effects on dementia and cognitive function will be published soon. The findings confirm that estrogen-alone therapy should not be used to prevent chronic disease and support current FDA recommendations that hormone therapy only be used to treat menopausal symptoms and that it be used at the smallest effective dose for the shortest possible time.

As of July 2003, about 10 million American women were taking some form of hormone therapy. It’s estimated that about 6.7 million of those take estrogen alone and 3.3 million take estrogen plus progestin. The drugs tested in the WHI are those most commonly used in the U.S. Study results demonstrated that for every 10,000 women each year, on average, estrogen-alone use compared to placebo resulted in increased risk for:

- Stroke (fatal and nonfatal); 12 cases more (44 cases in those on estrogen alone and 32 in those on placebo)
- Venous thrombosis (blood clot, usually in one of the deep veins of the legs); 6 cases more (21 cases in those on estrogen alone and 15 in those on placebo) (an increased risk of pulmonary embolism)

The estrogen-alone study was stopped at the end of February 2004 because the hormone increased the risk of stroke and did not reduce the risk of coronary heart disease, a key question of the trial.
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- Blood clots in the lungs—was not statistically significant—there were 13 cases in those on estrogen alone and 10 in those on placebo.

There was no difference in risk for or an uncertain effect for:

- Coronary heart disease: No significant difference in risk (neither increased nor decreased); 5 fewer cases (49 cases in those on estrogen alone and 54 in those on placebo). During the first two years of use, risk was slightly increased for estrogen alone, but it appeared to diminish over time.

- Colorectal cancer or total cancer: No significant difference in risk (neither increased nor decreased); 1 more case for colorectal cancer and 7 fewer cases for total cancer (for colorectal cancer, 17 cases in those on estrogen alone and 16 in those on placebo; for total cancer, 103 cases in those on estrogen alone and 110 in those on placebo).

- All deaths or those for a specific cause: No significant difference in risk (neither increased nor decreased); 3 more deaths (for all deaths, 81 in those on estrogen alone and 78 in those on placebo).

- Breast cancer: Uncertain effect; 7 fewer cases (26 cases in those on estrogen alone and 33 in those on placebo). This finding was not statistically significant.

The results demonstrated an increased benefit for bone fractures with 6 fewer hip fractures (11 cases in those on estrogen alone and 17 cases in those on placebo). The results were not affected by race or ethnicity, or body mass index.

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**Study Identifies Predictors of Alzheimer’s Disease Longevity**

It’s among the first questions asked after someone is diagnosed with Alzheimer’s disease (AD): “What can we expect?” It’s a tough question that has been difficult to answer. But a new study suggests that assessing several key clinical aspects of the disease soon after diagnosis could help families and physicians better predict long-term survival in individuals with AD. These insights also could help public health officials refine cost projections and plan services for the growing number of older Americans at risk for the disease.

Researchers from Seattle’s Group Health Cooperative and the University of Washington found that in the years following diagnosis, people with AD survived about half as long as those of similar age in the U.S. population. Women tended to live longer than men, surviving about six years compared to men who lived for about four years after diagnosis. But this gender gap narrowed with age. Age at diagnosis was also a factor. Those who were diagnosed with AD in their 70s had longer survival times than those diagnosed at age 85 or older. The study, funded by the National Institute on Aging (NIA) of the National Institutes of Health (NIH), appeared in the April 6, 2004, issue of the journal *Annals of Internal Medicine*.

During the study, researchers followed 521 community-dwelling men and women aged 60 and older who had been recently diagnosed with Alzheimer’s disease. They were recruited from a database of 23,000 people listed in an Alzheimer’s Disease Patient Registry in the Seattle area. The average follow-up period was about 5 years, with an approximate range from 2½ months to 14 years.

As they entered the study, each person was evaluated for cognitive and memory problems and examined for other conditions including heart disease, heart failure, diabetes, stroke,
depression and urinary incontinence. They were also assessed for a history of agitation, wandering, paranoia, falls and walking difficulties. Survival was measured from the time of initial diagnosis until death or when the study ended in 2001.

When compared to the life expectancy of the general U.S. population, overall survival was lower for people with AD in all age groups. For instance, median survival was 8 years for women aged 70 diagnosed with AD, which is about half the life expectancy of similarly aged American women who do not have the disease. Similar trends were found among 70-year-old men with AD who had a median survival time of 4.4 years compared with 9.3 years for the U.S. population.

Survival was poorest among those aged 85 and older who wandered, had walking problems and had histories of diabetes and congestive heart failure. However, the difference in the life expectancy between those who were diagnosed with AD and the general population progressively diminished with age. At 85, for example, median life expectancy for women with AD was 3.9 years after diagnosis compared to about 6 years for women who didn’t have the disease. Similarly, 85-year-old men with newly diagnosed AD had a median life expectancy of 3.3 years compared to 4.7 for men of the same age who didn’t have AD.

Poor scores on the initial tests of memory and cognitive performance predicted shorter survival time after diagnosis. In fact, a five-point drop in one key test, the Mini-Mental State Exam, during the first year following diagnosis, predicted up to a 66 percent increase in the risk of death after that initial year. Walking problems, congestive heart failure, and a history of falls, diabetes and ischemic heart disease were other important predictors of reduced life expectancy after AD diagnosis.

AD is an irreversible disorder of the brain, robbing those who have it of memory and, eventually, overall mental and physical function, leading to death. It’s the most common cause of dementia among people over age 65.

Recent studies estimate that up to 4.5 million people currently have the disease, and the prevalence (the number of people with the disease at any one time) doubles every 5 years after the age of 65. By 2050, if current population trends continue and no preventive treatments become available, some 13.5 million Americans will have Alzheimer’s disease.

NSAIDS May Hamper Fertility

In a brief editorial, doctors from the Queen Elizabeth Hospital at the University of Adelaide in Australia point out that a specific group of non-steroidal anti-inflammatory drugs (NSAIDs) affect ovulation and could have a negative impact on fertility. From both human and animal studies, they have gathered examples of the ways in which COX-2 inhibitors (NSAIDs, which include Celebrex and Vioxx) can impair fertilization, embryo development, implantation and continuing pregnancy.

Vaccine Protects Against SARS In Mice

A

n experimental vaccine prevents the SARS virus from replicating in laboratory mice, according to a new report in the April 1 issue of Nature. Scientists at the Vaccine Research Center (VRC) of the National Institute of Allergy and Infectious Diseases (NIAID), one of the National Institutes of Health, developed the vaccine. The vaccine was tested in a mouse model of SARS infection recently validated by other NIAID investigators.

The VRC scientists are preparing further experiments to evaluate the vaccine’s safety and potential to induce similar immune responses in humans. The vaccine contains a small piece of SARS virus DNA, insufficient to reproduce the SARS virus yet able to stimulate a protective immune response.

Scientists found that their experimental DNA vaccine caused the immune system to produce both antibodies and cells designed specifically to defend against the SARS virus. They also determined, however, that the antibodies alone were responsible for the dramatic reduction in virus particles in mice that received the vaccine.

The SARS virus infected 8,098 people and killed 774 worldwide between November 1, 2002, and July 31, 2003, according to the World Health Organization.
For instance, for pregnancy to occur, it’s essential that development of the endometrium, the uterine lining, be synchronized to the division of the embryo, so that when the embryo is sufficiently developed to implant, the endometrium is ready. These drugs, by interfering with the synthesis of prostaglandins, disrupt endometrial development—which is similar to an inflammatory response—and can make it impossible for an embryo to implant. The editorial appears in the March 2004 *Fertility and Sterility*.

### Folic Acid Supplementation Reducing Neural Tube Defects

The introduction of folic acid fortification of breads and grains in the U.S. has been a great success that has noticeably driven down the incidence of neural tube defects (NTD), according to a study in the March issue of Obstetrics & Gynecology.

Researchers noted a 32 percent drop in the rate of pregnant women found to be at high risk of NTDs and a 20 percent drop in infants born with NTDs since folic acid fortification was implemented in the U.S. in 1998.

Researchers studied the maternal serum alpha-fetoprotein (MSAFP) results from more than 61,000 pregnant women who underwent prenatal screening for birth defects. (MSAFP is a prenatal blood test performed in the second trimester to screen for certain birth defects, including spina bifida.) MSAFP results first were studied for 27,020 pregnancies in 1997, one year prior to the FDA’s folic acid mandate. These data were then compared to MSAFP results from 34,099 pregnancies in 2000 at the same laboratory, more than two years after implementation of the FDA folic acid mandate.

According to the researchers, while there has been a 20 percent drop in NTDs incidence at birth in the U.S., their data show that the actual decrease is even greater when measured in the mid-trimester because birth data don’t accurately reflect the overall drop. The researchers note that while more studies are needed to determine the optimal level of folic acid fortification, the current FDA mandate represents the biggest single step to date in the effort to reduce birth defects.

### Calories Count in Fighting Obesity

The FDA and DHHS are emphasizing that “calories count” for the millions of Americans who are overweight and obese and trying to slim down.

A new report from the FDA’s Obesity Working Group includes recommendations to strengthen food labeling, to educate consumers about maintaining a healthy diet and weight and to encourage restaurants to provide calorie and nutrition information. It also recommends increasing enforcement to ensure food labels accurately portray serving size, revising and reissuing guidance on developing obesity drugs and strengthening coordinated scientific research to reduce obesity and to develop foods that are healthier and low in calories.

The FDA report comes on the heels of a new study from HHS’s Centers for Disease Control and Prevention (CDC) that shows poor diet and inactivity are poised to become the leading preventable cause of death among Americans—causing an estimated 400,000 deaths in 2000. CDC estimates that 64 percent of all Americans are overweight, including more than 30 percent who are considered obese. About 15 percent of children and adolescents, aged 6 to 19, are overweight—almost double the rate of two decades ago.

“Our report concludes that there is no substitute for the simple formula that ‘calories in must equal calories out’ in order to control weight,” said FDA Deputy Commissioner Lester M. Crawford, DVM, PhD. “We’re going back to basics, designing a comprehensive effort to attack obesity through an aggressive, science-based, consumer-friendly program with the simple message that ‘Calories Count.’”

### New Eggs Continue to Develop in Adult Mice

Contrary to long-held scientific views that the number of oocytes (eggs) in the ovaries of most mammals is fixed at birth, scientists report that new oocyte-containing follicles continue to develop in the ovaries of adult mice. The research suggests that these new oocytes come from stem cells located in the ovary.

The study, supported by the NIA, one of the National Institutes of Health, was conducted by Jonathan L. Tilly, PhD, and colleagues at Massachusetts General Hospital and Harvard Medical School and appears in the March 11, 2004, issue of *Nature*.

Some experts are saying that if this finding is confirmed, then Dr. Tilly and his colleagues would seem to have rewritten the book on reproductive biology—at least for mice for now.

Further study about how oocyte production in adults is controlled...
might eventually make it possible to regulate the rate at which oocytes are formed in women. This, in turn, could possibly be used to delay premature ovarian failure as well as menopause and may help women maintain their health for a longer period of time.

Tilly’s group began by comparing the numbers of healthy and degenerating follicles in the ovaries of a particular strain of mice from birth through young adulthood. They reasoned that if the number of follicles in the ovary is set at or shortly after birth, then the loss of healthy follicles over time would be accounted for by the total number of follicles undergoing atresia (degeneration) during the same time period. Instead, they found that the incidence of atretic follicles was significantly greater than the loss over time of healthy or nonatretic follicles.

Evidence that degenerating follicles disappeared from the ovaries within three days (and, thus, were not being counted more than once) suggested to the investigators that the ovaries continue to produce new oocyte-containing follicles into adulthood.

Just as experts who once believed that neurons in the human brain did not regenerate have recently learned that in a few brain regions, new neu-

Newborns whose mothers drank alcohol heavily during pregnancy had damage to the nerves in the arms and legs, according to a study by researchers at the National Institute of Child Health and Human Development, one of the National Institutes of Health. The study was conducted in collaboration with researchers at the University of Chile.

The nerve damage was still present when the children were reexamined at one year of age.

The study is the first to examine whether exposure to alcohol before birth affects the developing peripheral nervous system—the nerves in the arms and legs, rather than in the brain or spinal cord. The study appears in the March issue of the Journal of Pediatrics.

Researchers indicated that infants born to mothers who drink heavily during pregnancy are known to be at risk for mental retardation and birth defects. Now, this is the first study to show that these infants may suffer peripheral nerve damage as well.

Adults who drink excessive amounts of alcohol can experience peripheral neuropathy, a condition that occurs when nerves involved in communication between the central nervous system (the brain and spinal cord) and the rest of the body are damaged. This can lead to tingling sensations, numbness, pain or weakness.

The NICHD–University of Chile Alcohol and Pregnancy Study compared 17 full-term newborns whose mothers drank heavily during pregnancy to 13 newborns not exposed to alcohol in the womb. “Heavy drinking” is defined as having four standard drinks per day (one standard drink is equivalent to one can of beer, one glass of wine or one mixed drink). All women identified as heavy drinkers were advised that their drinking habits were potentially dangerous to their fetus and were offered help from an alcohol counseling clinic to stop drinking alcohol or to cut down on their drinking.

All of the children underwent a complete neurological exam followed by testing of the nerves in their upper and lower limbs. The researchers stimulated the nerves using a machine that passed a very mild electric current through the skin and then recorded the electrical activity of the nerves to determine if they were normal or damaged. (The procedure uses a current mild enough not to cause pain.) The nerve studies were performed when the children were about one month old and again when they were 12 to 14 months old.

The children exposed to alcohol before they were born experienced significant problems in conducting a message through the nerves—both at one month and one year of age. The alcohol-exposed children did not experience any catch-up or improvement in nerve function by the time they reached their first birthday.

The finding that the nerve damage persisted when the children were a year old suggests that alcohol may cause permanent damage to developing nerves, the researchers wrote.
rons can be born, even in the old brain, as early as 1921, scientists believed that no new oocytes were made after the ovary of any mammal, including a woman, was formed. Then, according to Dr. Tilly, “this concept was solidified as dogma in 1951 in a paper that critically evaluated, and effectively dispelled, any work contrary to [this] belief. . . . The present study provides evidence that challenges the validity of this belief, which represents one of the most basic underpinnings of reproductive biology.”

**African Americans Unaware of High Kidney Disease Risk**

Although kidney failure and its leading causes disproportionately affect African Americans, they are largely unaware of their high risk and of preventive measures, according to the first NIH study to assess the group's knowledge and awareness about kidney disease.

While 90 percent of African Americans surveyed by the National Kidney Disease Education Program had heard about kidney disease, only 15 percent felt their personal risk for developing the disease was higher than average and fewer knew specifically how to prevent it. This gap in awareness raises serious concern, especially because 44 percent of the participants had at least one major risk factor for kidney disease—diabetes, high blood pressure or a blood relative with the disease. In addition, only 17 percent named kidney disease as a consequence of diabetes and only 8 percent named it as a consequence of hypertension. These two diseases are the leading causes of kidney failure in the U.S. and account for 70 percent of kidney failure among African Americans.

The poll also found that 52 percent of people knew at least one major cause of kidney disease, but 48 percent were unable to name any cause and others named incorrect causes such as drinking sodas. When asked about symptoms of early kidney disease, 13 percent correctly said that there are none, while 64 percent expected early symptoms to include difficulty urinating, general pain and frequent urination.

While anyone can develop kidney disease, African Americans are hit especially hard. An estimated 36 in 100,000 African Americans versus 11 in 100,000 Whites were treated for kidney failure in 2001. African Americans have four times the risk of kidney failure, and those with diabetes have up to six times the risk compared to White counterparts. But the biggest disparity is among African American men ages 25 to 44, who are 20 times more likely to develop kidney failure compared to corresponding Whites.

Epidemic numbers of people—roughly 20 million—have kidney disease, and another 400,000 or more are already on dialysis or have a kidney transplant because their kidneys failed. The cost to taxpayers, insurers and patients was an estimated $22.8 billion in 2001 alone.

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**Guidelines Help Referrals in Ovarian Cancer Patients**

Two years ago, the American College of Obstetricians and Gynecologists and the Society of Gynecologic Oncologists published the first referral guidelines for patients diagnosed with pelvic masses. In this study of more than 1,000 women who were diagnosed with pelvic masses requiring surgery, a group of physicians found that when these guidelines were used, 94 percent of women with postmenopausal ovarian or other gynecologic cancers would have been appropriately referred to gynecologic oncologists for specialized treatment.

Specifically, the study involved a retrospective examination of women who underwent surgery for a pelvic mass between July 2000 and June 2001 at seven university-based academic institutions.

The findings show that the guidelines can function as an effective tool to help direct the highest risk group of women with pelvic masses to specialty care. Additionally, the findings show that a family history of ovarian and breast cancer in first-degree relatives is less useful than the other four criteria—postmenopausal state, abnormal preoperative CA-125 level, presence of ascites and evidence of abdominal or distant metastasis by exam and imaging study—in predicting ovarian cancer.
In 2003, it’s estimated that more than 25,000 new cases will be diagnosed and approximately 14,400 women will die from ovarian cancer in the U.S.

Chronic Cough May Prompt Urinary Incontinence, Embarrassment

Chronic cough affects women more severely than men and greatly impacts their quality of life, says a study published in the February issue of CHEST, the peer-reviewed journal of the American College of Chest Physicians. The study found that more women than men seek medical care for chronic cough because their quality of life is more compromised by physical and psychosocial issues. The study also found that women with chronic cough who seek medical treatment for cough are more likely than their male counterparts to suffer from urinary incontinence and consequent feelings of embarrassment.

Researchers from the Departments of Medicine and Psychiatry, University of Massachusetts Medical School, examined the relationship between gender and health-related quality of life in patients with chronic cough who seek medical attention and the extent to which chronic cough affected health-related quality of life. Researchers analyzed data collected from a cough-specific quality-of-life questionnaire completed by 172 patients (116 women and 56 men) seeking medical attention for chronic cough and a control group of 31 smokers (22 women and 9 men) who were observed to be coughing but were not complaining of cough.

In the group of chronic coughers, significantly more women than men reported physical and extreme physical complaints, such as headache, painful breathing, nausea and, most significantly, urinary incontinence. Women also reported more psychosocial issues, including embarrassment, family unable to tolerate chronic cough and upset by response of others. In the control group of smokers, women complained of urinary incontinence significantly more than men.

Don’t Miss:

5th Anniversary Edition of Every Woman!

AWHONN’s award-winning patient education guide, Every Woman: The Essential Guide for Healthy Living, when it publishes its 5th Anniversary Edition this fall! This dynamic, evidence-based practice guide goes to more than 1 million women each year through their nurses. Every Woman is written by leading nurse experts particularly for women who are providing care for themselves, their family, and perhaps their aging parents and relatives.

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Questions? Call Michelle Chandler at AWHONN headquarters (800) 673-8499 x2457 or email Michelle at mchandler@awhonn.org.
The mission of the Agency for Healthcare Research and Quality (AHRQ) is "to improve the quality, safety, efficiency and effectiveness of healthcare for all Americans." A key to the success of this mission is to work directly with key stakeholders, such as nurses, to put evidence-based research into practice to improve health and health care. To that end, the agency continues to provide evidence-based tool kits and information to help nurse clinicians combat the deleterious effects of tobacco use within our society (See Box 1).

As the nation’s largest group of health care professionals, AHRQ recognizes the tremendous potential that nurses can have in meeting the public health challenge that tobacco use presents. They can be highly effective by implementing evidence-based tobacco cessation interventions and advancing the Healthy People 2010 National Health Objectives to reduce tobacco use. According to the U.S. Public Health Service’s (PHS) “Treating Tobacco Use and Dependence Clinical Practice Guideline,” treatment delivered by a variety of clinicians including nurses significantly increases the rates at which people quit using tobacco (Fiore, Bailey, Cohen, & Guideline Panel, 2000). Additionally, the success of any proposed initiative will
largely depend on the widespread and standardized use of the evidence-based recommendations found in the PHS guideline.

The meta-analysis used to develop the guideline’s recommendation found that nurses can improve abstinence rates by 70 percent as compared to patients trying to quit on their own without the assistance of a nurse or clinician. The PHS guideline also recommends that clinicians, including nurses, should offer effective smoking cessation interventions to pregnant smokers at their first prenatal visit, as well as throughout their entire pregnancy.

However, simply working with other PHS agencies and private-sector partners to produce the guidelines is not the end of AHRQ’s involvement. To ensure that the PHS guidelines are used to reduce tobacco use, AHRQ provides the best science base to increase the adoption of tobacco cessation treatment and to identify clinical “best practices” for tobacco cessation. All of AHRQ’s activities will have the added benefit of producing reliable outcomes data that will help future efforts to develop tobacco cessation materials.

Prevalence

Smoking prevalence is higher in women of reproductive age, as compared to the overall population of adult women (25.3 percent vs. 22 percent). An estimated 14 million women of reproductive age currently smoke (U.S. Department of Health & Human Services). During the 1990s, the percentage of white high school senior girls who reported that they had smoked in the previous month rose from 31.2 percent in 1992 to 41 percent in 1998, and rates for African American girls increased from 7 percent to 12 percent. These increases raise considerable concerns because population-based estimates indicate that these young smokers are likely to continue smoking when they become pregnant. The rates of smoking throughout pregnancy were 12.9 percent in 1998, and these estimates are consistently highest among smokers age 18-24 (17.1 percent). Research also indicates that socioeconomic status has a dramatic effect on prenatal smoking behavior. Specifically, 25.5 percent of women with less than a high school education smoke throughout their pregnancies, as compared to only 2.2 percent of mothers with a college degree.

The effects of smoking on the fetus are well known and include low birth weight, spontaneous abortion, abruptio placentae, placenta previa and reduced infant lung function (Fielding, 1987; McIntosh, 1984; Royal College of Physicians, 1992; Tager, Ngo, & Hanrahan, 1995). Environmental tobacco smoke exposure (ETS) also can have significant negative effects on children and infants, including asthma, lung irritation and development of allergies. In addition, acute otitis media and sudden infant death syndrome have been attributed to passive smoking (DiFranza & Lew, 1996). Based on estimates from the World Health Organization (WHO), approximately one-half of the world’s children, or 700 million, are exposed to ETS, primarily by mothers who smoke (WHO, 1999). In the U.S. alone, it has been established that 43 percent of children are exposed to tobacco smoke, with maternal smoking representing the primary source of exposure (WHO, 1999). Children who live with a single parent are at greater risk of ETS exposure than those residing in two-parent families (Jaakkola, Ruotsalainen & Jaakkola, 1994).

According to findings from the WHO, involuntary ETS exposure in the U.S. results in expenditures of approximately $1 billion dollars by the U.S. government within the American health care system and by taxpayers (WHO, 1999). As research has shown, quitting smoking early in pregnancy produces the greatest benefit to the fetus and mother and is among the most cost-effective interventions available. As a result, intensive public health efforts have concentrated on assisting the pregnant smoker to quit (Windsor, Boyd, & Orleans, 1998).

Helping Nurses Help Others Quit

How does AHRQ help our nursing partners use evidence-based techniques to increase the number of smokers who make a serious attempt to quit smoking? One of the most important ways is to increase the use of the PHS Guideline—recommends 5 A’s:

- Ask
- Advise

Nurses can be highly effective by implementing evidence-based tobacco cessation interventions and advancing the Healthy People 2010 National Health Objectives to reduce tobacco use.
Assess
Assist
Arrange

Rather than providing minimal advice to quit, this approach tells the clinician to offer an intervention that emphasizes psychosocial elements. For pregnant women, these strategies should be augmented with specific information relating to pregnancy and postnatal care.

Ask: All women seen in health care settings should be asked if they use tobacco. Nurse clinicians and health care delivery systems should make consistent identification, documentation and treatment a routine element of any encounter with a woman who smokes or uses tobacco. Studies show that clinicians have great influence with their patients’ attitudes toward quitting when simply asking the client if she smokes and, if yes, would she like to quit.

Advise: Every woman who uses tobacco should be offered cessation treatment. This can be accomplished by advising patients to use clinically proven tobacco dependence counseling and pharmacotherapy treatment, or by directing clients to tobacco cessation quit-lines.

Assess: If a woman is unwilling to quit, she should be provided a brief intervention to increase her motivation. This includes addressing motivation by discussing the 5 R’s:

- Relevance of quitting to patient
- Risk of continued smoking
- Rewards of quitting
- Roadblocks to quitting
- Repeat at every visit

Every woman who smokes or uses tobacco should be offered at least brief treatment at a minimum. Pregnant women should be offered treatment designed for their needs.

Assist: Clinicians should offer cessation treatment that has been proven to be effective, as well as information about quit-lines and recommendations to adopt a consistent home smoking policy that protects infants and children from the negative effects of tobacco smoke.

The PHS guideline recommends three types of effective counseling and behavioral therapies:

- skill training
- intra-treatment clinician support
- extra-treatment social support

Effective first-line pharmacotherapy for smoking cessation should be used with women attempting to quit, unless it’s contraindicated. These therapies include Bupropion SR®, nicotine gum, nicotine inhaler, nicotine nasal spray and nicotine patch. Specific recommendations regarding first-line medications are contained within the PHS guideline available at www.ahrq.gov. Pregnant women should only be offered pharmacotherapy when the benefits of quitting outweigh the risks of pharmacotherapy and continued smoking.

Tobacco dependence treatments are cost-effective. Insurance plans should reimburse for counseling and pharmacotherapy. All clinicians should be reimbursed for providing treatment. The guideline also recommends the use of extended and augmented programs that are designed to help smokers stop smoking. Many states have established quit-lines to assist with smoking cessation. Proactive telephone counseling has been demonstrated as a real-world effective mechanism for reaching large groups of smokers (Fiore et al., 2000; Zhu et al., 2002). In addition to state-sponsored quit-lines, the American Cancer Society (1-800-ACS-2345) and the National Cancer Institute (1-877-44U-QUIT) currently have these mechanisms available to the public.

Another recommendation that clinicians can make is that patients implement home smoking bans. Approximately 12.5 percent of U.S. households have entirely banned smoking at home if they had an adult current smoker and any children in the home (Centers for Disease Control and Prevention, 1996). Home smoking bans are a relatively new approach to eliminating a child’s exposure to ETS and will certainly require systematic evaluation to ensure effective implementation. Multiple unresolved issues, including how to potentially regulate a ban, currently surround its implementation. A strong dose-response relationship exists between intensity of tobacco dependence counseling and effectiveness. Treatments involving person-to-person contact (e.g., individual, group or proactive telephone counseling) are consistently effective. Effectiveness increases with treatment intensity (e.g., time).

(continued on p. 205)
You Can Quit Smoking

Support and Advice from Your Prenatal Care Provider

Now is a good time to quit for you and your baby

Good Things Happen as Soon as You Quit

For Your Baby:
Your baby will be healthier.
Your baby will get more oxygen.
Your baby will be less likely to be born too soon.
Your baby will be more likely to come home from the hospital with you.
Your baby will have fewer colds and ear infections.
Your baby will cough and cry less.
Your baby will have fewer asthma and wheezing problems.

For You:
You will have more energy and breathe easier.
You will save money that you can spend on other things.
Your clothes, car, and home will smell better.
Your skin and nails won’t be stained, and you will have fewer wrinkles.
Food will smell and taste better.
You will feel good about quitting.
**Keys for Quitting**

1. **Get Ready.**
   - Think about how quitting will help you and your baby.
   - Set a quit date and stick to it—not even a single puff!
   - Get rid of ALL cigarettes and ashtrays in your home, car, or workplace. Make it hard to get a cigarette.
   - Set up smoke-free areas in your home, and make your car smoke-free.

2. **Get Support and Encouragement.**
   - Tell your family, friends, and coworkers you are quitting and ask for their help.
   - Ask smokers not to smoke around you.
   - Talk to women who quit smoking when they were pregnant.
   - Talk with your prenatal care provider about your plan to quit.

3. **Learn New Skills and Behaviors.**
   - Try to change some of your daily habits to lower your chances of smoking.
   - Plan something fun to do every day.
   - Practice new ways to relax.
   - When you want to smoke, do something else: find a way to occupy your hands, your mouth, and your mind.
   - Think about your reasons for quitting.

4. **Be Prepared to Handle “Slips.”**
   - If you “slip” and smoke, don’t give up.
   - People who quit after they “slip” tell themselves, “This was a mistake, not a failure.”
   - Set a new date to get back on track.
   - Remember that by quitting, you are protecting your baby’s health and your own.

**Your Quit Plan**

1. **Your Reasons to Quit:**
   
   ____________________________

2. **Your Quit Date:**
   
   ____________________________

3. **Friends and Family Who Can Help You:**
   
   ____________________________

4. **Skills and Behaviors You Can Use to Help You Quit:**
   
   ____________________________

5. **Ways You Can Handle “Slips”:**
   
   ____________________________

**Your Prenatal Care Provider’s**

Name: ____________________________

Telephone number: ____________________________

Next appointment date: ____________________________

*Quitting smoking is one of the most important things you can do for you and your baby.*

Followup plan: ____________________________

Other information: ____________________________

Referral: ____________________________

PNCP: ____________________________  Date: ____________________________
Arrange: Follow-up visits to the clinician should occur as soon as practical after a patient’s quit date, preferably during the first week. Clinicians should praise the patient’s success and congratulate her for her efforts and use the opportunity to help her to commit to total abstinence from smoking. During the follow-up visit, the patient and clinician can identify and discuss potential problems and challenges that may occur in the immediate future. In addition, the follow-up visit also provides an opportunity to assess the success of or problems with pharmacotherapy use and evaluate the need for a referral to more intensive treatment.

Ongoing Work

Although the PHS Guideline is now four years old, its conclusions and recommendations are still valid. However, research is not stopping. Researchers dedicated to advancing the scientific evidence base on smoking cessation are conducting real-world studies that will inform clinicians and health care delivery systems about important new treatments that will help reduce tobacco use. Despite the knowledge and information provided by the PHS Guideline, data indicate that there still are gaps between what nurses know and what nurses do to combat tobacco use and dependence in clinical settings and in public health arenas.

To address this, AHRQ, in partnership with the National Tobacco Free Nurses Initiative (Tobacco Free Nurses), hosted the “First National Summit on Nursing Organizations and Tobacco Control” on March 25 to 26, 2004, in Rockville, MD. The summit addressed barriers to the participation of nurses in comprehensive tobacco control programs, including lack of knowledge about tobacco and tobacco cessation, high rates of smoking among nursing professionals and a lack of an organizational structure to facilitate nursing involvement. This Leadership Task Force represented the
breadth of nursing, including nursing professional associations, specialty groups and unions, and it was the first step in a series of planned mentored activities to develop and support nursing leadership in tobacco control. The summit also was part of targeted outreach strategies developed by AHRQ to increase awareness and implementation of the PHS Guideline by nurses. AHRQ will continue to work with the National Tobacco Free Nurses Initiative to advance the creation and implementation of a tobacco-related research agenda and related activity throughout the nursing community.

AHRQ serves as the science partner to the public and private sectors in their efforts to improve the quality, effectiveness and appropriateness of health care services delivered in the U.S. To achieve its mission, AHRQ strives to expedite the rapid translation of evidence-based research findings into improved health care services.

In this context, AHRQ commissions its Evidence-Based Practice Centers to produce rigorous scientific analysis and syntheses of the available evidence on topics nominated by public and private health care organizations. AHRQ is very interested in receiving related grant applications and topic nominations, as well as grant applications, from professional nursing societies and organizations composed of members of minority populations. These topics should have impact on the health status of women, children, ethnic and racial populations.

To date, AHRQ has funded several studies on the use of tobacco and smoking and pregnancy, including biochemical measures to gauge tobacco use in early pregnancy, tobacco use and the risk of spontaneous abortions, the impact of stopping smoking spontaneously prior to prenatal care and maintenance of nonsmoking postpartum by women who stopped smoking during pregnancy as well as predictors of relapse before delivery.

The future for reducing tobacco use is promising with collaboration and the use of evidence-based strategies and information.

**References**


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Sign Up to Distribute Every Woman This Summer

To get copies of Every Woman for the female patients you serve, sign up online at www.ahwonn.org. Follow the links for Every Woman on the homepage.
Chronic Pelvic Pain Increasingly More Prevalent

Q With more women reporting problems with pelvic pain, are there any practice guidelines to help guide the diagnosis of this disorder?

A Yes! Interestingly, the American College of Obstetricians and Gynecologists (ACOG) has just issued a new practice bulletin on chronic pelvic pain in women, a condition that may be far more common than previously recognized. In this document, ACOG reviews the available evidence on the different diagnoses and treatment options for chronic pelvic pain. The ACOG bulletin cautions, however, that sometimes the exact causes of a woman’s pelvic pain can be hard to find and the symptoms difficult to manage.

The group proposes a definition of chronic pelvic pain as noncyclical pain of at least six months duration that appears in locations such as the pelvis, anterior abdominal wall, lower back or buttocks and that is serious enough to cause disability or lead to medical care. Approximately 15 to 20 percent of women ages 18 to 50 have chronic pelvic pain of more than a year’s duration.

Data are limited or ambiguous on the exact physical causes of certain pelvic pain—although specific conditions like endometriosis...
or interstitial cystitis (a chronic inflammatory condition of the bladder) are believed to be linked to chronic pelvic pain. Sometimes examination and testing find no physical causes, but ACOG adds that this does not preclude the possibility of physical causality and “does not negate the significance of a patient’s pain.”

Studies find that 40 to 50 percent of women with chronic pelvic pain have a history of physical or sexual abuse. ACOG notes that while in some cases the link between abuse and pelvic pain may be psychologic or neurologic in origin, studies also suggest that trauma or abuse may also result in biophysical changes—for example, by literally heightening a person’s physical sensitivity to pain.

According to ACOG, there are different levels of evidence supporting the various treatment options. ACOG reports that good and consistent scientific evidence supports a number of options, including the following recommendations:

- Combined oral contraceptives are a treatment option for decreasing pain during menstruation (primary dysmenorrhea)
- GnRH agonists are effective in relieving pelvic pain associated with endometriosis and irritable bowel syndrome
- Nonsteroidal anti-inflammatory drugs, including COX-2 inhibitors, should be considered for moderate pain and are particularly effective for menstrual pain
- Progestins in daily high doses are effective in treating chronic pelvic pain associated with endometriosis and pelvic congestion syndrome
- Laparoscopic surgical destruction of endometriosis lesions should be considered to decrease pelvic pain associated with stages I-III endometriosis

Among the recommendations based on more limited or inconsistent evidence, ACOG notes:

- Sacral nerve stimulation may decrease pain in up to 60 percent of women with chronic pelvic pain
- Nutritional supplements with vitamin B1 or magnesium may decrease pain of dysmenorrhea
- Injection of local anesthesia into various trigger points of the abdominal wall, vagina and sacrum may provide temporary or prolonged relieve of chronic pelvic pain
- Magnetic field therapy, which involves applying magnets to abdominal trigger points, may improve disability and reduce pain
- Acupuncture, acupressure and transcutaneous nerve stimulation therapies may help decrease pain of primary dysmenorrhea
- In women who choose hysterectomy for pain associated with reproductive tract symptoms, pain relief is found in 75-95 percent of cases

At the request of many nurses, AWHONN has produced Toda Mujer, a culturally relevant translation into Spanish of some of the most compelling women’s health articles from Every Woman: The Essential Guide for Healthy Living.

This 100-page, full-color and evidence-based guide features leading information important for Hispanic patients, including the latest regarding heart disease and diabetes in women, nutrition and weight control, managing menopause and more. AWHONN is now taking requests from nurses within the Continental U.S. who would like copies of this premiere edition for their patients who speak Spanish when a second printing of the guide ships later this fall. There is no charge to nurses to request or receive copies of Toda Mujer; the minimum order is 200 copies. To receive at least 200 copies of this women’s health guide in Spanish for your patients at no charge, Sign up today at www.awhonn.org under “Publications!” Questions? Please call or email Michelle Chandler at 800-673-8499 x 2457 or mchandler@awhonn.org.
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bad medicine, 
or no medicine at all?

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Screening for
During the last 20 years there has been significant research about violence against women and its negative health effects.

Every year, 8 to 12 percent of American women in a relationship experience one episode of severe violence that includes some form of physical injury, verbal abuse or being threatened by a weapon (Kanusky, 2003). According to a survey of more than 12,000 women, one out of every two Canadian females over the age of 18 has experienced at least one incident of sexual or physical assault and 29 percent of those currently in a marital relationship have been assaulted (Varcoe, 2001). Other sources say violence is more prevalent—that one
in three women worldwide experience violence, and as many as one in four Canadian women have experienced violence in an intimate relationship (Campbell, 1999; Wuest & Merritt-Gray, 2001).

Violence has far-reaching physical, mental and emotional health effects such as depression, anxiety, substance abuse, gastrointestinal symptoms and chronic pain (Mian, 2000). Women who report the highest rates of abuse are typically in their childbearing years between 15 and 45 years of age (Hart & Jamieson, 2001).

Health care providers need to be more aware of violence against women as an identified health problem. The first health care provider that many women meet is a nurse. Yet, nursing has at times been slow to address violence as a health problem (Ford-Gilboe, 2001). A unique opportunity exists for nurses working in maternal/child nursing to offer private, confidential and effective care for women who are experiencing violence.

Continuity of care allows for a variety of health care providers to assist in questioning a woman about her situation, ensuring that she is asked privately and nonjudgmentally. Each nurse should have knowledge of appropriate resources to provide as needed. Pregnancy is a significant time to focus on abuse, as this may have been the trigger for the abuse to start or it may be escalating during this time. A woman may be considering leaving her partner, as she fears for her own safety or for her newborn. She may be more likely to disclose violence at this time. Women should be offered choices if they have disclosed abuse, and nurses should support them in their decisions, while evaluating their strengths and ability to access community resources. Specific barriers to screening have been identified as well as suggested strategies to deal with each barrier.

Health Effects of Domestic Violence

Abuse is defined as, “Someone using power over another person to try to harm that person, or to exert control that will harm that person either immediately, or eventually if repeated over time” (HealthCanada, 1999). Different terms such as domestic violence, woman abuse and wife abuse describe the abuse of a woman by someone who is an intimate partner.

Such violence may take many forms such as physical, emotional, verbal, financial or sexual. Physical abuse involves slapping, punching, kicking or using a weapon to threaten or injure a woman. Emotional abuse includes intimidation, control and threats. Sexual abuse includes any forced sexual activity (HealthCanada, 1999).

Any abuse tends to follow a cycle that perpetuates victimization of the woman (see Box 1 for the cycle of violence). In this cycle there is a period of tension building in the abuser until he harms his partner; then he feels remorse and attempts to restore the relationship; once she accepts this restoration, both of them enter into another period of the building up of tension.

Maternal Health Effects of Abuse on Pregnancy and Postpartum

Many women have reported that their abuse began during pregnancy and continued afterward or that it escalated during pregnancy (Hart & Jamieson, 2001). Abuse that occurs during the reproductive years is linked to women’s sexuality, conception, pregnancy, childbirth and parenting (HealthCanada, 1999). Abusive behavior involves the use of power and control over the woman, including refusal to use contraception, limiting her access to prenatal health care providers and use of pain medication during labor and birth (Hart & Jamieson, 2001). Up to 20 percent of adolescents say they have been abused during pregnancy, with 10 to 24 percent of women reporting physical abuse in the year before pregnancy (Campbell, 1999).

The National Clearinghouse on Family Violence in 2001 reported that abuse during pregnancy may result in:

- inadequate prenatal care
- physical trauma (particularly abdominal)
- an increase in stress-related health problems such as smoking or other forms of substance abuse
- depression
- chronic anxiety
- inadequate nutrition and/or an increase in sexually transmitted disease
- pelvic pain
- vaginal bleeding
- miscarriage
- hypertension
- insomnia

Danger to the woman who is being abused is increased if the father of the baby is not a current husband, or partner, or when a partner thinks the baby is not his; this puts the woman at a higher risk for battering, which is defined as repeated physical and/or sexual assault within a context of control or a higher risk for homicide (Campbell, 1999). An American pregnant or postpartum woman has a greater chance of being murdered than dying from any other cause including placenta previa or gestational hypertension (Tjaden & Thoennes, 2000). Abuse during pregnancy is significantly associated with homicide by an intimate partner (Campbell & Furniss, 2002). In 1998, the Centers for Disease Control and Prevention indicated that 3 percent of women are violently assaulted yearly and that women in their 20’s are most at risk.
Reasons for abuse during pregnancy may include the abuser’s doubt about his partner’s fidelity, his attempts to terminate the pregnancy, or the perception of the baby as a competitor. An increase of abuse during pregnancy may be related to the number of pregnancies, violence outside of the home and marriage because of pregnancy (Perrin, Boyett, & McDermott, 2000).

Some women become pregnant as a result of abuse and are forced to continue a pregnancy because they are prevented from having an abortion and/or because they have chosen to stay with the abuser. This can lead to infant attachment impairments and depression during pregnancy and postpartum. One of the maternal consequences of domestic abuse can be the permanent or temporary loss of parental custody of her child if the woman admits concern for the safety of her children. A health care provider would have to report this concern to the local child protection services. The admission of concern and the possibility of her children being removed from her care is a significant source of distress and would be a barrier to admission of an abusive relationship.

**Effects of Violence on Pregnancy and the Fetus**

Abuse during pregnancy is associated with significant risk to the growing fetus. The stress of abuse causes some women to have inadequate nutrition or to include behaviors such as smoking or increased alcohol intake. Substance abuse can result in poor maternal weight gain and a low birth weight or intrauterine growth restriction, and pre-term labor and birth are more common. Fetal injuries, and even death, can occur as a result of abdominal trauma; this has been found to be the most common area of injury during pregnancy (Hart &
Jamieson, 2001). The choice for elective pregnancy termination increases with intimate partner violence (Campbell, 2002).

Women who are abused before or during their pregnancies are at increased risk of being abused once the baby is born. This increases the risk to the newborn in the home to both long-term and short-term effects of abuse. This includes a high risk of child abuse due to the woman’s abuse and long-term effects of violence and anger in his or her future relationships (HealthCanada, 1999).

**Effects of Violence on Siblings**

Research has shown that children are more traumatized by watching their mothers being punched, slapped or beaten in their own homes than they are by witnessing street fighting or gang violence outside of the home (Lemmey, McFarlane, Wilson, & Malecha, 2001). Effects of abuse on children in the home include (Hart & Jamieson, 2001):

- acting out
- depression, anxiety
- problems with social and/or academic development

Particular symptoms to be aware of include:

- difficulty sleeping
- enuresis
- school problems that include dropping grades or skipping classes
- unexplained weight gain or loss
- aggression

There is a significantly higher risk of child abuse in a home when the mother is abused.

**Nursing Role in Screening for Violence**

For a woman who is pregnant and being abused, every contact with a health professional is an opportunity to seek help (see Box 2 regarding signs of abuse and Box 3 for guiding principles for screening). A female nurse or other health care provider may be easier for a woman to confide in than a male provider. Merrell (2001) described the importance of women’s caregiving roles and their ability to solve problems by sharing information. In the provision of support and education, female nurses can help women describe their abuse and express their feelings about it. Responses to a recent survey indicate that it takes at least six interactions with a health care provider for a woman who is being abused to disclose the violence (Mayer, 2000). Fisher, Dervaitis, Bryan, Silcox, and Kohn (2000) discovered that 22 percent of the women they surveyed had been verbally or physically coerced into sexual contact at some point in their lives, but fewer than 30 percent had ever discussed this with their physician. As caregivers, whether female or male, ensuring that female patients have frequent opportunities to disclose violence will increase the possibility that those who are experiencing it will discuss the implications with a health care provider.

By asking questions about abuse, a nurse is able to demonstrate caring about this health problem and communicate that domestic violence is an issue that can, and should, be addressed in the health care setting (Bryant & Spencer, 2002). Screening is an important step toward effective intervention and protection of abused women (Campbell, 2002). It does, however, come with a cost to the caregiver in that there may be emotional stress for both the nurse and the patient associated with disclosure of abuse (Varcoe, 2001).

As the initial health care provider, nurses can use knowledge of resources and respect for the patient’s right to choose in the appropriate follow-up after asking whether or not a woman is experiencing any form of abuse. Listening, allowing the patient to talk and then offering choices are part of the response of the health care provider.

**Screening for Violence: Getting Involved**

Pregnancy is a unique time for women who are being abused because of their regular contact with health care providers. Women may be more motivated to ask for help during pregnancy, particularly if their abuse has recently started or increased. Even if they do not seek it for themselves, they may choose to ask for help for the sake of their baby (Health-
Canada, 1999). Many women report that pregnancy is the reason for their first contact with a hospital and that birth is the reason for their first admission. Being in the hospital provides an opportunity for ongoing contact with health care providers and is, therefore, an ideal time for screening for abuse.

Nurses who work together with women in a maternal/newborn care program setting are in an excellent position to provide an environment for screening that ensures confidentiality and privacy. Locally, patients are asked to attend a preadmission clinic where they spend time one-on-one with a nurse. Family members are encouraged to attend at the request of the mother; therefore, she has control over the degree of privacy that she will experience. Asking about abuse is part of the process of completing a nursing admission history completed at this time. If a family member is present, and the privacy necessary for this screening cannot be achieved, the omission can be noted so the next nurse who provides care to this patient is expected to try to ask the abuse question. Again, if circumstances at the time of admission to the birthing center are not ideal, such as would be the case if the woman is in advanced labor, a family member is present or the environment is not private, she can be asked during her postpartum stay at a time when she is alone. Obstetrical nurses who have received education about abuse, its health effects and the importance of screening can work together to ensure a woman is screened for abuse during her hospital stay.

Challenges and Strategies Regarding Violence

A variety of challenges to the screening process exist. Some are based on assumptions made about the patient by the nurse asking the questions, and some are related to the physical environment and time pressures. Lack of knowledge and understanding regarding the health effects of abuse and inexperience in screening can also be a barrier for the nurse. Education and support for both the nursing staff and families in the maternal/newborn care program are essential if this health problem is to be identified, support and assistance provided and associated with long-term change in attitudes and behavior. Current challenges include but aren’t limited to:

- presence of the abuser/partner
- time to complete the screening
- cultural barriers
- social misconceptions about abuse
- a nurse’s personal bias about screening for abuse

**Presence of abuser/partner.** Currently, families are often encouraged to participate in as much or as little of the perinatal care as the patient wishes. Using a family-centered approach promotes concepts such as respect, dignity, choice, information sharing and empowerment but does not condone

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Box 3. Guiding Principles for Screening

- **A: Attitude** and Approachability of the health care professional; treat the woman with respect and dignity; convey a nonthreatening, nonjudgmental stance in words and body language
- **B: Belief** in the woman’s account of her own experience of abuse; show by your words and actions that you believe her
- **C: Confidentiality** is essential for disclosure; interview in private (with no one else present); tell her about the policies and procedures of your institution to protect all patients
- **D: Documentation** that is consistent and legible; distinguish between your observations and her reports
- **E: Education** about the serious health effects of abuse; help her to understand that she is not alone; teach her about the availability of community resources
- **R: Respect** for the integrity and authority of each woman’s life choices and recognition that the process of dealing with the identified abuse must be done at her pace, directed by her decisions; affirm her strengths and the survival skills she has demonstrated; clarify that you respect her right to choose and will support her regardless of her decision

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abuse. Every woman needs to be screened, and it’s imperative that nurses work together to ensure that screening questions are asked at a time when there is privacy to ensure safety for the woman. Every individual, including another woman, needs to be considered as a potential abuser when asking a woman about abuse. Partners may be asked to register at a separate desk, may be separated by a trip to the washroom to collect a urine sample or another time may be chosen to ensure privacy.

Having time to complete the screening. Varcoe (2001) states that nurses see time and resources as “scarce commodities” that limit their opportunity to attend to the patient’s psychosocial needs, as a woman’s physical needs are deemed to be more important. Generally, nurses don’t think they have enough time to ask about violence in a nonthreatening manner and that if these questions aren’t initially asked because of time constraints, it may be difficult to return to this topic at a later time. Time limits due to staff shortages and increased patient acuity are part of today’s health care system. Education regarding incorporation of abuse screening into the health assessment may assist nurses in decreasing the amount of time required. An understanding of the importance of this screening in comparison to questions regarding other health problems such as alcohol intake or smoking, which nurses perform routinely, could ensure inclusion of this question.

Hathaway, Willis, and Zimmer (2002) stated that if the woman felt that the health care provider was rushed, she was less likely to disclose her abuse when questioned. Being rushed contributed to the woman’s perception of an inability to listen and not having time to care or offer information. Anxiety regarding the discomfort of asking the question for the nurse could increase the patient’s perception of inadequate time, so it’s important as part of the staff education to include role play and increased familiarity with the questions around abuse.

Cultural barriers. One of the barriers identified by Bryant and Spencer (2002) to identifying domestic violence and asking screening questions is that language may be an obstacle, that is, the patient doesn’t speak English. Translator services need to be available to patients to ensure that they receive optimal care in providing accurate information; however, the patient’s relatives are not to be used as translators in this situation, to protect the patient’s safety. Assumptions regarding other cultures and their values may become a barrier for nurses in asking questions about abuse to different cultural groups from their own. Research has demonstrated that abuse is prevalent in all cultures, income groups and professions, requiring that health care professionals ask all women about abuse (Campbell & Furniss, 2002).

Societal misconceptions about abuse. Many incorrect ideas are present in society regarding abuse. They include, “she deserved this,” “abuse is private,” and “blaming the victim” (Hyman, Guruge, Stewart, & Ahmad, 2000, p. 290). There is also the perception that it may be embarrassing to the woman to be asked about abuse or that she may become angry.

Research demonstrates that women aren’t offended when they are asked questions about abuse in private, and in fact, many expect the question to be asked. Having a general statement as part of the screening made it easier for women to be asked about abuse, for example, “You mentioned that you are under a lot of stress. Has anyone been hurting or threatening you in any way?” (Campbell & Furniss, 2002). Stenson, Saarinen, Heimer, and Sidenvall (2001) discovered that in a large group of pregnant women, only 2 percent identified that it was unacceptable to be asked about abuse. The majority of these women (98 percent) were agreeable or felt neutral regarding being asked about violence; the greatest number (80 percent) said it was good that the questions are being asked so that women could tell the truth, and they viewed such screening as an opportunity to provide help and as a gesture of caring.

Nurses may associate abuse with lower socioeconomic classes or minority groups, and indeed violence may be anticipated among younger, poorer patients, particularly in a visible minority. But this type of stereotyping leads to falsely suspecting abuse among some groups while others may not be screened routinely, with abuse more often missed due to lack of screening and attitudinal misperceptions (Varcoe, 2001).

Potential bias related to personal experience. Due to the prevalence of the problem of abuse, it would be expected that some staff might be aware of abuse due to circumstances of family, friends or a personal experience. Subsequently, a personal bias about asking or not asking the question on a routine basis may develop. It’s very important to identify this issue as well as examine attitudes and beliefs prior to beginning or continuing with screening of each patient.

Screening Questions

Lack of education regarding screening for abuse is a known barrier in perinatal health care. Ongoing education, including inservices that include attitudinal assessments and current information, should be offered to all perinatal staff (see Box 4 for additional resources). Nurses and other health care providers need to continually evaluate the screening question(s) they use to ensure that they are using a nonthreatening approach. Body language and tone need to be reviewed to ensure that communication is congruent.

Various approaches to exploring the issue of abuse and suggested questions to ask have been provided in the literature. Mian (2000) recommends the use of the “S.O.S.” tool: Screen, Offer Options and Safety First. The screen includes setting the stage with the statement: “We’re concerned about the health effects of partner abuse so we ask a few questions of all of our patients.” The following questions are then asked:
• “Do you ever feel unsafe at home?”
• “Has anyone at home hit you or tried to injure you in any way?”
• “Have you ever felt afraid of a partner?”

Lastly, these questions are followed up with, “I’m glad you told me. We see many patients in similar situations. We can help” (Mian, 2000, p. 232).

Another approach to consider is asking, “Since we know that 1 in 10 women in our area experience some type of abuse, either physical, psychological or emotional, it’s part of our routine to explore whether you might be undergoing any type of abuse? Do you feel put down at any time, get hit or kicked when your partner is angry or do you feel safe at home?”

Nurses who receive an initial response of “Yes” to the screening questions can respond, “You did not deserve this.” Health care providers can increase the comfort that a woman has with disclosing personal abuse by listening respectfully to what the woman is confiding in them and by providing assurances of maintaining confidentiality. Varcoe (2001) described one woman’s feelings that “sometimes all it takes is to listen; because by the time you have finished a conversation you know exactly what to do” (p. 109). Patients are more likely to discuss the situation if they feel that their care provider will respond in a nonjudgmental manner.

Statements such as “You are a worthwhile person,” “You do not deserve this,” and “I do not believe that women are at fault when they are hurt by people they love” are supportive and do not blame the victim as do comments such as, “That is terrible. Why do you stay?” (Nelms, 1999, p. 292).

Women in abusive relationships are already experiencing deprecating comments, and most feel a lack of personal power. This type of comment and lack of understanding by the health care provider, perceived by the woman to be in a position of respect and possibly hope, only serves to reinforce the idea that there is something wrong with her and that she is to blame for her situation by defaulting on taking action. The most therapeutic message that a woman needs at this point is that the caregiver has compassion for her, cares for her and believes that she does not deserve her abuse.

Strategies nurses can use to help women who are experiencing violence and abuse include but aren’t limited to:
• collaborating on a safety plan
• ensuring the safety of the woman and other children in the home
• helping a woman define her choices
• documenting the reported violence or abuse

Collaborating on a unique safety plan. Health care providers need to develop lists of resources to be verbally provided to women since information in written form may be discovered by the abuser and result in more abuse or isolation from health care providers. Services such as free taxi rides to a community shelter may be made available to the woman. Names of other health care providers, such as a social worker, who might be helpful in her decision-making process, need to be offered. An explanation of a health care provider’s or social worker’s role and how they can help may also dispel any misconceptions the woman may have.

Interventions should be structured to empower women and build their self-esteem, skills and resources (Hyman et al., 2000). It’s important to acknowledge that this woman is a survivor and is the expert on her own situation and environment (Curnow, 1998). Suggestions for packing a bag that includes her child(ren)’s favorite toy, identification, important personal documents, emergency cash and telephone numbers are helpful.

Ensuring that the other children (if applicable) in her home also are safe. If a woman reports that there is abuse in her home

Box 4.

Getting all the Facts

• Association of Women’s Health, Obstetrical and Neonatal Nursing: www.awhonn.org
• National Clearinghouse on Family Violence: Family Violence Prevention Unit Health Promotion and Programs Branch, Health Canada: www.hc-sc.ca/nc-cn
• Centre for Research on Violence Against Women and Children: www.uwo.ca/violence
• National Domestic Violence Hotline: www.ndvh.org or 1 800 799 7233 (SAFE)
• The Task Force on the Health Effects of Woman Abuse: www.healthunit.com
• Nursing Network on Violence Against Women, International: http://nnvawi.org
• National Coalition Against Domestic Violence: www.ncadv.org
• Canadian Health Network (Violence Prevention): www.canadian-health-network.ca/1violence.html
environment and she is about to be hospitalized, that is, for the birth of her child, she needs to be asked about other children and how they might be cared for during her absence. Asking if they will be safe is essential. Child abuse is 150 percent higher in homes where a partner hits his wife, and children are at risk for injury and for death (Lemmey et al., 2001). If a woman states that her children are at risk, the nurse has an ethical obligation to inform the patient of her or his plan to report this safety concern to the appropriate child protective services agency and then to make the referral.

Helping a woman define her choices. There are many reasons why a woman experiencing abuse may not choose to leave her partner, including (Hotch, Grunfeld, Mackay, & Ritch, 1996):

- fear for her safety and life
- financial control
- family pressures to stay with the abuser
- wanting a father for her children
- religious convictions
- forgiveness connected to a hope that the abuser will change
- depression and fatigue from a life of very high stress

Often, abusers engage in cycles of violence that encourages a victim to believe that the abuse will end. A woman’s choice and unwillingness to be influenced by nursing staff to go to a shelter can make nurses feel frustrated and lead them to view her as less deserving and to justify their decision to do nothing (Varcoe, 2001). Providing care to a woman who is experiencing abuse involves offering choices rather than influencing the choices provided. The nurse’s role is to listen and to encourage the woman to continue to explore her situation with the nurse and other health care providers, while respecting the woman’s choices.

Research on the healing and recovery after abuse suggests that it begins with an awareness of, or awakening to, the abuse, followed by some personal integration for the woman and slowly moving to wholeness. It begins prior to the woman leaving the relationship and continues afterward. Given the large numbers of women who are in abusive relationships, many women who seek health services are in some stage of the leaving process and may be more willing to answer the screening question positively and seek assistance in locating a safe shelter (Wuest & Merritt-Gray, 2001).

Documentation. Documentation completed during the course of care can be used to help the woman substantiate abuse in court, should the need arise. It’s recommended that information obtained about abuse be objective, that a body diagram be used to give specific locations of any injuries, that the woman’s own words be used to describe her abuse and that any information given to the patient be documented, as well as referrals or follow-up plans (Jamieson et al., 1999). As a woman moves through different aspects of perinatal care, it’s important to have clear documentation about whether or not screening for abuse has occurred. A written “no” or “yes” indicates that the question has been asked and answered by the woman, whereas an entry such as “N/A” (not applicable) leads to confusion about whether the screening took place and what follow-up is required.

Women who enter perinatal care, whether in a predelivery interview, triage area or during their hospital stay, must be treated as individuals and with respect and dignity, regardless of their stories. If their story contains violence and abuse, they must be seen as “whole human beings with complex lives rather than simply viewing them through the labels they are assigned” (Prescott, 1998, p. 99). “Reflective learning” is a term used in nursing to describe the individual process of reconsidering an event or an encounter, particularly with a patient and/or family, and to evaluate it to gain new knowledge. Learning often comes with an element of surprise regarding the occurrence. Through our encounters, we, as nurses, can encourage women who are experiencing abuse to expect our support, to have respect for their abilities and our encouragement of their strengths to empower them to grow, develop and move on to healing (Wuest & Merritt-Gray, 2001).

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Blood Refusal

Obstetrics

A High-Risk Case Scenario
Consider the following case: Danielle is a 33-year-old gravida 1, para 0 with a twin gestation conceived using Clomid. Her medical history was remarkable for asthma, diabetes, hypertension and morbid obesity. Multifetal pregnancies are increasing in numbers in large part due to the increasing use of reproductive endocrinology for infertility management, and in Danielle’s case, her medical history placed her at risk of having a pre-term birth. The multiple gestation compounded the existing problems. Twins account for a large segment of multiple gestation births that are considered pre-term and low birth weight (Newman et al., 2002). Once the twin pregnancy was confirmed, Danielle sought care from a perinatologist on the advice of her reproductive endocrinologist.
Both she and her husband are practicing Jehovah’s Witnesses and, for religious reasons, refuse blood transfusions (see Box 1 on beliefs of Jehovah’s Witnesses). They had chosen Hackensack University Medical Center as their hospital of choice for the birth of their twins because of its Bloodless Medicine and Surgery Program (see Box 2 on the Center for Bloodless Medicine and Surgery).

Early in the pregnancy Danielle had met with the Bloodless Medicine and Surgery nurse. Both she and her husband were counseled regarding the consents and rights and responsibilities of the patient and the caregiver for the Bloodless Medicine program. They were assisted in filling out all of the proper documentation regarding refusal of blood transfusions for both the mother and the babies. This RN was the family’s initial contact at the Center for Bloodless Medicine and Surgery, and through interactions with the family, she became a trusted provider throughout Danielle’s care.

At a routine prenatal visit at 21 weeks, ultrasound determined Danielle’s cervix to be 4 cm dilated with the membranes for baby A protruding 6 cm into the vagina. Danielle reported no contractions or increase in vaginal discharge. Cervical incompetence is defined as the passive and painless dilation of the cervix in the second trimester (Gabbe et al., 2002).

Danielle was admitted to the hospital and placed in the Trendelenburg position on the high-risk antepartum unit, and evaluation was begun. Lab results were Hgb 11.1, Hct 33.1; the use of Epoetin Alpha is suggested with hemoglobin between 10 and 13 g/dL (Thomas, 1994). While Danielle’s hemoglobin fell within those criteria, her care providers took into consideration the normal dilutional effect during pregnancy and the fact that she was asymptomatic. Therefore, it was decided not to use Epoetin Alpha to increase the blood count. Fetal heart tones were within normal ranges on both babies. After four days without uterine activity, Danielle was scanned again with the findings much the same. Her physician counseled her regarding pregnancy termination. Because of the risk of bleeding, and the family’s religious beliefs against pregnancy termination as an option, Danielle and her husband struggled with what appeared to be a hopeless scenario. The family often stated: “The more information and options we have, the better we will feel about any decision we make.”

A second opinion was sought, and the couple was offered the option of amnioreduction for baby A, followed by the attempt at a “rescue cerclage.” They were extensively counseled about the risks to the mother as well as the very real possibili-

Box 1.
Beliefs of Jehovah’s Witnesses Relative to Pregnancy and Birth

(Biblical and doctrinal references provided in parenthesis)

- **Prohibition against blood transfusion** (Genesis 9:3-6; Leviticus 17:10,11; Acts 15:22-29)
- **The Bible is God’s word and is truth** (2 Timothy 3:16, 17)
- **Deliberately induced abortion** simply to avoid the birth of an unplanned child is the willful taking of human life (Exodus 21: 22-23; Psalm 139:13-16)
- **Autotransfusion:** Recovery of blood and reinfusion via machinery that does not involve storage is a matter for the individual to decide (The Watchtower, October 15, 2000, pp. 30-31)
- **Use of minor blood fractions** such as albumin and Rhogam is a matter for the individual to decide (The Watchtower, June 15, 2000, pp. 29-31)
- **Habits that defile the body,** such as smoking, etc., are to be avoided (Romans 12:1)
ty of premature prolonged rupture of the membranes and/or the babies being born at the threshold of viability and possibly surviving with a poor quality of life (Terkildsen et al., 2003). The family was counseled regarding the dilemma this would place on them, as infants born at such an early gestational age would clearly need to be transfused. Additionally, tocolytic options were narrowed because of the patient’s history of asthma. After being offered this option, only one provider was willing to attempt a rescue cerclage at this late gestation with advanced cervical dilation and protrusion. Deciding to accept this option would involve changing doctors. After much prayer and debate, the couple decided that this was the option that would give the babies the best chance and was a decision that they could morally live with.

The literature regarding emergent cerclage of the cervix in the second trimester is limited. In a study conducted by Terkildsen et al. (2003), nulliparity, presence of membranes beyond the external os, and gestational age of less than 22 weeks at placement were all associated with a decreased chance of attaining 28 weeks gestation. Newman et al. (2002) found that placement of a cerclage in the face of cervical shortening did not prolong twin pregnancies appreciably.

Proceeding

Ultimately the decision was made to perform amnio reduction on baby A, followed by a placement of an inflated Foley catheter to push the membranes surrounding baby A back, followed by cerclage of the cervix. These combined strategies have been demonstrated to slightly improve the chances of extending the singleton pregnancy to 28 weeks of gestation following emergent cerclage (Locatelli et al., 1999; Tsatsaris et al., 2001).

At 21 3/7 weeks, Danielle was taken to the operating room where she received spinal anesthesia. She received progesterone in oil 100 mg IM prior to beginning the procedure in an attempt to prevent uterine contractions. Due to her history of asthma, terbutaline was not an option. Under ultrasound guidance, twin A’s amniotic fluid index was found to be adequate. The best pocket for amniocentesis was chosen, and approximately 60 cc of amniotic fluid was removed. The fluid was always clear and never became bloody. It was sent for genetic testing and to rule out chorioamnionitis. Next, Danielle was placed in stirrups and examined. The cervix was found to be 4 cm dilated with bulging membranes. The membranes were recessed back into the endometrial cavity using a Foley catheter inflated with 30 cc’s of sterile water. The membranes were reduced, and a McDonald cerclage was successfully placed using Mersilene suture #5.

Danielle spent 48 hours in the labor and delivery unit on a magnesium sulfate infusion in order to suppress contractions. The Trendelenburg position was maintained throughout, although this presented significant nursing management problems due to the patient’s obesity. Breath sounds remained clear, but the patient was very uncomfortable. She tried to

Box 2.

The Center for Bloodless Medicine and Surgery

Hackensack University Medical Center has established a formal program to address the needs of Jehovah’s Witnesses and others who refuse blood transfusions. The program is called The Center for Bloodless Medicine and Surgery. It’s a hospital-wide program designed to assist patients in the following areas:

- Document their blood refusal in a satisfactory legal way
- Locate and refer patients to physicians, including specialists, familiar with non-blood medical management
- Maintain a staff whose role is patient advocacy with special emphasis on the cultural and religious needs particular to the patient population
- Bloodless case management: daily patient rounds and monitoring of laboratory values to improve clinical management
- Provide a multidisciplinary approach and interdepartmental communication on issues connected to the blood refusal of the patient

Picture 2.

Scan Image Showing the Cervix Open 4 Centimeters and the Membranes Ballooning Into the Vagina for 6 Centimeters. Two days prior to cerclage.
remain positive and was encouraged by the fact that she had “gotten out of the operating room with the stitch in.”

Two days postcerclage, the magnesium sulphate infusion was discontinued, and Danielle was started on Nifedipine 60 mg XL in the morning and 30 mg XL in the evening to maintain uterine quiescence. She was transferred to the high-risk antepartum unit at 21 6/7 weeks and placed on complete bed rest. Her medications were:

- prenatal vitamin once daily
- folic acid
- ferrous sulfate 325 mg three times a day
- Colace 100 mg twice a day
- Aldomet 250 mg by mouth bid
- Zithromax 250 mg by mouth daily
- Ampicillin 500 mg by mouth every 6 hours
- Zyrtec 10 mg by mouth every day
- Pulmacort inhaler two puffs every 4 hours when necessary

Antibiotic therapy was instituted prophylactically to prevent chorioamnionitis. Iron and folic acid were given in addition to prenatal vitamins to maintain the hemoglobin. The plan was for the patient to remain in the hospital until 32 weeks gestation, or until she went into spontaneous labor.

The Bloodless Medicine nurse visited the patient daily, and she was the main constant in Danielle's hospital stay, along with the Perinatal Clinical Nurse Specialist. Danielle's plan of care was coordinated using both resources in collaboration with nursing staff, nutrition, physical therapy and the physician.

Care for a high-risk antepartum patient must take into account both the physical and psychological needs of the patient (Maloni, 1998). Danielle's care included psychosocial interventions such as computer games and Internet “shopping,” crafts and reading, positioning to prevent skin breakdown, nutritional consultations and physical therapy to prevent DVT and muscle wasting. At 23 weeks, the stitch was still holding, and Danielle and her husband were counseled regarding the risks of very preterm delivery. Termination was offered again, which they declined. At 24 weeks, steroids were administered to promote maturation of the fetal lungs. Danielle did not experience contractions, and all amniotic fluid re-accumulated in normal amounts around twin A. At 25 weeks, Danielle was given commode privileges. At 28 weeks, she was allowed bathroom privileges, as the stitch still held, and the cervical length was stable at 1.2 cm.

At 29 weeks, Danielle became agitated and somewhat depressed, stating that she was going to sign out of the hospital and go home. She had many “things going on in her life.” All attempts by nursing and the physicians to keep her in the hospital failed to sway her. The Bloodless Medicine nurse was called to speak with Danielle. Her reminder regarding the amount of blood transfusions 29-week infants could require caused her to re-think her plan, and she remained hospitalized. At 32 weeks, Danielle was discharged home on modified bed rest. Growth for both babies was within normal ranges, and Danielle was still free of contractions.

**Readmission & Birth**

At 34 weeks, she was readmitted due to labile blood pressures and 2 grams of protein in her 24-hour urine. An induction of labor and cerclage removal were planned. Her admitting hemoglobin was 10.7. She was counseled regarding the risks of vaginal versus cesarean delivery. Consultation between the Bloodless Medicine and Surgery staff and the patient resulted in the decision to attempt a vaginal delivery. The physician was concerned mainly about blood conservation and wanted to try to avoid the increased risk of blood loss with a cesarean delivery. Twin A was in a vertex position, and twin B was breech.

Although unexpected blood loss is a risk in any delivery, vaginal or cesarean, the decision to attempt vaginal delivery seemed prudent. Interdisciplinary planning and communication with the patient and her family were invaluable aids in coming to consensus on many of these issues (Thomas, 1994).

Following removal of the cerclage, the cervix was 4 to 5 centimeters dilated and 70 percent effaced. Pitocin induction per hospital protocol was begun. Monitoring for twin A was accomplished via internal monitoring following artificial rupture of membranes and external for twin B. Contractions were monitored externally until the patient reached 6 cm dilation, and then an intrauterine pressure catheter was inserted. Danielle received an epidural for labor pain management. She
was determined to be ASA class III due to her weight and history of asthma and chronic hypertension. The patient reached dilatation of 8 cm and remained there for three hours with Pitocin at 14 mu/min.

At that point, a cesarean section was called for due to arrest of the active phase of labor. Danielle was counseled regarding the risks of the surgery. Because the twins were not demonstrating any signs of distress, the surgery was done in a controlled manner. Care was taken to double check the position of the placentas by ultrasound prior to incision. Both Methergine and Hemabate were available for use to ensure uterine contractility following delivery of the placentas. Neither was necessary. Anesthesia started a second large bore IV to adequately manage critical fluid replacement should that become necessary. The patient received 20 units of Pitocin added to 1,000 ml of Lactated Ringers postplacental delivery and went to the postanesthesia care unit in stable condition (Thomas, 1994). Estimated blood loss was less than 500 ml.

At delivery, Baby A weighed 2,040 gm (4 pounds, 7.8 ounces) and had Apgar scores of 8 and 9. Baby B weighed 1,985 gm (4 pounds, 6 ounces) and had Apgar scores of 8 and 8. Both infants were admitted to the Neonatal Intensive Care Nursery for oxygen support. Both babies were initially maintained on continuous positive airway pressure. Baby A was weaned at 1 day of age, and by 6 days of age was in an open crib on no oxygen support. Baby B continued on nasal cannula for 6 days and was weaned to an open crib by day 10 of life.

Danielle recovered without complications and was discharged home on day 4. She pumped breastmilk for the infants every three hours. The babies went to breast for feeding, and nipple-fed breastmilk when mom was not available to nurse.

Baby A was discharged at 9 days of age at a weight of 1,975 gm. Baby B followed 6 days later, at a weight of 1,960 gm. Both infants continue to breastfeed well and have normal growth for their gestational age.

Nursing Implications

In this case, there were a number of multifactorial issues. Danielle clearly understood the high-risk nature of her pregnancy even before the problems started at 21 weeks. She wisely sought out experienced health care providers at a hospital with a focused bloodless medicine and surgery program. She was an educated consumer.

When the problems escalated at 21 weeks, she and her husband requested that all possible options be thoroughly explained to them. Here is where their strong religious beliefs again entered the picture. The only option they were comfortable with was rescue cerclage mainly because the beliefs they hold as Jehovah’s Witnesses include strong respect for life of the unborn child.

As it turned out, with the physician willing to attempt such a procedure, support from the perinatal nurse specialist and bloodless medicine and surgery nurse, this couple managed to carry an extremely fragile twin pregnancy almost to term. Delivery options were considered with blood conservation taking a primary role. Throughout the pregnancy, the multidisciplinary team approach with the inclusion of the family assisted in this good outcome. From what initially looked like a hopeless situation there emerged a happy ending (see Picture 1).

References


Box 3.

Getting All the Facts

- National Organization of Anemia Experts: www.anemia.org
- Bloodless Medicine and Surgery Institute: www.bmsi.net
- National Organization Promoting Blood Management: www.sabm.org
- List of hospitals with bloodless programs: www.bloodlessprogram.com
- International Transfusion Alternatives Organization: www.nataonline.com
- Official website for Jehovah’s Witnesses: www.wtbts.org
What Nurses Need to Know
HEPATITIS C & Pregnancy
Hepatitis C is a major global public health problem. It has been estimated that approximately 3 percent of the world population is infected with the hepatitis C virus (HCV). According to the World Health Organization (2000), 1.7 percent of North and South Americans are infected with HCV; in Europe it’s 1.03 percent and in Africa it’s as high as 5.3 percent. There are approximately 4 million Americans infected with HCV.

Hepatitis C viral infection is the most common cause of liver disease in the Western world. It may cause eventual cirrhosis, end-stage liver disease and liver cancer. The good news and the bad news is that it can cause few to no symptoms for many years. In fact, most individuals with HCV are unaware that they are infected. This poses a challenge for public health systems around the world. According to the National Institute of Health (NIH) Consensus Statement on the Management of Hepatitis C (2002), because most people with chronic hepatitis C have yet to be diagnosed, a four-fold increase in the number of individuals diagnosed with HCV infection is projected from 1990 to 2015.

It’s thought that 2.3 percent to 4.5 percent of women of childbearing age in the U.S. are infected with hepatitis C (Hupertz & Wyllie, 2003). In Canada, there have been estimates that up to 1 in 120 deliveries may occur in a woman who has HCV infection (Boucher & Gruslin, 2000). Given the prevalence of HCV infection, it’s likely that health care practitioners in the obstetric setting will care for women infected with HCV. As such, practitioners need to have up-to-date information on the virus and its effects on a woman’s reproductive and overall health.

Exploring HCV
HCV is an enveloped, single-stranded RNA virus that belongs to the Flaviviridae family. It’s easily destroyed by heat and is most likely an unstable virus (Boucher & Gruslin, 2000). Like many other RNA viruses, it has a high mutation rate, which results in considerable genetic heterogeneity. There are six major genotypes worldwide, and more than 50 subtypes. In North America, types 1a and 1b are the most prevalent, with types 2 and 3 also common. It’s believed that the genetic diversity of the virus contributes to the difficulty of treating HCV infection as well as the unsuccessful attempts at vaccine development to date.

Natural History of HCV Infection
Early diagnosis of HCV infection is usually not possible due to the lack of symptoms in the acute phase; only 20 to 30 percent of individuals infected with HCV exhibit symptoms (Canadian Nurses Association, 2002; Commonwealth Department of Health and Ageing, 2001). Attempts to determine the true natural history of the infection are limited by this fact and the long progression of its course. When they do occur, the symptoms may include (NIH, 2002):

- general malaise
- weakness
- anorexia
- jaundice

Disease onset is rarely identified other than through a retrospective “look-back” and assumption, based on the potential circumstance of exposure (see Figure 1 for an outline of the time course of HCV infection and its complications).

In most cases, the disease progresses slowly. Studies have shown that 60 to 85 percent of HCV-infected people develop chronic infection (NIH, 2002). Chronic hepatitis C is marked by the presence of HCV RNA in the blood for a minimum of six months after onset of infection. Spontaneous clearance of the virus after 6 to 12 months of infection is very rare, whereas clearance before this time is estimated to occur in roughly 15 to 30 percent of cases. Factors associated with spontaneous clearance are (NIH, 2002):

- younger age
- female gender
- certain major histocompatibility complex genes

Hoofnagle (2002) has suggested additional factors:

- non-black race
- severity of acute illness (whether symptoms or jaundice are present)
- immune status

Long-Term Complications of Chronic Hepatitis C
It’s difficult to predict how the infection will affect a person—whether he or she will experience a mild course of disease with few symptoms other than musculoskeletal aches and pains and/or fatigue or whether it will progress to cause severe liver disease. Certain factors have been strongly associated with progression (Doucette & Kaita, 2002; NIH, 2002) including:

- older age at infection (age 40 and older)
- daily alcohol consumption (= 30 grams/day for men, or 2 drinks; = 20 grams/day for women)
- male gender
- immunosuppressed state such as that associated with HIV infection

More recently, there has been a lot of interest in the role that fatty liver and/or obesity has to play in the progression of disease (Bressler, Guindi, Tomlinson, & Heathcote, 2003; Ortiz, Berenguer, Rayon, Carrasco, & Berenguer, 2002).

Transmission of the Virus
HCV transmission primarily occurs through exposure to infected blood. Currently, injection drug use accounts for the majority of HCV infections. The prevalence of HCV infection among this population is estimated to be 60 to 90 percent
(Alter, 2002). Sexual transmission does occur, but it’s considered to be a low risk. It’s much less efficiently transmitted sexually than either HIV or hepatitis B virus. There has been some controversy regarding estimates of risk via sexual transmission; however, most sources cite 2 to 3 percent in long-term monogamous relationships and 4 to 6 percent among those with multiple sex partners, sex workers and men who have sex with men; all those who are at risk for sexually transmitted infections are at risk for acquiring HCV infection (NIH, 2002). It’s often difficult to establish sexual transmission as the route of infection because alternate risk factors, such as intravenous drug use, may coexist.

Other factors that place individuals at increased risk for HCV infection are (Alter, 2002; NIH, 2002):

- transfusion of blood or blood products from infected donors (this risk has been reduced since the advent of screening of donors for HCV since 1990)
- needle stick injury with an HCV-contaminated sharp piercing/tattooing/acupuncture because of the possibility of exposure to infected blood where unsterile devices are used
- sharing of common household items that may be contaminated with blood of an HCV-infected household member (such as razors and toothbrushes)

**HCV Infection Risk Within Mother-to-Child**

Vertical transmission, or maternal-infant transmission, is uncommon but not absent. Numerous studies have attempted to clarify factors that promote this mode of transmission, as well as give an accurate assessment of risk. A review of these research studies provides risk estimates that range from 0 to 80 percent. However, the NIH (2002) consensus on this subject states that the risk is approximately 2 percent for infants of mothers who are positive for the antibody to HCV, and 4 to 7 percent for those whose mother is viremic, or HCV RNA positive (it’s thought that transmission occurs when the virus is actually present in the blood at the time of delivery). Coinfection with HIV increases the rate of transmission to approximately 20 percent, based on data accumulated from a number of studies looking at this issue (Roberts & Yeung, 2002). The route of vertical transmission is unclear, and further research is necessary to adequately understand this.

Hupertz and Wyllie (2003) cite a few studies that examine vertical transmission rate in association with mode of delivery (cesarean section vs. vaginal delivery). They recommend that larger studies are required before specific delivery guidelines

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Figure 1.

**Time Course of HCV Infection and Its Complications**

<table>
<thead>
<tr>
<th>Exposure</th>
<th>1 to 3 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCV RNA in serum</td>
<td>~7 weeks</td>
</tr>
<tr>
<td>Elevated ALT</td>
<td>~12 weeks</td>
</tr>
<tr>
<td>Anti-HCV detected</td>
<td>6 months</td>
</tr>
<tr>
<td>Persistence of HCV – development of chronic infection</td>
<td>10 years</td>
</tr>
<tr>
<td>Clinically overt hepatitis</td>
<td>20 years</td>
</tr>
<tr>
<td>Cirrhosis (20%)</td>
<td>30 years</td>
</tr>
<tr>
<td>Hepatoma (4%)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Boucher and Gruslin (2000), with permission from SOGC.
can be provided. The NIH (2002) suggests that avoidance of fetal scalp monitoring and prolonged labor after rupture of membranes may reduce the risk of transmission to the infant. A comprehensive review done in the United Kingdom (Whittle et al., 2002) shows that there is not enough evidence to quantify the risk of transmission through procedures during pregnancy and delivery (such as amniocentesis and the use of forceps) but that it's prudent to avoid such procedures in women known to be HCV infected whenever possible.

Some concern exists regarding breastfeeding and whether it poses a significant risk for maternal-infant HCV transmission. It's widely agreed upon that breastfeeding is not contraindicated for HCV-infected women. Roberts and Yeung (2002) cite studies that indicate that HCV has been detected in breastmilk. They also note agreement between the majority of these investigators that breastfeeding is not considered to be a risk factor for transmission of HCV to infants. Resti et al. (1998) hypothesize that the viral RNA that is present in the milk may be inactivated in the GI tract, or the viral load may be too low to infect the baby.

**Screening Pregnant Women for HCV**

Although HCV is of major public health importance, universal screening of pregnant women for hepatitis C is not recommended in the U.K., U.S., or Canada (Boucher & Gruslin, 2000; Roberts & Yeung, 2002; Whittle et al., 2002). One of the reasons cited for this is the low prevalence of HCV in both the general and pregnant populations. Among pregnant women, the prevalence of detectable antibody to HCV is approximately 1 percent, with roughly 60 percent of these women having detectable HCV RNA (Roberts & Yeung, 2002). Another important reason for not routinely testing pregnant women for HCV is that there are currently no interventions of proven safety and efficacy for the prevention of mother-infant transmission (Boucher & Gruslin, 2000; Hupertz & Wylie, 2003; Whittle et al., 2002).

Although universal screening is not recommended, a selective screening strategy may have merit. Roberts and Yeung (2002) suggest screening of pregnant women for HCV with any of the following characteristics:

- known HIV positivity
- previous or current use of injection drugs
- current or previous sexual partners known to use or have used injection drugs
- living in or from a geographic area of high endemicity
- history of blood/blood products transfusion or organ transplant before 1992

Hupertz and Wylie (2003) add to this list those individuals with:

- HBV infection
- sexual partners of HCV/HBV/HIV-positive individuals
- history of body piercing or tattooing
- individuals with elevated liver enzymes
- participants in anonymous donor in vitro fertilization programs

There is general agreement in the literature that identifying those women who are positive for HCV may be of benefit by giving them the opportunity to make life adjustments that could alter outcomes (such as abstinence from alcohol consumption and immunization against hepatitis A and B), as well as being considered for initiation of treatment after pregnancy.

**Effect of Pregnancy on HCV**

Pregnancy is generally not considered to have an important effect on the course of HCV infection, although the few studies that have been done have diverged considerably in their conclusions. Paternoster, Santarossa, Grelia, Palu, and Baldo (2001) investigated the behavior of HCV viral load during pregnancy in relation to HIV coinfection, liver enzymes and vertical transmission. The findings of this study (n = 65 pregnant women) indicated that viral load does not change significantly during and after pregnancy. They did report a trend toward a reduction in serum alanine aminotransferase (ALT) and serum aspartate aminotransferase (AST) during pregnancy, but they were unable to provide an explanation of this decline and it was not determined to be of major significance. Gervais et al. (2000), in examining the effect of pregnancy on HCV in 26 pregnant women, found that viral load increased during the second and third trimesters (of note is the fact that only 12 of the women had viral load follow-up after pregnancy). They also reported a decrease in serum ALT and AST during pregnancy. The investigators of this study proposed that pregnancy-associated immune changes, possibly modulated by hormonal factors, may contribute to this decline. There was no long-term follow-up to determine the significance, if any, of the decreased liver enzymes and increased viral load during pregnancy.

Hattori et al. (2003) suggest that pregnancy and parturition have a positive influence on the clinical course of HCV infection. Their study involved 22 pregnant patients and 120 non-pregnant control female patients. Fourteen percent of pregnant women with chronic HCV infection lost serum HCV RNA naturally during the follow-up after parturition, compared with 2 percent of the control group. However, the small sample size of pregnant compared to nonpregnant individuals casts some doubt on the generalizability of these findings.

Roberts and Yeung (2002), in their summary of studies that have looked at the effect of pregnancy on hepatitis C, state that individual variations in immune reactivity before and during pregnancy likely have an important role in determining the clinical course in any particular patient.
Effect of HCV on Pregnancy

Most of the literature available on the subject of hepatitis C infection in pregnancy indicates that there are no adverse effects on the course of the pregnancy or the development of the fetus; Roberts and Yeung (2002) found no increase in typical obstetric complications, such as gestational diabetes and hypertension. Hillemanns, Dannecker, Kimmig, and Hasbargen (2000) found that the rate of cesarean section was twice as high among anti-HCV-positive women compared with those who were anti-HCV-negative. They felt that this was not directly related to HCV infection but rather represented concerns of fetal distress in this high-risk group (because of the association between HCV and intravenous drug use, concurrent hepatitis B infection or previous blood transfusion) and the contraindication of fetal scalp monitoring of HCV-positive patients. There is widespread agreement that pregnancy is not contraindicated on the grounds of HCV alone.

Risks to the Infant

The risk of vertical transmission has been found to be relatively low. However, when a neonate is born to an HCV-infected woman, the child must be tested for the presence of hepatitis C infection. NIH (2002) recommendations for testing infants born to HCV-positive mothers are as follows: HCV RNA tests should be done on two occasions between the ages of 2 and 6 months and/or have an anti-HCV test done after 15 months of age. Testing positive for anti-HCV prior to 15 months may be due to transplacental transfer of maternal HCV antibodies, which makes early diagnosis or exclusion of infection difficult. Some sources cite disappearance of maternal antibodies by 18 months (Whittle et al., 2002).

Most studies of HCV-infected children have involved small numbers, and it has been difficult to describe the typical course of pediatric infection. In 2000, The European Paediatric HCV Network studied 104 vertically infected children for a period of 49 months. There were few clinical consequences of HCV infection, although 2 developed hepatomegaly (with no other clinical symptoms related to HCV infection) and 20 underwent a liver biopsy (all had mild to moderate liver damage). Interestingly, there was no apparent correlation between the presence of HCV RNA in serum or ALT levels and the degree of abnormalities on biopsy. All of the children grew normally with no significant reduction in their quality of life; however, the investigators note that this does not necessarily rule out any long-term negative outcomes. Eighteen children (17 percent) were HCV RNA negative at their last assessments, which suggested possible clearance of infection. However, 14 of those 18 children remained antibody positive for the duration of the observation period, which led to some doubt as to whether or not the virus was truly eliminated. It was noted that even in adults, clearance of HCV is commonly not followed by loss of specific antibody. The picture is further complicated by the fact that failure to detect HCV RNA in the blood does not necessarily indicate clearance from the peripheral system and liver (Haydon et al., 1998).

Well-known HCV researchers Resti, Bortolotti, and Maggiore (2003) provide guidance in recommending:

• In children born to HCV RNA–positive mothers, ALT and HCV RNA should be investigated at three months of age. HCV RNA–positive children should be considered infected if viremia is confirmed by a second positive HCV RNA test performed within the 12th month
• HCV RNA–negative children with abnormal ALT should be tested again for viremia at 6 to 12 months, and for antibody to HCV at 18 months
• HCV RNA–negative children with normal ALT should be tested for antibody to HCV and ALT at 18 to 24 months and should be considered noninfected if ALT and antibody are negative
• Anti-HCV positivity beyond the 18th month in a never-viremic child with normal ALT is likely consistent with past hepatitis C infection

Finally, it bears repeating that the long-term consequences of HCV infection in children are largely unknown. It’s possible that infected children may develop severe symptoms in their
teens or beyond. It has also been speculated that HCV infection around the time of birth could have important effects on the immature immune system and increase the possibility of developing autoimmune diseases later in life (Whittle et al., 2002). The benefits of treating infected children early in life have not been sufficiently evaluated, but it’s generally not recommended to treat within the first three years of life.

**Risks to Health Care Professionals**

As with all blood-borne pathogens, prevention is the best medicine. Universal precautions should be applied to all patients, eliminating the need for special identification and isolation of any particular patient. Alter (2002) recommends that health professionals who provide care to those infected with HCV in the occupational setting should be knowledgeable about the risk for HCV infection and appropriate counseling, testing and medical follow-up.

In the event that a health professional is exposed, via a needle stick injury or mucosal exposure, the source of the exposure must be tested for antibody to HCV. If the source is anti-HCV positive, the person who was exposed should be tested for anti-HCV and ALT at baseline and follow-up (four to six months). Each hospital should have its own policy regarding postexposure follow-up. Immune globulin and antiviral medications are not recommended for postexposure prophylaxis (Alter, 2002).

HCV in pregnancy represents a challenge to health professionals from a variety of backgrounds—including those in hepatology, obstetrics and neonatal health, and pediatrics. Many questions remain unanswered to this date; however, by being knowledgeable about the potential impact of hepatitis C in pregnancy, an opportunity exists to help improve physical and mental well-being for the mother and her infant (see Box 1 for additional information resources).

**References**


Boucher, M., & Gruslin, A. (2000). The reproductive care of women living with hepatitis C infection. SOGC, 96(October), 6-29.


Antenatal fetal assessment or surveillance is used to improve outcomes and decrease perinatal mortality. Fetal assessment or surveillance may be provided by various means based on individual history and case presentation. It’s the health care provider’s responsibility to understand the method of surveillance, the frequency and indication for surveillance and the ability to interpret results and intervene as necessary. Such intervention may be further assessment or actual delivery of the fetus(es). Indication for intervention may be specific to the pregnant woman, her baby or both.

The opportunity for nurses to increase their knowledge in this area has great importance. Patients and their family members depend on nurses to assist them with understanding care and treatment plans. In an era of consumer health awareness, some patients are proactive in seeking information, but the need remains for nurses to help patients understand the full implications of their health situation and help them make informed choices and decisions. This may be as simple as explaining a test or informing a patient of test results and the implications of those results, such as the need to deliver a baby early. It’s often helpful when providing information to explain the risks and benefits for both the pregnant patient and her baby.

**Indication for Fetal Surveillance**

The primary indication for fetal surveillance may be a maternal condition or a pregnancy-related condition (American College of Obstetricians and Gynecology Compendium [ACOG], 2004a, b). These may be preex-
isting or a new development related to the pregnancy. Common conditions include but aren’t limited to maternal cardiac and pulmonary conditions, diabetes and hypertensive disorders including pregnancy-induced hypertension, intrauterine growth restriction, abnormal fluid volumes and multiple gestations.

Sometimes the indications for fetal surveillance are not as clear, such as with the 1 percent of women with unexplained elevated alpha fetal protein (AFP) serum levels. Adverse outcomes have been associated with elevated AFP levels, and although many providers do initiate antenatal surveillance, there is no published evidence to support this heightened surveillance (Fanaroff & Martin, 2002). A recent study by Huerta-Enochian, Katz, and Erfurth (2001) revealed no increased detection rate of poor outcome, but rather a risk for potential harm related to the high costs associated with heightened surveillance. The authors believe that routine obstetric care could by itself reduce the risk of adverse outcomes (Huerta-Enochian et al., 2001).

Today, fetal surveillance allows health care providers to assess fetal perfusion, fetal oxygenation and potential for hypoxia or acidosis. Prior studies involving both fetal and animal populations have been consistent in documenting a correlation between hypoxia and acidosis with changes in fetal biophysical parameters such as heart rate, tone, movement and breathing. The central nervous system of the fetus is believed to control the fetal heart rate (FHR) via mediation of the sympathetic and parasympathetic nerve impulses. Intermittent accelerations of the FHR correlate with fetal movement and are considered to be a sign of an intact autonomic nervous and fetal well-being (Fanaroff & Martin, 2002). Fetal surveillance was developed on the premise that decreased FHR changes, long-term variability and decreased fetal movements result in lower umbilical venous blood pH values (Manning, Morrison, Lange, Harman, and Chamberlain, 1985).

So how does a practitioner know who to test, when to test, how frequent to test and what the test results mean? When do you decide to recommend delivery and when do you decide to wait? Consider the care path that might be used as follows with a high-risk obstetric patient (see Figure 1).

**Types of Fetal Surveillance**

There are five basic types of fetal surveillance currently used by practitioners, including:

- fetal kick counting
- nonstress testing
- contraction stress test
- biophysical profile
- doppler flow studies

The most basic and least invasive form of fetal surveillance is fetal kick counting. With fetal kick counting, fetal movements have been correlated with positive fetal well-being; lack of fetal movement is associated with poor fetal outcomes; however, only one randomized controlled study of antenatal fetal movement assessment has been able to demonstrate a decrease in the fetal mortality rate (Neldam, 1980).

Many methods of fetal movement counting have been described and studied (Neldam, 1980). A pregnant woman’s perception of fetal movement has been validated via real-time ultrasonography with an 80 to 90 percent confidence rate (Neldam, 1980). Since decreased fetal activity has been linked to fetal death, the practice of counting fetal movements should be recommended for all pregnant women, regardless of risk assessment, by 28 weeks of gestation.

The Count to Ten Cardiff chart describes a process where a pregnant woman will count fetal movement during a period of 12 hours. At a minimum, the woman needs to count 10 movements during a period of 12 hours and note when the 10th movement was felt. If she feels less than 10 movements or it takes longer to account for 10 movements than the previous day, the patient is to notify her care provider. Variations of this method have been utilized including counting specifically in the evening when fetal movements have been documented to be the greatest (Moore & Piacquadiol, 1989, 1990).

Some women are advised to count a minimum of 10 movements in the two hours after each meal of the day. If the fetus is unresponsive after one hour, women are advised to stimulate the baby gently by changing position or making a noise, something similar to vibral acoustic stimulation. If they cannot obtain a total of 10 movements in a two-hour period or if there is a notable decrease in their perception of movement from one day to the next, they should be instructed to notify their care provider.

Regardless of the technique chosen for your patient population, it’s extremely important that the pregnant woman receive explicit instructions and record the results of this surveillance method. She needs to fully comprehend the value of self-testing and reporting accurate results. Fetal activity can be quite varied. Although fetal activity is a reassuring sign of fetal well-being, the absence of such movement must be carefully evaluated, as fetuses do have periods of rest. Further evaluation is indicated before believing that fetal compromise is occurring (Christensen & Rayburn, 1999). It has been documented that approximately 80 percent of all pregnant mothers will be able to comply with fetal activity counting (Grant, Elbourne, Valentin, & Alexander, 1989; Neldam, 1980).
Figure 1.
Maternal Fetal Assessment

Remember that testing may be variable regarding the gestational age and conditions. For instance: insulin dependent diabetics need to start weekly testing at 32-34 weeks of age, but if there is coexisting IUGR we may initiate as early as 24-28 weeks and be testing twice weekly!
Nonstress Testing

Nonstress testing (NST) would be considered by many to be the next level of surveillance and is probably the most widely applied technique for fetal assessment. The premise underlying nonstress testing is that the fetal heart rate accelerates in response to fetal activity, uterine contractions or stimulation (ACOG, 2004a, b). Fetal well-being is assumed when accelerations are present (see Figure 2). However, it’s important to note that the fetus may not necessarily be compromised if accelerations initially are not stimulated (ACOG, 2004a, b; Mandeville & Troiano, 1999a, 1999b). In these circumstances, further testing, such as a Contraction Stress Test (CST) or Biophysical Profile (BPP), would be indicated (ACOG, 2004a, b).

The NST should include a maternal blood pressure reading prior to testing, as well as during the test, and the woman should be positioned in a lateral tilt, avoiding supine hypotension. The test requires a minimum of 20 minutes of fetal heart rate monitoring with the uterine activity monitor (toco) in place as well as the fetal heart rate monitor transducer. The pregnant woman can utilize a marker, if available, to document fetal movement, but this is not a requirement of the nonstress test but rather an additional reassurance of fetal well-being (ACOG, 2004a, b).

To qualify as reactive, the test must display two fetal accelerations of the fetal heart rate of 15-bpm amplitude above the baseline heart rate for a duration of 15 seconds. The acceleration duration may be measured from the increase off baseline to the return of baseline. It does not require the 15-second duration to be maintained at the peak of the 15-bpm acceleratory phase (ACOG, 2004a, b; Fanaroff & Martin, 2002; Gabbe, Niebyl, & Simpson, 2001).

The test may be extended for an additional 20 minutes if it’s not reactive in the initial period. Vibroacoustic stimulation may be utilized if the NST is nonreactive in the initial 20-minute period. This stimulation is primarily provided by using an artificial larynx for a period of one to three seconds that is applied to the maternal abdomen near the fetal head. The hope is that the stimulation will awaken the fetus from a sleeping or inactive state (Mandeville & Troiano, 1999a, 1999b). The most common cause for a nonreactive tracing is fetal sleep or inactivity (ACOG, 2004a, b; Fanaroff & Martin, 2002; Gabbe et al., 2001). If after 40 minutes reactivity has not been documented, a CST or BPP should be performed.

Gestational age should be considered when providing and interpreting results of the nonstress test. Approximately 50 percent of nonstress tests are nonreactive for fetuses aged between 24 and 28 weeks. Fifteen percent remain nonreactive
in the 28- to 32-week period, and after 32 weeks the occurrence rate for reactive and nonreactive testing is the same as a term fetus (ACOG, 2004a, b).

Nonreactive nonstress tests produce a high false positive rate of 75 to 90 percent (Lavery, 1982). Most fetuses that have a nonreactive response over 40 minutes may not be compromised, yet they fail to provide reassuring reactivity. Fetuses with malformations or chromosome abnormalities have been shown to be more at risk for nonreactive testing. Research has noted that if nonreactivity is noted for a period of 80 minutes or longer, there is due cause for concern of true fetal jeopardy (Gabbe et al., 2001). When an NST does not prove to provide reassuring information, the care provider should order either a contraction stress test or biophysical profile.

**Contraction Stress Test (CST)**

A contraction stress test (CST) is an NST with the addition of uterine contractions. The fetal response to the uterine contractions is then observed and evaluated. The hypoxemic fetus will display concerning fetal heart rate changes including late decelerations (ACOG, 2004a, b). These signs have been linked to a worsening state of fetal well-being (ACOG, 2004a, b; Gabbe et al., 2001).

The CST is evaluated similarly to the NST but includes the interpretation of the fetal heart rate in response to maternal uterine contractions. Positioning and application of the external monitors is identical to that of an NST. The added dimension is the need to have three contractions lasting 40 seconds or longer in a 10-minute period during the test. If spontaneous contractions are not present, the patient may provide nipple stimulation or an IV of oxytocin may be initiated to stimulate contractions. The CST is interpreted as follows:

- A negative CST is considered normal and has no late decelerations
- A positive CST would be considered abnormal and displays late decelerations being present with 50 percent or more of the uterine contractions

This would still hold true even if there were less than three noted contractions in a 10-minute period. A suspicious or equivocal CST will display intermittent late decelerations or significant variable decelerations, and an unsatisfactory CST will have less than three contractions in a 10-minute period or the fetal heart rate tracing is considered inadequate for interpretation (ACOG, 2004a, b).

Contraindications to performing a CST include cases where labor would be undesirable such as a history of classical uterine incision or a known placental previa. A negative (normal) CST is associated with a low incidence of fetal death within one week of testing (see Figure 3), and, as with all antepartum testing, the entire clinical picture should be taken into consideration. A positive (nonreactive) test requires further evaluation or delivery (ACOG, 2004a, b).

**Biophysical Profile**

A biophysical profile (BPP) may be an alternative to the CST in some cases. It’s commonly used with multiple gestations or intrauterine growth–restricted fetuses. The BPP can provide valuable information related to growth and fluid volumes, which are important with these patients. Manning and associates (1985) developed the BPP as another tool to provide information regarding fetal well-being. The BPP is a combined screening test that utilizes four components of ultrasound, with a maximum of 30 minutes to observe, in addition to the NST. The ultrasound components include:

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**Figure 4.**

Fetal Flexion & Extension of the Hand & Fingers (tone) May Be Observed

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**Figure 5.**

Fetal Profile May Demonstrate Flexion or Extension of the Neck (tone) May Be Observed
• fetal breathing movements, observed by ultrasound, with a minimum of 30 continuous seconds (some institutions do accept diaphragm movement such as hiccoughs for 30 continuous seconds)
• fetal movement with a minimum of three or more limb or body movements
• fetal tone with one or more episode(s) of active extension of a limb returning to the fetal trunk or the opening and closing of the hand (see Figures 4 & 5)
• amniotic fluid volume with a single vertical pocket of more than 2 centimeters (see Figure 6)
• NST-reactive

Each component is worth two points if all criteria are met, for a total possible of 10 points. If the minimum criteria are not met within the maximum 30 minutes, no points will be awarded. When the combined score is 8 or 10, fetal well-being is considered to be present. A score of 6 is considered equivocal, and a repeat BPP should be performed in the next 6 to 24 hours. The woman may need to be admitted for a short-term observation period or the screening may be performed in outpatient services. A score of 4 or 2 is considered abnormal, and management should be directed toward imminent delivery (ACOG, 2004a, b; Fanaroff & Martin, 2002).

Often, tone is the last criterion for the fetus to lose, so if tone cannot be documented, this is an ominous sign. The entire clinical situation should be included in the evaluation of fetal surveillance and management decisions made in this context. The BPP without the NST component has been shown to provide the same false-negative rate as the full BPP. The BPP has a lower false-positive rate than both the NST and CST, and as such, it’s also considered a more valid predictor of fetal jeopardy (Fanaroff & Martin, 2002).

Modified BPPs are also being utilized more frequently. This test format offers an NST with an amniotic fluid index (AFI) (Miller, Rabello, & Paul, 1996). An AFI is obtained by imaging the uterus in four quadrants and measuring the largest vertical drop pocket of amniotic fluid that does not contain a fetal part or umbilical cord. The total of the four quadrants is then totaled for an index or volume. There is potential for increased fetal compromise when oligohydramnios is detected. The definition of oligohydramnios is variable, but most providers use a total volume less than 5 cm or the inability to document at least one vertical pocket more than 2 cm (ACOG, 2004a, b; Fanaroff & Martin, 2002; Gabbe et al., 2001).

When measuring an AFI, many sonographers will add color flow to the screen to document cord presence and increase
the accuracy of the indices. If oligohydramnios or intrauterine growth restriction is suspected, the sonographer or sonologist may add a Doppler flow study to the examination.

Doppler Flow Studies

Doppler flow studies measure the pulsatile blood flow of the umbilical arteries, which represents maternal-fetal circulation. It's believed that progressive impairment of placental perfusion will yield increasing resistance in umbilical flow. This is evidenced by the diastolic flow decreasing, which results in absent end or reverse flow. The evaluation of these parameters is influenced by gestational age. Higher indices are not uncommon in gestations just at viability, at viability (24 weeks), and the further toward term the fetus is, the lower the indices will be with regard to normal (ACOG, 2004a, b). Doppler flow studies have been shown to be valuable in the assessment of the intrauterine growth-restricted fetus (Lees, Albaiges, Deane, Parra, & Nicolaides, 1999). Mid-cerebral and uterine artery flow patterns are now also being used for fetal assessment (Figures 7 & 8).

Some practitioners evaluate arterial Doppler flow patterns on all growth-restricted fetuses. No value has been shown for using this testing in the low-risk population. Typical common indices measured include:

- Systolic/diastolic ratios (S/D)
- Resistance index (S-D/S)
- Pulsatility index (S-D/A)

Doppler flow studies have primarily used arterial flow patterns, but a recent study looked at umbilical vein blood flow in the growth-restricted fetus. This longitudinal study suggests that reduction in blood flow is an early finding in the IUGR fetus and may persist for several weeks until delivery. The reduction is secondary to decreased vein velocity (Rigano et al., 2001). In the past, absent end diastolic arterial flow or reverse flow measures would have been used to make management and delivery decisions; it’s now thought that any one of these Doppler studies may assist in making management decisions.

Validity of Antepartal Screening

Although there are many types of antepartal surveillance currently available and used, research is lacking to fully support their use. Obstetric care in the U.S. and other developed countries has used fetal surveillance widely in the clinical management of patients with risk factors, prior history of an adverse outcome or current condition that places them at risk (ACOG, 2004a, b; Gabbe et al., 2001). There has been a longstanding correlation between this testing and decreased fetal morbidity in comparison to those women with similar conditions that did not receive testing. However, it should be noted that this might be a misinterpretation of the data based on the low incidence of complication in the general population and the lack of adverse fetal outcomes (ACOG, 2004a, b).

Box 1.

Getting all the Facts

Ultrasound information and perinatal education regarding fetal assessment can be found at the following Internet sites:

- GE Healthcare: www.gehealthcare.com
- Institute for Advanced Medical Education: www.iame.com
- Siemens: www.siemensmedicalacademy.com
- Association of Women’s Health, Obstetric and Neonatal Nurses: www.awhonn.org

Further reading may include:

2. Diagnostic Imaging of Fetal Anomalies (2002). Nyberg, D., McGahan, Pretorius, D., Pilu, G., & Eisenber, R.; Lippincott Williams & Wilkins, Hagerstown, MD
References


Personal digital assistants (PDAs) are becoming increasingly prevalent in health care. These small handheld computers let clinicians perform a number of tasks, including documentation; retrieving drug information; and calculating multiple items, including IV rates, dosages and/or weights, as well as searching for references within professional journals or the World Wide Web, just to name a few.

Surveys and estimates indicate that from 15 to 18 percent of physicians currently use PDAs in practice and that by the end of this year, more than 25 percent would be using them (Carroll & Christakis, 2004; Grebus, 2003). Given that one in four physician residency programs are providing handheld computers to their primary care residents, that prevalence is only expected to increase (Grebus, 2003). Rosenthal (2003) indicates that physician usage of PDAs is expected to grow to 33 percent by 2007. PDA usage is expected to be prevalent in:
• enhanced productivity with rapid access to point-of-care information
• risk management with regard to calculations and drug dosing at the bedside
• stress reduction with rapid access to critical information
• increased clinician confidence

PDAs provide a platform for valuable point-of-care service at the bed. For example, a patient might request a referral to a cancer support group or a short list of over-the-counter pain medications that are considered safe for use while breastfeeding.

As we continue to see a strong push toward electronic medical records, it’s possible that nurses and other care providers will see more integrated uses of PDAs in the health care arena. For example, Central DuPage Hospital, in Winfield, IL, has moved swiftly during the past nine months to implement full electronic medical recordkeeping complemented by a wireless network, including phone service, for full PDA access to records. Situations such as this are becoming more common. As electronic recordkeeping and PDAs become more prominent in health care, each institution will have to determine how vast an information technology infrastructure it’s willing to support and how it will address training and confidentiality issues and, of course, factor the costs.

Certainly PDAs can provide swifter access to patient care information, but it will be very important that the health care community continue to examine the pros and cons of this technology with respect to the full implication and impact to patient care of providers using PDAs in relation to patient information.

Research indicates many opportunities for nurses using PDAs to provide effective, efficient and evidence-based care (Lewis & Sommers, 2003). Because it’s likely that this new and emerging technology will only become more prevalent in health care, nurses should be encouraged to learn about PDAs and their application in the clinical setting (Smith-Stoner, 2003).

**PDA Considerations**

There are many considerations that must be addressed for the full integration and utilization of PDAs in health care. Some of the more prominent issues include (see Table 1):

- choice of operating system (OS): Palm or Microsoft Windows CE (Pocket PC)
- private practice or institutional support for a specific operating system
HIPPA compliance and patient confidentiality

It’s also important to factor in which software programs are now in use institutionaly and can be used on a PDA (Craig, 2002). Table 2 offers suggestions for choosing a PDA model.

A number of benefits have been touted for using PDAs in health care, chief among them being the reduction of medical errors. In 2001, the Institute of Medicine identified that 50 percent of the medical errors could be reduced with utilization of informational technology such as an electronic medical record (Institute of Medicine, 2001). Computerized provider order entry, pharmacy programs and clinical reminders have all been found to reduce errors and improve compliance and clinical guidelines (Carroll, Tarczy-Hornoch, O’Reilly, & Christakis, 2004). Carroll et al. (2004), after reviewing documentation errors and the possibility of reducing those neonatal resident documentation Errors by using point-of-care PDAs for charting progress notes, concluded that a 10.5 percent reduction in documentation errors could be achieved through the use of PDAs in this situation.

Privacy Concerns

PDAs are currently being used in practice for the most basic retrieval of reference material, such as drug information, considering differential diagnoses and, in some institutions, accessing entire patient medical records. Accessing records immediately raises concerns regarding patient confidentiality and HIPPA compliance, as well as meeting restrictions from other regulatory bodies.

While PDAs do offer password protection for the owner/user, not all programs may be covered with that password protection. For example, critical questions to ask regarding privacy include what happens if a PDA is lost or stolen? If voice recognition programs are utilized, could someone access that information as well? (Enger & Segal-Isaacson, 2001).

It will be important for information services providers at each institution to review, prepare and implement appropriate guidelines for PDA usage. It’s not recommended that institutions allow patient information and confidential files to be stored or accessed electronically without specific policies and guidelines to direct and safeguard the process. Additional education is needed for individuals who will have access to patient records and other confidential files to fully understand the responsibilities associated with access and the restrictions regarding privacy. For example, it’s important for individuals to understand that PDAs should never be left unattended and serious implications could arise if they loan someone their personal PDA if it contains sensitive information. The portability of PDAs and quick access to information is felt to be both a benefit and a risk with respect to liability and compliance. Many owners of PDAs purchase software programs to provide protection and security, as well as data encryption, for their files. Some of these types of programs can be found in Table 3 (Tooey & Mayo, 2003).

Choosing a PDA

Cost is an additional factor when considering PDA usage. While a basic PDA that can store calendar, contacts and notes may cost as little as $100, PDAs with advanced memory storage, access to wireless Internet connections, advance program bases, phone service, digital photography, an MP3 player or expansion capability can cost as much as $800. The average cost today for a PDA with mid- to high-end capabilities is approximately $500. Collectivemed.com offers a PDA evaluation tool that’s helpful in specifying needs and determining which PDA to purchase.
From an institutional perspective, questions such as who will pay for a PDA and whether staff are responsible for providing their own PDA are important to answer. Some institutions negotiate reduced costs for employees to purchase PDAs. If you’re considering purchasing a PDA to use in collaboration with your institution, first make sure it’s compatible with the OS at your institution. Differences in OS are critical with respect to what your place of employment can support and with whom you may need to share information. Currently, information can’t easily be shared between the two main operating systems on the market. Until a common platform is adopted, there will be issues of compatibility.

Because of the lack of standardization in information technology, health care professionals who want to use PDAs in practice will likely continue to see difficulties in accessing information when, for example, lab information is stored in one database, pharmacy in another and radiology in yet another—and all three databases might be housed in entirely incompatible software programs! Until full integration is achieved for all information systems, including patient records, gaps will persist when using PDAs for patient care (Shneyder, 2002).

**Nursing Implications**

Despite the challenges, there are many beneficial ways to use PDAs in practice, including having rapid access to drug information, clinical diagnoses and even patient records and documentation, as well as journals, abstracts and WWW search ability. Texts that nurses have relied on for years are often outdated by the time publishing occurs (Lewis & Sommers, 2003). Today’s health care environment warrants evidence-based care, and this can be assisted by access to the literature via website subscriptions.

### Table 4.

**Software Sites for PDAs**

- www.Pbrain.hypermart.net
- www.med411.com
- www.collectivemed.com
- www.redi-reference.com
- www.HealthPalmPilot.com
- www.medicalpocketpc.com
- www.geocites.com/docpanama
- www.pocketgear.com
- www.epocrates.com
- www.allscripts.com
- www.cnex.com
- www.tarasconpublishing.com
- www.micromedex.com
- www.pdaconcepts.com
- www.iatrossoft.com
- www.ddhsofteware.com
- www.medscape.com
- www.hopkins-abxguide.org
- www.palminfocenter.com
- www.journaltogo.com
- www.handango.com
- www.palmgear.com
- www.pdamd.com
- www.franklin.com/medical/
- www.skyscape.com
- www.isilo.com
- www.memoware.com
- www.infopoeems.com
- www.datavix.com
- www.lexi.com
- www.medicalwizards.com
- www.hannaheldmed.com
- www.tucows.com
- www.healthcarefreeware.com
- www.healthypalmilot.com
- www.rnnpalm.com
- www.patientkeeper.com
- www.freewarepalm.net
- www.ashp.org
- www.docmd.com/pdasoftware
- www.palmbld.com/

### Table 5.

**Websites for PDA Manufacturers**

- **Casio:** www.casio.com
- **Dell:** www.dell.com
- **Fujitsu:** www.fujitsu
- **Handspring:** www.handspring.com
- **HP/Compaq:** www.hp.com
- **Kyocera:** www.kyocera-wireless.com
- **NEC:** www.nec.com
- **Palm:** www.palm.com
- **Samsung:** www.samsung.com
- **Sony:** www.sonystyle.com/micros/clie/
- **Toshiba:** www.toshiba.com
Many applications are also available for free or a fee. These applications have been developed for personal needs as well as health care needs. During the past five to seven years, users will note that the majority of software applications have been developed for the Palm OS platform; today more and more are being developed for the Windows platform (Tables 4 & 7).

Nurses today face a multitude of tasks that need to be accomplished in an environment that includes higher acuity, higher census and less support staff. PDAs can help nurses perform regular daily tasks in a much quicker timeframe, such as accessing patient testing results, that is, lab information or radiology, while at the bedside, educating the patient regarding his or her condition and continued plan of care. PDAs can help make shift reports more concise and consistent with the ability to beam information from one PDA to another as a nurse receives reports and begins her shift (Tooey & Mayo, 2003).

Not all nurses will be comfortable adapting to this new technology, and it will be important that as health care systems incorporate PDAs in patient care all staff be provided with training in PDA implementation and use to achieve the highest benefits from these tools in the practice setting.

In addition to their ability to share information via an infrared port, PDAs that have wireless connectivity can connect users to the World Wide Web. Most manufacturers include instructions and tutorials at their websites to achieve connectivity (see Table 5).

Health care systems looking to integrate PDAs into practice may also consider forming user groups to share and trouble-shoot issues regarding this tool in the patient setting. Members can mentor one another and new users as the technology changes and develops. These opportunities between all

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**Table 6.**

**Coming to Terms**

- **PDA:** A personal digital assistant known as a handheld device that allows electronic management via software programs or applications such as but not limited to calendar, contact/address book, memos/notes, various textbooks including medical/health care, personally created files under popular software programs (such as Word, Excel, PowerPoint), games, connection to the Internet with wireless capability, digital photography, MP3 capability (music files) and phone capability. This type of handheld computer can connect to a desktop PC for exchange of information, storage and retrieval.

- **OS or Platform:** Known as the operating system that supports files. PC or desktops are either Windows or Apple platform. PDAs use either Palm OS or Microsoft Windows CE. The operating systems are not fully compatible at this time for the sharing of applications; limited information sharing may occur.

- **Synchronize:** The connection of the portable device (PDA) with the PC/desktop via a portable cable, base or infrared port that allows communication between the two devices. The communication allows the sharing of information between the two devices. Software applications are typically downloaded to the PC/desktop and then transferred by synchronization/hot syncing with the PDA. Applications such as eProcrates will update the PDA with the most current information available each time a user synchs her PDA to a computer connected to the Internet.

- **Beaming:** The exchange of information from one PDA to another via infrared port; the best data transfer occurs between two PDAs with the same operating system; limited exchange only (contacts, for example) can occur between Palm OS and Microsoft CE OS for now.

- **Cradle:** A base used for synching your PDA with a PC; this can also be accomplished through a cable; most cradles feature battery recharging.

- **IR Port:** This is the area on your PDA that supports beaming between two similar OS PDAs. It also can be used with an IR-compatible printer to send and receive information from your PDA for printing, and in a wireless environment, it can be used to synch a PDA with another handheld or PC; of note, not all PDAs have an IR port.

- **Stylus:** The writing device that is like a pen and is used with the PDAs touchscreen to write information or access files.

- **Expansion Slot(s):** Area on the PDA that accepts a form of expansion for a memory card; some PDAs have more than one slot.
providers can enhance the use of the PDA, as well as build strong team relationships.

Opportunities for clinical applications in nursing are emerging. Initially many nurses began using PDAs as organizers. As they’ve grown comfortable with the technology, they’ve added clinical information that they use in patient care (this information was likely carried on an index card or a small handheld memo pad, or cheat sheet, and was located in a pocket of their uniform or scrubs). As more nurses have started adapting PDAs for clinical use, they report that they have been helpful in organizing current information for quick point-of-care access (Enger & Segal-Iaacson, 2001).

Useful PDA applications for nursing care include reference manuals, such as “Drugs in Pregnancy and Lactation,” as e-books. There are calculators that can assist nurses in dating pregnancies, drug reference tools such as eProcates, and the list goes on and on (see Tables 4 & 7). As you explore, remember to share the new PDA resources with your colleagues. And if you’re using the same OS, you can simply beam information and applications between PDAs.

Nurses are starting to provide shift reports by beaming information from one nurse to the next, and this opportunity may assist in providing concise and consistent information from one shift to the next (Tooey & Mayo, 2003). Nurses can also synchronize the data on their PDA with the hospital’s server/information system to add information directly into a patient’s medical record. Calendar features can be used for scheduling appointments. Although it could prove to be time-consuming initially, the nurse could set scheduled items, such as certain medications and/or therapy sessions, on his or her calendar for a specific patient. She or he can also add an alarm with a specific amount of time warning to make sure that task is completed.

Table 7.

Popular PDA Resources for Nursing & Health Care

Most PDA manufacturers also list extensive PDA resources and links at their websites.

Nursing Resources
- PDA Cortex: www.rnpalm.com/
- Medical Wizards: www.medicalwizards.com/client/newhome.aspx
- PDR Health: www.pdrhealth.com/
- Handheld Med: www.handheldmed.com
- Medical PocketPC: www.medicalpocketpc.com/
- StatCoder.com: www.statcoder.com/

Drug Information
- Epocrates: www.epocrates.com
- Canadian Medical Association: www.cma.ca/cma/lexidrug/lexiHome.do?skin=129&pMenuId=0
- Lexi-Comp: www.lexi.com/web/index.jsp
- Skyscape: www.skyscape.com

Medical Calculators
- Charlie’s Clinical Calculators: www.medcalc.com

Home Health Care
- “HandESoftware”: http://handesoftware.com/
- Maps for community care nurses: www.avantgo.com

Patient Tracking
- PatientKeeper: www.patientkeeper.com
- Pendragon: www.pendragon-software.com/
- DDH Software: www.ddhsoftware.com/medical.html

Freeware & Shareware
- Tucows: www.tucows.com
- Handango: www.handango.com

Presentation Tools
- Margi’s Presenter-to-Go: www.presenter-to-go.com
- Conduit’s Pocket Slides: www.conduits.com/products/slides
Certainly if the institution you work for has integrated all service lines onto one platform, this will make PDA integration easier. Currently, CDH is using the “LAWSON” platform to bring all information and data to one easy access point.

From My Experience

Some of the best programs are shared among colleagues. For instance, I have created files in Word for diabetic management and antepartum and intrapartum care that review insulin dosing and include protocols and guidelines for treatment that I often share with nursing and physician colleagues. I have also created baseline care and treatment information on premature rupture of membranes and premature labor. Currently there are many software applications that prove to be of great assistance to advanced-practice registered nurses including patient tracking, drug information, digital photography for clinical cases, disease review, differential diagnoses and even a prescription-writing program that allows prescriptions to be written in the PDA and beamed via an infrared port to a compatible printer (Lewis & Sommers, 2003). These programs and others are listed in Table 7. I have found that I use applications and documents on my PDA with health care colleagues and patients alike. Currently I am transferring many of my PowerPoint presentations from my PC to my PDA. Having this information at my fingertips to share with colleagues is critical and valuable (see Box 1). As Rempher, Lasome, and Lasome (2003) so succinctly summarize: “It’s the combination of superior clinical knowledge and point-of-care technology that will continue to move advanced practice nursing forward in the 21st century.”

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For many women, the birth of a child is one of the happiest times of their lives. After nine long months of joyful anticipation, the last thing a woman wants to think about is the possibility she will be too unhappy to enjoy her baby. Postpartum depression (PPD) has been described as a dangerous thief that has the potential to rob a woman of the happiness and love she expected throughout her pregnancy (Beck, 1999).

The incidence of postpartum depression has not changed in the last 130 years (Kruckman & Smith, 1998). According to Johnson and Apgar (2003), the “baby blues” can occur for as many as 85 percent of women after delivery. The baby blues is characterized by symptoms such as mood changes, alterations in eating and sleeping, irritability and increased sensitivity (Mayne, 2001). The symptoms of the baby blues may continue and intensify in as many as 20 percent of women (Genovese, 2003). Symptoms of PPD include (Mayne, 2001):

- loss of interest in usually pleasurable activities
- difficulty with concentration or making decisions
- fatigue
- loss of appetite
- feelings of worthlessness

The most serious form of postpartum mood disorder is postpartum psychosis. Although very few (0.1 percent to 0.2
percent) will experience this condition, its severity is of particular concern. The predominant symptom for women who suffer a postpartum psychosis is a “break” with reality—a loss of the ability to discern what is real from what is not. She may try to avoid losing her sense of self by either committing suicide or infanticide, according to Levy, Sanders, and Sabraw (2002).

Johnson and Apgar (2003) point out that postpartum depression is more common than gestational diabetes, preeclampsia and preterm delivery, and yet it has received much less attention in contemporary medical literature, training and clinical practice. Currently, as much as 30 percent of PPD goes undetected, and of those who are seriously depressed, only about half seek help (Beck & Gable, 2001). Despite its potentially devastating consequences, PPD continues to be overlooked and minimized by physicians. This is partially due to perceived pressure inflicted by managed care companies to decrease costs, thus forcing physicians to limit time with their patients (Epperson, 1999). Other physician factors that may contribute to failed diagnosis include the physician’s gender, differences in knowledge or training, communication styles and attitudes about psychosocial issues (Heneghan, Silver, Bauman, & Stein, 2000).

Researchers continue to debate the causes, diagnostic criteria and even whether PPD is distinct from generalized depression. The symptoms are not different from those of non-postpartum mood episodes. There is mounting evidence that indicates the cause of PPD is multifactorial including biological, psychosocial and life situation stresses (Beck, 1999).

Women with persistent depressive symptoms may wait many months before seeking treatment because of denial, fear of stigmatization and difficulty distinguishing symptoms, that is, sleep disturbances, decreased energy, and so on, from normal postpartum occurrence (Cohen et al., 2001). This poses concern since delays in adequate treatment have been found to significantly affect the duration of PPD (Beck, 1999). Women are under a great deal of social pressure to be a “good mother” and may be worried that they are not meeting social norms or perhaps are “going crazy.” They fear by admitting they are not feeling well that their baby will be taken away and they may be locked up on a psychiatric unit. Some women may not even know where to turn if they need help (Epperson, 1999).

Late diagnosis of PPD increases untoward results and can have negative consequences for not only the mother but also the entire family and community. Johnson and Apgar (2003) suggest that mothers suffering from postpartum depression often demonstrate a more negative attitude toward their children. They have difficulty responding appropriately to their infants and are at a higher risk for neglecting or abusing them (Hall, 1990). Incorporating a PPD program into the hospital environment is one way to improve outcomes for postpartum women and their families.

Development of a PPD Program

When developing a postpartum depression support program, it’s important to consider the organization’s mission, vision and values. Our pledge at Central DuPage Health (CDH) is to provide a community of caregivers committed to providing excellent and compassionate patient care. Our patient-centered care goal is to provide care that is safe, effective, timely, efficient and equitable. A PPD support program is a logical extension of our pledge and values.

To develop an effective program at CDH, a review of the literature and a small informal focus study was conducted. The focus study included 20 women with symptoms of PPD. At the time, these women were not aware of any available programs in this area to support their illness. Women indicated that they would prefer an evening-scheduled program so that there would be someone at home to watch the baby; those who were breastfeeding didn’t want to be away from their home for long periods of time. Breastfeeding mothers also preferred to attend the program without their infant.

Women struggling with depression indicated that they wanted to share what they were experiencing, increase their knowledge of the illness and find solace in knowing they were not alone in their struggles.
Resource Considerations

To establish a program, there needs to be a commitment from the organization. After reviewing the facts and statistics, the executive team at CDH expressed their approval and commitment to establish a PPD program. Recent national and local stories outlining the devastating consequences for women with PPD helped to leverage that commitment.

Many times programs are limited by funding. Organizational approval does not negate the need to be both resource and fiscally responsible. When funding is an issue, other funding opportunities may include grants, corporate sponsorship, agency funding, creative partnerships or the use of volunteers.

Practical concerns include finding a space to meet and establishing meeting times. The meeting area should be convenient and have private, quiet space away from distractions and noise. When securing a site, consider one that is climate controlled and has adequate seating around a table, a dry-erase board, TV/VCR, ability to play music, tissues and water. Women who have attended the support group at CDH have verbalized that when they sit around a table, they feel less anxiety. According to Bennett and Indman (2002), 5 to 10 percent of women who suffer from PPD will have panic and/or anxiety disorders. Postpartum anxiety can cause the woman to worry excessively about herself, her baby and her ability as a mother (Mayne, 2001).

Initial costs include the salary for the facilitator, facility charges, clerical support, supplies, pamphlets and advertising. The facilitator’s time may include the coordination of the support group, education of health care providers—that is, nursing staff, physicians, office staff, prenatal instructors—and community lectures, educational programs and building collegial relationships with other health care professionals.

Group Facilitation and Interaction

The facilitator of the group should be someone with advanced training, that is, an obstetrical nurse, social worker, psychiatric nurse, psychologist, and so forth. A support group offers a venue for people going through the same or similar problems to share their stories and strategies to cope. A support group facilitator can secure expert speakers and act as an educator. They must be able to identify participants who are experiencing postpartum psychosis and refer them to an appropriate health care provider or the emergency department. For this reason, backup staff must be available for referrals. These consulting individuals may include a psychiatrist, social worker, pastor, lactation consultant and physicians.

The support group is most rewarding when the participants’ needs guide the conversation. As new members join the group, the dynamics of the group shift and change. There are times when the partners may be included if the group feels it could be beneficial. Guest speakers are invited to speak on relevant topics. Popular requests at CDH are to provide speakers on panic and anxiety as they are related to PPD and antidepressant administration while breast-feeding.

Marketing

While marketing the program through newspaper articles, physician offices, hospital information sources, church bulletins and so on is needed, direct contact and networking with obstetricians, pediatricians, registered nurses, social workers and other health care personnel is also very important. A brochure that includes signs, symptoms, risk factors and treatment options for PPD is helpful. These brochures serve as marketing and informational opportunities. They are best displayed in obstetrician offices, and the brochure should contain a contact number for anyone who needs support or for those with questions. Personal referrals are a valuable marketing tool.

Most programs start slowly with limited participants. Don’t be discouraged. The number of participants grows as formal and informal marketing continues. Twice-a-month meetings may be sufficient in the beginning. CDH meetings are scheduled for 1½ hours but many times go for 2 to 2½ hours. In our experience, the first few meetings were either unattended or attended by just one person. Now there is an average of 4 to 6 women per session and meetings have increased from every other week to every week.
Description of the Sessions

When a woman attends the first session at CDH, she is given a personalized information pack that contains both general information about PPD and more specific information about the symptoms she is experiencing. The facilitator of the group will determine how to prepare a packet during a phone assessment conversation. For women who attend as a “walk-in,” a general packet of information will be provided. The participants are informed that they are not alone and that PPD is a treatable illness. They are commended for taking this first step in their recovery.

Since many women suffering from PPD need to include medication as part of their treatment regime, the topic needs to be an included discussion point. Many women are reluctant to take medication when they are breastfeeding their babies (Moline, Kahn, Ross, Altschuler, & Cohen, 2001). Concise and understandable information about the prescribed medications may help alleviate their fears. A lactation consultant may add value to the discussion. A woman who is opposed to taking medication needs to know there may be consequences to her children if she is depressed. According to Johnson and Apgar (2003), depressive episodes in a mother during the postpartum period have been linked to poorer cognitive test scores by her child.

Educating Hospital & Community Care Providers

Educating women and their partners during the prenatal period about symptomatology, risk factors and treatment options for PPD is one priority. The most obvious time to do this is in the prenatal class. Johnson and Apgar (2003) suggest that educating women about PPD before they deliver their baby decreases the risk of experiencing PPD. Furthermore, women who are not informed about PPD may be embarrassed and usually fail to ask for help (Genovese, 2003).

Educating prenatal instructors on the importance of PPD education is critical to the program. Without this knowledge, prenatal educators may have various levels of comfort addressing the topic in their classes. They may fear that addressing the topic in prenatal classes would cause fear and anxiety in women and their partners. We have found that as the instructor’s knowledge increased, so did her or his comfort level and commitment to teaching about PPD.

Screening for PPD

During prenatal classes, women and their partners can be encouraged to use a postpartum depression risk assessment during pregnancy screening tool to determine personal risk factors; this screening tool can be found at www.postpartum.net. For the labor and delivery nurses to be effective in their identification of women who are at risk, they also must have knowledge of the illness. The CDH staff in Labor and Delivery and the Mother/Baby unit verbalized appreciation for the educational sessions provided by the facilitator. The educational sessions increased their knowledge and ability to screen for risk. Although nurses need not be expert on differentiating between postpartum mood disorders, they need an understanding of the condition so they can consult with or refer to appropriate resources, that is, social services or physician.

When possible, during the hospital admission process, the nurse can administer a simple PPD screen. At our facility the screening by nursing staff includes questions based on the prevalent risk factors identified by the Office of Women’s Health (National Women’s Health Information Center, 2001). To aid the nurse in developing a comprehensive individualized plan of care, three questions were added to the “Inpatient Needs Assessment”:

- Do you have a family history of depression or PPD?
- Do you suffer from premenstrual syndrome (PMS), anxiety, panic disorder or obsessive compulsive disorder (OCD)?
- Do you have a history of depression or PPD?

Patients that answer positively to any of these questions are given a brochure about PPD as well as the PPD facilitator’s business card. They are informed of CDH’s commitment to help women and their families who experience this condition. Because they are at risk to develop PPD, they will be called 2 weeks and 12 weeks postpartum by the facilitator. This gives an opportunity to ask questions as well as make referrals when necessary.

Women who are being treated for depression, or who are on antidepressants at the time of delivery, are referred to a social worker. The program facilitator will call these patients within 72 hours postdischarge.

Routine postdischarge phone calls are another opportunity to inquire how the woman is adjusting to parenthood. Johnson and Apgar (2003) found open-ended questions most effective, since they encourage dialogue. Due to time constraints, CDH chose to use only three questions from the Edinburgh Postnatal Depression Scale. The Edinburgh Postnatal Depression Scale is a 10-item questionnaire that is easy to administer and is an effective screening tool (Wisner, Parry, & Pionek, 2002). The questions included are:

- How much sleep are you getting?
- How is your appetite?
- Are you feeling anxious or panicky?

If the women indicate struggles with any of these, the information is referred to the PPD program facilitator for further assessment.
Pediatricians are also critical in identifying women with PPD. They are usually the first physician a woman sees following hospital discharge. Since they see infants and new mothers between two days and two weeks post-discharge for a newborn exam, they may be the first professionals to observe mothers demonstrating signs of PPD. Some pediatricians may choose to ask pointed or direct questions of their new mothers as a screening technique.

**Multidisciplinary Collaboration**

Whether creating a postpartum depression support group or a more comprehensive program, it’s important to utilize a multidisciplinary approach. We learned that it’s important to include obstetricians, behavioral health staff, psychiatrists, pharmacists, social workers, emergency department staff, family practitioners, pastoral care, perinatal nursing staff, community education and administration in the planning of the program. PPD is an illness that may require service from any or all of these disciplines.

A PPD support program must always be fluid and ready to meet the needs of the women and their families involved. Research findings, advances in therapies, and support group members’ feedback are constantly monitored. We continuously learn from the women who participate in the program. Their thoughts and evaluations have led to modification and additions to the curriculum of the program. Physicians and nursing staff are relieved that they have a place to refer their patients for support and follow-up when it’s needed.

**Additional Implications**

It’s important for those treating obstetrical patients to understand that untreated PPD may have significant effects on mother, infant and family. There are multiple reports of significant emotional, cognitive and social difficulties of untreated maternal mood disorders. Untreated PPD can also lead to the development of more chronic and refractory mood disorders in the mother (Cohen et al., 2001). This is all unnecessary since “postpartum depression is one of the most treatable and curable of all forms of mental illness and learning about postpartum depression helps prevent it and relieve it” (House Resolution 163, as cited in Mayne, 2001).

Postpartum depression is common, yet it continues to be overlooked and underdiagnosed. As CDH continues to educate women and their partners about PPD, there has been a noticeable increase in the number of women reporting their symptoms and receiving treatment. The program has helped to identify resources for women who may be affected by PPD. They are aware that it’s a real illness and that they are not to blame. A comprehensive PPD program that offers education, screening, support and treatment options to mothers who suffer from postpartum depression is a vital part of an organization’s full range of care.

**References**


Every Woman
Now Available in Spanish

Toda Mujer Features
Culturally Relevant Translation of Leading Women’s Health Guide

What can I do to avoid heart disease? Which foods are the healthiest for me and my family? What can I do about my allergies? What can I expect during menopause? These are among the questions answered in a new Spanish-language health guide written by women’s health nurses especially for Hispanic women. The guide, Toda Mujer: La Guía Esencial Para Una Vida Saludable, is adapted from the award-winning Every Woman: The Essential Guide for Healthy Women. The guides are joint publications of the Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN) and Every Woman, Inc.

This new full-color, comprehensive Spanish-language guide provides important and helpful information about women’s health for all ages based on the latest research and practices. AWHONN nurses and other health care providers throughout the U.S. are distributing Toda Mujer at no charge to their patients. The guide is also available online at www.everywomanonline.com for the cost of shipping and handling only.

By 2020, one-third of all clinical caseloads will be composed of minorities, particularly Hispanics. To ensure the unique health needs of Hispanic women are addressed, AWHONN published this culturally relevant version of its efficacious women’s health guide, Every Woman. Since its introduction in 2000, more than 3.5 million copies of Every Woman have been given to women by nurses at no charge. In April 2004, AWHONN distributed 250,000 copies of Toda Mujer to nurses for Hispanic women; another 250,000 copies will be distributed to women.
AWHONN nurses who request them at the AWHONN website.

_Toda Mujer_ presents evidence-based women’s health information within priority issues including cardiovascular health, diabetes, obesity/weight management, menopause, breast health, contraception, pelvic health and more. To make this a culturally relevant translation of its sister publication, Hispanic nurse experts advised AWHONN throughout the translation and adaptation process. To promote acceptance, _Toda Mujer_ was adapted and translated from _Every Woman_ by native, bilingual Hispanic advanced practice nurses. To promote respect, translators used formal versus familiar Spanish; Mexican-Spanish (most prevalent in the U.S.) was chosen to promote understanding. To overcome health disparities regarding insurance, advice for health promotion and self-care was included. Honoring Hispanic family-centered health care decision making, text and images throughout the guide emphasize multigenerational bonds. As AWHONN monitors the distribution and effect of this 100-page guide, the organization will track whether positive health changes are noted by nurses among Hispanic women receiving the guide as such changes have been observed by nurses among women using _Every Woman_ for health care decision making.

“In most families, women are the primary decision-makers about health care,” said AWHONN Executive Director Gail Kincaide. “We are delighted to have the opportunity to reach out to new communities and offer a culturally appropriate Spanish-language version this year.”

_Toda Mujer_ will be published twice a year, in April and December for 2004. The premiere issue includes articles on:

- heart health
- menopause and midlife changes
- breast health and breast cancer
- diabetes prevention and treatment
- sexual health
- nutrition and exercise
- dieting and preventing obesity
- pelvic health
- asthma and allergies

The topics for articles in _Toda Mujer_ were selected based on research to determine the health and health care issues that are most relevant for Hispanic women and their families. To read some of the articles within _Toda Mujer_, go online to www.everywomanonline.com.

To distribute _Toda Mujer_ to your patients, go to the AWHONN website at www.awhonn.org and sign up under the “Publications” link on the homepage. Nurses who wish to distribute _Every Woman_ and/or _Toda Mujer_ are encouraged to sign up as soon as possible as the books are limited in their quantity and available on a first-come, first-serve basis only. Questions regarding distributing either women’s health guide should be directed to Michelle Chandler at AWHONN headquarters; call Michelle at (800) 673-8499 x2457 or e-mail her at michellec@awhonn.org.

5th Edition Every Woman Shipping in September

_The 5th Anniversary Edition of Every Woman: The Essential Guide for Healthy Living_, AWHONN’s award-winning patient education program in the form of a consumer-oriented women’s health guide, will begin shipping in September. This special edition commemorates five years of expert-nurse-authored information for women to promote their health and well-being.

The 5th edition will feature a special design and new editorial enhancements to commemorate this publishing milestone; by fall 2004, more than 4 million women will have received this compelling women’s health guide from their nurses.

To distribute this special commemorative edition of _Every Woman_ to your patients, go to the AWHONN website at www.awhonn.org.
www.awhonn.org and sign up under the “Publications” link on the home-page. Nurses who wish to distribute Every Woman and/or Toda Mujer are encouraged to sign up as soon as possible as the books are limited in their quantity and available on a first-come, first-serve basis only. Questions regarding distributing either women’s health guide should be directed to Michelle Chandler at AWHONN headquarters; call Michelle at (800) 673-8499 x2457 or e-mail her at michellec@awhonn.org.

Enrollment Begins for Osteoarthritis Initiative

Recruitment has begun for the Osteoarthritis Initiative (OAI), a public-private partnership between the National Institutes of Health (NIH) and industry that funds a multisite contract to create a resource to hasten discovery of biological markers for osteoarthritis (OA).

Men and women age 45 and older at risk for developing OA and those with early disease are eligible to participate. After an initial screening, four centers around the U.S. plan to each enroll and follow 1,250 adults for five years (total enrollment of 5,000). Biological specimens (blood, urine, DNA), images (x-rays and magnetic resonance scans) and clinical data will be collected annually.

Biological markers—physical signs or biological substances that indicate changes in bone or cartilage—are critical in diagnosing and monitoring OA and developing new treatments. Ultimately, results from the OAI may enable doctors to use biological markers to help identify people at risk for OA and people with OA at risk for disease progression. The markers could also help doctors assess the effectiveness of treatments.

The four clinical centers, selected in the summer of 2002, include:

- University of Maryland School of Medicine/Johns Hopkins University
- Ohio State University Medical Center
- University of Pittsburgh
- Memorial Hospital of Rhode Island/Brown University

A data coordinating center at the University of California, San Francisco, oversees the study conduct and will manage the resulting data. The Ohio State University and University of Pittsburgh centers enrolled their first participants the week of February 23, and centers in Maryland and Rhode Island began enrollment in late March and early April.

Participants seeking to enroll in the study can contact the study centers directly or link through at www.niams.nih.gov.

Save These Dates!

Get your next meeting or educational session listed in AWHONN Lifelines by faxing your information to: AWHONN Lifelines—Save These Dates: (970) 947-9784 or e-mail Lifelines@awhonn.org. Announcements are included on a space-available basis.
Osteoarthritis, a degenerative condition whose hallmarks are joint pain and limited movement resulting from progressive loss of cartilage, is the most common type of arthritis, especially among older people. It can occur in any joint, but most often affects the hands, knees, hips or spine. There are currently no treatments, other than surgical joint replacement, that significantly change the course of this joint disease, and clinical trials for new therapies are long, difficult and expensive.

The OAI is a federal contract funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institute on Aging, Office of Research on Women's Health, National Institute of Dental and Craniofacial Research, National Center on Minority Health and Health Disparities and National Center for Complementary and Alternative Medicine, all part of the Department of Health and Human Services' NIH. Private funding partners include Merck Research Laboratories, Novartis Pharmaceuticals Corporation, and Pfizer Inc. Private-sector funding for the OAI is being managed by the Foundation for the National Institutes of Health.

Hospitals Encouraged to Partner With Grant Recipients

The U.S. Labor Department is soliciting applications from state and local workforce investment boards (WIBs) and faith-based and community organizations for $6.5 million in grants that will be used to prepare people for jobs in high-growth fields such as health care, including nursing.

Though hospitals are not eligible to apply for the grants, they are encouraged to participate as partners in the grant projects. Hospitals and health care providers can locate WIBs near them through a listing at http://www.nawb.org, or contact their local faith-based and community organizations to find out if they're applying and how they might participate.

For more on the grants, see the Federal Register notices at www.access.gpo.gov/su_docs/fedreg/a040406c.html under “Labor Department.”

International Sequencing Consortium Launches Website

The International Sequencing Consortium (ISC) has launched a free online resource where scientists, health care professionals and the public can get the latest information on the status of sequencing projects for animal, plant and other eukaryotic genomes.

The new resource can be accessed through ISC's home page, www.intlgenome.org. The database enables users to quickly sort sequencing project information by organism, by sequencing group or by funding agency.

Information about each sequencing project includes timetables for completion, along with brief descriptions of sequencing strategies being employed. In many cases, the database also features links to the individual sequencing projects' websites and the sites of their funding agencies, such as NHGRI. Also available are links to other publicly run databases where the actual DNA sequence data are deposited.

LifeWorks Career Exploration Site Online

The National Institutes of Health, Office of Science Education, is bringing LifeWorks online. This interactive website features more than 100 careers in the health and medical sciences. It's designed as a resource for middle school and high school students, parents, educators and school guidance/career counselors to explore the diversity of careers in the field. According to the Department of Labor, these jobs are expected to be among the fastest growing jobs in the nation over the next 10 years. At LifeWorks visitors can:

- search careers to match personal interests, skills and abilities
- browse careers by salary, education required, interests and job title
- read about real people who have achieved success in their careers
- learn about certification, licensing and educational requirements
- explore job market trends and find links to professional organizations

To access LifeWorks, link through http://science.education.nih.gov.

Nursing Knowledge International Now Operational

Nurses worldwide now have a new resource for knowledge to practice evidence-based nursing, develop their careers, increase leadership skills and earn continuing education credits. Nursing Knowledge International is a new nonprofit organization for nurses all over the world. The organization is an extension of the Honor Society of Nursing, Sigma Theta Tau International.

Through its website, www.nursingknowledge.org, the organization aims to improve patient outcomes by enhancing the knowledge base of its nurse customers.
Reducing the number of nurses who smoke and increasing the number of nurses who are helping patients quit smoking is the goal of the Nursing Leadership Task Force on Tobacco Control, which met in late March at the Agency for Healthcare Quality and Research in Rockville, MD. The summit is part of the Tobacco Free Nurses Initiative funded by the Robert Wood Johnson Foundation; the summit was funded by the Smoking Cessation Leadership Center at the University of California, San Francisco. AWHONN is one of 21 organizations representing more than 481,000 nurses participating in the summit and its work. Each organization is charged with developing an action plan for their organization to support smoking cessation for nurses, implement smoking cessation services for patients and/or increase nursing’s involvement in tobacco control policy issues. Throughout the two days, summit organizers provided training, technical assistance and resources to the participating organizations to facilitate their planning.

The health effects of smoking are devastating: since 1950, lung cancer has increased 600 percent in females (U.S. Department of Health and Human Services, 2001), which demonstrates the need for cessation programs and
Research to demonstrate the most effective strategies to help nurses and patients to quit smoking. Approximately 16 percent of nurses smoke, a figure less than the national average of 25 percent but far in excess of the 3 percent smoking rate among physicians. We are challenged as a profession to develop strategies to help our colleagues to quit smoking. Nurses who smoke may be affected in their ability to implement smoking cessation interventions for their patients; workplace dissention issues may also emerge regarding smoke breaks.

There are many available resources to support nurses and patients with smoking cessation available on the newly launched Tobacco Free Nurses website (www.tobaccofreenurses.org). A national quit line also is available by calling (877) 44U-QUIT. This line can be used by patients to provide support while they are trying to stop smoking. The advantage to the quit line is that it’s a free resource that can be helpful to everyone but particularly those patients who aren’t able to afford other quit options. The quit line is available in both English and Spanish. Nurses who want to quit smoking can go to www.tobaccofreenurses.org and use the Nurses Quitnet link, which provides free premium services ordinarily costing about $100 for nurses who wish to stop smoking (see Box 1). This link provides comprehensive information for all nurses to help patients stop smoking.

Looking ahead, the nursing task force has targeted goals of reducing smoking among LPNs from 35 percent to less than 20 percent and decreasing smoking among RNs to less than 10 percent in five years. To help patients quit, summit participants agreed to promote

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**Box 1. Tobacco-Free Nurses: A Mission**

As the largest group of health care professionals, nurses have tremendous potential to effectively implement smoking cessation interventions and advance tobacco use reduction goals proposed by Healthy People 2010. The Tobacco Free Nurses’ mission is to ensure that the nursing profession is prepared to actively promote health by reducing nurses’ barriers to involvement in tobacco control, including lack of education, smoking among professionals and lack of nursing leadership. Nurses must be equipped to assist with smoking cessation, prevent tobacco use and promote strategies to decrease exposure to secondhand smoke. The Tobacco Free Nurses initiative accomplishes its mission through:

- supporting and assisting smoking cessation efforts of nurses and nursing students
- providing tobacco control resources for use in patient care
- enhancing the culture of nurses as leaders and advocates of a smoke-free society

This is the first national initiative focused on providing support for nurses who smoke and establishing a framework for engaging nurses in tobacco use prevention and cessation. Go to www.tobaccofree nurses.org for extensive resources.
Exploring Infant Death

Exploring existing programs to reduce sudden infant death syndrome (SIDS) and other forms of infant death is the ongoing work of the advisory board for the Sudden Infant Death Syndrome and Other Infant Death Project. Recently, the National Center for Cultural Competence hosted this advisory board meeting in Washington, DC. The board works to explore new directions to reduce infant death, and the group also works to promote cultural diversity regarding SIDS education and interventions for the future since there is a disparity for minority populations with this problem. AWHONN is among 18 organizations involved in this ongoing work.

At the meeting, organizations highlight their contributions to SIDS interventions and culturally diverse programs, including AWHONN’s newest initiative to reach out to Hispanics with Toda Mujer: La Guía Esencial Para Una Vida Saludable, a culturally relevant translation of the organization’s leading women’s health guide, Every Woman: The Essential Guide for Healthy Living. The group worked to make better utilization of resources, promote increased education and training programs, and identify the need to house other resources such as clinical guidelines for SIDS and cultural diversity in one location available to all practitioners.

Nurse Researchers Discuss Translation

WHONN joined 12 other invited nursing organizations in mid-March at the National Nursing Research Roundtable, held at the National Institutes of Health, in Bethesda, MD. Nursing organizations gathered to hear about new NIH initiatives for nursing and to share individual organization research activity. Marita Titler, PhD, RN, FAAN, presented information on translation research, which is testing the effect of interventions aimed at promoting the rate and extent of adoption of evidence-based practices by nurses, physicians and other health care providers (Titler & Everett, 2001). Translation of research findings into practice is a critical piece in the NIH roadmap, which was later presented by Lauren Aaronson, PhD, RN, FAAN. The NIH road map has goals to accelerate basic research discoveries and speed translation of those discoveries into clinical practice and to explicitly address roadblocks that slow the pace of medical research in improving the health of the American people. The roadmap also includes opportunity for more interdisciplinary research. Patricia Grady, PhD, RN, FAAN, co-chairs the interdisciplinary work group. Small discussion groups focused on key questions about nursing’s role in interdisciplinary research and translation research.

At this meeting, AWHONN shared progress on its SUCCESS project (Setting Universal Cessation Counseling, Education, and Screening Standards), which is the organization’s Research-Based Practice Project #6, and its Cardiovascular Health for Women Education Initiative, which is funded by the U.S. Department of Health and Human Services, Office of Women’s Health as a project service grant. Both of these projects are in final analysis with outcomes expected this month.

References


Duloxetine Reduces Stress Urinary Incontinence in Women

Two separate studies appearing on the British Journal of Urology International website demonstrate that one in three women with urinary incontinence (UI) suffer from stress incontinence and that the drug duloxetine can reduce the number of stress incontinent episodes in women.

Data were gathered via a postal survey sent to randomly selected women ages 18 years and older in France, Germany, Spain and the United Kingdom. The prevalence of UI by type found in this study shows that stress urinary incontinence (SUI) was the most common type of UI overall. The findings also revealed that more than one-third of all women surveyed reported having experienced UI. However, two-thirds of those affected had never consulted a health care professional for treatment.

A global Phase III clinical trial conducted in 38 study centers, randomized 458 women ages 27 to 79 from seven countries: Argentina, Australia, Brazil, Finland, Poland, South Africa and Spain. The results showed that patients treated with 80 mg of duloxetine experienced a median reduction of 54 percent in the frequency of incontinence episodes (IEF), a primary measure of efficacy, compared to a median reduction of 40 percent in the placebo group. This difference was both statistically and clinically significant, with 59.5 percent of duloxetine-treated women experiencing a 50 to 100 percent decrease in their IEF. Only 43.2 percent of participants in the placebo group experienced a decrease in their IEF.

Participants in the duloxetine group also showed significant improvements in their quality-of-life scores (I-QOL) compared with those in the placebo group. The I-QOL is a targeted condition-specific questionnaire that assesses the impact and distress of symptoms of incontinence in women who suffer from this medical disorder. I-QOL evaluates the disorder in three relevant domains: avoidance and limiting behavior, social embarrassment and psychosocial impact.

Duloxetine’s improvements in IEF and quality of life in this study confirm those observed in two other recently completed Phase III trials in Europe and North America.

In the study, the side effect profile of duloxetine was consistent with that seen with other drugs that have an impact on serotonin and norepinephrine. The most commonly reported adverse event (incidence of greater than or equal to 10.0 percent and at least twice placebo) was nausea, although it was usually mild to moderate and resolved within one week to one month in most patients participating in the trial. Other common adverse events included headache, insomnia, constipation, dry mouth, dizziness and fatigue, which tended to be nonprogressive and mild to moderate in almost all patients.

Duloxetine is a balanced potent dual reuptake inhibitor of the neurotransmitters serotonin and norepinephrine based on preclinical studies. Duloxetine is believed to affect SUI by blocking the reuptake of serotonin and norepinephrine in the spinal cord, and the increase in the neurotransmitters in turn stimulates increased activity of the nerve that stimulates the urethral sphincter. This stimulation is believed to increase contraction of the urethral sphincter at the opening of the bladder, thereby helping prevent accidental urine leakage with physical activity. The U.S. Food and Drug Administration recently issued an approvable letter for duloxetine for SUI. For more information about duloxetine, go to www.lilly.com.

Improved Detection of Cervical Cancer With Optical Detection System

In a study of more than 2,000 women, researchers found that detection of precancerous changes in the cervix was improved by more than 26 percent when a new optical detection system was used in conjunction with colposcopy. The findings, which were announced at the Society of Gynecologic Oncologist’s Annual Meeting on Women’s Cancer, are the first from a randomized controlled clinical trial that tested the effectiveness of the new optical detection technology.

Specifically, the study examined 2,186 women in 13 clinical sites with 51 colposcopists. The researchers found that by using the optical detection system in conjunction with colposcopy, 238 cases of biopsy-confirmed CIN 2,3 (or precancer) were identified compared with 218 cases identified through use of colposcopy alone. Based on these results, the authors concluded that more than 100,000 additional cases of precancer could be identified each year if the optical detection system is used in conjunction with colposcopy.

It’s estimated that between 2 and 2.75 million women in the U.S. each year require colposcopy for the evaluation of cervical cancer. Worldwide, more than 500,000 women die of cervical cancer each year. In the U.S., of the 50-60 million women who have a Pap test each year, 3-5 million of these women will have an abnormal result. There are 12,200 new cervical cancers diagnosed in the U.S. each year and approximately 4,100 deaths from the disease.

Bar Codes Required to Reduce Medication Errors

The Food and Drug Administration is issuing a final rule requiring bar codes on the
labels of thousands of human drugs and biological products. The measure will help protect patients from preventable medication errors and reduce the cost of health care and represents a major step forward in the department’s efforts to harness information technology to promote higher quality care.

The FDA rule calls for the inclusion of linear bar codes—such as are used on millions of packages of consumer goods—on most prescription drugs and on certain over-the-counter drugs that are commonly used in hospitals and dispensed pursuant to an order. Each bar code for a drug will have to contain, at a minimum, the drug’s National Drug Code number. This information will be encoded within the bar code on the label of the product. Companies also may include information about lot number and product expiration dates.

In addition, the rule requires the use of machine-readable information on container labels of blood and blood components intended for transfusion. These labels, which are already used by most blood establishments, contain FDA-approved, machine-readable symbols identifying the collecting facility, the lot number relating to the donor, the product code and the donor’s blood group and type.

The bar-code rule is designed to support and encourage widespread adoption of advanced information systems that, in some hospitals, have reduced medication error rates by as much as 85 percent. In these institutions, patients are provided with identification bracelets that bear a bar code, which identifies the patient. The health care professional then scans the patient’s bar code and scans the drug’s bar code. The information system then compares the patient’s drug regimen information to the drug to verify that the right patient is getting the right drug, at the right time, and at the right dose and route of administration. In a study conducted at a Veterans Affairs Medical Center employing such a bar-code scanning system, 5.7 million doses of medication were administered to patients with no medication errors.

FDA estimates that the bar-code rule, when fully implemented, will help prevent nearly 500,000 adverse events and transfusion errors over 20 years. The economic benefit of reducing health care costs, reducing patient pain and suffering, and reducing lost work time due to adverse events is estimated to be $93 billion over the same period.

FDA first proposed bar-code requirements in March 2003. Comments from hospitals, health care professionals, trade and professional associations and others showed widespread support for the approach to improving patient safety and promoting higher quality care.

The final rule applies to most drug manufacturers, repackers, relabelers, private label distributors and blood establishments. New medications covered by the rule will have to include bar codes within 60 days of their approval; most previously approved medicines and all blood and blood products will have to comply with the new requirements within two years.
Katoria Tinsley is an AWHONN staffer and the mother of three "miracle" babies. We wanted you to hear, in her own words, how the nursing care she and her family have received has changed their lives.

Eleven years ago, I gave birth to a daughter at 24 weeks, who weighed just 1 lb., 10 oz. She was given a 50-50 chance of survival. She's a miracle baby, as her name, Miracle, reflects. Throughout all of my stress and worry, the nurses' care never wavered as they attended her and responded to my constant phone calls and questions. Many of my memories from that time are of the nurses in the NICU; giving me words of encouragement, teaching me how to breastfeed and store my milk, and showing me how to bathe my baby. Eight years later, I found myself back in the hospital for the birth of my second daughter. I was admitted to the hospital 19 weeks before the eventual delivery. It was during this time that I experienced patient care at its best. The nurses showed great care in even the routine things like changing my bedding, helping me bathe, doing my hair, ordering meals, and getting me late night snacks.

In time, the nurses became my friends. They would come and talk to me and make sure I had all that I needed. I delivered my second daughter, Ryan, at 27 weeks, weighing 1 lb., 14.6 oz. To my surprise, upon entry to the NICU, the same veteran nurses were there as well as one or two new faces. They remembered me and greeted me with the same smiles and professionalism that I'd experienced eight years before.

Having already given birth to two premature daughters, when I was pregnant with my third child, my greatest focus was carrying the baby to full term. At 20 weeks, my cervix had again dilated two centimeters, and my doctor determined that I needed a cerclage and full bed rest until delivery. After months of rest and 16 hours of labor, my husband and I had our very own bouncing baby boy, Reginald William, born full term and healthy. What made me smile the most was the love that the NICU nursing staff showed me at the birth; they all came to visit and to congratulate my husband and me on our new arrival. I thanked them then, and I thank each and every one of you now.

Nurses have played such an important role in my life and in the lives of my family. I want to offer my gratitude to all nurses everywhere. Nurses are the backbone of healthcare, present from initial triage to discharge. As nurses, you may often feel under appreciated, overworked and stressed but with great gratitude and admiration I say thank you for a job well done.

Katoria Tinsley
AWHONN, FHMPP/ACG Program Administrator
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nancy until the 8th month. My heart ached for both mom and daughter. This was a difficult situation for me—would Carole and daughter, Beth, want me to know? Would they want me to be the labor nurse? Should I offer? Should I try to stay away? Staying away was hardly an option since our labor unit’s small and only two labor nurses were on duty. I decided to go into the room, give my friend and her daughter a hug and let them know that I loved them both dearly. A teen pregnancy wasn’t going to change our friendship nor alter how much I admired them. I tried to let them know that I would ‘be there’ for them both and would honor their wishes in terms of whether I would be involved with the labor and delivery. I wanted to be involved, yet it was frightening, too. Would I be able to provide the sort of nursing care that Elizabeth needed?

“Carole and Elizabeth indicated that they would like for me to be present. Elizabeth was brave and ever so quiet. Carole was on constant vigil—watching over her child and trying to protect her, coaching her, yet not interfering. Carole is such a loving mom as well as one of the tenderest women that I know. After the delivery, Elizabeth withdrew and began to shake. She wasn’t responding to our queries—intuitively, I felt that Elizabeth was ‘leaving’—that she couldn’t deal with the situation—I enveloped her in my arms covering her body with mine—I shall never understand what happened. Carole said in her most earnest tone, “you saved her life.” She was to say this during the years that followed whenever we spoke of Elizabeth’s delivery.”

Elizabeth, birth mother: “I remember scarcely little of the day I gave birth. I remember being frightened. Yet, there was something calming me. Surely it was the hand of God. He had sent two angels to assist me through a difficult day, as well as a third to help in the days to come. My mother was incredibly strong and supportive. She did not say much, but the words were perfect when they came. Mostly, I think it was just her presence, her touch, and the reassuring way she would look me in the eye. She did not treat me as a child who was sinful, disobedient, guilty of poor judgment and finding herself in quite a mess. She treated me as her beloved daughter, who was only beginning to feel the pain, emotional and physical, of a self-imposed punishment. The second angel, Mary Beth, was a nurse whom I’d known since I was six years old. I felt shame and embarrass-

Box 1.

**Considering Adoption**

For further information on adoption from all perspectives, contact Jewel Among Jewels Adoption Network, Inc., at http://www.adooptionjewels.org.
down her face and fell on her daughter’s little forehead.”

Elizabeth, birth mother: “The last memory of my little girl is looking down on her in someone else’s arms as one of my tears dropped on her forehead—then they took her away. I wouldn’t have had this opportunity if it weren’t for my third angel, Joan. I’ll never forget how she ran after the social service representative and caught her just as she was reaching the elevator. The woman had my child in her arms, and Joan made sure I was able to see her one last time.

“After the birth, I just felt empty. I cried when the tears would come, but it seemed that all of my emotions would just clash together into nothingness. I was four weeks late coming into my junior year. I was so scared I thought I would just collapse. I tried not to care, but I did. No one ridiculed me, and I found people going out of their way to be nice to me. My prayers had been answered. I wasn’t such an outcast after all and no one really hated me.”

Joan, RN: “Soon after this experience, I was asked to participate on a panel addressing adolescent pregnancy at our local high school. Elizabeth graciously wrote her story for me to read to the students in the hope that one teen pregnancy might be prevented.”

Joan and Mary Beth, RNs: “As the years went by, we occasionally heard about Elizabeth. That lovely young girl continued to develop into a lovely young woman. She left our town, grew strong in her faith and cherished her relationships with her mother and father. She married a wonderful man and now lives in the Southwest. The memory of Elizabeth, and her child was tucked away in our souls—sacred places of love and caring. Eighteen years after this event, September 2000, me that she is happy, well adjusted and doesn’t feel a need to know us or her roots. It’s not a bad thing at all. I just hope that she’s happy, well adjusted and with a need to know us! If she does choose to find me, you know she’ll be greeted with open arms, and not just mine and Matt’s. You’ve received this letter because I know she’ll be as welcome in your lives also. Wherever she is, as she celebrates this birthday—I think somehow she knows we’ll all be celebrating with her. Happy Birthday Little Angel!’

“We have a strong bond that has remained over time. We can always pick up where we left off, even when years go by without seeing each other. Elizabeth sends the most beautiful and touching Christmas letters. So when her letter arrived indicating that she was waiting for her little girl to contact her, we were not surprised. We both felt so touched that we cried. Her letter and poem were so beautiful and full of hope. What a gift and honor to know someone with the kind of love and faith that Elizabeth reflected in her letter. But more gifts were to follow. In May of 2001, another packet with a letter arrived:

“Recent events have spurred me to contact you. I want you to read about my reunion with my daughter! It’s been so beautiful. Nothing could have gone more perfectly. Keep in mind the hand you had in helping me through it. You both were two of my angels at the time ... helping me to not feel like a complete failure as a person, as a mother.’

“Elizabeth told us of her daughter, Abby. She spoke of the wonderful life Abby had ... an answer to her prayers. She said that ‘Abby’s parents are mar-
vellous people.' The packet included excerpts from Elizabeth's journal depicting their reunion, pictures of all involved, birth mother, adoptive parents and extended family. You, who have given your hearts to women over the years, can appreciate and celebrate our feelings about this gift! But there is more!

Joan, RN: "Each summer my husband and I return to the community where these events occurred. During the summer of 2002 we made an extended trip to the southwest that included a stop in Phoenix, AZ. Elizabeth lives there. I called her and we made arrangements to meet at a local restaurant. I arrived early and was shown to a table. After a bit I decided to see if Elizabeth was waiting up front. Walking to the waiting area, I saw Elizabeth with long, thick, curly hair, a radiant beauty. We embraced and caught up on each other's life, reconnecting from that experience so long ago. The gift of Elizabeth.

“My husband and I continued our trip to the town where we had lived so many years ago. Shortly after our arrival, Mary Beth called and said, 'guess who is in town?' The answer was 'Abby.' We were reunited with that baby who so long ago was held lovingly in her mother's arms. We were able to share our stories of Abby's birth with her. The gift of Abby.”

Mary Beth and Joan, RNs: “Our dear colleagues, we celebrate the gifts we bring to women and children. A professional career in maternal-child nursing is also a personal career. We are so grateful for the gifts of Elizabeth, Abby and all the women we have served. In closing, we would like to share a poem that Joan wrote thanking Elizabeth for allowing us to be a guest in her life. (See Box 1 for more information regarding adoption choices.)

THE GUESTS
A benefit of these nurses’ ages
Is to be guests at the end of stages
When they were also there at the start
Of an incredible journey of the heart.
A pregnant teen, Beth was not alone—
Mother, friends, and God were there
But too deep in her soul she had gone
With a mother's love and a child's prayer.
Giving life to her special child—
Moments of knowing her would swiftly flee
As her child would be gone for a long while,
Raised by others than she.
And her two “angels” prayed and waited.
Her tears dropped gently on her child’s face—
A daughter who would be cherished by others,
As a different road she would travel
Being watched over by two special mothers.
The “angels” went their separate ways
But remembered Beth, that brave young girl,
Hearing at times how she was doing
As she journeyed throughout her world.
When prayers were answered after 18 years,
Beth remembered her “angels” and shared laughter and tears
Of her reunion with her daughter—journals and pictures
Giving them a place on the scene.
The guests, the “angels,” give thanks to Beth
That we too were allowed to rejoice
In the celebration of a young mother’s love
Who as a young teen made her best choice.
Twenty-one years ago, we worked together as labor and delivery nurses. At that time we did not realize the gifts we would receive from an experience that came about from being present in the life of a teen mother.

Elizabeth, birth mother: “Me! Pregnant! I couldn’t believe it! Popular—good reputation—and pregnant. What do I do? It was awful. I’ve never been so afraid in my life. I thought of suicide, running away. I struggled to think rationally. I fought reality until I was eight months pregnant and could deny it no longer. I played softball, starved myself to keep my weight down and went out with my friends. I never told a soul except that one special guy. He also told no one and stood by me all the way... but what could he do? I felt hurt, angry and scared. Even though surrounded by friends, I felt alone. I’d been trying to think of how to break the news to my mom, and after eight months all I could come up with was, ‘Mom, I’m pregnant.’ So that’s what I said.

She didn’t say much. She just cried. Her heart was breaking—not half as much for herself as for me. She couldn’t punish me. I was beyond that. She knew the pain and shame I was feeling was punishment enough. She also knew it was only the beginning.”

Mary Beth, RN: “As I received report on the 3 to 11 shift, I felt sick at heart to know that the teenager in labor was the daughter of one of my cherished friends. According to report, my friend, Carole, didn’t know about the preg-