

INTERNATIONAL JOURNAL OF FORENSIC OBSTETRICS, GYNECOLOGY & MEDICINE

THE OFFICIAL ONLINE PEER REVIEWED JOURNAL OF THE AMERICAN SOCIETY OF
FORENSIC OBSTETRICIANS & GYNECOLOGISTS—AN ACOG SPECIAL INTEREST GROUP
FORMERLY THE MEDICOLEGAL OB/GYN NEWSLETTER

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Volume 15 Number 1

August, 2009

The International Journal of Forensic Obstetrics, Gynecology and Medicine was formerly The Medicolegal OB/GYN News and is published for members of the American Society of Forensic Obstetricians and Gynecologists and those interested in the legal aspects of Obstetrics, Gynecology and Medicine practice. Comments should be addressed to Daniel M. Avery, Jr, MD, JD, Editor, 850 5th Avenue East, Tuscaloosa, Alabama, 35401, by email davery@cchs.ua.edu. Original articles are welcomed. These are brief reports and are available online at www.asfog.org.

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ILLICIT DRUG USE AMONG PREGNANT WOMEN: A COMPREHENSIVE LITERATURE REVIEW

DANIEL M. AVERY, MD AND DANIEL M. AVERY, III, BS

Abstract: Illicit drug use and abuse is common during pregnancy and is important because it increases the risk of adverse maternal and neonatal outcomes. Pregnant women underreport illicit drug use and abuse and smoking on surveys. Prenatal illicit drug abuse may be the most frequently missed diagnosis in obstetrics. Attainment of a greater number of prenatal visits is associated with improved pregnancy outcome. Pregnancy may be the only opportunity for many substance abusing and addicted women to be screened, intervened upon, educated and referred for treatment.

INTRODUCTION

Alcohol and substance abuse has been a significant issue for mankind since Biblical times. Illicit drug abuse is widespread in this country and has increased since the 1980's (1). In 1988, one third of the American population 12 years and older had used illicit drugs at some time during their life (2). At that time 10,000,000 Americans had used cocaine at least once, while 5,000,000 used it regularly (2). By 1998, almost 50% of women reported illicit drug use at least once during their life (3). The social, economic and health costs to this country from drug use are incalculable (2). A study from Canada estimated the lifetime direct tangible costs per individual related to health care, education, and social services to be \$1.4 million dollars (4). Drug addiction afflicts all classes of society and all racial groups (2). Illicit drug use is the ninth leading contributing cause of death in the United States (3). Today, the most popular drugs of abuse are alcohol, marijuana, cocaine, crack, heroin, amphetamines, crystal methamphetamine, inhalants, methadone, oxycodone and the new club drugs (5).

ILLICIT DRUGS AND PREGNANCY

Illicit drug use during pregnancy is important because of the increased risks of adverse maternal and neonatal outcomes (6). Thirty percent of substance-abusing Americans are women and the majority of these are of childbearing age (5). Fortunately, most women stop using alcohol and drugs when they find out that they are pregnant (7). A small percentage of substance abusing women will continue to abuse drugs during pregnancy despite the potential harm to the baby (8). A 2008 study for substance abuse in pregnant women in inner city populations at delivery revealed that 19% screened positive for 1 or more substances (9). In 1968, an estimated 200,000 to 300,000 women were addicted to narcotics along with 5000-10,000 newborns they gave birth to (2). Drug abuse during pregnancy has increased since the 1980's (1). Cocaine use during pregnancy has increased substantially since the 1980's (10). The National Household Survey on Drug Abuse collected data on 22,303 non-institutionalized women aged 18-44 years from 1996-1998 of which 1249 were pregnant (3). Approximately 3% of the pregnant women reported illicit drug abuse (3). In a 2002 study, approximately 20% of pregnant teenagers used marijuana throughout pregnancy (11). One third of these were multidrug users (11). In the 2006 National Survey on Drug Use and Health, 4% of pregnant women had used illicit drugs and 11.8% had consumed alcohol within one month of the survey (5). The neonatal costs of providing care to cocaine exposure infants exposed in utero to cocaine alone is estimated at \$500 million per year (12).

While many physicians inquire about drug use, many patients do not disclose use and abuse (7). Pregnant women underreport illicit drug use and abuse and smoking on surveys (5). Drug history alone is not accurate for identifying substance abuse among pregnant women. Almost half of those positive for drugs denied use (1). Actual numbers of women who abuse drugs during pregnancy is unknown (7). Women addicted to narcotics and nicotine have great difficulty

maintaining abstinence (7). Drug use and abuse during pregnancy range from 3% to 20% (1,3,5,9). Obstetric providers are being confronted with more and more pregnant women using chemicals during pregnancy while pediatricians are encountering increasing numbers of newborns with intrauterine exposure to maternal chemical use (1).

Alcohol and drug abuse can lead to unplanned pregnancies, many of which are not discovered until late (13). Almost 75% of pregnancies in addicted women are unplanned because many of these women have irregular menses and do not appreciate that they are pregnant (7). Before 1970, it was believed that female opiate addicts were infertile but more recent studies suggest that heroin and methadone may actually stimulate ovulation (14). Early, accurate detection of substance abuse in pregnant women can reduce maternal morbidity and improve outcomes for those children (5). Pregnant women who abuse drugs are more likely to have syphilis, HIV, TB, hepatitis and other sexually transmitted diseases (5). They are more susceptible to spontaneous abortion, abruption, premature delivery, intrauterine growth restriction, neurologic deficits, behavioral changes, developmental delays, SIDS and greater risk for child abuse (5).

EFFECTS OF DRUG USE DURING PREGNANCY

The maternal and fetal effects of drug abuse during pregnancy are listed in Tables 1-2. Other problems with drug abuse are stopping school, social isolation, risk of child abuse, homelessness, domestic violence and lack of involvement of the father of the baby (11). Risky behaviors like sharing needles, maternal and fetal withdrawal, stillbirth, fetal distress, fetal stress, fetal death and Sudden Infant Death Syndrome (SIDS) are also common (15). The fetal effects of drug abuse are listed in Table 3. Unbound drugs and metabolites cross the placenta and can enter the fetal central nervous system and place the fetus at risk for low birth weight (11), small head

circumference (11), prematurity (11) and developmental anomalies (11). Drug use and abuse is also associated with fetal death (15), SIDS (15) and neurobehavioral abnormalities (15).

In the past intravenous alcohol was used to treat preterm labor; now it is considered teratogenic (16). Pregnant women laboring prematurely were given enough alcohol to make them drunk in order to stop uterine contractions. Many pregnant women have insomnia and drinking alcohol at bedtime was also a common practice.

Gamma-hydroxybutyrate (GHB) or liquid ecstasy is a new and fashionable drug with side-effects of central nervous system depression and withdrawal symptoms of agitation and psychosis (17).

Use during pregnancy has been reported to cause respiratory depression and can be confused with effects of subarachnoid opioid block used for anesthesia for labor and delivery (17). A

patient using GHB was treated symptomatically during labor for respiratory depression and

delivered a healthy baby 2 hours later. Toxicology was positive for GHB (17). Marijuana is the drug of choice in teenagers and is the most commonly abused drug during pregnancy (8, 11).

Placental transfer of the active metabolite of marijuana has been well described and documented to increase the risk of premature birth, short body length, and lower birth weight (13, 18).

Cocaine use during pregnancy causes adverse pregnancy outcomes including low birth weight and intrauterine growth restriction (19). Cocaine is attractive because injection is not required

leaving needle marks, there is widespread availability and it is inexpensive (14). Cocaine is a central nervous system stimulant that blocks neuronal uptake of norepinephrine increasing the

heart rate and blood pressure (19). The low molecular weight and high water solubility of

cocaine allows it to easily cross the placenta (19). Cocaine can be put in an alkaline solution and

extracted to yield the water-insoluble, heat-stable crack-cocaine (19). Cocaine causes placental vasoconstriction and reduces uterine blood flow and restricts oxygen and nutrients to the fetus

causing low birth weight and intrauterine growth restriction (19). Some of the other more common problems associated with cocaine use and the developing fetus are hydronephrosis, hypospadias, prune-belly syndrome, congenital heart disease, ileal atresia, and limb deformities (18). In the past many patients have used cocaine during pregnancy hoping to shorten the length of labor (20). Cocaine use does not shorten labor but increases spontaneous contractions in the term uterus and has been shown to cause placental abruption which can shorten labor (20, 21). Pregnant women who use cocaine have numerous significant life disturbances which may affect pregnancy outcome (22).

Methadone maintenance programs have been considered an answer to the heroin epidemic since their inception in 1968 (10). The maintenance therapy programs began in response to case reports of fetal demise after rapid withdrawal of narcotic addicted pregnant women (23).

Methadone treatment improves adverse outcomes at the expense of neonatal abstinence syndrome (7). Increased doses of methadone does not correlate with increased risk of neonatal abstinence syndrome but does have a positive effect on maternal drug abuse, therefore, arbitrary dose limiting is not warranted (24). Women enrolled in methadone maintenance programs have more prenatal visits, more adequate prenatal care, less anemia, improved birth weights, improved fetal growth and reduced polydrug use than non-maintenance program pregnant users (2).

Randomized studies have shown that methadone treatment decreases illicit opioid use, criminal activity, mortality, risky behaviors like needle-sharing in pregnant women, maternal and fetal withdrawal, passage of meconium, fetal stress, fetal distress and death (15).

Methadone maintenance treatment in narcotic addicted pregnant women reduces maternal morbidity and mortality and promotes fetal stability and growth, better compliance with prenatal care and better preparation for parenting responsibilities as compared to heroin addicted pregnant

women (24). Unfortunately the baby is at risk for neonatal abstinence syndrome that is associated with methadone withdrawal at birth. Maternal recovery from illicit drug abuse is essential for long term health and safety of the mother and baby (24). Methadone maintenance after delivery may reduce the risks of relapse during the stressful period of caring for a newborn baby.

Methamphetamine is noted as possibly being the “21st century’s first drug epidemic” (25). It is a synthetic stimulant and one of the most commonly abused drugs in this country including in women who may become pregnant (26, 27). In 1994 methamphetamine accounted for 8% of pregnant women admitted for treatment, since 2003 it has become the most common primary substance for treatment admissions among pregnant women, and in 2006 accounted for 24% of admissions (25). “Meth” or “Crystal meth” has an effect similar to cocaine, is highly addictive, inexpensive and easily available (27). It can be easily manufactured from over-the-counter pseudoephedrine (27). It is usually smoked but can be snorted, injected, swallowed or inserted rectally (27). It has a half-life of 12 hours with its effects lasting longer than cocaine (27). It causes a pleasurable rush caused by release of dopamine, norepinephrine and serotonin producing euphoria, a heightened level of alertness and increased energy (27). In teenage girls, amphetamines are popular because decrease hunger and help lose weight (18).

DRUG SCREENING OF PREGNANT WOMEN

Drug history alone is not accurate for identifying substance abuse among pregnant women; almost half of those positive for drugs denied use (1). A 2008 study for substance abuse in an inner city population at delivery revealed 19% screened positive for 1 or more substances (9). The National Institute for Health and Clinical Excellence Guidelines (NICE) from 2008, in England and Wales, recommend that appropriate screening for use of alcohol and illicit drugs

should be done by all professionals involved in the care of pregnant women, from primary care to antenatal clinics (28). However, in the US, there are no current recommendations for screening. Substance abuse screening of pregnant women provides an opportunity for intervention with social services for substance abuse treatment programs (5). Consideration of screening early in pregnancy could benefit the outcome of a pregnancy (9).

New concepts in detection of substance abuse include maternal hair testing and neonatal meconium testing which measure substance abuse over time (5, 20). Many substances have very short half-lives in blood and urine and detection is very difficult. Hair analyses can detect these substances which otherwise would go undetected. In a large study, meconium testing for drugs of abuse revealed that approximately 10% of the samples were positive for opioids, cocaine or both (7). Testing meconium is the most accurate method of testing in newborns (27). Positive results indicates maternal use in the second half of pregnancy (27).

One of the real questions is what will be done with the results of testing (5). The American Academy of Pediatrics recommends that newborn drug testing be part of a multidisciplinary approach to the problem with treatment, education, follow-up and evaluation (5). Fortunately, pregnant patients respond well to intervention by cessation of illicit drugs which emphasizes the importance of detection of substance abuse during pregnancy (9).

LEGAL ASPECTS OF SUBSTANCE ABUSE DURING PREGNANCY

Punitive programs are not effective in reducing illicit drug abuse among pregnant women (6). Criminal prosecution and charges of child abuse have been controversial topics in this country (6). Screening for substances of abuse may incorrectly label a user as an addict and the baby may be separated from the mother and placed in foster care. The American Academy of Family

Practice opposes imprisonment of pregnant women solely for substance abuse during pregnancy and legislation that would interfere with a pregnant woman seeking prenatal care.

TREATMENT OF SUBSTANCE ABUSE DURING PREGNANCY

Pregnancy may be the only opportunity for many substance abusing and addicted patients to be screened, intervened upon, educated and referred for treatment. Addiction treatment for both pregnant and nonpregnant women are similar and involve a multidisciplinary and multiple modality approach involving counseling, psychotherapy, group therapy, self-help such 12 step programs and pharmacologic (8). Treatment usually involves two stages: detoxification and maintenance. Clinicians who care for pregnant women should inquire about substance use and abuse and determine if intervention and referral for counseling and treatment are in order (8). Treatment of addicted pregnant women may require referral for residential treatment or at least referral to an addictionologist (8). Use of antiaddictive pharmacotherapy depends on the substance abuse disorder. Treatment with methadone requires a special category of DEA license (8). Unfortunately, there are only two addiction medicine trained obstetrician/gynecologists in the United States . Detoxification from alcohol requires inpatient care overseen by a physician specialized in addiction medicine (8). Psychological treatments such as counseling, psychotherapy and mutual self-help groups such as twelve step programs have been the hallmark of treatment for most addictions (8). Withdrawal of narcotics is not recommended during the third trimester (7). Methadone treatment of narcotic addiction during pregnancy is regarded by many as the treatment of choice because it improves birth weight as compared to heroin addiction but at the expense of neonatal abstinence syndrome (7). Meconium staining is present in 1/3 of babies born to mothers addicted to heroin with the hypothesis that meconium was passed during maternal (and fetal) opiate withdrawal (7).

For this reason, opiate withdrawal is not recommended after 32 weeks gestational age (7). The inevitable fear of methadone withdrawal during pregnancy is relapse of heroin use (7).

Methadone treatment attracts and engages patients, stabilizes social situations, increases obstetric care and improves birth weight but is associated with neonatal abstinence syndrome. Methadone is longer acting than heroin and abolishes most withdrawal symptoms (7). Withdrawal from Methadone may be attempted in the second trimester if strongly desired by the patient (7).

Unfortunately, this can be associated with relapse to heroin use (7).

The Substance Abuse Block Grant was the major federal discretionary funding source supporting state-based drug and alcohol treatment in the US (29). Comprehensive care for addicted women means simultaneous prenatal care and drug rehabilitation (30). Comprehensive care increases the likelihood of the pregnancy going to term, having fewer complications, being drug free at delivery and having fewer exposed repeat pregnancies. Addicted and substance abusing pregnant women who seek prenatal care may be different from those that do not (30). Rehabilitation changes maternal complications and morbidity and mortality (30).

ANTIADDICTIVE PHARMACOTHERAPY DURING PREGNANCY

There have been very few studies examining drug therapies for addiction in pregnant women (8). Antiaddiction medications are especially important in the treatment of pregnant women addicted to narcotics, nicotine, alcohol and stimulants. The pharmaceutical industry has been reluctant to conduct drug trials in pregnant women, so information has been primarily anecdotal (8).

Abrupt cessation of drinking alcohol is not recommended because it can threaten mother and baby (28). Benzodiazepines are the traditional treatment for alcohol withdrawal but they have a risk of abuse potential (8). The anticonvulsant carbamazepine lacks the abuse potential of benzodiazepines but has an increased risk of spina bifida (8). Valproic acid has also been used

for alcohol withdrawal but has teratogenic effects such as spina bifida and “fetal valproate syndrome” (features including growth restriction, facial dysmorphism, and limb and heart defects) limiting its use (8). Clonidine has been used in alcohol and narcotic withdrawal but has no effect in preventing seizures and may cause hypotension and rebound hypertension after it is discontinued (8). Disulfiram was approved in 1952 for alcohol dependence but studies done in the 1970s and 1980s reported an increased risk of congenital anomalies such as phocomelia and clubfoot (8). Naltrexone is an opioid antagonist and is approved for alcohol dependence (8). Acamprosate reduces the hyperexcitable state from chronic alcohol use and has no abuse potential or known drug interactions but is not FDA approved for alcohol dependence (8). Its use in pregnancy is unknown (8).

Withdrawal from opiates is not life-threatening but rapid withdrawal has been reported to precipitate preterm labor and cause fetal demise (8). Methadone is the drug of choice for opiate dependence detoxification and maintenance during pregnancy. If the patient desires, detoxification can be attempted during the second trimester (8) The most common fetal effect of methadone treatment is neonatal abstinence syndrome after birth (8). Buprenorphine is used for maintenance replacement in opiate dependent, pregnant women (8). It has been used extensively in Europe for opiate addiction with promising results (16). Outcomes suggest that it is safe during pregnancy presumably with the same risks of neonatal abstinence syndrome (7). Naltrexone is an opioid antagonist and blocks all opioid agonist effects but use in pregnant women is lacking. Clonidine may be used for opioid detoxification in selected pregnant patients (8).

There is no FDA approved medications for cocaine, amphetamine, methamphetamine or stimulant abuse or addiction (8, 27). Propranolol and amantadine have been used for severe

withdrawal symptoms but amantadine is not recommended during pregnancy (8). Treatment of methamphetamine intoxication is supportive (6). Prozac decreases craving but not use.

Residential treatment is usually required.

Marijuana is the most commonly abused drug during pregnancy and is usually used with other drugs . There are no FDA approved drugs for treating marijuana dependence (8). Placental transfer of the active metabolite has been well described (8).

NEONATAL ABSTINENCE SYNDROME

The most common fetal effect of methadone treatment is neonatal abstinence syndrome after birth (8). Methadone treatment improves adverse outcomes of the mother at the expense of the newborn (7). Neonatal Abstinence Syndrome usually follows maternal use of narcotics including methadone used for maintenance therapy for opiate withdrawal. It includes irritability, hyperreflexia, hyperactivity, abnormal cry, diarrhea, fever, vomiting, tachypnea, seizures and coma (7).

LONG TERM FOLLOWUP OF CHILDREN EXPOSED TO DRUGS IN UTERO

Long term monitoring of children born to mothers who abuse drugs is needed (6). Substance abuse treatment during pregnancy has been shown to increase fetal growth and improve neonatal outcomes (6). Comprehensive outreach, identification, and treatment programs are required to prevent the consequences of perinatal chemical use (1). Prenatal care improves the outcome of these pregnancies. A paper now 10 years old estimated that approximately \$6 billion is spent on caring for cocaine exposed neonates yearly (19). Results from an investigation published in 2008 indicate that prenatal alcohol exposure, separate from postnatal environment, may play a significant role in the prediction of risk for conduct disorder (31). Psychosocial problems associated with drug abuse are of concern for future parenting (11).

DISCUSSION

Illicit drug use during pregnancy is important because of the increased risk of adverse maternal and neonatal outcomes (6). Early, accurate detection of substance abuse in pregnant women can reduce maternal morbidity and improve outcomes for those children (5). Women contemplating pregnancy should be counseled regarding the risks for their babies (7). Abstinence during pregnancy is by far the safest route for the unborn child (7). Attainment of greater number of prenatal visits is associated with improved pregnancy outcome (22). Clinicians who care for reproductive age women should be aware of screening, intervention and referral for treatment of pregnant women who abuse drugs (6). Programs to treat mothers could be very worthwhile (12). Good prenatal care helps reduce many of the adverse effects of drug use during pregnancy (11). Comprehensive outreach, identification, and treatment programs are required to prevent the consequences of perinatal illicit drug use (1).

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Table 1: MATERNAL EFFECTS OF ILLICIT DRUG ABUSE DURING PREGNANCY

DRUG	EFFECTS
Alcohol	Preterm labor
Solvent Inhalation (Glue & Spray paint)	Altered sensorium, renal tubular acidosis, hypokalemia, hypomagnesiumia, hypophosphatemia, hypomagnesiumemia, hypocalcemia, cardiac dysrhythmias, rhabdomyolysis
Ecstasy	Central nervous system depression, respiratory depression and agitation and psychosis with withdrawal
Cocaine	Low birth weight, placental abruption, later entry into prenatal care, less frequent care, tobacco, alcohol and marijuana use, syphilis, sexually transmitted diseases, physical abuse, violence, incarceration, preterm labor and delivery, subarachnoid hemorrhage, cardiac arrest, seizures, anemia, premature rupture of membranes, antenatal hemorrhage, chlamydial infections, gestational hypertension, Hepatitis B, Hepatitis C, HIV, spontaneous abortion, preeclampsia, meconium-stained amniotic fluid, decreased weight gain and poor nutrition, cerebral infarction, poor reproductive history, low socioeconomic status, vasoconstrictive disorders, potentially irreversible neuronal changes, dental decay, skin-picking behavior, less income, less education, less prenatal care
Amphetamine and Methamphetamine	Placental insufficiency, abruption, maternal death, hypertension, placenta previa, cardiovascular disorders, little or no prenatal care, spontaneous abortion, premature rupture of membranes, preterm delivery, precipitous delivery, preeclampsia, anesthetic complications, stroke, seizures, psychiatric disorders, nutritional deficiencies, sexually transmitted diseases, trauma-related injuries

Table 2: FETAL EFFECTS OF ILLICIT DRUG ABUSE DURING PREGNANCY

DRUG	EFFECTS
Alcohol	Fetal Alcohol Syndrome
Solvent Inhalation (Glue & Spray paint)	Intrauterine growth restriction, developmental delay, dysmorphic features like Fetal Alcohol Syndrome
Pentazocine	Prematurity, intrauterine growth restriction, neonatal withdrawal
Ritalin	Prematurity, intrauterine growth restriction, neonatal withdrawal
Cocaine	Small for gestational age infants, stillbirth, meconium-staining of the amniotic fluid, intrauterine growth restriction, stillbirth, preterm delivery
Ecstasy	Respiratory depression
Methadone	Neonatal Abstinence Syndrome, irritability, hyperreflexia, hyperactivity, abnormal cry, diarrhea, fever, crying, tachypnea, seizures, coma
Amphetamine and Methamphetamine	Premature delivery, poor fetal growth, stillbirth, fetal distress, intrauterine growth restriction

WAIVER OF LIABILITY AS AN ADJUNCT TO COST CONTAINMENT IN HEALTH CARE

DANIEL M. AVERY, MD

Abstract: Physicians and hospitals practice defensive medicine today escalating the cost of medical care by millions of dollars each year. What if liability could be removed from the cost equation and only the necessary tests be performed? Only the essential items needed for care would be performed. This paper discusses a cost effective approach to medical care excluding the liability for defensive medicine except in the most egregious acts of negligence.

Physicians and hospitals practice defensive medicine today. They spend a fortune in unnecessary tests and procedures just to be on the conservative side if something bad should happen. What would happen if liability could be excluded from the cost equation and only necessary items be part of health care except for the most egregious acts of negligence. Only the essential items to give medical care would be performed. Say for instance, preeclampsia lab panels would only be obtained if there was clear cut evidence of impending preeclampsia. Type and screens and type

and cross matches would only be performed if there was strong evidence of the need for blood. There would be no type and screen for a laparoscopic tubal ligation. Healthy patients undergoing outpatient surgery would only receive at best a pregnancy test if there were reproductive age women, capable of conceiving and in good health.

Are electrocardiograms and chest radiographs necessary on all asymptomatic patients over the age of 40? The answer to many of these questions include: “Well, just because; just in case, I need to be on the same side, the patient may sue me, you never know, you cannot be too safe, I once had a patient who..., I do not want to miss anything and What if I get sued?” The problem is that the cost of defensive medicine is expensive and just escalates the cost of healthcare. Almost everyone that goes to the emergency department with a headache or head injury gets a CT Scan of the head as a bare minimum. Are these really necessary?

Many of our medical school patients are “Self Pay” or in other words they have to pay the bill for care that includes unnecessary tests and defensive medicine. They suffer directly from this phenomenon without the buffer of a third party insurance carrier.

So, what if the patient and physician agreed on a waiver of liability unless something awful occurred? What is meant by awful? By awful I mean cutting off the wrong leg or tying fallopian tubes instead of doing a diagnostic laparoscopy for an infertility workup. Only the bare necessities would be utilized with attention paid to costs. There would be no \$100 staplers when generic 4-0 dissolvable suture would close the skin. There would be no brand name new antibiotics when an older generic would work.

There is a significant amount of health care dollars that could be saved if unnecessary tests and procedures were not done. As a general rule, if there is a bad outcome currently, unnecessary tests escalate, not decrease.

CERTIFICATION OF FAMILY PHYSICIANS WHO PRACTICE OBSTETRICS BY THE AMERICAN BOARD OF FAMILY MEDICINE OBSTETRICS AND THE AMERICAN BOARD OF PHYSICIAN SPECIALISTS

Daniel M. Avery, MD

Board certification in a physician’s specialty, specialties or subspecialty is essential in 2008. Family Medicine Physicians practicing Obstetrics or Family Medicine Obstetricians as they are called are no exception. Two decades ago it was not necessary to be board certified; today it is essential. Most all applications for hospital privileges, specialty organizations, malpractice carriers, health maintenance organizations, health insurance providers, federal programs, peer review groups, disability analyses, attorneys and insurers inquire about board certification. These organizations want to know about dates of examinations, whether it was passed and with how many attempts which specialty board or boards, date of anticipated attempt

and numbers of attempts at passing. Board certification *is always* a significant issue in a court of law such as a malpractice case. *Society expects a physician to be board certified today.*

In the past, a physician became board eligible after residency training to take a certifying examination with no time restriction. If a physician was not board certified, usually he was at least board eligible. Now board eligibility has a time restriction such as five years for most specialties and then one is no longer board eligible without completing at least some additional residency training. So without taking a board examination, eventually a graduate of a residency program loses board eligibility.

There is no standardization of training in Obstetrics Fellowships. Some programs teach obstetrics but no operative or cesarean section capability. Some teach hysterectomies, laparoscopy, minilaparotomy for ectopic pregnancy and laparotomy for bleeding. As a result there are no standards for any fellow to follow including trainees, faculty, hospitals, insurance companies and malpractice carriers. How can we devise good training programs if there is no standardization of what the training should be? How can we measure success of training if there are no guidelines? How can we know if a graduate of any program is capable of providing care if there are no tests?

The obstetrics training of Family Medicine Residencies plus an Obstetrics Fellowship and an OB/GYN Residency is very similar. But just describing that training will never be sufficient. There must be testing of graduates of Obstetrics Fellowships just like OB/GYN Residencies to see if adequate material has been learned, especially since there are currently no standards. The proposal by the American Board of Family Practice Obstetrics has been to offer the same obstetrics questions without gynecology questions to the Obstetric Fellowship graduates that it would give to OB/GYN graduates and no Family Medicine questions. Basically let those testing in obstetrics answer the same questions without gynecology or family medicine.

Testing in Obstetrics would allow definition of what privileges a physicians may have and what types of patients he or she could care for. Eventually accreditation of training programs and standardization of what is taught will clarify what a fellow is taught and expected to have learned. Most training programs teach instrumental and operative obstetrics, cesarean section, ultrasound, sterilization techniques, colposcopy, LEEP Procedure, cryotherapy, endometrial biopsy, medical management of ectopic pregnancies and office gynecology.

In 2005, the Task Force on Board Certification of Family Physicians Practicing Obstetrics carried out a random survey across the United States regarding credentialing of graduates. Hospital credentialing and privileging committees, malpractice carriers and program directors and their administrative staff answered standardized questions regarding the importance of credentialing of obstetrics fellowship graduates. Types of hospitals included private, county, state, federal, teaching and Armed Forces. Hospitals varied in size from 60 to 1,000 beds. 73% of these institutions thought that board

certification was important from their hospital's standpoint. All state, federal, teaching and Armed Forces hospitals felt that board certification was important.

Malpractice insurance carriers across the country were selected by state medical societies at random. These carriers were then interviewed by telephone. ALL malpractice carriers preferred board certification. Most companies contend that board certification has a greater effect on actual insurability for requested coverage and procedures requested than actual rates.

Hospital credentialing and privileging committees contend that board certification has a significant effect on privileges regardless of hospital size and type. 73% of hospitals contend that certification is important. Most hospitals today have minimum numbers of actual deliveries, cesarean sections, tubal ligations and dilatation and curettages along with complication rates to determine qualification to apply for privileges. The most difficult aspect of privileging is the determination of operative privileges.

Instrumental and operative vaginal delivery and cesarean section privileges appear to demand the greatest effort from a family physician getting these privileges. Certainly, board certification and documentation of those numbers is essential along with verification of ability by program directors. While the American Board of Family Medicine Obstetrics will offer a written and oral examination in obstetrics just like OB/GYN graduates, a practical assessment of actual surgical technique will also be required..

Competency testing is the way of the future in medical education at every level from medical students to postgraduate training. It is already in effect in new procedures for those out practicing currently. Gone are the days when a practicing physician goes for a weekend course and shows up at his hospital on Monday morning to perform that operation on his patient. He must be proctored to achieve competence. There is no greater verification of a physician's request for a procedure than true visualization of capability and skill. This will go a long way with getting privileges and it is a much longer pathway than any other Board has gone before.

All Obstetrics Fellowship Programs advertising on the American Academy of Family Practice web site were questioned by email and telephone. 50% of those responded. All program directors were most interested in what would have the greatest impact for their graduates on hospital privileging, teaching institutions and malpractice insurance carriers. One program director had reservation about board certification as well as a certificate of added qualification in obstetrics.

There are many reasons that board certification of Family Medicine Obstetricians is important. Board certification in every specialty is necessary and essential for the practice of medicine today. Society expects physicians to be board certified. Authentication of training, capability of graduates, resolution of comparability of training with OB/GYNs and recognition of the subspecialty are all very important. But the most compelling reasons to certify Family Medicine Obstetricians are privileging, hospital and insurance credentialing, obtaining operative privileges and better insurability with

malpractice insurance carriers. Program directors want some type of certification of a fellow's training. In time, board certification will be the stepping stone to accreditation of training programs.

The American Board of Family Medicine Obstetrics in conjunction with the American Board of Physician Specialties offers two tracts for certification. One is the traditional certification following completion of an obstetrics fellowship. The other pathway is a practice tract in which a family physician who has practiced obstetrics for at least five years with completion of a minimum number of procedures may also become board certified. In 2008 the name American Board of Family Practice Obstetrics was changed to the American Board of family Medicine Obstetrics.

ACTIVATED FACTOR VII IN POSTPARTUM HEMORRHAGE

DANIEL M. AVERY, MD

“Using Activated Factor VII in OB/GYN Practice” by Drs. Michael J. Padias, Stephen Rosenman and Nazil Hossain in Contemporary OB/GYN 2007 describes the use of this drug in massive hemorrhage in gynecologic surgery and postpartum hemorrhage. Our experience at the University of Alabama School of Medicine in Tuscaloosa, Alabama has been the same. The following case report describes our experience with the drug.

CASE REPORT

A 30 year old Indian women presented for an initial obstetric visit. She had previously been delivered by our medical school teaching clinic and had delivered by cesarean section. Her only complaint was painless vaginal bleeding. Physical examination showed the blood coming from a closed parous cervix. Ultrasound showed a cervical pregnancy with an embryo and cardiac activity. She was referred to a high risk obstetrics unit that recommended termination of pregnancy but the patient refused. The patient was then managed conservatively.

The patient was delivered at term by repeat cesarean section without hysterectomy. Bleeding was excessive but controlled. In the recovery room, the patient developed massive bleeding such that by the time the attending obstetrician arrived, the patient's pulse and blood pressure were not detectable. After resuscitation and attempted stabilization, the patient underwent an emergency postpartum hysterectomy with good control of bleeding. She developed acute renal failure and consumptive coagulopathy was given packed red blood cells, fresh frozen plasma and cryoprecipitate.

That evening she was re-explored by the OB/GYN Faculty and Trauma Surgery Team. Although this teaching hospital is a 600 bed Level I Trauma Center, the blood bank was depleted of compatible blood products requiring least incompatible products. After depletion of the blood bank, Factor VII was obtained from a larger facility 45 miles away. The Factor VII is the only product that stabilized the patient's bleeding. She did not have to be explored again, developed

urinary function and eventually was discharged from the hospital. Pathology report confirmed a cervical pregnancy. At a recent postpartum visit she appeared to be doing well.

This drug appears to have been life-saving in the above case. No known complications arose from its use. Since it is a drug and not a blood product, another possible use might be in bleeding from a patient who is a Jehovah's Witness who do not receive blood products or transfusions.

**LABORISTS, NOCTURNALISTS, WEEKENDISTS, OB/GYN
HOSPITALISTS, ITINERANT OBSTETRICIANS AND
OB/GYN LOCUM TENENS**

DANIEL M. AVERY, JR, MD

Do we want our patients to still love us and name their children after us providing everything goes well with the pregnancy and delivery? Or, do we fear our patients going somewhere else for care? Or, is it the loss of the delivery fee or the shift charge for someone else performing the delivery in a time of reduced reimbursement? Or, is it that we need to stay up all night over a worrisome fetal heart rate tracing after operating on a 400 pound patient with massive adhesions following 3 previous cesarean sections and seeing 40 patients in the office to prove that we can still do it? Is it that the patient really wants you to deliver their fourth child like the other three that you delivered before? Do patients really care about their physician's own well being? Many of us still want to be everything to everybody. But are we able to? Can we do all of this and do a good job?

Dr. Barbieri's editorial is an excellent discussion for what is happening around the country in obstetrics (OBG Management, Vol. 19, Number 9, Sept., 2007). Dr. Cayer's "Laborist model is abhorrent" describes the traditional role of the obstetrician/gynecologist versus a physician totally unknown to the patient managing labor and complications (OBG Management, Vol. 19, Number 11, Nov., 2007). In the same issue of OBG Management, Medical Verdicts describes a case in which a preterm baby at 23 5/7 weeks delivered footling breech with entrapment of the head leading to asphyxiation. No obstetrician was at the hospital for the delivery. The attending OB/GYN arrived at the hospital "nearly one hour later and completed the delivery" (OBG Management, Vol. 19, Number 11, Nov., 2007).

Focus on Professional Liability in the October, 2007 Edition of OBG Management describes a case of prolonged fetal bradycardia with subsequent severe neonatal brain damage. The attending OB/GYN was at home and it took 34 minutes from the decision to perform a cesarean section to get to the hospital and start the procedure (OBG Management, Vol. 19, Number 10, Oct., 2007).

Also in the November, 2007 Issue of OBG Management, Dr. William J Mann, Jr. comments in "Younger OB/GYNs see lifestyle issues as priority" that younger physicians see quality of life as very important in career choices. Today, many residency training programs have adopted night float call systems in which a different group of physicians provide patient care at night in contrast to the regular residents on service during the day. This is essentially the nocturnalists or

laborists scheme. While those of us practicing OB/GYN are pondering changes in call, residents are already comfortable with it.

Many OB/GYN groups designate by the call schedule a physician on call for a 24 hour period of time who covers labor and delivery for the rest of the group. That physician may stay in labor and delivery for the entire shift taking care of whatever may present (“Stable group practice can eliminate need for “ists” “ in the November, 2007 Issue of OBG Management).

Dr. Barbieri’s comments in “OB practice is changing” in the Nov., 2007 issue is true....hopefully, for the best. If these new ideas provide better care for patients, help reduce some of the bad outcomes described above and provide a better quality of life for obstetricians, they may turn out to be for the good of all.

OUTCOME BETTER WITH PLANNED VERSUS EMERGENT CESAREAN HYSTERECTOMY

DANIEL M. AVERY, JR, MD

The review of “Outcome better with planned cesarean hysterectomy vs. emergent surgery” by Drs. Briery, Rose, Hudson et al in Contemporary OB/GYN 2007 is excellent. Unfortunately, it is not always possible to know ahead of time that the procedure may become necessary. However, planning for those patients at risk for a cesarean section is imperative.

Those patients that may need a concomitant hysterectomy at the time of cesarean delivery would usually be done during a regular work day schedule in the daylight hours with adequate assistance including an experienced OB/GYN who has performed cesarean hysterectomies, a surgical instrument nurse who regularly assists at hysterectomy, circulating nurses who are adept at obstetrical accidents, sufficient other assistants and a well prepared anesthetic staff. Additional large bore intravenous lines and/or central lines may be placed ahead of time.

Preparation of the patient for general endotracheal anesthesia or continuous infusion regional anesthesia should the surgery be prolonged is also important. The anesthesiologist may also opt for an arterial line before surgery. It may also be useful to consider in what operating suite the procedure may need to be performed like in a trauma or much larger better equipped room than normally used for a cesarean section. A candid discussion about blood transfusion is also essential.

Should the risk dictate, a general surgeon may also be available for massive adhesions, tumor, etc. Some operating rooms used for cesarean section may or may not be equipped with laparotomy and hysterectomy instruments with appropriate sutures. Making sure that all conceivably necessary instruments are at hand keeps from wasting valuable time and risking unnecessary blood loss at 2 AM, weekends or holidays.

These are the patients that very careful attention should be paid to their own blood count ahead of time. Obviously, optimizing a patient's hemoglobin and hematocrit reduces their necessity for blood transfusion. If blood availability is an issue, preparation ahead of time is important. Even in a large institution that can convert a type and screen to a cross match quickly, it is useful for the blood bank to know of upcoming surgery that may require blood. Usually some blood has already been cross-matched for potential cesarean hysterectomies.

My career experience has always been such that planned cesarean hysterectomies always went better than unplanned emergent ones. The old adage "an ounce of prevention is worth a pound of cure" is true in this case.

PERITONEAL CLOSURE AT CESAREAN SECTION

DANIEL M. AVERY, JR, MD

The pendulum has swung back and forth regarding peritoneal closure since my residency training 25 years ago. I practice at a 600 bed teaching hospital as part of a medical school faculty. This discussion went on during residency training. Those that advocated peritoneal closure were assured that closure prevented adhesions to a great degree. Those that did not close the peritoneum maintained that reperitonealization occurred in 24-48 hours and it made no difference anyway.

I suspect that there are also surgeons who do not close the peritoneum and only the fascia and skin solely to save time with the procedure without regards for adhesion formation one way or the other. Most of us have probably experienced that uterus densely adherent to the anterior abdominal wall that is difficult to separate from the rectus sheath. The urinary bladder location is unknown. When there are no other adhesions anywhere else, the surgeon's conclusion is that the uterus adhered to the rectus muscles unprotected by the peritoneum.

It is interesting to comment on observations of adhesions by general surgeons who operate who women who have had open laparotomy procedures. Most assume midline adhesions up to just below the umbilicus typical for pfannenstiel incisions. At laparoscopy, general surgeons often place the initial trochar for the laparoscope two fingerbreaths above and two right lateral to the umbilicus to avoid those adhesions.