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Ancient Midiwfery, Hx of Medical & Mfry, Politics of Medicine & Mfry, Evidence-Based Practice of Midwifery and Contemporary Research

~ the profession of midwifery and its relationship with organized medicine

"It not so much what you say as what you repeat over and over again" – PBS News Hour, 6/28/2005, in relationship to the war in Iraq

Chapter One ~

Few people in the US aware of the highly controversial nature of midwifery and the historical tension between the professions of medicine and midwifery. This controversy has nothing to do with the appropriate use of obstetrical medicine to treat the 30% of pregnant women who develop complications, about which there is a uniform opinion and wide agreement. Rather the question concerns using these same forms of medical interventions routinely or "prophylactically" on the 70% of healthy women with normal pregnancies.

It is the latter category – healthy women with normal pregnancies -- that has been the traditional focus of midwifery care but which has, in the last century, been claimed by the obstetrical profession as their rightful patient base. In order to enforce the obstetrical preference for providing care to a healthy population, there was an extensive and largely successful campaign in the early 1900s by organized medicine to eliminate midwives in the US by various legal and legislative strategies. While a tiny remnant of the midwifery profession continues to practice in the United States, the historical prejudice of the medical profession and the legal and legislative barriers that such a bias generated over the last 100 years, make it virtually impossible for midwives to take their rightful place in the spectrum of health care services available to healthy women.

There continues to be much disagreement about the contemporary relationship between physicians and midwives. At the core of the question about the modern role of midwifery is yet another question -- what is the right relationship between "modern medicine" and "modern" childbearing? Has the obstetrical knowledge of the 20th century fundamentally changed the nature of childbirth (which is a natural biological act) the same way medical science fundamentally changed the course of human illness, disease, deformity and accidental injury (all of which are forms of pathology)?

The short answer is that the scientific literature – research published in medical journals, textbooks, measures of maternal infant well-being such as birth registration and vital statistics data – all identified increased risk and unnecessary expense when drugs and surgery were compared to normal or 'spontaneous' birth in a healthy population. These scientific sources all make it clear that routine obstetrical interventions and normal birth conducted as a surgical procedure are always more dangerous for healthy women with normal pregnancies than the use of physiological

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principles. Scientifically speaking, this is *not* a controversial finding. Reliable scientific evidence is neither lacking nor incomplete, nor is this data the subject of great methodological disputes.

For healthy women who are well fed, well housed, well educated and receive good prenatal care during pregnancy, the greatest realistic danger today is obstetrical over-treatment and the cascade of complications associated with routine interventions such as induction of labor, narcotics, anesthesia, episiotomy, forceps, vacuum extraction or Cesarean surgery. A contemporary example of just one of the problems associated with obstetrical interventions can be found in a June 1st, 2005 report entitled "Routine Episiotomy Offer Women No Benefits or Relief". It stated that: "the routine use of episiotomy for uncomplicated vaginal births provides no maternal benefits..." and that women without episiotomies were "more likely to have an intact perineum and to resume sexual intercourse earlier". [Ob.Gyn.News, Vol. 40, No.11] In spite of this and dozens of earlier studies with similar conclusion published over the last 30 years, about a million of episiotomies are done each years, at least 95% of which serve no medical purpose.

Indisputable as the facts about obstetrical interventions are, the style of maternity care or the methods by which it is provided to healthy women in the United States for almost a hundred years has not been defined by science-based parameters. This slip 'twix cup and lip' is usually referred to as 'cognitive dissidence'.

This is a particular problem because physicians are the natural spokespersons for the scientific discipline of medicine, a circumstance that places a societal burden of candor and accuracy on doctors by virtue of their advanced education. The obligation intrinsic in this education creates a higher standard of conduct than mere recitation of personal preference or professional self-promotion. The very fact that physicians are the holder of a doctorate (equivalent of a PhD) in the science of medicine gives the public every good reason to believe that statements made by physicians about matters of health, safety and medical care are unbiased, scientifically-based and factually correct. This would include the duty to communicate only scientifically valid information in a public forum unless such statements are identified as merely a personal opinion. However, little in the public discourse addresses, corrects or even acknowledges the century-long disconnect between the science and the practice of obstetrics.

Exploring the conundrum between science and practice is what the rest of this document is about. Before beginning on that endeavor, I want to state for the record that the following discussion, which includes the early politics of the obstetrical profession, is historical in nature and not mean to cast aspersions on individual obstetricians practicing today. I count many of these hard working obstetricians among my friends and frequently depend on their expertise when midwifery clients develop problems that require obstetrical solutions. I am profoundly grateful for the modern science of obstetrics and apologize in advance for any offense that may be taken by anyone. I offer, in my defense, the possibility that we as a society could finally, after nearly 400 years of misdirection, correct a pervasive and troubling problem to the mutual benefit of all.

But unfortunately, an in-depth exploration of these historical events includes information that is unflattering to the medical profession. While many would prefer that this information be left out, it would be impossible to really understand the modern-day topic of normal birth and midwifery without these historical antecedents. Further more, my conclusion is that it is we, the public, who have been asleep at the switch and not doing our job. The good news however is that this

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"problem" is one that we already understand and know what to do about. We have not been set adrift without a compass and a swift current that will carry us forward.

In the shadow of September 11th, 2001 the American public has, with good reason, become tired of being bombarded by the "crisis" of the month – hysteria over toxic dumps, bad schools, divorce, defective tires, dishonest accounting methods and corporate fraud. The list of things that needs 'fixing' is endless and growing daily. We don't want to hear that there is *yet another* reason to worry about something that no one knows what to do about. Or worse yet, someone is proposing that we spend huge sums of money on research for a solution that will, no doubt, take decades to find and include some painful, far-fetched remedy or expensive drug with horrible side-effects.

But unlike war, global warming, bio-terrorism and incurable diseases, we know what to do about this "problem" – the lack of science-based birth care as it applies to healthy women with normal pregnancies. The solution is no secret and there are lots of resources – sound scientific evidence, textbooks and knowledgeable, experienced people (midwives and midwifery-friendly doctors) who can teach the principles and demonstrate skills of physiological management. This will reduce our Cesarean rate by more than 50% while making for happier mothers and healthier babies and freeing up an additional 10% of the health care budget to spend on people who are genuinely ill or injured.

In the long run this is a win-win solution, as obstetricians will get to do what they are trained for -- focus care on those suffering from the diseases and dysfunctions of fertility and childbearing. And should a terrorism event (biological or otherwise) occur and hospitals become overwhelmed with the injured or ill (perhaps with contagious diseases), both physicians and midwives will be able to provide safe, community-based maternity care without having to waste the precious medical resources of doctors and hospital beds on the care of healthy mothers and babies in the midst of a life/death national emergency.

A Question of Intellectual Property, circa the Fifteenth Century

This controversy between midwifery and medicine may well be one of the first organized conflicts over "intellectual property", occurring long before that concept found a voice in the late 20th century. The intellectual property in question belongs communally to childbearing women and their midwives. Midwifery as an organized body of knowledge and set of technical skills preceded the modern discipline of medicine by more than 5,000 years. From an ethical standpoint, one could argue that it rightfully belongs to humanity and should remain far above the idea of a proprietary knowledge that is restricted to the few, at the expense of the many.

To characterize the issue in techie-talk, it's a bit like Microsoft appropriating the hard and software for the graphical interface developed by Apple (the mouse and iconic menus) with neither compensation or acknowledgment by MS of its original source. Then, after re-naming the concept as "Windows", pretending that Microsoft alone had invented the system and subsequently devoting massive amounts of corporate time, money and political influence to trashing the reputation of Apple. *With sufficient repetition, perception becomes reality*. Having amassed such an effective, well-financed political machine, Microsoft would then be able to get MS-friendly/Apple-hostile legislation passed, allowing Microsoft to use the court system to harass

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Apple and eventually make Apple's business tied up in legal knots. And having "won" the OS war, the final blow would be to re-write history so that for the next entire century generations of school children (who would soon enough be adult citizens/consumers) would hear that MS invented all good things in the computer world and that Apple was a dangerous infidel, vanquished by Microsoft as a selfless act of concern over the safety and satisfaction of *your* computing environment.

The Alpha and Omega of Midwifery

Historically childbearing women themselves were the best (and only!) source of information about the biology and physiology of pregnancy and normal childbirth. For thousands and thousands of years, women gave birth normally with the support of their extended families and the help of experienced older women. For healthy women in safe surroundings, pregnancy and birth was generally successful for both mother and baby. We know this statement is true because the human species has survived (and in fact, thrived) into the 21st century. Anyone alive in the 21st century is a direct descendent of women who were successful at giving birth normally -- without the need for forceps or cesarean surgery.

From the get-go of the human species (Eve 2.0!), older, experienced women always helped younger, inexperienced women during the hours of labor, at the moment of birth and to help care for the new mother for some days afterwards as she learned to care for her new baby. Eventually this type of experienced help become known as "midwifery". Those women caregivers who developed specialized skills in managing childbirth and dealing with the needs of new mothers and babies were known as "midwives". In old English 'mid' = "with" & 'wife' = "woman", thus a 'midwife' is someone who is 'with woman' during the events of childbearing.

The first record of midwifery as an established discipline can be found in the hieroglyphics of ancient Egypt in 3000 BC. The first mention of midwives in Western culture (perhaps prophetically) is a story in the Old Testament of political intrigue and civil disobedience. The book of Exodus records the clash between the Egyptian Pharaoh who ordered the midwives to kill all the first-born sons of the enslaved Hebrew population. The Egyptian midwives to the Hebrews, at the risk of their own lives, declined to carry out such orders.

> Dr. Hardin, 1925: "The practice of midwifery is as old as the human race. Its history runs parallel with the history of the people and its functions antedate any record we have of medicine as an applied science. Midwives, as a class, were recognized in history from early Egyptian times." [1925-A; p. 347]

Care provided to childbearing women during labor and birth was uniformly in the hands of midwives until the 17th century, a span of nearly 500 centuries. During this entire time the discipline of midwifery was empirically-based and organized around meeting the practical needs of laboring women, which are primarily psychological, emotional, and social. The care of midwives included 'patience with nature' and a commitment not to disturb the natural process. Again, we must accept as fact that this was a successful strategy, as the human species has survived and thrived under the care of their midwives. No medical drug or devise or surgical

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instrument or procedure developed over the millennia of western culture has been able to make birth better or safe in healthy women with normal pregnancies than spontaneous labor and normal birth.

> 1932 "...that untrained midwives approach and *trained midwives surpass* (emphasis in original text) the record of physicians in normal deliveries has been ascribed to several factors. Chief among these is the fact that the circumstances of modern practice induce many physicians to employ procedures which are calculated to hasten delivery, but which sometimes result in harm to mother and child. On her part, the midwife is not permitted to and does not employ such procedures. She waits patiently and lets nature take its course."
>
> 1932 White House Conference on maternal and infant health

These protective methods are what we now refer to as "physiological management" – that is, "…in accord with, or characteristic of, the normal functioning of a living organism". Its classic principles include a basic trust in biology and support for the normal process of labor and birth and a tradition that restricts the use of interventions to abnormal situations only. This non-interventive approach recognizes the mother's need for physical and psychological privacy and to feel safe from unwanted intrusions and the prying eyes of strangers. Physiologic care encourages the mother to walk around at will and to be upright and mobile during both labor and birth. It also includes continuity of care by individuals known to the mother, one-on-one social and emotional support, non-drug methods of pain relief (such as movement, touch and warm water) and the right use of gravity.

Gravity – What a concept!

Even though traditional midwives had no formal training in the science-based study of anatomy as we think of it today, they had ample opportunity to observe that childbearing women, when left to their own devices, almost universally chose to be mobile during labor and to assume some form of upright position during the birth of the baby. Midwives also noted that, on those rare occasions that women chose or circumstances required them to be lying down, the labor was much slower and the mother had to push longer and harder to get the baby out. Sometimes she wasn't able to deliver unless or until she got back up into a gravity-friendly position. For a laboring mother, lying down is an anti-gravitational position that can reduce the pelvic outlet by almost a third, while simultaneously requiring the mother to push her baby up hill around a 60-degree bend. It's no surprise that it is harder and takes longer and sometimes doesn't work at all.

The childbearing pelvis – that is, the internal bones that the baby must pass through -- normally creates a hollow space shaped like a lower-case letter "j". Most people erroneously think of the birth canal as a straight chute (lower-case 'l'), going straight down thru the lower half of the mother's body; in other words, if the mother was lying down and you were watching from the side, her baby would pass through the pelvis and out of her body the same way a train comes out of a tunnel – a straight cylindrical object passing thru a straight cylindrical container.

But this is not anatomically correct. Imagine instead that you are looking at an upright pregnant woman from the side as she labors and gives birth while still in an upright posture. If you had x-ray vision, you would see that the long stem of the 'j' tracks with the mother's lower spine and the

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curved foot of the letter bends forward to track with the lower half of the birth canal. What this means is the pelvic outlet -- last 1/3 of the journey – bends at a 60-degree angle, which requires that the baby to go around a corner and emerge into the world going forward (into its mother's arms!) instead of down (where it would be hard to reach and might be injured as it fell to the floor). Not doubt this "frontal delivery" is an important survival characteristic, as for 99.99% of human history predates hospital obstetrics, which meant it was the mother herself who was responsible for catching her own baby.

Were you to look down into the pelvis from the top, you would notice that the big triangle-shaped bone of the lower spine -- the sacrum and coccyx -- encroach forward into the pelvic outlet about an inch or so. In this regard, the pelvis is like a hollow bowl with smooth walls on three sides but the fourth side is bent in, making it impossible for anything that is the same size and shape as its circumference to pass through.

However, in the second stage of labor, after the baby is squeezed out of the uterus thru the cervix and starts its trek down into the birth canal, you would see something remarkable happen. In pregnancy the sacrum and coccyx are able to move somewhat and are actually pressed back out of the way by the baby's head as it descends lower and gets closer and closer to being born. The hormones of pregnancy also make the cartilage that holds the two sides of the pubic bone together become very elastic. Thus the pelvis can stretch and widen side to side, which can give the baby an extra 1-2 centimeters of room to negotiate its passage into the world.

Of course, this nifty trick ONLY works if the mother is standing, squatting or is in some other position that makes 'right use' of gravity and allows her sacrum to move back out of the way (similar to the way a pet door is pressed open by the dog or cat as it passes through). However, if the mother is bearing her own weight on her lower back, such as lying down with her legs held up in stirrups, the sacrum cannot move out of the way, and sometimes the trap door gets stuck in the closed position. When a woman tries to give birth lying down, not only must gravity be defied in order to push the baby uphill and around a corner, but she must do this with the doorway partially blocked, reducing the aperture of the pelvis by as much as a third.

If the baby is small or the mother's pelvis is big, the forces of labor and extra effort on her part can overcome this impediment. However, for a mother who lying down, the baby will still have to be pushed uphill and will emerge in an upward angle (towards the ceiling). This is obviously a lot harder and may require the use of forceps or vacuum if the mother has had anesthesia. Unfortunately, if the reverse is true (a relatively big baby and/or small pelvis) the baby can get stuck – the 'obstructed labor' of Old World fame but with a New World reason. In modern life, this would require a forceps delivery or a Cesarean.

In the ancient world or for women in poor countries without access to obstetrical services, cephlo-pelvic dystocia (CPD) eventually results in the death of the baby and may cause the mother to develop a fistula between her bladder or rectum or other debilitating forms of incontinence due to obstructed labor or associated with the use of episiotomy and forceps. It should be noted however, that CPD caused by positioning the mother on her back or other "wrong uses of gravity" in modern societies and the damage it may cause to the baby or the mother's pelvic floor, are iatrogenic in origin and therefore preventable complications.

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Chaper Two

Birth Dangers in a Pre-scientific World

However, not all problems associated with childbirth can be prevented by patience or correct positioning. In a pre-scientific, pre-technological world, the normal support of midwives was often not enough if the childbearing woman suffered from a serious disease, became ill during the pregnancy, the labor became abnormal or the birth was otherwise complicated. In such cases, childbirth could and often did become dangerous. As the centuries passed, more and more people left their safer natural environments and healthy life styles migrated to big cites where poverty and crowded unsanitary living conditions resulted in malnutrition and diseases for which there was no treatment.

By the early Middle Ages, an increasing percentage of childbearing women were unhealthy. This resulted in many complicated pregnancies and a high mortality rate that were not the result of any deficiency in "normal" biology but rather reflected a negative impact of civilization on childbirth as a result of social forces including ignorance, superstition and unnatural circumstances imposed by city life and crowded urban environments. Untreated complications meant that mothers and newborn babies with serious problems could and did die. By the Middle Ages, people began to think of childbirth itself as generally dangerous. Unfortunately, they were confusing 'cause' with 'effect'. Nonetheless, it poisoned the water of public opinion. This set the stage for the next four centuries of the most drastic changes in childbearing practice to ever occur in the history of the human species.

The Renaissance – 16th and 17th century Europe

It was not until the "Age of Enlightenment" that the fledgling concept of "scientific inquiry" began to root. The scientific method is usually described as a systematic approach consisting of observation, testing and evaluation that forms the basis of telling the scientific from the superstitious. The scientific method follows a series of steps: (1) identify a problem you would like to solve, (2) formulate a hypothesis, (3) test the hypothesis, (4) collect and analyze the data, (5) make conclusions. Other authors add the comment that the scientific model is inefficient but highly successful method of knowledge construction based on experimental testing of hypotheses. These definitions all add that no theory is worth its salt until it has been rigorously 'tested' by these method and thus can be said to be scientifically validated.

In regard to the field of medicine, the "new science" of obstetrics was still in its *very* early infancy in the 1600s. By today's standards, it was also mostly ineffective. Inexperienced doctors inadvertently caused harm on many occasions. However, in the case of an obstructed labor "medical men" or barber-surgeons were called on to remove the dead child through the use of surgical instruments. In a pre-technological world, the cause of this all-too-frequent birth complication was a common pelvic deformity known as rickets, in which fragile, decalcified bones of the pelvis collapse in on one another, trapping the fetus inside. Rickets is the result of malnutrition and inadequate exposure to sunshine, both well-known hazards of poverty in a smoky urban environment.

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Once medical men were invited into the birth chamber, the 5000 year-old relationships between midwives and doctors was permanently destabilized. Ideas began to percolate in the minds of doctors, and especially professors of medicine, that doctors (who indeed were called in when things went wrong) should be more involved in the process of childbirth. In particular, childbirth should be taught to medical students, since such knowledge was vital to the ability of graduate physicians to provide care in complicated cases. There were some problems with this plan, since it was a crime and a scandal in many parts of Europe during the Middle Ages for male physicians to be present during labor and birth. Because of this the medical profession had to depend on midwives for their information.

Original Obstetrical Knowledge Gleaned from the Midwifery Profession

While the goal was a noble one, the way doctors went about it was far less so, colored as it was with the natural chauvinism and class prejudice of the times. Instead of mutual effort by physicians and midwives to reciprocally share knowledge with one another, it became a one-sided arrangement that consisted primarily of a century-long appropriation of the intellectual property of midwifery by the medical profession. For thousands of years the technical understanding of the normal course of labor and birth resided in the hands and heads of midwives as the intellectual property of their profession. This knowledge included the evaluation of unusual or abnormal situations and development of special skills to be used by the midwife when abnormalities arose and eventually teaching this specialized knowledge to the next generation of midwives.

From Time Immemorial to the 15th century this body of knowledge was passed down from one generation to the next as an oral tradition. Only after the invention of the printing press (the direct antecedent of the Internet in function and scope!) could this knowledge base be committed to paper and transmitted widely as textbooks on the practice of midwifery*. But a century after publication of the first textbooks on midwifery, intellectual property developed by midwives over many millennia was quietly incorporated into obstetrical textbooks. The original source for the obstetrical knowledge base on normal childbirth was gleaned from the discipline of midwifery.

* the word ‘midwifery’ continued to be used for 3 more centuries to describe normal maternity care, whether provided by a female midwife or male doctors. The use of the word ‘obstetrics’, which now refers only to the medical practice of obstetrics by physicians, did not uniformly replace the classical meaning of midwifery until the 1920 in the US and 1960s in the UK.

Scientific Study of Anatomy

Simultaneously with access to midwifery textbooks there arose a whole new process for learning vital information about the human body. This was the study of the anatomy of childbearing through the new science of anatomical dissection. This unique information was added to the totality of what was known about the field of childbirth. Texts on midwifery and knowledge of anatomy from vivisection permitted physicians, with no professional experience or first-hand information on childbearing, to learn, teach and eventually practice, using the combined knowledge of both traditions.

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While the medical community was only too happy to benefit from the intellectual property of midwifery, the physicians of the day did not play well with others, nor share with midwives the knowledge learned from dissection or other insights leading to a better understanding of the normal process of childbearing and more effective treatment of complications. A modern-day researcher, writing in 1975 on the issue of medical advances not shared reciprocally with midwives remarked that:

> "The passage of midwifery into the mature stream of medical advances has resulted in the parturient [childbearing] women gaining the benefits of (fetal) auscultation, a more complete knowledge of anatomy and asepsis as it developed. Yet, due to the status of women, these advances were kept largely within the circle of male practitioners and thus did not influence the care of the many uncomplicated confinements [managed by midwives] which the physician did not attend.
>
> Conversely, at least in the US, physicians had little contact with midwives and never learned their useful traditions, among them patience with nature. During the 19th century, obstetricians in England and the US wished to show the scientific nature of their profession. Moreover, in the United States**,** the dignity of the [obstetrical] profession was thought to be threatened by the practice of midwives." [DeVitt, 1975]

However, obstetrics did do quite a stellar job of franchising this hybrid form of obstetrical knowledge all across Europe as it slowly synthesized knowledge from these dual sources and improved its ability to successfully intervene in complicated births. At its most rudimentary level, the earlier generations of doctors could not save both mother AND baby, but rather were forced to choose between either mother *or* baby. The invention of forceps and other improved medical and surgical interventions meant that doctors were eventually able to preserve the life of both mother *and* baby in many cases of obstructed labor.

Institutionalizing Medical Education

The earliest version of hospitals became a place for both teaching and treatment. However 400 years ago, hospitals were dramatically different in form and function from modern day acute-care institutions. Originally they were charity hostels (often run by Catholic nuns) that arose during the Middle Ages in Europe to house the indigent. They were the perfect place for medical schools to teach students, as they provided a steady stream of 'clinical material'. In a fairly short time hospitals became organized around medical education. In exchange for room, board and medical care, street people who were sick become 'teaching cases' for medical students.

In these charity hospitals unmarried pregnant women who were unable to work (and without family or friends) would find shelter and care in the maternity wards, living on this 'hospitality' for 2 or 3 months before their babies were born. While no money was exchanged, the price for this free care was very steep. Even in the best institutions, an average of 1 out of every 128 childbearing women died. In the 'average' charity hospital, the number of maternal deaths was more like 1 out of 50 and sometimes, for months at a time, the number rose to 1 out of 3 mothers.

Physicians recognized early on that aggregating childbearing women together in an institutional setting resulted in a drastic increase in maternal and infant mortality. They also observed that

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indigent women who gave birth on the doorsteps of the hospital, prior to admission to the maternity wards, were remarkably free from this scourge, as were their newborn babies. All of these facts were well known to both hospital staff and townspeople. However, no one could provide a good explanation of why.

The epidemic killer of healthy women had little to do with pregnancy complications or the normal biology of labor or birth. Newly delivered mothers were dying of puerperal sepsis, or childbed fever, acquired from contaminated bedding, dirty instruments or the unclean hands of medical students and physicians. This was an unintended consequence of carrying the potentially fatal bacteria of hemolytic streptococcus on their ungloved and unwashed hands from autopsy room of women who had just died from puerperal sepsis to the vaginas of healthy laboring women. Medical students fresh from the dissection lab routinely went from one bed to the next, examining the entire line of laboring women one after another, and thus spreading infection from mothers who died from puerperal sepsis to every woman who was in labor that day.

All this occurred before there was any scientific knowledge of the role of microscopic organisms (bacteria or germs) in causing of childbed fever and other infections. The concept of contagion between two or more infected patients was not understood, nor the idea of hands, instruments or equipment becoming contaminated with purulent organic material. Sterile technique had not yet been developed yet. But even more important, this was before the invention of exam gloves and at a time when hand washing by physicians and med students was considered to be absurd and insulting.

Even after the role of bacteria and contagion was more widely understood as the cause of childbed fever, many obstetrical professors laughed at the idea of prophylactic hand washing in chlorinated lime or a weak solution of carbolic acid (aseptic techniques developed by 19th century physician-scientists Doctors Lister, Semmelweis and Pasteur). Decades later, after the bacterial cause of puerperal sepsis was generally agreed upon by thoughtful scientists around the world, many of these same professors continued to insist that ‘the healing hands of a physician could never be a source of harm’.

As a result of this dangerous practice undelivered mothers became contaminated with the haemolytic streptococcal bacteria during labor and developed a virulent septicemia that caused death within 72 hours. Before the discovery of antibiotics this high mortality was inevitable. During the 18th and 19th centuries ten to fifty percent of maternity patients (both mother *and* baby) died in the teaching hospitals of Europe from hemolytic septicemia. In the large institutions, this meant two or more deaths a day. One historical account describes the tolling of the bell by the monks as they carried out the body of another mother who had died and the eerie effect that the sound of the tolling bell had on everyone.

According to historical records, the all-time worst epidemic of contagion occurred at the University of Jena, when not a single mother left the hospital alive for four years in a row. Of course, it was these lethal infections from iatrogenic sources that accounted for the observation by doctors and maternity patients alike that it was safer to give birth on the doorstep of the hospital than in its delivery rooms. As would be expected, this horrific rate of death from puerperal sepsis also gave rise to some very wrong theories about the origin of this infection, most of which blamed childbearing women for somehow being “dirty”. This mistaken theory of “autogenic infection” was the origin of the 20th century OB prep (shaving off public hair and administering

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enemas to laboring women), a practice that continues today in some places.

Home Versus Hospital, 1881

In regard to epidemic levels of maternal-infant mortality from infection, obstetricians also had formal discussions among themselves on the vastly higher death rate for hospital births versus "private practice" (women attended in their own homes). A renowned professor of obstetrics from Edinburgh, Scotland lamented in 1881 that: "…maternal deaths or deaths during childbed – by which is meant death occurring within four weeks after delivery, -- have been shown to be striking in their frequency" … "The present Maternity Hospital, being a necessity, and puerperal fever having been shown to exist there, and to have been the direct cause of death in 1 out of every 32 women …. "

Academic papers on the topic were published in professional journals. In a paper published by the Edinburgh Obstetrical Society in 1881 about the use of aseptic techniques in childbirth, this same professor wrote that: " …. the mere aggregation of lying-in women [in hospitals] is itself a cause of danger". He went on to say:

> "What I believe to have been the origin of the disease, [is the] the want of a separate mortuary and the performance of post-mortem examinations in the hospital. Since that report, the fault has been remedied and the hospital thoroughly and repeatedly disinfected. Notwithstanding all this, the deaths from puerperal fever have continued. Yet during that period there has not been recorded a single case of death from a similar cause in the extern practice [i.e., births occurring at home]… although the births at ….. home are double, amounting to 625, and the general death rate is only 1 in 156 [compared to 1 in 32 for the Edinburgh Maternity Hospital]."

Despite the high mortality associated with hospitalization of maternity patients, the conclusion arrived at by medical professionals was that hospital birth was a necessity, as it was the only place for indigent women and the training of medical students.

> "… maternity hospitals must exist, as much for the benefit of women at a time when they most need shelter and assistance, as for the clinical instruction which the medical student can receive there and there only."

> "It must be borne in mind that the majority of the intern cases [birth occurring in hospitals instead of the family home] are single women who have been seduced, and who, apart from their mental condition, …. have, previous to admission, been in straitened circumstances and badly nourished, and are … specially liable to be quickly and gravely affected by any septic influence under which they may be brought."

The Germ Theory & Surgical Sterility ~ Barely a Hundred Years of Enlightenment.

Few people realize what a short time separates us and the 'bad out days', when the pathogenic role

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of bacteria and the behavior of germs were invisible and unknown. The idea of surgical 'sterility' itself is little more than a 100 years old. It was not until 1881 that a French physician, Dr. Louis Pasteur, established the central role of microbes -- commonly known as 'germs' or 'pathogens'-- in causing illness and infection. On a chalk board at a prestigious medical meeting Dr. Pasteur drew a graphic representation of what the streptococcus bacteria looked like under a microscope -- rectangular microbes that resembled a string of box cars on a train track -- and said "This, gentlemen, is the cause of Childbed Fever".

With this discovery, Dr. Pasteur delivered the fatal blow to the erroneous and dangerous doctrine of 'spontaneous generation' -- the theory held for 2000 years that life could arise spontaneously in organic materials. Understanding microorganisms was a natural discover for Louis Pasteur as his father was a vintner and techniques to achieve bacteria-free surfaces are basic to wine making. In order to prevent mold from growing on the fermenting wine, the wine bottles must be sterilized by boiling and their sterility maintained until filled and sealed. Dr Pasteur also developed "pasteurization", a process by which harmful microbes in perishable food products are destroyed using heat, without destroying the taste or nutritional value of the food.

It was not until the discovery of anesthesia in the 1840s to control the inevitable pain of surgery and then 40 years later, the germ theory of disease and use of sterile technique to control the infection, that surgery became a reasonably effective form of medical treatment. According to history, the first-ever obstetrical operation -- a Cesarean -- was done in first century Rome to extract a living child from its dead or dying mother. Chloroform anesthesia made it possible to do Cesareans on living women and sterile technique made it possible for women to survive the operation. Other obstetrical surgeries such as episiotomy and the use of forceps were greatly enhanced by anesthesia and sterile technique. It did not take long for operative obstetrics to become the new "wave of the future".

The A to Z of Childbirth Under Conditions of Surgical Sterility

Birth as a surgical procedure actually describes an organizing principle related to the guarantee of an absolutely germ-free or 'sterile' state. Since sterility is a recognized precursor for surgery, the medical profession typically refers to this as 'surgical sterility' and to any 'procedure' that requires sterility as a 'surgical procedure'. However, conducting birth under conditions of surgical sterility does not automatically mean that actual surgical 'operations' -- such as episiotomy, forceps or manual removal of the placenta -- are being performed. One can technically conduct normal birth under totally sterile conditions without using instruments to cut or penetrate human tissue or inserting the surgeon's hands into a sterile body cavity (such as the uterus).

However, 'conditions' of surgical sterility remain the same, which is to say, it still requires a special germ-free environment (special cleaning and restricted access), all surfaces and materials must be sterilized and the birth attendant must do a proper 'surgical scrub' of hands, don a scrub hat, shoe covers and surgical mask, then be helped into a sterile gown by the nurse and finally put on sterile gloves. All instruments and other materials will have been sterilized and laid out on a sterile instrument table. The mother likewise must be "scrubbed", draped with sterilized sheets and above all, must lie perfectly still and touch nothing!

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It is *very difficult* (read this as nearly impossible!) to assure that a childbearing woman in the throws of a natural, unmedicated labor, pushing hard with every contraction, lying on her back while working to get their baby uphill and around that infamous corner (Curve of Carus), will be able to lie perfectly still, not moving or accidentally touching any of the surgically sterile drapes, Since the mother isn't wearing sterile surgical gloves, her touch would technically "contaminated" the any sterile surface or material she touched. If the physician's sterile glove were then to comes in contact with any of these "contaminated' surface, it would officially 'breaks' sterile technique, which is of course a real 'no-no'. So to preserve the sterility of the physician's gown and gloves, it is imperative that everything else be maintained in its most absolutely sterile state.

In order to keep women from touching anything sterile, nurses routinely restrain the mother's hands in heavy leather wrist restraints (same as used in psychiatric wards). Then the mother was put to sleep with general anesthesia, all as a part of the process of protecting the sterile field. More recently, epidural anesthesia has taken over the role of making a childbearing woman into a suitable surgical patient who can stay still and not touch. As a result, wrist restraints are now seldom used. And some institutions have relaxed, the definition of "proper" sterile barb, permitting the obstetrician to omit some part of the usual regime, such as gown but no scrub cap, or surgical mask but no sterile gown, etc.

The Law of Unintended Consequences

The point of all this detail is to make it easier to see why the tail wags the dog in regard to the surgical procedure of birth. These technical requirements for sterility, which are perfectly correct for the performance of actual surgery, are absolute and by their very nature must dominate the entire process. The biological, psychological and social needs of childbearing parents – all else – must be subsumed under the rules of surgical sterility and surgical technique. Unfortunately this virtually erased the parents and the social nature of childbirth from the picture for the first seventy-five years of the 20th century.

This didn't happen because obstetricians didn't like childbearing women. It happened because doctors were afraid that if they didn't impose this strict sterility on childbirth, this perfectly lovely young mother, in the bloom of good health, would get infected and die. And certainly for indigent women giving birth in the charity hospitals of Europe in the 16th century, this sterile technique would indeed have been life-saving. It is just a fluke of history that the epidemic nature of puerperal sepsis in hospital settings of the 18th and 19th centuries has so influenced and defined the development of maternity care for healthy women in the US in the 20th and now the 21st century.

The Other Way – Aseptic Technique

Normal birth can also be successfully conducted as an "aseptic" event. In fact, aseptic technique is the statistical standard used around the world by midwives and physicians in both home and hospital births. The conditions for aseptic technique do not overshadow the mother's psychological and social needs and it is less expensive than surgical sterility. Aseptic technique entails the use of materials and supplies that are guaranteed clean and dry (technically 'aseptic'). That means that nothing ever touches the mother that has ever come into contact with the body fluids of another person, or sources of ordinary dirt, such as the floor.

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Under aseptic conditions, sterile supplies are used anytime an instrument or gloved hand must enter into a sterile body cavity or touch tissues that have been cut or lacerated. However, the doctor or midwife do not have to be “gowned and masked”, the mother does not have to be in a ‘special’ place, the family including other children can be present. When it comes to bio-hazards, the safest place (most free of pathogens that would make the mother or baby sick) is the family’s own home. Necessary sterile supplies are a pair of sterile gloves, a sterile scissor to cut the cord and a sterile clamp to tie it off. Accompanying this short list is the use of lots of clean linens, paper towels, plastic-backed disposable underpads and half dozen disposable diapers, sanitary napkins and appropriate trash receptacle.

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Chapter Three

The Obstetrical Franchise Crosses the Pond – Having a Baby in the New World

When Europeans migrated to the New World during the 16th and 17th centuries their beliefs traveled with them, including the idea that childbearing was dangerous. However, the kind of science-based medical care that was available in Europe did not reach the US until the late 1800s. Even then scientific medical practice was confined to big cities of the Eastern seaboard and was still 40 years shy of discovering antibiotics, safe blood transfusion, safer anesthesia and access to effective birth control. The dangers of childbirth at the end of the 19th century were depressingly similar to those of the Middle Ages -- diseases of poverty & deprivation, malnutrition, poor public sanitation, contaminated water, polluted air, overwork, ignorance, prejudice, forced childbearing (with frequent, close-spaced pregnancies), lack of access to medical services, and the inability of medical care to help. In the late 1800 and early 1900s as many as 10 out of a 100 babies died during the first month of life.

However, the turn of the century in the United States also brought many important and dramatic changes. Anything called 'scientific' was hot, city living was 'in', education and incomes were up, people began to expect more and to be able to pay for medical services. The change in maternity care during the first three decades of the 20th century was nothing short of radical. Most of these changes were based on the assumption that childbirth, even in healthy women, was dangerous and required the services of a medical professional.

By the time obstetrical medicine landed in America, the European hospital-based tradition had bifurcated obstetrical practice further and further away from its roots in midwifery and physiologic process. The new science of obstetrics, now freed from traditional restraints and physiological management, seem to offer unlimited new possibilities. The basic hypothesis by the medical profession was both straightforward and self-referent: If "uneducated" (in the formal sense of university affiliation) female midwives did an OK job of providing maternity care to childbearing women, then male, university-educated physicians would be able to do a vastly superior job. In modern economic terms, obstetrics would be called a "value-added" service, which built upon and improved on the traditional knowledge base of midwifery, or, if you will, that a doctor always could do a midwife one better.

Irrational Enthusiasm, Obstetrical-style

Society was soon infused with the 'irrational enthusiasm' of the obstetrical profession. Newspapers ran regular headlines on the "medical miracles" of the new obstetrics and the promise of "painless childbirth". In an amazingly short time, local, state and federal governments all became part of the echo chamber for this "new and improved model" of maternity care, which depended on eliminating midwives and replacing them with newly graduated obstetrical surgeons and newly opened hospital maternity wards.

Quite conveniently, the medical profession had forgotten all about having learned its own

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discipline by appropriating the intellectual property of midwifery. Instead of respect for midwives and a spirit of cooperation, American physicians in the early years of the 20th century had convinced themselves that midwives in the US, who were unschooled in 'scientific obstetrics' were outdated and dangerously ignorant. From this perspective, the traditions of midwifery itself -- physiologically-based care and spontaneous birth -- were defective. In the early 1900s influential members of the profession *redefined physiological management* to be unscientific and 'outdated'. According to this opinion, midwives were downright dangerous and no longer to be tolerated. Organized medicine had little trouble convincing the lay public that the new 'scientific' practice of obstetrics was safer for the baby and easier on "the little woman".

As physicians were already aware, maternity care was an excellent way to increase their general practice of medicine thru referrals to them by satisfied customers – the new mother and her whole family. An 1820 medical publication advised physicians that: "Women seldom forget a practitioner who has conducted them tenderly and safely through [childbirth]" "It is principally on this account that the practice of midwifery becomes desirable to physicians. It is this which ensures to them the permanency and security of all their other business." [note: use of the word 'midwifery' in this context refers to the general discipline of normal maternity care, not to care as provided by midwives]

Reiterating this theme nearly a hundred years later, the physician-authors of paper published in the *Boston Medical & Surgical Journal*, [Feb 23, 1911, page 261] stated:

> "We believe it to be the duty and privilege of the medical profession of America to safeguard the health of the people; we believe it to be the duty and privilege of the obstetricians of our country to safeguard the mother and child in the dangers of childbirth.
>
> The obstetricians are the final authority to set the standard and lead the way to safety. They alone can properly educate the medical profession, the legislators and the public."

A famous obstetrician of the era (Dr. Joseph DeLee, 1915), remarked: "If the profession would realize that parturition [childbirth], viewed with modern eyes, is no longer a normal function, but that it has imposing pathologic dignity, the midwife would be impossible of mention." [Dr Joseph DeLee, MD 1915-C; p.117].

Dr DeLee was famous (or perhaps infamous!) for insisting that childbirth, from the mother's standpoint, was about as "natural" as falling on a pitchfork. He likewise insisted that every baby's head was subjected to pathological forces during even the most normal labor by being repeated bashed into the mother's "iron" perineum. The take-home message in 1910 was that a "generous" episiotomy saved both mother and baby from the malevolent forces of her iron (i.e., intact) perineum and that the routine use of forceps 'saved' the baby from being battered and bruised as it was pushed down thru an intrinsically dangerous birth canal by the unpredictable forces of nature.

> "For the sake of the lay members who may not be familiar with modern obstetric procedures, it may be informing to say that care furnished during childbirth is now considered, in intelligent communities, a surgical procedure." [1911-D, p. 214]
>
> 'The parturient [laboring woman] suffers under the *old prejudice* that labor is a physiological act,' … and the medical profession entertains the *same prejudice*, while as a matter of fact,

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obstetrics has great pathologic dignity -- it is a major science, of the same rank as surgery". [Dr. DeLee, 1915-C; p. 116]

The Ripple Effect of Birth as a "Surgical Procedure" – A Tsunami of Change

Defining childbirth to be a "surgical procedure" vastly expanded the role of obstetrical education and required a constant stream of "clinical material" (teaching cases) so that medical students could learn and practice these surgical principles and techniques. Professors of obstetrics insisted that every time a midwife attended a normal birth, it was an appalling "waste of obstetrical material", which deprived medical students of a valuable educational opportunity.

"Of the 3 professions -- namely, the physician, the trained nurse and the midwife -- there should be no attempt to perpetuate the latter [i.e. midwife] as a separate profession. The midwife should never be regarded as a practitioner, since her only legitimate functions are those of a nurse …." [Dr Edgar; 1915-A, p. 104]

"The nurses should be trained to do all the antepartum and postpartum work, from both the doctors' and nurses' standpoint… In this plan the work of the doctors would be limited to the delivery of patients, to consultations with the nurses, and to the making of … physical and obstetrical examinations." [emphasis added; Dr. Ziegler, 1922-A;p. 413]

"The doctor must be enabled to get his money from small fees received from a much larger number of patients cared for under time-saving and strength-conserving conditions; he must do his work at the minimum expense to himself, and he must not be asked to do any work for which he is not paid the stipulated fee. This means ... the doctors must be relieved of all work that can be done by others—nurses, social workers..." [1922-A; Dr. Ziegler, MD; p. 412]

Birth as surgical procedure also changed the fundamentally nature of medical education and scientific inquiry. Physician researchers no longer studied the physiological management of labor since doctors did not attend labors (that was done by nurses). And if a problem arose during labor it was a foregone conclusion that the answer would be drugs or surgery. Once normal childbirth becomes a surgical procedure there is no reason for medical educators to teach, or for medical students to learn, the principles of physiological management that are the foundation of the traditional and contemporary practice of midwifery.

Historically these physiological methods included "patience with nature", continuity of care, the full time presence of the primary caregiver during active labor, one-on-one social and emotion support, an upright and mobile mother during labor, non-drug pain management (such as walking, therapeutic tough, showers and deep water), right use of gravity during labor and vertical positions during birth.

"...in the US, physicians had little contact with midwives and never learned their useful traditions, among them, patience with nature." [Dr. Neal DeVitt, MD, 1975]

By changing uncomplicated childbirth in healthy women from a normal biological function that needed little in the way of "doctoring", into a pathological event requiring surgical skills (or as

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one physician described it "the artificial aid of steel or brawn"**),** the *physician's role became more central to childbirth than the mother's*. In the eyes of organized medicine, this elevated the physician from a 'helping' role, who merely served childbearing women (i.e., 'woman's work'), to that of a surgeon performing a surgical "procedure" and for which he received a large fee, equivalent to that of gallbladder surgery or a hysterectomy or any other operation. Similar to surgeons performing surgery, obstetricians had (and have) no part in the "normal" care of the patient before or after the 'operation', now considered 'pre-op' and 'post-op' Instead they would only be responsible for the 'surgical procedure', while all other aspects of minute-by-minute care would be done by others – nurses and other low-paid assistants who work under the direction of the doctor, providing care for both pre and post-op.

Great Expectations Contrast with Poor Performance

Another part of the campaign against midwifery was the need to defend the poor reputation and abysmal safety record of obstetrics at the turn of the century in the US. According to vital statistic records and eye-witness reports from physicians of the day, the US had one of the worst records of maternal-infant death in the developed world. The *harder* doctors tried to medically control normal birth and improve on Mother Nature through the expanded use of drugs, medical interventions and operative deliveries, the *higher* the rate of maternal and infant mortality and birth injuries rose.

One obstetrician scolded his colleagues for this embarrassing situation, stating that "Maternal mortality in this country, when compared with certain other countries, notably England, Wales and Sweden is … appallingly high and probably unequaled in modern times in any civilized country". Another obstetrician (Dr. Hardin) reported that "in 1921 the maternal death rate for our country was higher than that of every foreign country for which we have statistics, except that of Belgium and Chile." [1925-A, p.347]. A third physician reporting on maternal mortality, stated that "...during 1913 about 16,000 women died..; in 1918, about 23,000...and with the 15% increase … the number during 1921 will exceed 26,000." [Note: Out of approximately 1.5 million births] [Dr. Ziegler, 1922-A]

In 1937 the founder of the present-day Guttmacher Institute in NYC remarked that:

> "All who have studied the problem agree that the rate [of good outcomes] for Holland, Norway, Sweden, Denmark is far superior to our own. Why? … it must be due to differences in the way that pregnancy and labor are conducted in the two regions." "What about the conduct of labor in the two regions? Here is where the major differences lie. In the first place, ... at least 10 percent of labors in this country are terminated by **operation**. In the New York Report, 20 percent of the deliveries were operative, with a death rate of more than 1 in each 100 of the operated, [compared to] 1 in 500 of those who delivered spontaneously. ." [1937-A, Dr Guttmacher, p. 133-134

Clinical Material, the 'Flexner Report' and the 'Midwife Problem'

1910 was definitely not a good year for the obstetrical profession, as it was further humiliated by the Flexner Report, a study of American medical schools published and funded by the AMA. The

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Flexner report severely criticized the lack of clinical training in US medical schools, especially as contrasted with the hands-on obstetrical training that had been available on 'The Continent' for centuries. This long tradition of clinical training was primarily the result of those big charity hospitals all across the European continent that seamlessly integrated teaching with treatment. But this system of public institutions providing both service and education had not made it to the US, leading our "best and brightest" students (at least those from wealthy families) to get their medical education in Europe. Due to the obvious deficiencies of our system, the majority American physicians were far less trained than midwives. Nonetheless they performed dangerous operative deliveries on a regular basis, to the detriment of their patients, thus contributing mass to the idea that normal birth was damaging.

> "In general, ... the facilities for teaching obstetrics are far less than those afforded in medicine and surgery; ..yet young graduates who have *seen only 5 or 6 normal deliveries*, and often less, do not hesitate to practice obstetrics, and when the occasion arises to attempt the most serious operations." [Dr. J.W.Williams, 1911-B p. 178]

This described the typical training of the era, in which medical students only "observed" deliveries in an amphitheatre-style setting with rare (or no) occasion to obtain hands-on practice in the use of forceps or surgical procedures that they would use after graduation. This resulted in dangerously poor obstetrical care, ill-conceived operative interference and preventable deaths.

> "The generally accepted motto for the guidance of the physician is 'primum non nocere' (*in the first place, do no harm*), and yet more than three-quarters of the professors of obstetrics in all parts of the country…. stated that incompetent doctors kill more women each year by improperly performed operations than the ... midwife...."
>
> "Why bother the relatively innocuous midwife, when the ignorant doctor causes many more absolutely unnecessary deaths". [1911-B; Dr. Williams; p.180]
>
> "In NYC, the reported cases of death from puerperal sepsis occur more frequently in the practice of physicians than from the work of the midwives'". [Dr. Ira Wile 1911-G, p.246]

Inferior medical training as contrasted with European medical schools (and pointed out in such unflattering terms by the Flexner Report!) lead one of the founding fathers of the 20th century obstetrical profession and author of *Williams Obstetrics* (the 'bible' of obstetrical textbooks) to write:

> " ..... the ideal obstetrician is *not* a man-midwife, but a broad scientific man, with a surgical training, who is prepared to cope with the most serious clinical responsibilities, and at the same time is interested in extending our field of knowledge. No longer would we hear physicians say that they *cannot understand how an intelligent man* can take up obstetrics, which they regard as about as serious an occupation as a terrier dog sitting before a rat hole waiting for the rat to escape." [emphasis added, Dr J. Whitridge Williams, 1911-B]
>
> "The story of medical education in the country is not the story of complete success. We have made ourselves the jest of scientists throughout the world …. [1911-C, p. 207]

The low esteem & poor reputation of obstetrics among the public resulted in a burning desire to

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rectify the situation and reverse the fortunes of obstetricians as soon as possible. A desperate effort by organized medicine to quickly increase the "clinical material" (teaching cases) available to medical students was a major motivator in the plan to eliminate midwives. Literature of the day contained the following comments on this topic:

> "When we recall that abroad the midwives are required to deliver in a hospital at least 20 cases under the most careful supervision and instruction before being allowed to practice, it is evident that the training of medical students in obstetrics in this country is a farce and a disgrace."

> "It is generally recognized that obstetrical training in this country is woefully deficient. There has been a dearth of great obstetrical teachers with proper ideals … but the deficiency … in obstetrical material for teaching purposes has been even greater. It is today absolutely impossible to provide [clinical] material." [1912-B, p. 226

> "It is then perfectly plain that the midwife cases, in large part at least, are necessary for the proper training of medical students. If for no other reason, this one alone is sufficient to justify the elimination of a large number of midwives**,** since the standard of obstetrical teaching and practice can never be raised without giving better training to physicians." [1912-B, p.226]

> "I should like to emphasize what may be called the negative side of the midwife. Dr. Edgar states that the teaching material in New York is taxed to the utmost. The 50,000 cases delivered by midwives are not available for this purpose. Might not this wealth of material, 50,000 cases in NY, be … utilized to train physicians?" [1911-D, p 216]

In order for medical politicians of this historical era to have pursued this dubious course of action, several crucial facts had to be ignored. First, that childbearing itself in healthy women is *not* fundamentally dangerous and does not routinely benefit from surgical skills. Second that it was poverty, overwork and forced childbearing that were the genuine problems facing mothers and babies of that time period and which contributed to an *alarming rate of death and disability*. Third, their actions failed to account for the serious harm -- including death for both mother and baby -- which could and did result from the routine use of medical interference. Forth and most unfortunate of all, these harmful interventions did *not* address the underlying health problems of poverty and overwork or contribute to the greater goals of public health in a more profound and long lasting manner.

The great improvement in maternal-child health that has occurred over the course of the 20th century is primarily the result of an increased standard of living -- sanitation, education, a better diet, adequate housing, improved working condition, appropriate access to medical care when needed and the safety net of social programs combine with wide-spread availability of effective contraception. Only a tiny portion of this improvement can be attributed solely to obstetrical interventions. In many instances, the underlying cause of problems later "cured" by obstetrical procedures, were being actually *caused* by poverty and exploitation and would have been more properly been prevented than medically 'treated'.

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Chapter Four

In general, the obstetrical profession was not impressed with any of the arguments for respecting the biology of normal birth, preserving the traditions of midwifery or seeking to improve the social conditions and health of the public. Instead the watch-word was "full speed ahead". Their strategies for increasing access to "obstetrical material" was highly successful and soon eliminated the 'competition' (midwives). Over the course of a few years, this paved the way for claims by the obstetrical profession that it was on the leading edge of scientific exploration, and only weeks (or maybe months) away from banishing all sorrow in childbirth with their newest toys – an expending array of obstetrical drugs and surgical procedures.

Success, Sweet Success

Obstetricians erroneously assumed that childbirth conducted under sterile operating room conditions would eliminate the fatal streptococcal infection of puerperal sepsis. In their minds this represented a permanent medical cure for this scourge, one so important to public health that it called for 100% hospitalization and 100% care of childbearing women by obstetrical surgeons. From this perspective, it seemed only natural to doctors that childbirth conducted as a surgical procedure would offer the safest and best care. It was mistaken conclusion.

The increased death rate of operative deliveries as noted by Dr. Guttmacher in1937 started with the frequent pelvic exams associated with hospital labors, thus exposing mothers to the lethal germs that concentrate in institutional settings and continue to be a source of fatal infections even today. In the pre-antibiotic era of the 1920s and 1930s it was far worse. In operative deliveries, this exposure to virulent pathogens was combined with the tissue trauma of episiotomy, forceps, the manual removal of placenta and suturing of perineium. Putting gloved hands, surgical instruments or needle and thread into the mother's birth canal (especially when these instruments cut or bruised her tissue) created the ideal conditions to carry hospital pathogens up into the sterile cavity of the uterus where the raw surface of the recently delivered placenta offered bacteria the perfect pathway into the mother's blood stream.

The stress of anesthesia and added blood loss associated with episiotomy, operative delivery and manual removal of the placenta all weakened the mother's immune system and made her more vulnerable to lethal infection. The lack of effective antibiotics sealed her fate in all too many cases -- 23,000 maternal deaths in 1918, the majority of them cause by or complicated by streptococcal septicemia. As documented earlier, surgical birth and manual delivery of the placenta (or manual exploration of the uterus after delivery by putting a gloved hand up inside the mother's vagina and uterus) vastly increased the rate of puerperal sepsis and the rate of maternal deaths.

Unfortunately it was equally easy to conclude that these bad outcomes validated the idea that childbirth itself was intrinsically pathological. However, the actual the problem was the *application of emergency interventions to normal circumstances.* This false association fueled the campaign to further medicalize childbirth by reinforcing the idea of normal childbirth as dangerous – so dangerous that women died *even* when "delivered" by doctors and surrounded by the gleaming stainless steel and surgical sterility of an operating room. In the minds of both the lay public and the medical profession, this was interpreted as indisputable proof that normal childbirth was inherently pathological. Without realizing it, obstetrics had become bound by the laws that

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governed the very error it aimed to correct.

It must be noted again that male domination of public life was the ground of being for these ideas, which actually reflect the gender-biased worldview of the 16th, 17th, 18th, and 19th centuries. By the early 20th century the opinion of the obstetrical profession was that traditional midwifery was a relic of a by-gone era – the bad old days -- in which mothers and babies died while midwives stood by unable to help because they lacked the training of a physician-surgeon. In the minds of the medical profession that was brought to an end in the early 1900s when doctors forced midwives out of the "childbirth business" and convinced childbearing women to have their babies delivered in hospitals by physicians.

An example of just how long-lived and pervasive this prejudice is, is revealed in a contemporary article published in 1975 in the New York Times Magazine, contrasting modern obstetrical services with the historical care of midwives. It characterizes physicians as saving mothers from the "dangers" of midwifery care:

> "In the United States ... in the early part of this century, the medical establishment forced midwives, who were then largely old-fashioned untrained "grannies", out of the childbirth business. Maternal and infant mortality was appallingly high in those days. As the developing specialty of obstetrics attacked the problem, women were persuaded to have their babies in hospitals, and to be delivered by physicians.... Today it is rare for a women to die in childbirth and infant mortality is (*low*)..." [Steinmann, 1975]

It should be noted that the article begins by making a false association between the care of midwives and the high rate of maternal mortality at the turn of the century and ends by making another false association, this time between the historical elimination of midwifery by the organized medicine and the modern-day record of maternal safety.

The "Disappeared" – Midwives and Mentally Competent Adult Women

When the tradition of midwifery and its practitioners got 'disappeared' in the first decades of the 20th century, the problems created went way beyond the loss of employment opportunities for midwives. A physician-centric configuration of maternity care had an even greater impact on childbearing women, who were no longer related to as sentient being or accorded the rights of mentally competent adults. They too were 'disappeared", to be replaced by the role of a narcotized labor patient hidden behind forbidding doors which declared "No Admittance".

By changing childbirth from a biological act "performed" by the mother, to a surgical specialty, the mother was virtually eliminated from the equation, no longer an active participant in her own birth. As a "surgical patient" she was not authorized to have any part in the decision making process. As a '*not*-doctor', she was "unqualified" to make what were now defined as "medical" decisions. All aspects of the mother's care were to be determined by "standard procedures", medical protocols and other medical customs over which she had no control and no opportunity for input.

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After admission to the hospital she was put to bed, shaved, given an enema and then put to sleep with massive does of narcotics. She labored under the influence of narcotics, which eliminated the need for any on-going labor support. It also make her legally unable to make decisions in their own behalf. Hours or days later, when the baby was ready to be born, she was "delivered" under general anesthesia. As an anesthetized patient lying unconscious on an operating table with legs in stirrups, she was vulnerable to unnecessary and often harmful forms of obstetrical care such as the use of episiotomy and forceps.

Because husbands and other family did not fall in the category of "authorized personnel", they were excluded from labor wards and deliveries rooms. Thus there was no one to advocate for or even to witness to these events, much less make a truthful report of them to the outside world. However, evidence was still plentiful that medicalization of healthy women was harmful to them and their babies.

In 1931 the White House conference on Child Health and Protection by the Committee on Prenatal and Maternal Care studied care by midwives as contrasted to physicians. Testimony of the White House conference concluded:

> "...that untrained midwives approach and *trained midwives surpass* the record of physicians in normal deliveries has been ascribed to several factors. Chief among these is the fact that the circumstances of modern practice induce many physicians to employ procedures which are calculated to hasten delivery, but which sometimes result in harm to mother and child. On her part, the midwife is not permitted to and does not employ such procedures. She *waits patiently and lets nature take its course*." (original emphasis, Reed 1932)

> "Midwives have small practices and time to wait; they are expected to wait; this what they are paid for and there they are in no hurry to terminate labor by ill-advised operative haste." [1937-A]

> "The diagnostic ability of midwives is generally good and in the case of many, remarkably excellent. In this respect, the average midwife is fully the equal of the average physician." [Dr. Van Blarcom; 1913]

Dr. Louis Dublin, President of the American Public Health Association and the Third Vice-president and Statistician of the Metropolitan Life Insurance Company analyzed the work of the Frontier Nurses' midwifery service in rural Kentucky. On May 9, 1932 Dr. Dublin made the following public statement on the documented safety of home-based birth services provided to indigent women by professional midwives:

> "The study shows conclusively that the type of service rendered by the Frontier Nurses *[care by professionally-trained midwives]* safeguards the life of the mother and babe. If such service were available to the women of the country generally, there would be a savings of 10,000 mothers' lives a year in the US, there would be 30,000 less stillbirths and 30,000 more children alive at the end of the first month of life." [Editor's Note – this describes 60,000 babies and 10,000 mothers --**70,000 preventable deaths -- every year** for want of appropriate, non-interventive maternity care]

Obviously the author of the NY Times piece trashing midwives did not include the testimony of White House Conference in 1931 or the report by Dr Dublin in 1932 in his background research

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For sure he would not have agreed with the following conclusion as drawn by someone who did indeed "do his homework" on the topic.

> "Clearly the midwife seemed to be the safest birth attendant" [Dr. DeVitt, MD; 1975]

All evidence to the contrary, the obstetrical profession was dead set on curing the 'the midwife problem' once and for all. Between 1910 and 1920, a concerted and sustained effort by organized medicine was able to reduce the rate of midwife-attended birth from 50% to 13% percent. This completely destroyed the profession of midwifery on the northeast seaboard, although a few hardy individuals continued to practice in a low profile or underground fashion. After 1930 the only intact category of midwives were black or 'granny' midwives in the racially segregated south, where many white doctors refused to care for women of color.

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Chapter Five

20th Century Birth ~ An Unofficial Medical Experiment with a 100-year run

The 20th century medicalization of labor and birth in the US was remarkable more for scale than substance. It systemized the complete loss of physiological management and eliminated important attributes such as 'patience with nature' and 'right use of gravity'. Implementing this form of obstetrical management as the 'standard of care' triggered the most dramatic changes in the history of normal childbearing during the 20th century. For women with complicated pregnancies these changes were often positive. For the 70% of women who were healthy, normal pregnancies, the change was not good. The thesis of this medical experiment was the idea (more correctly a hypothesis) that medicalized childbirth would eliminate dysfunctional labor, obstructed birth, perinatal deaths and cerebral palsy.

However, there was no solid evidence to support this hypothesis. The high level of very serious intervention was further complicated by the suddenness of it all. The really accelerated curve for taking over the "obstetrical material" of midwives and reconfiguring them as obstetrical patients was from 1910 to 1920. That is a very short time to work out the bug of something so big and complicated as eradicating the biology of normal childbirth. But the obstetrical profession rose to the occasion by developing a variety of methods they hoped would reduce these problems including the routine use of anesthesia, episiotomy, forceps, manual removal of the placenta, perineal suturing and drugs to treat hemorrhage and eventually, drugs for infection.

What this meant to the childbearing population was that they were no longer cared for at home by their midwife or family physician but instead admitted to hospitals where their labors were managed by professional nurses (whom they did not know) as a 'medical' condition. Normal birth was no longer a process of biology belonging to the laboring women, for which she engaged the help of others to assist her, but which was clearly her own accomplishment. Instead birth was now something accomplished by doctors and nurses, a commodity or a product of the medical profession -- something you couldn't do yourself. It was like engaging the services of a surgeon to remove your appendix, only now doctors took you to the delivery room to "remove" your baby. Had you asked to see the studies on this new 'surgical procedure', you'd have found out that medicalized childbirth was a 'hypothesis' still in the 'experimental phase'.

That said, it is only fair to also acknowledge the many important new discoveries and inventions during the first forty years of the 20th century as the science of obstetrics. Ways to artificially induce labor, such as balloons or 'boogies' inserted into the cervix to pry it open and drugs injected into the mother to start or speed up labor were developed and used. The design of forceps was improved (several times), the fetascope for listening to heart tones was invented and became indispensable, the basic understanding of the effects of labor on fetal heart rates (which eventually lead to the invention of the electronic fetal monitoring in 1960s) was published by Dr DeLee in 1924, 'twilight sleep' was introduced (narcotic and amnesiac drugs) and first use of a crude form of oxytocin (labor-stimulating hormone) and ergotamine occurred. Surgical techniques and anesthesia administration were improved, making Cesareans many time safer that before. However, C-sections were still only performed as a 'last resort' because of the risk of serious complications from anesthesia, hemorrhage and infection.

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As for the experience of laboring women, that was not improved. Mothers-to-be were kept in bed, heavily medicated with narcotics and isolated from family members. Normal childbirth (now called 'the delivery') was to be conducted by a physician as a surgical procedure, 'performed' in a sterile operating room on an unconscious women. Of course, fathers (or other family members) were not allowed. This style of medicalized management resulted in a host of difficult labors, including failure to progress and the need to narcotize mothers since the pain of laboring in bed on one's back was too great to tolerate without medication. For no apparent reason newly delivered mothers suffered massive hemorrhages and some still got fatal infections or infected episiotomy incisions. Other unexpected difficulties included babies that appeared to develop 'fetal distress' for no discernable reason, who were stillborn or so depressed at birth they required resuscitation.

Despite what it appeared to be powerful tools to control labor and birth, there was in the background the really dark side of everyone's worse fears – babies inexplicably born with permanent neurological damage, cerebral palsy and other severe mental and physical problems sometimes referred to as 'birth injuries'.

All these interventions were a valiant and well-meaning attempt to eliminate the tragic complications of childbirth including stillbirth, brain damage, cerebral palsy and damage to the mother's pelvic floor. Doctors did not intervene to be mean or out of a disregard for the health of their patients. They were good people who had high hopes, they believed in what they were doing. The question (both unanswered and unasked) was could the medical model delivery on its promise?

The Fix is a Failure

Unfortunately for obstetricians, the same measures of safety that lead to the original condemnation of medical education in 1910 -- poor outcome statistics and a high level of maternal and infant mortality and morbidity -- revealed the 'fix' to be a miserable failure. One physician of the era (Dr. Bolt) identified an increase in maternal deaths of 15% per year for more than a decade and a 44% rise in birth injuries during exactly the same period (1910 to 1935) that coincided with the displacement of midwives by physicians and healthy women became obstetrical patients.

According to a contemporary paper entitled *"The Elimination of Midwifery in the United States -- 1900 through 1935"* by Dr. Neal DeVitt :

> '"The Committee on Maternal Welfare of the Philadelphia County Medical Society (1934) expressed concern over the rate of deaths of infants from birth injuries increased 62% from 1920 to 1929. This was simultaneous with the decline of midwife-attended birth and the increase in routine obstetrical interventions, due in part to the influence of operative deliveries."

In 1937 Dr Guttmacher pointed out the problem with the following comments about maternal-infant mortality in the US:

> "Let us compare the operative rates of these relatively dangerous countries (USA, Scotland) with those of the countries which are safer. In Sweden the [operative] interference rate is 3.2

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> percent, in Denmark it is 4.5, while in Holland .... it is under 1 percent." "What is responsible for this vast difference in operative rates? ... Analgesics *[narcotic drugs]* and anesthetics, which unquestionably retard labor and increase the necessity for operative interference, are *almost never used by them in normal cases*; and more than 90 percent of their deliveries are done by midwives unassisted. And midwives are trained to look upon birth as a natural function which rarely requires artificial aid from steel or brawn. [emphasis added, 1937-A]

The problem was that physicians took over the practice of midwives without any idea of the philosophy, principles or techniques of the discipline of midwifery -- the 'social' or physiological model of birth. They did not acknowledge the psychological and social needs of laboring women or appreciate the greater safety and other benefits afforded by respect for and strict adherence to physiological management. Most important of all, they had no understanding of the dangers introduced by medical interference and surgical interventions.

Instead physicians saw the care of healthy childbearing women primarily as an educational opportunity for them to develop better skills in interventive obstetrics. This was done by routinely using chloroform, episiotomy, forceps and manual removal of the placenta at every normal birth. This reflected the idea that medical students needed to learn these surgical techniques and graduate physicians needed to keep current on these skills, so that when forceps were actually necessary, they would be proficient. The lay public doesn't appreciate how hard it is to use any instrument of force in the "J" shaped birth canal of a childbearing woman. Since babies don't come out like a train comes out of a tunnel, you can't just "pull" them out with the medical equivalent of tongs or a toilet plunger. Learning how to navigate that 60-degree angle, officially called the "curve of Carus" after professor of anatomy and obstetrician Carl Gustav Carus who first described it as the "parturient axis" in 1789, is a difficult skill.

Much of obstetrics is the story of how hard it is to fool (or fool with!) 'Mother Nature'. The history of forceps is the record of the various ways the medical profession has tried to "work around" the problems caused by that 60-degree angle. In particular, how hard it is to get an undamaged baby out of the unconscious, anesthetized (or numb) body of a laboring woman who can't push her baby out (perhaps because of the anesthesia) or for whom the anti-gravitational position and weight-bearing on the pelvis works directly against the natural (and necessary) characteristics of pelvic mobility.

Hard as it is for a mother lying on her back to push her baby uphill around a 60-degee angle, consider how much more difficult it would be for the doctor to accomplished the same things by pulling on the fragile skull of an unborn baby "from below" (standing on the floor in front of the pelvis), with enough force to get the baby to go around the corner and emerge at an uphill angle (i.e., baby's head pointing towards the ceiling). The many bad maternal-infant outcome statistics of the era reflected the poor outcomes that resulted from pulling heavily narcotized babies out from below with forceps.

The Obstetrical Profession Confuses 'Cause' and 'Effect'

In a systemized effort to "fool" Mother Nature, anesthesia, episiotomy, forceps, manual removal of the placenta and stitching up the episiotomy not only became 'routine' but quickly also became the "standard of care". Unfortunately, anesthetic deaths, postpartum hemorrhage, infection, newborn

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brain damage, stillbirth and long-term gynecological complications associated with the use of forceps (such as incontinence) followed in the wake of this ill-conceived and unscientific model of care.

Equally sad for the obstetrical profession, the actual cause of these poor outcome statistics turned out to be the very thing that the obstetrical profession considered to be the 'big deal', the brightest hope of its profession, its best talent, its *raison d'etre* – the 'creative' and prophylactic use of drugs, anesthesia and surgical interventions. However, the interpretation by medical professionals was an exactly inverted opinion. In their minds the bad outcome statistics only proved that birth was even more pathological than they already imagined. They were (and remain) convinced that what was (and is) needed to correct the problem was (is) ever more drastic interventions, done sooner and applied to more and more cases of otherwise healthy pregnancies or normal labor.

(When I retired from L&D nursing in 1976, this was still the obstetrical standard of care, except that general anesthesia was slowly being replaced by spinals or epidural anesthesia)

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Chapter Six

Within just a few years, the promise of 1910 came to pass – organized medicine did train a large number of obstetrical surgeons to replace midwives, and these newly minted physicians took over the care of healthy childbearing women. We also have to admit that the obstetrical promise of complete control over the unpredictable nature of female biology is an enduring idea that continues to be enthusiastically embraced by both the medical profession and the lay public. And the claim that obstetrical management would vastly reduce (if not altogether prevent) childbirth-related disability and maternal-infant mortality is one the obstetrical profession sincerely believes to be a promise they delivered on.

Improved Outcomes, Difference of Opinion on Why

Simultaneously (or co-incidentally, depending on your perspective!) maternal infant outcomes did improve dramatically over the course of the 20th century. Both stillbirth and maternal deaths are way down as compared to 1910. However, medical anthropologists attribute this dramatic improvement not to obstetrical interventions but rather to social causes -- rising economic and educational factors such as public sanitation and safe building codes, clean water, adequate nutrition, effective contraception, timely access to medical services when necessary, etc. But it comes as no surprise to hear that the obstetrical profession is not buying this explanation.

Birth as a Surgical Procedure Become the Standard of Care 1910 -- 1930

According to the obstetrical profession, economic and public health factors were only a minor contributor to the vast improvement in maternal-infant outcome statistics during the first half of the 20th century. They remained convinced that childbearing was inherently dangerous and that it could only be made safe in a hospital as a surgical procedure, performed by a physician under sterile conditions. Clearly, birth was indeed something the doctor (not the mother) did. From the perspective of organized medicine, medicalized childbearing fulfilled the obstetrical promise to prevent stillbirth, brain damage, cerebral palsy, and pelvic floor damage. While the cure was not yet a 100%, they had their eyes on the prize – a time when more and better obstetrical interventions would reduce 'adverse events' to the vanishing point. With this kind of organized commitment and the momentum of both the lay public and the medical profession, more than 90% of childbearing women gave birth this way – full medicalized obstetrical management, narcotic drugs in labor, general anesthesia and "prophylactic use" of outlet forceps. The only good news was that the Cesarean rate was only about 1% for the first few decades of the 20th century.

If at first you don't succeed, try, try again – 1930 to 1970

Despite the powerful control and massive manipulation of labor and birth, obstetrical problems continued to occur – labors didn't go as planned, babies developed 'fetal distress' or were stillborn for no observable reason. Mothers continued to have massive hemorrhages after delivery and get serious, even fatal infections. Of additional concern were gynecological complications such as vaginal fistulas and incontinence. And the stubborn problem of 'birth injuries – brain damage and cerebral palsy continued to defy their best efforts.

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So they went back to the drawing board to come up with a new plan, a fresh start. The answer? Well obviously they were not using enough drugs or were not using them early enough. The 20th century obstetrical promise was a better birth for mothers and a perfect baby, every time. That meant it was the obstetrician's role to make birth work and their profession's reputation depended on their ability to bring that about.

And luckily for them, a whole host of new of drugs, equipment and methods arose serendipitously as a side-effect of the Second World War – antibiotics, blood typing, safer anesthesia agents, better surgical techniques, expanded diagnostic methods, etc. Obstetrical advances included the modern-day form of the labor stimulating hormone oxytocin (developed and marketed by Parke-Davis as 'Pitocin' in 1954), continuous caudal block in labor was first used, the first vacuum extractor for delivery was developed, and Dr Virginia Apgar invented the Apgar scoring system for assessing babies at one and five minutes after birth. Most notably, the prototype of ultrasound for obstetrical purposes – fetal heart rate monitoring and fetal pictures -- first occurred between the years of 1958 and 1963.

However, standard obstetrical management did not change – labor was still managed as a medical condition. This included complete isolation from one family in a labor ward. Upon entering into the labor ward as a new patient, the scared young mother was greeted by a cacophony of distressing sounds from other women in labor who were under the influence of powerful drugs and cried out with every uterine contraction, moaning, shouting or swearing. Leaving no orifice unmolested, mothers-to-be were subjected to the standard OB prep (pubic shave) and large soapsuds enema, not allowed to eat or drink or get out of bed and had their water broken artificially.

Then they were given heavy doses of narcotics and amnesic drugs (they were probably grateful to forget what had just happened to them!). Birth was a surgical procedure was still the norm, which meant anesthesia, episiotomy, forceps, stitches, etc. But the new drugs of the 1940s did help obstetricians deal more successfully with the side-effects of these interventions – for example, antibiotics to treat infection from obstetrical manipulations (episiotomy and forceps) and blood transfusions to treat women hemorrhaging after the manual removal of the placenta. And doctors were finally able to reduce the high rate of maternal mortality and stillbirth of the preceding decades.

During this period forceps continued to be routine (90%), while Cesareans were being done more often (5%), as effective antibiotics, safe blood transfusion and safer anesthesia made such surgery less dangerous. Other problems that obstetrical management was suppose to prevent (such as pelvic floor damage) continued on unabated. Worse still, the obstetrical profession continued to stymied in their desire to banish brain damage and cerebral palsy, which seemed to be the same year after year. Doctors dreamed of a day when they understood what caused these heartbreaking problems so that they could banish them with the same success as puerperal sepsis and obstructed labors.

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The Really BIG Guns -- the Technological Fix --- 1970 to 2000

Despite ever-increasing control and manipulation of labor and birth that had become routine during the 1960s, obstetricians at the end of that decade still could not predict or prevent labors that failed to progress, babies that developed 'fetal distress' for no observable reason and women who continued to have massive hemorrhages after delivery. New mothers sometimes got serious, even fatal infections, but antibiotics made this less of a worry. However, long-term gynecological complications such as pelvic floor damage, uterine prolapse and incontinence still persisted. The good news was that the stillbirth rate continued to drop. The bad news was that the stubborn problem of 'birth injuries – brain damage and cerebral palsy – continued to plague them in spite of their best efforts.

But change was in the air, big changes. Over the next 30 years obstetrical practices would be dramatically different in six specific areas – regular use of Pitocin to start or speed up labor, epidural anesthesia, the presence of fathers and family members, the routine use of continuous electronic monitoring, a vastly increased Cesarean rate and the increasing role of the 'malpractice crisis' as the central organizing factor in obstetrical medicine.

Interestingly enough, these changes were not the result of new 'medical miracles', either drugs or technology, as there was little in the way of brand new inventions during these 30 years. Instead the period was remarkable for its refinement of earlier discoveries-- primarily ultrasound and EFM. But the unquestioned lynch pin of the era was the further development and universal deployment of electronic fetal monitors (EFM) and its association with Cesarean section. More and more the Cesarean section was being seen a relatively safe rescue operation and, it was assumed, a valuable tool in the armamentarium of weapons against birth-related brain damage and cerebral palsy. In combination with an increasingly 'litigious society', the malpractice crisis fueled a propensity to use Cesarean section as the all purpose solution for every perceived problem.

Patient's Rights as an Important, Modern-day Concept

The 1976 malpractice crisis occurred at the same time that the concept of "patients rights" underwent a major upgrade. This groundbreaking change was more substantial and far reaching than malpractice litigation, but it got little attention from the media. As a result most Americans were unaware of the 'National Research Act', passed in 1974 by the US Congress. This Act mandated the establishment of an 11-member *National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research*. The Commission was "to identify the basic ethical principles that should underlie the conduct of biomedical and behavioral research involving human subjects and to develop guidelines that should be followed in such research." [52]

Patient's Rights is not a very exciting topic unless you also know that doctors in the US were not, up to that time, required by law to get voluntary participation and informed consent from patients before using them as test subjects in a medical experiment. This explains how something as reprehensible as the 40-year Tuskegee Syphilis Study could have occurred. It was not until July 1972 that a New York Times story brought this moral outrage to the public's attention. The story, briefly stated, was that the United States Public Health Service conducted research from 1932 to 1972 on 600 black men in order to learn more about syphilis. There was no evidence that

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researchers informed these men that they were being used as subjects in a medical study.

These men were misled and not given the facts required to provide informed consent. Researchers told them they were being treated for "bad blood," a local term used to describe several ailments, including syphilis, anemia, and fatigue. Withholding effective treatment caused needless pain and suffering. Even when penicillin became the drug of choice for syphilis in 1947 researchers did not offer it, nor were the men given the choice of quitting the study when this new, highly effective treatment became widely used. In July 1972 the New York Times story caused a public outcry that led the federal government to take a closer look at research involving human subjects and make changes to prevent such things from happening again.

Within a mere six years (still 46 years too late for the Tuskegee patients!) the *National Commission for the Protection of Human Subjects* published its recommendations in a document known as Belmont Report. In 1978 the patient's right to voluntary participation thru "informed consent" (including the right to refuse or withdrew from treatment) was established at the federal level. The Commission's recommendation mandated an ethical obligation on the part of doctors and other researchers to provide full information and obtain truly informed consent before any experimental treatment could be offered. Eventually this became a legal requirement.

National Commission for the Protection of Human Subjects

Were the medicalizing of labor for healthy women and/or the idea of normal childbirth as a surgical procedure that was introduced in the first decades of the 20th century to have occurred sixty years later, history would have been quite different for mothers, midwives and obstetrical surgeons. Under the mandates of the *National Commission for the Protection of Human Subjects*, the obstetrical profession would have been required to get approval from the hospital's ethical research advisory board before embarking on an extended "medical experiment". However, by the late 1970s, the original experimental nature of these ideas was lost to living memory and by then obstetrical intervention was considered to be the "norm".

That said, the general necessity of obtaining fully informed consent was becoming much more developed and the idea of informed consent relative to obstetrical care gained a lot of traction in a short space of time. The ethics of 'patient's rights', as defined by the Belmont Report, began leak into legal ideas of informed consent in medical care in general. Greater attention to informed consent in obstetrical practice was further spurred by fear of malpractice litigation. By the end of the 1970s the obstetrical profession insisted that childbearing woman were never subjected to interventions unless the labor patients (or her husband if she was under the influence of narcotic drugs) had been informed and given consent.

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Chapter Seven

The Seventies – paradigm shift par excellence!

To make it easier to follow the events of this 30-year era, lets considered the story decade-by-decade, beginning with 1970s.

In the early 1970s there were no less than three new kids on the block -- electronic fetal monitoring, epidural anesthesia and the malpractice "crisis". The biggest and most obstetrically influential was continuous electronic fetal monitoring (EFM), which was tightly paired with that familiar obstetrical staple – surgical birth as either forceps or Cesarean section. However, women were most impressed with epidural anesthesia, which permitted they to be "awake and aware" and have their husband with them. As for the malpractice crisis, lawyers and hospital administrators were zoned in on that.

Electronic Fetal Monitoring

EFM was billed as the answer to every obstetrician (and every family's) prayer – the magic bullet, the 'cure' for birth-related brain injuries. It was believed that the use of continuous EFM could detect fetal distress before it caused any permanent damage. The nifty trick was to catch potential brain damage before it happened and rescue the baby via emergency CS. Its promise was simple but profound – the marriage of EFM and liberal use of CS was to virtually eliminate birth-related brain damage and cerebral palsy. EFM made maternity care out side of the acute care hospital unthinkable. As the use of EFM became more common, there was increasing pressure for Cesareans to be employed whenever continuous EFM indicated a possible abnormality or fetal distress. It was this idea that gave rise to the obstetrical slogan of "When it doubt, cut it out".

Very quickly the obstetrical standard of care expanded to include the routine use of continuous EFM, in combination with immediate access to and liberal use of Cesarean surgery. It was suppose to be so easy – just hook every mother up continuously electronic fetal monitoring and sit back and watch the strip scroll by. However there were a few unexpected problems, which doctors, for the most part, kept to themselves. As with any new technology, there were bugs and unintended consequences. Interpreting EFM tracing was not as straight forward as first assumed. There were many widely differing opinions on just what was and was not a 'normal' versus 'abnormal' as recorded on the EFM printout. As a result, the emergency CS rate shot thru the roof as obstetricians mistook the many normal variations of FHR pattern as potentially "ominous". For the first 20 years, the EFM machines were very finicky and the mother had to lie real still, preferably on her back, to get a good reading. It was not widely recognized at the time or, at least not admitted to, but the technology to detect fetal distress also created or contributed to fetal distress.

But still it seem that EFM was the beginning of something great. After a futile search by generations of obstetricians for a way to prevent brain damage and cerebral palsy, obstetricians were convinced that they had finally achieved this most admirable goal. EFM would, finally, categorically and for all time, eliminate these newborn tragedies and the obstetrician's anxiety of being wrongly accused by the parents or the hospital for some perceived mismanagement of the

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labor or birth. Unfortunately, celebration over this perceived victory of the brutish forces of nature was muted by the gathering storm and long-term fallout of the 1976 malpractice crisis.

Epidural Anesthesia

Women and their families were not as impressed with EFM as they were the change to "awake and aware" labor and birth practices and the ability to have their loved ones present during the birth. There were two specific reasons for relaxed hospital policies. Fear of puerperal sepsis had been cured by access to effective antibiotics, so the isolation of maternity patients no longer legally mandated by state laws. Second, the use of spinal and epidural (instead of general) anesthesia made it more sensible for fathers to be present. Both of these substantive changes happily coincided with the non-obstetrical phenomenon of childbirth education classes and the resulting demand of childbearing women to have their husbands involved in their labor. A very small number of women even managed to have a 'natural' birth in this medicalized environment, but this rare oddity did little to influence obstetrical customs.

Malpractice Litigation

Last in our trilogy is the 'bad humbre' -- the malpractice crisis of 1976. Over the last three decades, the issue of 'risk reduction' had begun to organize all medical care around preventing malpractice litigation.

Characterizing EFM as the "big gun" of obstetrics is more metaphorically accurate than one might suppose, as EFM and the malpractice crisis both landed right in the middle of the 1970s. EFM, marketed as the cure-all, made obstetricians uniquely vulnerable to litigation as it left a paper trail that could be subpoenaed and argued over in court by competing and diametrically-opposed 'expert witnesses'. The combination of hard-copy 'evidence' and the wide variation of professional interpretation was a particularly deadly mix. EFM became like a double-barreled shoot gun with one barrel cocked at the culprit of brain damage and cerebral palsy, ready to shoot to kill, and the other barrel twisted backwards, with the obstetrician dead center in his own sight. The very thing that was seen to 'save' the reputation of the obstetrician was also capable of killing it off.

Labor and Birth, 1970-style

Unfortunately, the experience of the 'awake and aware' labor patient was not as different as people imagined. Aside from the change to epidural anesthesia and the presence of father (and if they were lucky, maybe one or two other family members) obstetrical management by the end of the 1970s was pretty much the same as the 1930s. Even though infection was no longer the central and organizing problem in hospital childbirth, labor was still organized around its cure, which was to say that birth was still being conducted as a surgical procedure.

Pregnant women were still admitted to hospitals to have their labors managed by nurses as a medical condition. Mothers were still kept in bed, still had no control over what happened to them, still had their water broken, still shaved and given enemas, still required to be NPO (no food or drink), with the exception of ice chips. Only now, in addition to the already substitive list, they also had IVs going, an epidural catheter in their back, blood pressure cuffs permanently affixed to

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their arm, and the ubiquitous EFM leads wrapped around their middle. All this was accompanied by the beep-beep of the electronic fetal monitor, which is the first thing everyone looked at when they entered the room and the last thing they glanced at as the left. In fact, the EFM got far more attention than the mother. Right use of gravity was not a part of this picture.

More of an issue was that these 'improvements' were not as dramatically effective as obstetricians first imagined. The decade of the 1970s ended with a whimper rather than a roar. In spite of having the best control and manipulation of labor, birth and unborn baby in the history of the world, obstetricians at the end of that decade still could not predict or prevent labors that failed to progress, babies that developed 'fetal distress' with no explanation and women who continued to have massive hemorrhages after an apparently normal delivery. New mothers sometimes got infections, which were quickly treated by antibiotics, but occasionally there still was a maternal death. The same long-term gynecological complications such as pelvic floor damage and incontinence persisted. The only good news was that the stillbirth rate continued to drop. But the unexpected bad news was that the stubborn problem of 'birth injuries – brain damage and cerebral palsy – continued to plague them even with intrapartum use of continuous EFM.

The Eighties

The most remarkable characteristic of the 1980s was the inventive combining and clustering of the newer or upgraded technologies – genetic testing, EFM & ultrasound, improved techniques and equipment for epidural anesthesia, a big increase in labor induction and augmentation, prostaglandins for cervical ripening, accompanied by an ever expanding list of reasons to induce labor and a CS rate around 25 %, primarily due to false-positive reading from the EFM.

Induction – Baby on Demand

Inducting or speeding up labor with Pitocin became much more popular in the late 1970s and early 1980s. A big contributor to this was the development and aggressive marketing of the easier to use angio-cath, which was a replacement for the metal IV needle. This plastic catheter meant the patients no loner had to have their arms tied down to an "IV board" for fear that if they accidently bent their elbow, the IV needle would go straith thru their arm. This was a creepy enough thought that patients and nurses alike were far happier with the new none-needle needles. This made the IV administration of Pitocin more acceptable.

In the 1980s the development of the IV pumps, which help to 'titrate' or carefully measure out an exact dose, make the use of Pitocin a bit less risky, at least from the standpoint of hospital staff error. However, Pitocin is a powerful drug and there is no way to tell ahead of time if a laboring women is overly sensitive to it. The product insert by Parke-Davis pharmaceutical company that ships with every package of Pitocin lists no less than 11 serious or fatal "adverse reactions" (i.e., complications or death) for mothers and 7 for unborn or newborn babies, including a tetonic contraction lasting up to 10 minutes, fetal distress, amniotic fluid embolism, placental abruption, uterine rupture, death and permanent neurological damage for either mother or baby.

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VBAC - A Long Over-due Reversal of an Outdated Policy

The high Cesarean rate triggered the reversal of a long-standing obstetrical tradition – the idea that 'once a Cesarean, always a Cesarean' came under questions after 50 years of automatic repeat CSs. With a CS rate of 25 %, about 20% of women were having a second pregnancy after a Cesarean. A modest number of these women were so disturbed by the original CS, or so distraught at the thought of another one and/or so committed to having a normal vaginal birth, that they refuse to sign up for a repeat CS and convinced midwives to let them give birth at home. That got the attention of the obstetrical profession. After these doctors regained consciousness (many fainted when they heard the news!), there was a long-overdue reassessment. After publishing a few positive studies on VBAC (vaginal birth after cesarean), it was determined that the risk was relatively minor and so hospital VBAC became the standard of care for the obstetrical profession.

> "For the first time, the technology of ultrasound allows the fetus to be the primary patient of the obstetrician" Preface of Williams obstetrical textbook, published in early 1980s [emphasis added]

However, the hot new technology of the eighties was prenatal evaluation and genetic testing. Before the decade was over, the combination of ultrasound and genetic testing (such as alpha-feto-protein and amniocentesis) had become the new standard for prenatal care. This made targeted termination of pregnancy possible when it was clear the baby had a serious congenital anomaly. A side effect of genetic testing was that the number of fragile fetuses who would have became distressed in labor or would have been stillborn was significantly reduced, which improved outcome statistics for live births in all industrialized countries.

Another major area of change was hospital economics. During the 1970s and 80s old charity hospitals were rapidly being improved and converting to 'for profit' institutions. A concerted effort to liberalize the social aspect of hospitalization was brought on by economic competition with other hospitals (and the threat of home birth!). Improvements included new LDRs (labor-delivery-recovery rooms), which architecturally healed the artificial split between 'labor' and 'delivery'. An LDR is basically a controlled and equipped surgical environment (same as a delivery room) that has been modified to accommodate the pre-birth activities of labor, the surgical procedure of 'delivery and immediate recovery for both new mom and new baby. LDR standards are the same as any OR and so the bed, floors, ceiling height were all built to surgical specifications and all surfaces were scrubbed and disinfected between each patient.

The normal delivery room equipment and surgical instruments were hidden in cupboards with attractive wooden doors. Equally important was a special (and especially expensive) motorized labor bed that quickly turns, at the press of a button, into a waist-high delivery "table", complete with stirrups. Instead of putting women on stretchers and moving them down the hall to the delivery room (which left dad behind), they brought the delivery room and OR table to both mom and dad. This was part of an industry-wide effort by the hospital PR folks to be perceived as family friendly, which included a sprucing up the LDR with flowered bedspreads and other window dressings, moving in a rocking chair and maybe a daybed for dad. This was not an idea that obstetricians had much affection for, but the public really embraced them whole heartedly.

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Labor and Birth, Eighties-style:

As for what the fashion conscious, 'awake and aware' labor patient of the 80s should wear to have a baby, it was still an ugly and immodest hospital gown. Proper accessories for an UHG (ugly hospital gown), were EFM straps in attractive shades of baby pink and power blue. The medical management in 1980 was, well, even more medical than before. By 1980s threat of malpractice litigation had heated up and was making everyone paranoid. Risk reduction was 'hot', physiological management was definitely not.

In fact obstetrical interventions were on an ascending course -- ever-increasing in number and invasiveness, with ever widening and relaxed criteria for surgical interventions. Mothers were still required to be NPO (no food or drink) with the exception of ice chips. On a brighter note, many hospitals changed the full public shave to the less invasive "Poodle clip" and exchanged the big soapsuds enema for a small disposable "Fleets" enema. Obviously the idea that the rectum should properly be an 'exit-only orifice' had not yet come into its time.

In theory laboring women were 'allowed' to walk around, but in practice, as labor progressed they were eventually hooked up to a half dozen medical devices – two electronic fetal monitoring leads, IV and Pitocin administration equipment, epidural anesthesia catheter and administration pump, automatic blood pressure cuff, pulse oximetry, Foley catheter with urine bag hanging on the bed rail. Needless to say, all this 'stuff' held them hostage in bed for at least 98% of the total labor.

As if they was not already wired for sound, another 'refinement' of the period was the increasing use of the internal fetal monitor lead (which screwed into the unborn baby's head with a tiny little medal corkscrew) and the intrauterine pressure catheter or 'IUP'. The IUP required a water-filled tube to be inserted up into the laboring uterus, with the other end hooked up to a complicated hydraulic pressure gauge mounted to the bed at exactly the same height as the mother's uterus when she was lying down (and cautioned to stay still so as not to screw up the equipment!). Of course both these invasive forms of EFM required the mother's membranes to be artificially broken, so these leads and tubes could be inserted up inside them. And sadly, for many, this tangle of tubes and wires was topped of by an oxygen mask when the inevitable signs of fetal distress were noted, a frequent result of a supine position (lying on the back) and the depressive effect of multiple doses of narcotic drugs.

Obviously maternal mobility, right use of gravity and other aspects of physiological management were still not a recognized part of obstetrical care. Nor were meeting the social and psychological needs of the mother acknowledged to be important or contribute to safe, satisfying and non-surgical outcomes.

More than a century had pasted since obstetricians recommended that childbearing be conducted as a surgical procedure to protect women from the epidemic infections of hospitalized childbirth. A hundred years later, that custom that continued to be the organizing principle of obstetrics and the central billing unit of maternity care. Forceps were being used less and less, primarily due to concerns of malpractice liability. Of course, this meant that Cesareans were being done far more often and with *less* good reason. Induction of labor and scheduled or 'elective' Cesareans were now being recommended with increasing frequency for unusual or "risky" situations: Breech, twins, big baby, premie baby, older mom, hypertension, diabetic, etc.

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By now the background rate of CS was about 20%, with some years going as high as 25%. Episiotomy was about 75% for first time mothers and about 50% for multips. Forceps were used in about 30% of births. Unfortunately, many of the problems that strict obstetrical management was suppose to prevent -- brain damage, cerebral palsy, pelvic floor damage -- continued to occur, in spite of ultrasound evaluation of fetal position and size, NSTs and increasing inductions of labor, continuous EFM, internal EFM leads and expanded reasons for Cesarean delivery.

Obstetricians despaired.

The Nineties

1990 - 2000 ~ The nineties were discouraging to many who had spent the previous decades working towards the liberalization of obstetrical policies and reduction of surgical births. For those who longed for a reversal of the run-away medicalization, it was depressing to see that virtually every healthy labor woman was being harpooned to the bed in a tangled twisted web of electronic wires, tubes and catheters, with the ubiquitous machine that goes “bing” droning on and on in the corner, the center of everyone’s attention.

However, there seemed to be a confluence of patient anxiety with obstetrician anxiety. Women stopped complaining about the restrictions of medicalization and started asking for more – more tests, more inductions, more assurance their baby was OK, even if it meant twice weekly trips to the doctor for NSTs during pregnancy and being arc-welded to the electronic fetal monitor during labor. But the biggest difference was that more women were asking for more and earlier epidural anesthesia. It was now ‘in’ to have an epidural, so much so that women who voiced a desire for a ‘natural’ birth were told by other women that they would be nuts to even try. The advice was blunt “Get your epidural in the parking lot”. By the end of the decade, many hospitals had a 95% epidural rate. In fact, the obstetrical profession had been so successful at marketing epidural anesthesia as the “Cadillac of childbirth”, that a new medical profession arose to meet the growing need – OB anesthesia is now a separate sub-specialty for anesthesiologists.

The pernicious influence of run-away malpractice litigation, increasing in number and in amount of jury awards, thoroughly poisoned the water that obstetrician swam in. Psychologically-speaking, the operative words were tight, tighter and tightest – everything in OB was tightly organized around malpractice risk reduction. The astute reader will no doubt be able to predict what comes next – MORE of everything, with a few new bells and whistles. Obstetrical technology was still king, but for the most part, the ‘cutting’ edge’ was still refining machines and methodologies already in use – color and 3-D ultrasound, telemetry leads for continuous EFM and toward the end of the decade, the first prototype of a fetal pulse oximetry, which is an electronic devise that monitors the oxygen saturation of the unborn baby’s blood. Like the intrauterine pressure catheter, it is yet another tube that is pushed up into the laboring uterus and hooked to a read-out devise.

Between 1990 and the year 2000, greater medical scrutiny was focused on prenatal testing for Group B Strep (GBS) and Gestational Diabetes (GDM) and treatment for these conditions became the ‘standard of care’. Routinely stripping membranes weekly to prevent post-dates became popular as well as the regular induction of labor for all women who had not delivered by 41

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weeks. In addition to prostaglandin gels to ripen the cervix for induction, the off-label use of Cytotec (a drug manufactured for stomach ulcers which caused miscarriages in pregnant women) was considered by many obstetricians to be a miracle drug to kick-start an induction. Some women delivered in an hour after it was inserted into their vagina and it only cost 27 cents a pill (it was described by one OB as "ungodly cheap").

Reversal of a Reversal

And another unusual reversal occurred – a reversal of a reversal if you will. The VBAC issue was turned on its head by the end of the millennium and the hot new policy for the year 2000 was the same old policy of "once a Cesarean, always a Cesarean" of the 1930s. This was a curious turn of events, with a 'multi-factorial basis', as the say in scientific circles. There was one part the hubris of more than a decade of treating post cesarean labors as "no different" than any other labor, which was to say, the same extreme medicalization with the same misuse of Cytotec, induction, lack of physiological process, counter-productive management, wrong use of gravity, etc and (no surprise!), there were more uterine ruptures (up to 15 times as many) than spontaneous labors.

Another factor was a totally unjustified change from the classical two-layer suturing technique for cesarean incisions to a single layer technique that was suppose to be faster, use less suture material (cheaper) and reduce the risk to the doctor of finger sticks (an issue if the mother was HIV positive). However, rupture rates are 2 to 5 times greater with single layer closure. Then there was the malpractice crisis – according to lawyers, a VBAC rupture case is a lawsuit on steroids. And in 1998 ACOG changed its official policy so that doctors were required to actually be in the hospital during the entire labor. This was a real disincentive and began to slowly reverse the engines, reducing the number of VBACs and increasing the number of repeat CS.

As for cutting edge techy-toys in the 1990s, many of the new idea were embarrassingly low tech. Amnio-infusion was to prevent respiratory problems for babies associated with meconium. It used a tube to run warm water up into the uterus to wash out the meconium (the sterile contents of the unborn baby's intestine which is irritating to the lungs and can cause a chemical pneumonia). IV antibiotics were routinely given to GBS+ mothers during labor. Perhaps the only bright spot was that many hospital stopped shaving off the pubic hair of women in labor and dropped the compulsory labor enema. But in every other way, it was more and more and more intervention. The CS rate was about 24 %, forceps about 12%, episiotomy somewhere between 35 and 75%, induction about 20%.

And so we ended the 20th century where we began – labor as a medical condition, birth as a surgical procedure, the classical promise of obstetrics unfulfilled. The total elimination of all childbirth-related complications and the guarantee of a perfect baby every time did not come about as hoped. In spite of having the best level of control over labor, birth and the unborn baby ever to occur in the history of the human species, obstetricians at the end of the 20th century still could not predict or prevent labors that failed to progress, babies that developed 'fetal distress' with no explanation and women who continued to have massive hemorrhages after an apparently normal delivery. New mothers sometimes got infections, which were quickly treated by antibiotics, but occasionally there still was a maternal death. The same long-term gynecological complications such as pelvic floor damage and incontinence persisted.

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When your best still isn't good enough … .

And that old nemesis – the triade of brain damage, cerebral palsy, pelvic floor damage – all continued to happen in spite of the ability of ultrasound to evaluation of fetal size and position, non-stress testing, increased inductions of labor, intrapartum IV antibiotics, amnio-infusion, continuous EFM, internal EFM leads, fetal pulse oximetry and massively expanded reasons for Cesarean delivery.

Despair was an inadequate concept to describe the frustration of the obstetrical profession.

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Chapter Eight ~ 2001 – 2004: The Surgical Fix

At the beginning of the 21st millennium, a small but influential group of obstetricians began to openly question the biology of vaginal birth. This wasn't the first time that an obstetrician had questioned the basic character of the female reproductive capacity. In the early 1900s Dr DeLee insisted that childbirth, from the standpoint mother's perineum, was about as "natural" as falling on a pitchfork. He likewise insisted that every baby's head was subjected to pathological forces during even the most normal labor by being repeated bashed into the mother's intact (i.e., "iron") perineum. He thought that only the generous use of episiotomy could save mother and baby from the defects of female biology. He also believed that the birth canal was intrinsically dangerous and the routine use of forceps were necessary to save the baby from being battered and brain damaged as it was pushed along by unpredictable and malevolent forces of nature.

Prophylactic Cesarean Section at Term

The theme begun by Dr DeLee early in the 20th century reoccurred again in the last decades of the century. In a peer-reviewed paper published in the *New England Journal of Medicine* in 1985, a case was made for the mother's right to have a Cesarean "on demand" (the precursor to 'patient-choice' CS), as well as a move to "prophylactic" Cesarean as a preemptive strike to protect the baby from the "dangers" normal labor and birth. The authors, Doctors Feldman and Friedman, were suggesting that from the standpoint of fetal wellbeing, the obstetrical standard of care should become a 100% scheduled Cesarean. This drastic idea would redirect the professional focus of obstetricians from management of labor and birth to the prenatal determination of fetal lung maturity so that the CS could be scheduled before the mother went into spontaneous labor and 'accidentally' gave birth naturally.

This recommendation was based on the idea that routine use of cesarean surgeries would entailed only a minor amount of "excess" or "extra maternal mortality", which was trivial when compared to the loss fetal and newborn life associated with normal birth. The Doctors Feldman and Friedman opined that the "low cost of excess maternal mortality" may be a price worth paying. Here is a short excerpt:

> "….the number of extra women dying as a result of a complete shift to prophylactic cesarean section at term would be 5.3 per 100,000…. This may be the proper moment to recall that the number of fetuses expected to suffer a disaster after reaching lung maturity is between 1 in 50 to 1 in 500. … if it could save even a fraction of the babies at risk, these calculations would seem to raise the possibility that a shift toward prophylactic cesarean section at term might save a substantial number of potentially healthy infants at a relatively low cost of excess maternal mortality." p. 1266
>
> "We probably would not vary our procedures if the cost of saving the baby's life were the loss of the mother's. But what if it were a question of 2 babies saved per mother lost, or 5 or 10 or (as our calculations roughly suggest) as many as 36 or 360? …. Is there some ratio of fetal gain to maternal loss that would unequivocally justify a wider application of this procedure?
>
> ….is it tenable for us to continue to fail to inform patients explicitly of the very real risks associated with the passive anticipation of vaginal delivery after fetal lung maturity has been

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> reached? If a patient considers the procedure and decides against it, must she then be required to sign a consent form for the attempted vaginal delivery?" p. 1267 [Prophylactic Cesarean Section at Term? Feldman & Feldman; NEJM, May 1985]

As at the beginning of the 20th century, so at the end of the 20th century. The conclusion of the obstetrical profession was that normal vaginal birth is risky and damages both mothers and babies – only now the fix is 'elective' Cesarean instead of routine use of episiotomy and forceps. Since the late 1970s, the list of reasons for doing Cesarean deliveries had steadily lengthened and the number of surgeries increased from an average of 5% in 1975 to approximately 27% in 2003.

Cesarean Surgery as a Replacement for Normal Birth

The question about the safety of vaginal birth, the strong sentiment within the obstetrical community lead many in the obstetrical community reiterate the idea of Drs. Feldmen and Friedman about 'Cesarean on demand', that is, women electing to have a Cesarean even if there were no immediate medical reasons for surgery.

In 2000 Dr Ben Harer, former president of the American College of Obstetricians and Gynecologists (ACOG), was interviewed by Diane Sawyer on Good Morning America. Dr Ben Harer supports the idea that Cesarean surgery is safer and better than vaginal birth. Here are excerpts from the transcript of the show:

> Diane Sawyer: "Each year, one in every five babies in America comes into the world through a cesarean section, the country's most common surgery**. "**
> Diane: "Some obstetricians are now calling the cesarean section preferable to vaginal births."
>
> Diane Sawyer: "**. . .** (doctors) believe that women should at the very least have the option to choose between the two . . . . and that insurance companies should basically pay ... equally and treat them equally."
>
> Dr. Harer: "...Yes .... women should be given the facts and then given the choice."
>
> Diane: "...and (you say) there's a higher rate of problems with vaginal birth, than with cesarean section. . ."
>
> Dr. Harer: Yes, for the baby, the risks are far higher for vaginal delivery . . .
> than for an elective cesarean section at term. For the mother, the immediate risks for a cesarean section are a little higher ....
>
> Dr. Harer: but the longer term, risks of pelvic dysfunction, incontinence . . . . . **.** those risks are higher for vaginal birth. Over the long term I think that the risks balance out, that there really is no big difference" (between surgery & normal birth).

Questions, Always More Questions…

The unanswered question at this point is simple – could he and the other be right? How could a

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century of obstetrical opinion be wrong? Is it normal childbirth *or* medical management that is the origin of these problems? Is Cesarean surgery basically benign, at least as compared to the 'dangers' of normal vaginal birth? How enthusiastically should we embrace this wave of the future – elective Cesarean as the 21st century standard of care?

The background question is whether or not modern day obstetrical management of healthy women with normal pregnancies is a science-based system, a value-added service with a "superior" tract-record that rightly displaces physiological management. The pinnacle of this system, the final solution recommended by Dr Harer and others in the obstetrical profession, is the most surgical of all 'surgical' procedures. It is offered as a permanent replacement for vaginal birth predicated on the idea that normal birth is defective beyond repair and needlessly damages birth mothers and babies. The obstetrical 'proof' for this opinion is the failure of the profession's best efforts for the last 100 years to make birth safe, a state of affairs that leads obstetricians to conclude that its got to be the physical body of childbearing women that is at fault.

That century of "best effort" was focused on the idea of obstetric surveillance of pregnancy and then using specially trained hospital staff and specialized equipment of the maternity wards to evaluate, diagnose, prevent and treat problems. In the last 30 years that has meant the use of EFM, which is now the standard of care. The medical profession and the lay public have both assumed that this general process in combination with this specific equipment and the skills of obstetricians to recognize abnormal EFM strips and perform and appropriate and "timely" Cesarean surgery, could and would vouch safe the baby from brain damage and cerebral palsy. This sincere belief lead to the conclusion that it was worth the loss of all other aspects of normal birth -- physiological, psychological, social and developmental -- as well as the huge expense of total medicalization, so as to permanently eliminate this ancient scourge.

And when not even the best of obstetrical management could buy the much sought after safety and reliably guaranteed a perfect baby, the official recommendation by obstetricians was to scrap normal birth all together. But what if this was based on faulty premise, what if the data was wrong? Wouldn't that call the conclusion into question also?

I'd like to focus first on the hot button issue of EFM. Then we'll return to the general questions of obstetrical surveillance of pregnancy and management of labor by a specially trained staff and specialized equipment of the hospital, the experience of the laboring women in the year 2005 and finally the issue of vaginal by-pass surgery --- Cesarean section -- valid reasons to recommend or perform a CS and the immediate, delayed and downstream consequences of its use.

The EFM – CP Connection ~ Cure? Cause? Or Inconsequential?

In July 2003 a well-respected report by none other than the American College of Obstetrics and Gynecologists quietly revealed that the most sacred dogma of obstetrical practice incorrect. ACOG's Task Force on *Neonatal Encephalopathy & Cerebral Palsy* concluded that the obstetrical profession was mistaken about the ability of continuous electronic monitoring and liberal use of cesarean section to reduce the rate of cerebral palsy and other neurological disabilities.
[* 'neonatal encephalopathy' is med-speak for birth related brain damage]

The failure of EFM and cesareans to prevent these complications stated that:

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> "Since the advent of fetal heart rate monitoring, there has been no change in the incidence of cerebral palsy.
>
> …. The majority of newborn brain injury does not occur during labor and delivery. Instead, most instances of neonatal encephalopathy and cerebral palsy are attributed to events that occur prior to the onset of labor."

This ACOG task force report had the endorsement and support of six major federal agencies and professional organizations, including the Center for Disease Control & Prevention (CDC), the March of Dimes and the obstetrical professions in Australia, New Zealand and Canada. It is described as the "most extensive peer-reviewed document on the subject published to date."

An August 15, 2002 report in *Ob.Gyn.News* stated that:

> …performing cesarean section for abnormal fetal heart rate pattern in an effort to prevent cerebral palsy is likely to cause as least as many bad outcomes as it prevents."
>
> .... A physician would have to perform 500 C-sections* for multiple late decelerations or reduced beat-to-beat variability to prevent a single case of cerebral palsy. [** 'numbers needed to treat'] *emphasis added*

The September 15, 2003 edition of *Ob.Gyn.News* stated that:

> The increasing cesarean delivery rate that occurred in conjunction with fetal monitoring has *not* been shown to be associated with *any reduction* in the CP rate...
>
> ... Only 0.19% of all those in the study had a non-reassuring fetal heart rate pattern.... If used for identifying CP risk, a non-reassuring heart rate pattern would have had a 99.8% false positive rate...." [emphasis added]

Most people incorrectly assume that EFM is the equivalent of an electrocardiogram (EKG) for the unborn baby but this is a serious misunderstanding of the technology as used for the last 30 year. Electronic monitoring equipment simply provides an elaborate mechanism to count the unborn baby's pulse. The machine transposes the acoustic signal of the baby's heart rate into a printed paper graph and video display. This permits the educated observer to evaluate a graphic representation of the four auditory markers of fetal well-being – baseline heart rate (110 to 160), variability (should be present 90% of time), accelerations (should be intermittently present) and decelerations (brief decels can sometimes be OK but generally should *not* be present).

Over the course of the 20th century medical science had developed a more sophisticated understanding of FHT patterns, especially in regard to variations and deviations from the normal baseline and their relationship to uterine contractions. It is interesting to note that this method of beat-by-beat auscultation in relationship to uterine activity was the theoretical underpinnings that eventually lead to the development of electronic fetal monitoring. But the original theory and method of fetal surveillance comes from the work of Dr. Joseph DeLee. In his 1924 obstetrical textbook he described counting fetal heart tones during a uterine contraction in twelve, 5-second sampling and then transposing these numbers on to a graphic representation of the uterine

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contraction. [Principles and Practice of Obstetrics; DeLee, 4th edition, ch. 8, p. 144].

Midwives, physicians and labor room nurses have been listening to fetal heart tone for most of the 20th century, so obviously continuous EFM is not the only way to track the wellbeing of the fetus in labor. However, the way this information was collected in decades past did not usually integrate all four markers of fetal wellbeing, making this an inadequate tool for protecting fetal wellbeing. During the last 20 years a method has emerged to collect the same type of information electronically gathered by EFM, but without the expense or restrictions of this equipment. This equally effective alternative method is called "intermittent auscultation" or (IA) and it is able to detect the baseline rate, heart rate variability, accelerations (if present) and pathological decelerations (if present).

Intermittent auscultation describes a process to gather that same information by listening regularly to fetal heart tones with a fetoscope or an electronic Doppler for one full minute immediately following a uterine contraction and counting in twelve (or more) 5-second samplings to determine the baseline rate. IA also detects the presence of a normal heart rate, normal variability, presence of normal accelerations and absence of pathological decelerations. In the presence of a reassuring pattern such as described above, the likelihood of hypoxic states (i.e., fetal distress) occurring within the next 120 minutes of normal labor is statistically insignificant. ["*Fetal Monitoring In Practice*" by Dr David Gibbs & S. Arulkumaran, MD; published in the UK]

While IA is more time-intensive (requiring a professional at the bedside), it is equally as effective as continuous EFM for low and moderate-risk labors, with the added benefit of a greatly reduced cesarean rate (4% vs. 26%). This is, in part, because it *unhooks* healthy mothers from machines and permits laboring women to move around freely. No longer tethered to the bed by electronic wires, the mother is able to change positions frequently, walk, use hot showers or deep water for pain relief and make "right use of gravity" IA is harmonious with physiological process, which reduces fetal distress and failure to progress and the need for Pitocin-augmentation of labor, pain medication, anesthesia and instrumental and operative delivery.

In spite of the significant benefits of intermittent auscultation, the obstetrical profession generally dismisses the use of IA for what they claim is the "unacceptably great expense involved in providing the one-on-one nursing that is almost mandatory to perform intermittent fetal heart rate auscultation." [Obstetrics: normal and problem pregnancies, Gabbe et al; 1992, p. 457]. This is a strange objection, since many hospitals bill, and insurance companies reimburse, $400 an hour for the use of continuous EFM, far less than the average L&D nurse's hourly salary.

The Bible of Science Based Birth Care --

The next question on our list is the efficacy (safety + cost-effectiveness) of the system of obstetrical management for a healthy population of childbearing women. If obstetrical management is to replace physiological forms of maternity care, we should be certain the replacement system is scientifically sound one that uses evidence-based practices. For an objective determination on this issue There are two excellent, well-respected sources that we may turn to. The first is a scientifically researched publication known as '*A Guide to Effective Care in Pregnancy and Childbirth*' and the second is a survey of contemporary maternity care practices

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entitled "*Listening To Mothers*", commissioned by the Maternity care Association of New York City and conducted by Harris Poll Interactive in 2002.

To determine the scientific aspect of current obstetrical practices we'll first look to the published work of Drs Ian Chalmers and Murray Enkins and their life-long work -- the bible of evidenced-based maternity care -- entitled '*A Guide to Effective Care in Pregnancy and Childbirth*' (GEC). It is a compilation of all pregnancy and childbirth related studies published in the English language in the last 30 years.

The *Guide to Effective Care* identifies six levels effectiveness/efficacy, ranging from the positive end of 'clearly beneficial' (category 1) to the negative end (category 6) of 'likely to be ineffective or harmful'. Using the preponderance of available evidence, Drs Chalmers and Enkins rated each 'standard' maternity-care practice and regularly used medical/ surgical interventions for safety and efficacy. Based on these categories, the *G E C* cautions that:

> "Practices that limit a woman's autonomy, freedom of choice and access to her baby should be used only if there is clear evidence that they do more good than harm"
>
> "Practices that interfere with the natural process of pregnancy and childbirth should only be used if there is clear evidence that they do more good that harm"

As measured by the six categories identified in the *Guide to Effective Care*, the "standard of care" presently as provided by obstetricians is extremely discordant when measured by scientific principles (both in practice and in *interpretation* of scientific studies) and evidence-based practice parameters.

Contemporary obstetrics reverses the recommended safe practices, with those identified as most beneficial and least likely to cause harm (List #1) being the *last or least used* and those identified as most likely to be ineffective or harmful (List #6) being the primary or routinely used methods. This vastly increases the number of medical and surgical interventions used and the complications occurring, both immediately and downstream.

Maternity Center Association Report "Listening to Mothers"

Information on the childbearing woman's experience of childbirth and the care she received is strangely missing from most obstetrical sources. For that information we turn to the October 2002 report by the Maternity Center Association *"Listening to Mothers: Report of the First National US Survey of Women's Childbearing Experiences*" conducted by the Harris Interactive Polling Service. The Maternity Center Association (MCA) of New York City, is a non-profit organization established in 1918. It promotes safer maternity care and develops educational materials for expectant parents on 'evidenced-based' maternity practices -- that is, policies that are based on a scientific assessment of the safety and effectiveness of commonly used methods and procedures.

The MCA commissioned a survey of healthy mothers with normal pregnancies (no premature babies, multiple gestations, breech or sick mothers) who gave birth in the last 24 months to track contemporary obstetrical trends and the quality of care received by healthy childbearing women. The full report (some 60 pages long) is available on the Internet at www.maternitywise.com.

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MCA Study Concludes ~ No 'normal' birth in American Hospitals

According to the "Listening to Mothers" survey, 99% of healthy pregnant women do not receive science-based maternity care from their *obstetrica*l providers. The average healthy mom was exposed to *7 or more significant medical interventions and/or surgical procedures* during a 'normal' labor and birth. The document notes that in the previous 24 months (Oct 2000 to Oct 2002) there were virtually NO 'natural' births occurring in hospitals. The entire hospitalized population of healthy mothers-to-be were subjected to one or more major interventions. The only women who had *a normal birth without medical or surgical interventions* were those who had their babies at *home or an independent birth center*.

It also documented a significant *gap* between scientific evidence and standard obstetrical practice. Healthy, low-risk women in the United States often receive maternity care that is not consistent with the best research and in fact, is often directly in opposition to scientific recommendations. According the MCA, many people are not aware of the following major areas of concern:

~ The under-use of certain practices that are safe and effective
~ The widespread use of certain practices that are ineffective or harmful
~ The widespread use of certain practices that have both benefits and risks without enough awareness and consideration of the risks
~ The widespread use of certain practices that have not been adequately evaluated for safety and effectiveness

According the 'Listening to Mothers' survey, the majority of childbearing women did not receive the safer and more satisfactory type of care delineated in the top 3 categories (those established as beneficial) and instead were exposed to a plethora of practices in the bottom 3 categories which were rated as of unknown or unproven effectiveness, unlikely to be effective or known to be harmful. The survey documented the following statistics are for healthy women at term with normal pregnancies. Intervention rates would be higher for women medical complications.

93%	Continuous electronic fetal monitoring;
86%	IV fluids and denial of oral food and water
74%	Immobilized or confined to bed due to physician preference, hospital protocols or the limitations imposed by multiple medical devices (EFM, IVs, epidural catheter, Foley bladder catheter, etc)
71%	Push and deliver with mother lying flat on her back
67%	Artificial rupture of membranes
63%	Epidural anesthesia
63%	Pitocin induced *or* accelerated uterine contractions
58%	Gloved hand inserted up into the uterus after the delivery to check for placenta or remove blood clots
52%	Bladder catheter
35%	Episiotomy
24%	Cesarean delivery (12.6% planned/12.4% in labor
11%	Operative – one-half forceps, half vacuum extraction

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In a population that was essentially healthy (95% +/-), an astounding 55% of women had some form of surgery performed – episiotomy, forceps, vacuum extraction or Cesarean section. Using the classical definition of operative delivery (CS+ forceps/vacuum extraction) the rate for 2002 would be 38% or 2 out of 5. This is twice the operative deliveries reported by physicians in the early 1900s who merely performed operative procedures on 1 out of 5. Intervention rates would be much higher for women with premature labor, multiple pregnancies or frank medical complications.

The *Listening to Mothers* survey is consistent with data from the CDC's (Center for Disease Control) National Center for Health Statistics Vol. 47, No 27, on *The Use of Obstetric Interventions 1989-97.* It documents a steady annual increase since 1989 in each of these interventions.

A press release dated June 6, 2002 based on the NCHS report "Births: Preliminary Data for 2001" [NVSR Vol. 50, No. 10. 20 pp] for the year 2001 documents a 24.4% CS rate (the same rate as identified by the *Listening to Mothers* survey). Statistics for the year 2003 show an even higher Cesarean rate – 26.1 in the US and 26.8 in California.
http://www.cdc.gov/nchs/releases/02news/birthlow.htm)

As a result of the *Listening to Mothers* survey, the Maternity Center Association's recommended:

" ..more physiological and less procedure-intensive care during labor and normal birth".

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Chapter Nine

Vagina By-pass Surgery // i.e., Cesarean Section

The last of our three areas of scrutiny is Cesarean section, reasons why such surgery would be performed and the immediate, delayed and downstream consequences of its use. In the obstetrical community Cesareans are sometimes referred to as "vaginal by-pass surgery". According to former ACOG president in 2000 the vaginal birth vs. Cesarean question has a simple answer:

> Dr. Harer: "Yes, for the baby, the risks are *far higher for vaginal delivery* … than elective cesarean section at term. For the mother, the immediate risks for a cesarean section are a little higher .... but the longer term … risks of pelvic dysfunction, incontinence … those risks are higher for vaginal birth.
>
> Over the long term I think that the risks balance out, that there really is no big difference" (between vaginal by-pass surgery & normal birth)." [GMA interview / Dian Sawyer, 2000]

A Cesarean every 39 Seconds

There are 4 million births a year in the US. With a 26% Cesarean rate, it is the most frequently performed major surgery in the US. Or as an ad in obstetrical journal proclaimed: "a scar is born every 39 seconds". [ReJuveness by RichMark International Corp – statistics based on 1995 CS rate] This statistic was for 1995, which means that 10 years ago American obstetricians were already doing 80 Cesareans every hour, round the clock, 365 days a year. By 2005, a Cesarean scar is no doubt born every 25 seconds, which helps to explain how we can spend 20% of our entire healthcare budget on maternity services.

Obviously an increasing number of obstetricians believe that elective cesarean is safer and better than vaginal birth and should become "standard". This is the same recommendation first given fifteen years ago in the NEJM paper by Drs Feldmen and Friedman ("Prophylactic Cesarean Section at Term?"). A mere three years later, the ACOG Ethics Committee validated this idea in a ruling that determined it to be ethical for obstetricians to perform 'patient-choice' cesareans. This was explained, in part, by the dubious notion that it was impossible to make an informed choice between vaginal birth and elective CS because "the case is complicated *by the lack of data on the risks and benefits of Cesarean vs. vaginal delivery*". [Ob.Gyn.News; "C-Section 'On Demand' Can Be Ethical: ACOG" Dec 1, 2003]

"Organizational decisions detrimental to safety were allowed to develop" ~ NASA report on the Challenger disaster

From the standpoint of a scientist (or any other honest broker), this is an "Alice in Wonderland" statement. Incontrovertible evidence for the danger of Cesarean section is wide, deep and universal. Contrary to ACOG's caviler comments, the scientific evidence isn't complicated or difficult to understand, it isn't scientifically controversial, it isn't a secret, it isn't rare. It also isn't

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what many obstetricians want to hear.

Luckily there also are obstetricians who were willing to speak out honestly. One of those is Dr. Peter S. Bernstein, MD, MPH, Associate Professor of Clinical Obstetrics & Gynecology at the Albert Einstein College of Medicine. Dr Bernstein took sharp exception to this romantic promotion of elective surgical delivery in an article published 9/16/02 on Medscape -- Ob/Gyn & Women's Health, entitled "*Elective Cesarean: An Acceptable Alternative to Vaginal Delivery?"* He also pointed out that current obstetrical management (which ignores physiological principles) is actually causing these problems and should be rectified:

> "One argument often cited in favor of elective cesarean delivery is prevention of pelvic floor damage, which can occur with vaginal delivery. But these adverse side effects may be more the result of how current obstetrics manages the second stage of labor. Use of *episiotomy* and *forceps* has been demonstrated to be associated with … incontinence in numerous studies.
>
> Perhaps also vaginal delivery in the dorsal lithotomy position [mother lying on her back] with encouragement from birth attendants to shorten the second stage with the Valsalva maneuver [prolonged breath-holding], as is commonly practiced in developed countries, contributes significantly to the problem.
>
> Nonetheless, the prevention of pelvic floor injury by routine elective cesarean delivery is not an appropriate solution. Rather, more research into the management of the second stage of labor is clearly necessary. Moreover, cesarean delivery does not guarantee protection against pelvic floor dysfunction, given the reports of similar rates of urinary incontinence in nulliparous woman [no children] as in parous women…[those who have given birth]

As to the issue of Cesarean as a rescue operation to protect babies, Dr Berstein comments:

> To suggest that performing an elective cesarean delivery in a low-risk patient will avert intrapartum fetal injury is very misleading. These outcomes are rare, even in higher-risk women. Indeed, they are so rate in women without any identifiable risk factors that an absurd number of cesarean deliveries would need to be performed to avert even one of these poor outcomes. Thus, resorting to cesarean delivery would not be appropriate standard procedure**.**
>
> The risks of Cesarean rise with each successive surgery as the operation becomes more technically difficult as a result of surgical adhesions." [*Elective Cesarean: An Acceptable Alternative to Vaginal Delivery*? Peter Berstein, MD, MPH] (emphasis through added by editor)

Lots of Collateral Damage

Bottom line is that childbearing women are two to four times more likely to die from the intra-operative, post-operative or downstream complications of Cesarean surgery than from normal vaginal birth. More than a dozen operative and post-op complications for the mother are associated with Cesarean including maternal death, maternal brain damage, anesthetic accidents, drug reactions, infection, accidental surgical injury, hemorrhage, emergency hysterectomy, blood clots in the lungs, need to be admitted to ICU, need to be on life support, inability to breastfeed.

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Unfortunately these dangers don't go away simply because the mother survived the surgery. Potentially-lethal complications and protracted difficulties extend into the postpartum period, post-cesarean, post-cesarean pregnancies and post-cesarean labors. Reproduction complications include secondary infertility, miscarriage, tubal pregnancy. Delayed or downstream complications in future pregnancies include placental abruption, placenta previa, placenta percreta, uterine rupture, and maternal death or permanent neurologically impairment. Risks to babies include accidental premature delivery, surgical injury during the CS, respiratory distress, increased rates of admission to NICU. Risk to babies in subsequent pregnancies include placenta abruption/stillbirth, death or permanent neurological disability (do to uterine rupture), lung disease and increased rates of both childhood and adult asthma.

The best documentation of these facts comes from Dr Harer's contemporary colleagues. In an article entitled "*Elective C-section Revisited*" Dr. Elaine Waetjen (an obstetrician from UC Davis), takes sharp exception to Dr. Harer's promotion of elective CS as protective of the pelvic floor. Her remarks were published in Ob.Gyn.News, August 1, 2002:

> "The prophylactic use of elective cesarean section to prevent pelvic organ prolapse and urinary incontinence is gaining increased attention. Dr Benson Harer, Jr, past president of the American College of Obstetricians and Gynecologists, stated publicly last year that women should have the right to choose a cesarean delivery.
>
> ....why shouldn't we offer prophylactic C-section to prevent this problem later in life?
>
> The answer is that the evidence does not support this approach. Preventive strategies should cause no more harm than the disease or problem that they are tying to prevent. Ideally, they should incorporate some kind of screening to identify people at risk. They should be cost effective and based on very good evidence of benefit. Elective C-section to preserve pelvic floor function fails on all three measures.
>
> Cesarean surgery causes more maternal morbidity and mortality than vaginal birth. In the short term, C-Section doubles or triples the risk of maternal death, triples the risk for infection, hemorrhage and hysterectomy, increase the risk of serious blood clots 2 to 5 times and causes surgical injury in about 1% of operations.
>
> In the long term, cesarean section increases the mother's risk of a placenta previa, accreta or percreta, uterine rupture, surgical injury, spontaneous abortions and ectopic pregnancies while decreasing fecundity."
>
> …would have to do 23 C-sections to prevent one such surgery [for organ prolapse or incontinence) later in life. So instead of offering elective cesarean in an attempt to prevent future prolaspe or incontinence, we should be examining what we can do in our management of vaginal deliveries to protect pelvic floor function".
>
> New mothers who were delivered by Cesarean experience an increased rate of serious postpartum depression, low self-esteem and breastfeeding failures and report post-operative pain lasting up to 6 months. Complications of post-cesarean reproduction include a higher rate of infertility, tubal pregnancies and miscarriage." (Ob.Gyn.News 'Elective C-Section Revisited' Dr. L. Elaine Waetjen; August 1 2001 • Vol 36 • No 15)

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"Mothers in post-cesarean pregnancies face a significant increase in placenta previa, placenta accreta and placenta percreta (types of abnormal growth of placenta into the wall of the uterus) as well as uterine rupture, emergency hysterectomy and the need for extensive blood transfusions.." (Ob.Gyn.News Vol 36, Aug 1, 02).

"The rate of emergency hysterectomy within 14 days of giving birth is 13 times higher for women delivered by Cesarean surgery." (Obstet Gynecol. 2003 Jul;102 (1):141-5. *Route of delivery as a risk factor for emergent peripartum hysterectomy)*

"These delayed and down-stream complications elevate mortality in post-cesarean pregnancies for both mothers and babies -- up to 10% for women who develop placenta percreta and about 1/2% for newborns. *Elective Cesarean: An Acceptable Alternative to Vaginal Delivery*? Peter Berstein, MD, MPH).

Babies in post-cesarean pregnancies suffer a higher rate of fetal demise and stillbirth (Ob.Gyn.News 'C-Section Linked to Stillbirth in Next Pregnancy' May 15 2003 • Vol 38 • No 10)

"Babies delivered by cesarean have a higher risk of lung disorders and operative lacerations." ObGynNews, 6/15/01,

"Babies delivered by planned cesarean section are significantly more likely to require hospitalization for asthma during childhood than babies born vaginally" *Asthma Associated With Planned Cesarean* - ObGynNews; May 15 2003 • Vol 38 • N0 10

"Cesarean babies also suffer triple the rate of asthma as adults. [Cesarean Birth Associated with Adult Asthma -- Ob.Gyn.News Jun 15, 2001, Vol 36, No 12]

Operative Deliveries and Postpartum Depression

Postpartum depression can occur after the most normal of pregnancies but is more common and more sever after the added stress of a Cesarean or other operative delivery and when a baby is premature or must be in the intensive care nursery after the birth. [Predictors, prodromes and incidence of postpartum depression; Obstet Gynaecol June 2001] The self esteem of first-time mothers improves and measures highest on psychological tests, for women who have normal vaginal births while showing a deterioration for mothers who delivery by Cesarean surgery. [Adverse psychological impact of operative obstetric interventions: a prospective longitudinal study Aust N Z J Psychiatry]

No VBAC Policy Results in Non-consensual, Medically Unnecessary Cesareans

It is impossible to leave the topic of Cesarean section without revisiting the issue of post-Cesarean pregnancies and "VBAC". As noted earlier, the obstetrical profession has dramatically back-peddled on this issue from its original support in the early 1980s, followed by ACOG's 1986 promotion of VBAC, to ACOG's 1998 change of heart and draconian restrictions. The final blow, the *coupe de gras*, however was one particular study published in the NEJM that focused on the effect of inducing post-cesarean women with prostaglandins, Cytotec and Pitocin. In general it

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revealed a greatly increased risk of uterine rupture when these women were induced (up to 15 times higher). But strangely enough, it was widely promoted in the media (Associated Press, NPR, etc) as establishing that Cesarean surgery was always the "safer" choice for the baby and we should return to the dictum of "once a Cesarean, always a Cesarean". Since July of 2001, the number of VBACs has plummeted like a stone after and of course, the repeat CS is going up, up and away.

However, reinstating the policy of "once a Cesarean always a Cesarean" only trades the rare complications of spontaneous VBAC labor for increased maternal deaths from so-called 'elective' surgery or placenta percreta and equal number of neonatal deaths or disability from iatrogenic prematurity, and does so without truly informed consent. Pushing the policy of automatic repeat CS assumes that death or damage resulting from a medically unnecessary surgical procedure (the over-treatment model) is morally superior to the more reasonable choice of planning a normal, spontaneous (i.e., not induced) labor.

Women now report that large areas of the country have *no physician and/or hospital* that will 'permit' a woman with a previous C-section to labor normally and give birth vaginally. The reasons cited by the medical profession are 'safety' but if you read the literature published by or for the obstetrical community, their spokespersons freely acknowledge that it *isn't the actual danger to mothers and babies* that are fueling the elimination of VBAC but rather the malpractice risk to institutions and obstetricians.

According to a guest editorial in Ob.Gyn.News ("Informed Consent for Attempted VBAC" by Sinclitico, JD; April 1, 2005) by an attorney who specializes in malpractice law: "Some physicians prefer elective C-sections to VBAC because of the large monetary awards in medical malpractice lawsuits dealing with VBAC, such as a $30 million dollar judgment in Philadelphia…" He goes on to quote a large multi-center study that he calls "the first solid data" on the risks of VBAC, which showed that only 0.7% of approximately 18,000 VBAC labors resulted in neurological damage for the baby. Of that small group of 12 infants, only 7 were related to uterine rupture. He gives the absolute risk as 1 case per 2,000 women "attempting" VBAC at term.

Co-incidentally, this is exactly the same ratio of risk for neurological impairment or perinatal death that applies to all first time mothers. Risk-wise, having a VBAC is like having a 'first' birth, twice in a row. Previous CS mothers loose the advantage usually enjoyed by women having a second baby after a previous vaginal birth. In point of fact, the great majority of these women actually are having a 'first' vaginal birth, so this is a combination of *natural* risk plus their VBAC status.

Mr. Sinclitico goes on to say that: "Even though the risks of a bad outcome are small --- and ongoing statistics support that – those statistics take flight when you're in the witness chair. … While there were only 12 case of [permanent brain damage] in the recent multi-center study, if we assume that each of those cases went to trial and the plaintiffs won only 10% of the largest award in the Philadelphia case, that totals $36 million, plus untold millions of dollars spent defending those cases. … That's why most obstetricians are voting to do cesarean sections instead of VBAC."

Another example of how policy of disincentive for VBAC is influenced by factors other than the actual safety can be seen in ACOG's very relaxed relationship to Pitocin induction. Identical

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dangers and physician requirements for Pitocin induction or augmentation are universally ignored by obstetricians and by ACOG. The package insert by the pharmaceutical company (Parke-Davis) for Pitocin lists 11 complications or 'adverse events' associated with Pitocin administration for mothers, including anaphylactic reaction, brain hemorrhage, cardiac arrhythmias, pelvic hematomas, fatal blood clotting problems, uterine rupture and maternal death. It also lists 7 complications for the unborn or newborn baby including cardiac arrhythmias, convulsions after birth, hemorrhages in the eyes, permanent brain damage and death. The precautions state that: "*A physician qualified to manage any complications should be immediately available*." However, this direct requirement, virtually identical in it's wording and for identical reasons, is completely dismissed by ACOG, hospitals and malpractice carriers. Were the requirement that the physician be "immediately available" appropriately applied to labor induction, we would be see a move by the obstetrical profession for 'natural' labors instead of a 23% induction rate.

Clearly the consequences of this political situation means that the small risk to the physician of malpractice litigation is exchanged for the long list of risks and complications associated with "elective" repeat CS. And in all too many cases, insult is added to injury when these women, denied all other options (except unattended birth), are really forced into unwanted and medically unnecessary surgery. These so-called 'elective' surgeries are more truthfully best described as "unelected and non-consensual" cesareans.

Tort Law and Voluntary Consent

While the medical system gives full lip service to fully informed consent, when the topic is obstetrical interventions, such as induction and especially Cesarean section, the consent process as used today in the obstetrical world does not actually comply with the legal principles of informed consent. And should a woman be perceived as 'non-compliant' with obstetrical advice or even just waivering, wanting to go home and think about it longer or to get another medical opinion, enormous psychological pressure is brought to bear, up to and including threats of legal action. No outcome of that kind of power disparity can ever be considered to be voluntary and fully informed consent.

The concept of 'informed consent' may seem unduly complicated for a layperson but really is quite straightforward and it is ever so helpful to at least be familiar with the basic idea.

The legal theory of informed consent includes the following three aspects:

(1) An acknowledgement that physicians have a duty to obtain informed consent of patients before they perform potentially risky, complex, invasive, painful or experimental medical procedures
(2) That a mentally competent patient has the right to consent or refuse to consent to any recommended medical procedure
(3) That a patient has the right to sufficient information to make that consent meaningful

If a physician treats a patient without any consent, he or she may be liable for *battery* or an intentional '*tort*'. This applies not only to non-consensual treatment but also when a physician *exceeds the scope of the patient's consent*, whether or not the treatment or procedure was properly

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performed. If a physician obtains a patient's consent to treatment but does so under duress or trickery, it does not count as truly voluntary or freely given informed consent. This makes the physician vulnerable to charges of battery. If the physician *obtains a patient's consent* to treatment but fails to provide sufficient information to make a meaningful decision, the patient may bring legal action for *negligence based on lack of informed consent.*

Fully Informed Consent Means the Truth, the Whole Truth and Nothing But the Truth…

Generally speaking a physician must disclose all information which is 'material to the patient's decision of whether to proceed", that is, "that information which the physician knows or should know and would be regarded as significant by a reasonable person in the patient's position when deciding to accept or reject the recommended procedure. This standard does not require a warning for every possible risk [i.e. remote or rare complication] and the physician is not required to give a 'mini-course' in medical science. However the patient must be given enough information *in lay terms* to make a knowledgeable decision regarding the recommended medical procedure." This includes the risks, complications, expected benefits of the proposed treatment (including likelihood of success) and any alternative to the procedure, including the alternative of no treatment and the relative risks and benefits of not having the procedure. [California Medical Association Document # 0415 – Informed Consent, Jan 2001]

Were we to impose the two clearest, most easily understood and most basic requirements -- "information which the physician knows or should know" and "would be regarded as significant by a reasonable person in the patient's position when deciding to accept or reject the recommended procedure" the only possible answer would be the truth as it is known to the obstetrical profession through textbooks, journals, trade papers (Ob.Gyn.News) and conferences. To quote the editor of a well-respected obstetrical textbook (Davis) published in1966, "There can be no alibi for not knowing what is known." Doctors are formally educated and highly paid to know the scientific literature and be aware of the full spectrum of consequences associated with medical and surgical interventions. It is not unreasonable to expect their advice, both to the public and to individuals, to be objective.

All of this is in contrast to reality, as the obstetrical profession has gone to great lengths over the last century to convince all of us that physiological management is old-fashioned, inadequate and dangerous. They purposefully dismantled the infrastructure for providing physiological management, claiming that care for normal childbirth, at least for the affluent, should consist of a constant stream of medical and surgical interventions provided by physician-surgeons in an acute care hospital setting. When it comes to the astronomical expense of the interventionist model (particularly the 'elective' Cesarean), the sky's the limit, because we are repeatedly assured that this extravagance is buying us better babies and saving the pelvic floor of their mothers.

"There can be no alibi for not knowing what is known,…."

Here is a brief list of just the headlines from contemporary editions of Ob.Gyn.News on the topic of elective or repeat Cesareans. It easily identifies both what a 'physician knows or should know' and what would be considered significant by a reasonable person before giving or withholding

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permission to be induced, immobilized in bed, medically unnecessary C-section performed, etc:

"Upright Positions Offer Most Room for Delivery"	02/01/02
"Reconsideration of 'Purple Pushing' Urged"	03/15/03
"Routine Coached Pushing May Be Harmful"	10/01/04
"Induction Linked to Doubling of Cesarean Rate in First-Time Mothers"	01/01/03
"Estimated Fetal Weight Not a Guide for Cesareans"	12/12/01
"Routine Episiotomy Offers Women No Benefits or Relief, long recovery, some harm"	06/01/05
"C-Section, Cervical Ripening Link Seen in Women previously delivered vaginally"	06/15/03
"C-Section to Prevent Cerebra Palsy: Results May Be a Wash"	04/15/02
"Double-Layer Cesarean Closure May Be Safer"	03/15/02
"C-Section Linked to Stillbirth in Next Pregnancy"	05/15/03
"Maternal Morbidity Rises Sharply with Repeat Cesareans"	03/15/05
"Prior C-Section Assoc. with Worse Outcomes – ICU Admit, postpartum infection"	03/01/05
"Study Shows Elective Cesarean Riskier than Vaginal Delivery"	05/01/04
"Asthma Associated with Planned Cesarean"	05/14/03
"Cesarean Birth Associated with Adult Asthma"	06/15/01
"Steep Rise Seen in "No [Medical] Risk Primary C-Sections"	01/01/05
"Offering C-Section 'On Demand' Can Be Ethical: ACOG"	12/01/03
"Cesarean Rate Portends Rise in Placenta Accreta"	03/01/01
" …Placental Invasion on the Increase – hike in C-Section may be responsible"	01/15/03
"Placenta Previa, C-Section History Up Accreta Risk"	09/15/01
"Childbirth, Pregnancy Tied to PTSD, Expert Says"	01/15/03

The More Things Change, the More They Stay the Same

Despite extensive credible sources reporting on complications related to Cesarean-section, of which the above list is only a tiny fraction, the approximately 40,000 obstetricians practicing in the US that comprise the nation-wide membership of ACOG, have continued to 'drift' towards the casual and ever-increasing use of Cesarean section. In general obstetricians believe that the decisions surround Cesarean surgery are rightfully those of the medical profession instead of the childbearing women and her family.

The headline of an Ob.Gyn.News (12/1/2002 Vol 37, No23) report reads "Experts Say Guidelines Out of Step with Trend Toward Elective C-Section". It goes on to states that "Practice guidelines discouraging scheduled elective Cesarean section are out of step with increasingly liberal attitudes toward the procedure on the part of rank-and-file ob.gyns…." It is interesting to note that performing medically unnecessary C-sections are characterized as "liberal" and that it is the attitudes of "rank-and-file ob.gyns" that seem to count the most. The article argues for the right of women to have childbirth by Cesarean section the same way Burger King plays to our right to "have it your way". One OB is quoted as saying: "Women can choose to have a breast implant, so why can't they choose to have a C-section if they don't want to go through the process of labor? Its their body."

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Halloween, 2003 ~ Unnecessary Surgery Declared "Ethical" by ACOG

Given the long historical "trend" towards surgical birth that has been building since the late 1800s, it is no surprise that 90 years after Dr. DeLee declared normal childbirth to be by nature pathological and dangerous to both mothers and babies, 18 years after Drs. Feldman and Friedman concluded that we could save additional babies if we would only we aced to the "excess maternal mortality" associated with 100% prophylactic Cesarean, 3 years after Dr Ben Harer advised women to demand a C-section to protect and preserve their perineums, that ACOG's Ethics Committee ruled it was "ethical" in 2003 for physicians to perform Cesarean for non-medical reasons including "patient choice". Their rationale was based on the imagined "lack of data on the risks and benefits of Cesarean vs. vaginal delivery".

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Chapter 10 "With sufficient repetition, perception becomes reality"

Childbirth in the Year 2005

While the use of amnesiac drugs and general anesthesia are rare today, the contemporary obstetrical standard in the United States for normal childbirth is still a surgical model, with a philosophy and a style of care remarkably faithful to the 1910 model, only now days we usually bring the delivery room to the mother through surgically equipped LDR rooms and electronically enhanced labor bed that converts into an OR-style delivery table. Of course, the 21st century woman is still gives birth in an impersonal hospital gown, held hostage in bed by half dozen (or more) the medical devices. A supine position and the depressive effect of multiple drugs and anesthesia increase the likelihood of fetal distress.

Obviously maternal mobility, right use of gravity and other aspects of physiological management are still not a part of standard obstetrical care. Meeting the social and psychological needs of the mother has yet to be acknowledged as having any real importance in regard to safe, satisfying and non-surgical outcomes. The arena of bonding and breastfeeding, parent-craft and the long-term relationship between mother and child are not even on ACOG's radar. The only real changes from the previous eras are the inclusion of fathers (if they so choose) and Cesareans performed as a 'first resort'. The risks of immediate post-op complications (hemorrhage, infection, etc) and delayed and downstream complications continue to be functionally ignored, despite the clear legal duty to of the physician to: "…disclose all information which is 'material to the patient's decision of whether to proceed", that is, "that information which the physician knows or should know and would be regarded as significant by a reasonable person in the patient's position when deciding to accept or reject the recommended procedure."

While women may be 'permitted' to walk around in early labor, once things become active (or an induction is started) they are still required to labor in bed (74%), not permitted to eat or drink and IV running (87%). The mother will be subjected to the artificial rupture of membranes (67%), Pitocin acceleration of her labor (63%) and EFM leads will routinely tether her to the bed (93%). An epidural catheter will be in her back (63%), a Foley catheter taped to her leg a urine bag and hanging from the bedrail (52%), a blood pressure cuff on one arm and pulse oximetry on a finger of the other hand (63%).

As to the legal dynamics of hospital birth, the physician is still the "captain of the ship" and the nurse is still a "borrowed servant", loaned to the physician by the hospital as his assistant. L&D nurses are *not* in the labor room 79% of the time, serving the "system" instead of the mother. According to this study of L&D nursing, only 6% of the nurse's time is devoted to the personalized care of the mother. [The Preventable Cesarean Section Program – Reducing C-Section Rates on the Front Line by Transforming Nursing Practice, p. 4; Outcome Management Associates; 1998, Mayri Sagady, CNM]

And the delivery is still a 'surgical procedure' performed by the physician with 63% of labor patients under epidural anesthesia. The mother will push lying flat on her back (71%) and she is still expected to be prone and passive during 'the delivery'. Delivery is a highly technical surgical procedure assumed to be accomplished by the doctor while the mother lies on her back in some version of a lithotomy position. The physician will still be "scrubbed in" and wearing a surgical

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gown, scrub cap, shoe covers and facemask (with splash guard), with ready access to an array of gleaming surgical instruments at his side. The use of some form of anesthesia is the statistical norm (63%). The mother's participation is optional, as should she not want to or be unable to push her baby up hill and around the corner, episiotomy (36%) and forceps (or vacuum extraction) will be provided (12%). Failing that, a CS will immediately be done (25%).

After the baby is out, a gloved hand is often inserted up into the uterus after the delivery to check for placenta or remove blood clots (58%). As soon as the physician puts in the last stitch, his/her official duties as a surgeon are completed and the mother's "post-op" recovery will be assigned to the nursing staff. And the mother still believes, for the most part, that she could not have 'done it' without the physician's advanced technical skills. Thus her own sense of self-esteem is not enhanced, -- instead she is grateful to the doctor for 'delivering' her.

Last, but surely not least, normal childbirth is still defined by a surgical billing code that charges by the quarter hour. As a form of care technically defined as 'surgical procedure, it must be performed by (and billed for) by a licensed physician (or physician extender such as a Physician's Assistant or CNM). Since the obstetrical profession does not values physiological management, the customary and usual charges for labor and birth care do not include any monetary compensation for normalizing labor thru professional activities such as patience with nature, one-on-one social and emotional support, non-drug methods of pain relief and the right use of gravity.

Instead, it is the nurse's job to keep the mother labor progressing by up-ing the Pitocin on a regular schedule during first stage labor while keeping an eye on the baby for signs of fetal distress via the EFM. Then in second stage, it's the nurse's job to keep the mother from pushing *too effectively*, lest the baby be born precipitously, before the physician arrives, as insurance reimbursement is unevenly focused on the 'surgical procedure' aspect of obstetrical care. If the mother delivers before the obstetrician's arrival, the doctor is put in a very unpleasant position of not getting paid, since he/she can't bill for the surgical procedure of 'delivery' if s/he wasn't scrubbed in and present. Nor can the hospital bill for the nurse's services as a 'birth attendant', because she is not a licensed practitioner who is authorized to "perform" surgical procedures. For the doctor and hospital a really fast, easy birth is a serious economic loss for everyone involved, while for the mother, it may have been her "perfect' birth, a dream come true.

In a population that is essentially healthy (95% +/-), an astounding 55% of women, that is more than half, will have some form of surgery performed – episiotomy, forceps, vacuum extraction or Cesarean section. What this tells us is that all of the incentives in obstetrical care for healthy women are wired in reverse – the more the obstetrical interventions that become "routine", the more the obstetrical profession benefits economically. The more they intervene, the higher the rate of complications. Then those unnecessary complications feed back into the system as additional opportunities for further "billable units" of medical services.

While economics plays an increasingly important part in modern medicine, obstetrics is still a humanitarian pursuit with a beneficent goal. What is most disturbing is how close the management of today tracks with that of the early 1900s. Changes for the most part are just more, more, more of everything – more diagnostic tests, more technological evaluations, more interference in labor (such as prostaglandins cervical ripening and labor induction) and more operative deliveries. Being trapped in an echo chamber inside of a maze, while going around in circles can't be very satisfying for obstetricians. And saddest of all, these interventions, which are so clearly an attempt

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to eliminate complications such as stillbirth, cerebral palsy and damage to the mother's pelvic floor, have not been able to achieve these goals. However, if you list the intractable problems in childbirth that gave rise to obstetrical medicine – pregnancy-related hypertension and toxemias, premature birth, fetal distress, cerebral palsy – we see that so called 'modern medicine' is no closer to an answer than they were a hundred years ago. We don't still even know what causes labor to start or how to prevent its premature onset. We are no closer to predicting or preventing the toxemias of pregnancy. All and all, obstetrics is still stuck in a crisis intervention mode.

How could this happen?

The answer is simple. The science of obstetrics was and is organized around detecting and treating the rare complications. It never was not designed or structured to promote normal birth or reduce the incidence of medicated labors or surgical interventions in normal births. Nor has it any desire to promote 'natural' birth or even to simply reduce the incidence of medical interference. It has no positive association with 'normal'. Instead, 20th century obstetrics is idealized as saving women from the brutality of Mother Nature, whereas normal physiology is seen as the source of that brutality. Therefore physiologic process and physiological management are seen as a backward steps – choosing a substandard form of care – malpractice -- when one could, with little effort, give "high quality", value-added obstetrical care. In this system, physiologic care is seen as irrational, negligent, incompetent, even criminal. However, this is not a science-based conclusion based on statistically valid evidence. According to all scientifically validated sources, physiological care if the safest and most satisfactory form of care for a healthy population.

Obstetrics Divorced 'Science' from the Scientific Method of Inquiry

A well-conducted scientific study requires the researcher to first develop a theory. Then a hypothesis must be developed that permits the theory to be tested by using the sound scientific methods of data collection and comparison. Next is the unglamorous legwork – setting up an experimental model and faithfully recording and collecting the data and sorting it into meaningful data sets. It will be many months (or years) before the scientist can finally arrive at conclusions to be published in peer review journals, defended by the data and duplicated by other scientists. It is this process that scientifically either validates or disproves the original theory.

The most radical changes to maternity care in the history of the human species were all publicly attributed to the 'scientific method'. But the theory of obstetrically interventive management for healthy childbearing women was never subjected to scientific scrutiny by obstetricians in the early part of the 20th century. No scientific process ever established the superiority (or even the neutral safety) for managing labor as a medical condition or normal birth as a surgical procedure. In the eagerness to medicalized normal birth in the US the scientific process was skipped entirely. Prospective studies comparing the two systems in a side-by-side basis were not done. Retrospective studies that compared mother-baby outcomes for the decade prior to the imposition of the obstetrical system, with those of the first 10 years after its imposition, were never done. This untested experimental model was turned into widespread clinical practice within a single decade and without a single study to verify its efficacy.

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With a few very notable exceptions, the lack of intellectual rigor was just ignored by the medical profession. The lay public didn't understand scientific method enough to question this state of affairs. Had the normal scientific process been employed, it would have revealed that the medicalization of a healthy population was associated with a drastic increase in difficult labors and births, including the fatal complications associated with these interventions.

The tiny handful of valiant souls who did study the topic easily documented an ascending danger to childbearing women as the non-interventive care of midwives was replaced by the interventive medical management of physicians. However, the commendable actions of these courageous physicians were dismissed as 'wrong headed'. In the "too little, too late" department, others uncovered statistical records for the 1920s and 1930s showing that the elimination of the physiological care of midwives did not, as the medical profession and lay public supposed, make birth any safer. In fact, the takeover of normal maternity care by physicians resulted in maternal mortality that rose 15 % per year for more than a decade and birth injury rate for newborns rose 44% over the same 10-year period.

Bottom line is that a few influential 19th century obstetricians with an unproven hypothesis – an experimental model if you will – imposed this model on an entire nation as the core "Truth" of childbearing biology. The notion was that normal birth was inherently pathological and obstetrical management was necessary to save even healthy women from the defective biology of their gender. This unproven experiment was then used to eliminate the physiological management of normal birth in institutions all across the country. By the end of the 20th century, this never-proven experimental model had been successfully 'franchised' around the world through the training of foreign medical students in US medical schools. In many instances, these are students from third world countries are sent here to learn the "best of the best" and bring it back to back to their developing countries. Under this strange system, Mexico now has a 40% Cesarean rate (95% rate in urban areas), which is a direct result of exporting ACOG's version of obstetrical education to countries who believe they are elevating the care received by women in their country whenever they do it "the way its done in El Norte".

Birth in "El Norte" ~ Cesarean on Steroids

The National Center for Health Statistics data for births in the U.S. in 2003 (released 2004) reported that our cesarean delivery rate was the highest level ever reported in the United States -- 26.7 percent. This means that more than a fourth of all babies born in 2003 were delivered by cesarean. The cesarean rate in the US has been on the rise since 1996, while the rate of vaginal births after previous cesarean delivery (VBACs) dropped by 23%.

Has this resulted in better outcomes for mothers and babies? No.

As of 1998 (most recent year available), the US ranked 28th in infant mortality among industrialized nations, which puts us behind Cuba and the Czech Republic. [Child Health USA 2002, Maternal Child Health Bureau, Health Resources and Services Administration, US Department of Health and Human Services] As for maternal mortality, the US ranked 21st in the world for maternal death. However maternal deaths are underreported by one half to two thirds according to the Center for Disease Control (CDC), which also estimates that half of the maternal deaths in the US are preventable. The rate of maternal deaths due to childbirth has not decreased since 1982, and actually began a small

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increase in 1999. As for what a reasonable cesarean section would be, the World Health Organization concluded that a CS rate above 15 percent cannot be medically justified. It is useful to note that studies of hospital-based nurse midwives found C-section rates of 10 percent or less. A Cesarean rate of 7 percent or less was documented by 29 studies of care provided by community midwives. [Cesarean section: What you need to know; Goer; www.parentsplace.com/print/0,,241096,00.html]

Ecology, GNP in a Global Economy (need better heading - rewrite!)

According to the World Health Organization, physiological management is the preferred standard of care for healthy women. W.H.O. refers to this as the "**social**" model of childbirth; most countries depends on these low-tech / high-touch methods to provide cost-effective care. However, the US does that economic equation in reverse – high-tech and low-touch. Aside from the cost in human terms, there is the staggering economic drain from a behemoth system such as ours. Where else in modern life do we take over a normal bodily function and replace it with the expense of an intensive care unit of an acute hospital.

The ecological impact alone is impressive, as aggregating childbearing women in an institutional generates thousands of tons of single use plastic and paper trash. Tons of unnecessary garbage increases expense in several ways. In an attempt to cut their expenses hospitals order cheap sterile plastic & paper supplies from abroad, which reduces jobs at home. The mountain of disposal supplies adds cost to the bill for maternity care (passed on to health insurance companies or the government). Then there is the cost for disposal, which is also filling up the scare space in local garbage dumps.

Healthcare accounts for 17% (or 1/6$^{th)}$ of the Gross National Product. At present, maternity care is slightly more than 20% of our entire healthy care budget (equal to 3.4% of our GNP). Two-thirds of this money goes to provide birth-related services to healthy women with normal pregnancies and normal births (70% of the childbearing population). [Schlenzka, 1999] This reflects cost of many routine obstetrical interventions (average of 7 each labor) and 'elective' surgical births, as well as the high rate of expensive complications associated with these interventions. Bottom line is that 7/10^{ths} of the maternity budget (2.4% of GNP) is spent on medicalizing healthy women and normal birth. But the really bad news is that in spite of spends more money on childbirth services than *any other country in the world*, the US has next to the lowest vaginal birth rate (i.e. highest Cesarean section rate, after Brazil). We rank 22nd (3rd from the bottom) in perinatal mortality out of the 25 developed countries.

In addition to a lack-luster safety record is the secondary issue of a global economy that forces the US to compete with countries in the developing world that still use cost-effective forms of midwifery/physiological care as their foremost standard. To meet the practical needs of childbearing families while remaining competitive in the global free market, the US must utilize this same efficacious form of maternity care as the countries with the best, most cost-effective outcomes. The only way our healthcare system can meet the needs of our own healthy childbearing population, while remaining competitive in the global economy, is to implement the social model of pregnancy and childbirth care as the basis for our national maternity care policy.

However, if we were to move to 'vaginal by-pass surgery' as the default method for all childbearing in the US, we would only fall farther and farther behind in the global economy.

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We Aren't in Kansas Any More….

What is the explanation for the lack-luster record of the US? It seems that intellectually-honest scientific inquiry has slipped thru the cracks. This allowed the conventional system to institutionalize a chronic lack of applied science in exact opposition to the scientific data. And yet there is a very curious incongruity here. Educationally, an M.D. has the equivalent of a Ph.D. in medical science and therefore is an "expert" in assessing technical information. Physicians use this highly developed skill every day in making medical diagnosis and planning complex medical treatments or surgical operations. As holders of a PhD-level education, physicians are also particularly skilled in reading and digesting the technical and statistical aspects of research articles and scientific studies published in professional journals.

It is not unreasonable to expect that the same level of intellectual inquiry and critical thinking skills will be utilized by physicians when analyzing the wealth of scientific research on evidence-based maternity care. This would apply to the many published sources including such as the '*A Guide to Effective Care in Pregnancy and Childbirth*' and ACOG Task Force on cerebral palsy. Medical journals, textbooks and scientific sources all make it clear that routine obstetrical interventions in labor and normal birth conducted as a surgical procedure are always more dangerous for healthy women than the use of physiological principles. So why don't doctors notice this, or if they do, why don't they act on the information?

So far the routine practice of obstetrics as it applies to normal childbearing has not met its burden of proof for the basic level of medical practice – 'primum non nocere' ("in the first place, do no harm") nor do they meet the minimum standard for truly informed consent. For the last hundred years no one has held the medical community to the standard of transparency and forthrightness appropriate for a PhD level education in a scientific discipline – factually correct and scientifically valid information communicated in a public forum, *unless such public statements are identified as merely a personal or political opinion*.

Why this is so is less interesting than why we, the public, let it go by unchallenged, decade after decade. Where are our investigative journalists? Where are the objective scientists? Where are public educational organizations like the Pew Charitable Trust? Why doesn't the FDA require obstetricians to file "physiological impact reports" (like an ecological impact reports) on the obstetrical interventions being routinely used?

What is conspicuously absent in the public arena is an examination of the risks of routine medicalization, a realistic appraisal of its cost-benefit ratio, facts on the relative safety of different birth settings and the universal efficacy of the physiological model of care for healthy women.

Why isn't there a 'Blue Ribbon Commission on Science-based Maternity Care for the 21st Century' that brings together an inter-disciplinary panel of experts and scientists from the pertinent disciplines of public health, epidemiology, sociology, anthropology, psychology, biology, child development, law, economics, midwifery, perinatalogy and obstetrics. Public exploration such as this must listen to childbearing women and their families as a class of 'experts in the maternity experience'. Such a highly respected forum could study these problems and provide unbiased, fact-based news for the press and broadcast media to report. This panel could, after appropriately scientific study, provide interdisciplinary recommendations for a reformed

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national maternity care policy. Such a science-based recommendation would include methods to reintegrate midwifery principles and physiological practices into this expanded system of maternity care. This would be far cry from the dysfunctional public discourse of today, which consists primarily of interviewing ACOG obstetricians on television as they promote vaginal by-pass surgery as the "best of the best", the 'way we do it in El Norte".

Consider this: If planes landing at US airports crashed five times more often than when they landed at airports in England or Japan, we would demand an inquiry of our air traffic control system, since the laws of aerodynamics are the same worldwide. Each year in the US about 8 million mothers and babies 'fly' the united service of interventionist obstetrics. Only a fraction -- fewer than 30% -- need and benefit from this type of medicalized treatment. Isn't it time to inquire as to why the universal 'laws of normal childbirth,' which are the same all over the world, are being routinely suspended by American obstetricians and, as a result, American mothers and babies are crash landing at an alarming rate.

Promises Unfulfilled

The beneficial practices identified by the *Guide to Effective Care in Pregnancy and Childbirth* are protective and reduce medical and surgical interventions. At present these are absent for the majority of women giving birth in this country under obstetrical management. These helpful practices are based on the physiological management of labor and birth, which requires a respect for the normal biology of reproduction and a commitment not to disturb that natural process. The elements of success for normal labor and spontaneous birth are the same for home or hospital and include the tried and true methods of non-pharmaceutical pain management and promotion of a spontaneously progressive labor.

However, unsafe maternity care practices have dominated obstetrics for the entire 20th century and yet have gone unnoticed, unexamined and unchallenged in the public arena. Journalists have increasingly accepted expert systems as beyond scrutiny and above reproach. This has produced *faith-based reporting*, in which journalists never look beneath the surface. Based solely on obstetrical sources, print and broadcast media enthusiastically promote new obstetrical technologies, medical interventions, and now medically *unnecessary* cesareans. It would be refreshing to see journalists question their questionable relationship with a faith-based reporting system and instead ask real questions of the obstetrical profession.

The question for journalists is why the majority of childbearing women do not receive the safer, cost-effective and non-interventive type of care established as beneficial in the *Guide to Effective Care* and recommended by the highly respected Maternity Center Association of NYC. The beneficial practices identified by the *Guide to Effective Care* are protective and reduce medical and surgical interventions and yet they are **absent for the majority of women** giving birth in this country under obstetrical management.

In a rational world, science-based birth care would be the standard and the primary care form of care for healthy women, which is approximately 70% of the childbearing population, would be physiological management. The providers of maternity care would be professional midwives, family practice physicians and obstetricians who like and want to provide "maternity" care, which is to say, the care of healthy women and the use of physiologic principles. The majority of

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obstetricians would no doubt maintain their expertise as medical and surgical specialists, which means they will get to do what they are trained for -- focus on those suffering from the diseases and dysfunctions of fertility and childbearing and complications associated with labor and birth. In this is win-win solution for everyone – mothers, midwives, medical providers and society.

The challenge for our country is to make our hospital-based maternity care work for all its "stakeholder" – mothers, babies, fathers, families, hospital personal, doctors, nurses, midwives, HMOs, health insurance companies, malpractice carriers, government-sponsored Medicaid program and for the taxpayers who foot the bill.

It is our job as citizens to fulfill that promise.

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Chapter 11 ~ Common Sense

The conduct normal childbirth in hospitals under conditions of surgical sterility was originally done because it was the *only* method available in the last 1800s to prevent the epidemic of puerperal sepsis in institutional settings. Even though it was obvious that aggregating women in an institutional setting was a basic part of the problem, the medical profession concluded that hospitalization for birth was necessary as the only way to make clinical training available to medical students. It is a fluke of history that we got caught in the cross hairs of that singular event, which so influenced and defined the subsequent development of maternity care for healthy women in the US.

Unfortunately it resulted in a maternity care system organized around hospitals and obstetrical surgeons and was accompanied by an ever expanding appetite for labor stimulating drugs, electronic fetal monitoring, narcotic use, anesthesia, episiotomy, forceps, manual exploration of the uterus after delivery, suturing, antibiotics, and the liberal use of Cesareans. And finally -- a mere 90 years after the 1910 Flexner Report -- this run-away process has concluded with the 'elective' use of Cesarean, now promoted as the Rolls Royce of childbirth. At this moment we stand at the cusp of what many in the obstetrical profession hope will lead to 'patient-choice' Cesarean as the "standard of care" for childbirth in the US.

This is the obvious conclusion to a system that has refused to teach, learn or utilize physiological management for nearly a hundred years.

Someone is asleep at the switch . . .

Overwhelming scientific evidence informs us that this 'Alice in Wonderland" story about Cesarean as 'better and safer' is just the most recent wrong turn in a four-hundred year old history of wrong turns. Obviously these conclusions are not science-based, not helpful, incredibly expensive and, in many instance, harmful. Why do they prevail in the 21st century spite of all this evidence? I believe it is because someone is asleep at the switch.

We could blame doctors, we could be angry at organized medicine, we could bemoan the obvious sexism of the situation. But I question the usefulness of those reactions. Having been intimately engaged in this controversy for 40 years, I have done (or seen done) all of the responses listed. Believe me, none of them has been helpful so far.

The "someone" who is asleep at the switch is us, all of us, the American public. We are the ones who are loosing by snoozing. The entity that is responsibility for the organization of society is society – our mainstream culture -- with a particular burden of responsibility going to the scientific community and investigative journalism. Some of us are members of those groups, the rest of us are the people who zoned out, went south, thought that if we weren't pregnant or planning to get pregnant the problem didn't concern us, that this issue was just gender politics and if we weren't female the issue didn't matter. So we didn't speak up, we did speak truth to power, we didn't state the obvious – the Emperor's Clothing is, politely stated, threadbare. We didn't demand of ourselves, or others, that action be taken and the problem rectified. We didn't make a commitment to do whatever was necessary, for as long as it takes, until science-based maternity care for healthy

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women becomes the foremost standard of care in the US, one used by all maternity care providers, (physicians and midwives alike) and regardless of the setting for childbirth (hospital, home, independent birth center).

The explanations and excuses are endless and actually don't matter much, since no one can steer a car down the highway of life by looking in the review mirror. We need a new orientation, we need to change our focus from the "Why are they doing that to us" perspective to one that looks squarely at the problem from the obstetrician's viewpoint.

"To Run with Endurance the Race Marked Out for Us" - biblical verse

I believe that the practice of obstetrics is not easy, not very satisfying, not 'safe' in regard to the issues of malpractice litigation. The obstetrical profession needs our help to facilitate the great effort it will take to untangle the Gordian Knot that obstetrics has become after 4 centuries of racing down a tunnel with no cheese at the end. The original reasons for institutionalizing childbirth in a surgical model no longer apply – we no longer need to stop an epidemic of puerperal sepsis, house indigent pregnant women for months in a hospital setting or cannibalize the client-based of midwives in order to provide 'clinical material' to med students.

The sky's the limit, but so far, imagination has been lacking.

A 21st Century World Trapped in a 19th century Mechanical Model of Childbirth

Contemporary obstetrical practices are a direct reflection of a vastly different era, one that saw the human body as a machine. In the mechanical model of the very early 20th century, the biology of childbearing is imagined to be like the engine of a 1910 Model T Ford. The engine of a car was something under the hood (normally hidden from view) that often broke down and needed to be fixed. In this mechanistic view, the mother is like the body of the car – an inanimate object whose 'permission' is not need before "looking under the hood". And like the car, the mother herself plays no active part in the activities of the physician/mechanic to 'fix' her recalcitrant uterus, which either won't start, stalls out, or doesn't have what it takes to get up to speed or it can't make it over the hill.

In this analogy, the pregnant uterus is seen as very similar to a carburetor -- it runs to rich or too lean or gets stuck with its chock open. The mother's primary role is to spread her legs so her OB can get to the source of the problem. The job of her OB is that of a 'uterine mechanic' who must constantly tinker with this uterus-carburetor to keep the labor going. This often means changing the fuel (Vitamin "P" or Pitocin induction) or the richness of the mixture of gas to air (giving the mother oxygen), resetting the idle speed and if it thinks get too kinky, doing an "ectomy" -- when in doubt, take it out.

After a hundred years of working under the hood, bent over with all eyes on that one same little part -- the uterus-carburetor – the job has gotten boring and its limitations outweigh its opportunities by a good bit. The rest of the field of medicine has been transformed in the last 100 years, while obstetrics is doing just what it did in 1920, but with better toys.

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Certainly there are many reasons why childbearing women should find this mechanical model discouraging. As a method for protecting and preserving normalcy, it is a scientifically bankrupt process that inadvertently exposes them and their babies to high levels of iatrogenic complications. However, the reasons why obstetricians should want to change it are not so immediately apparent. But the case for the obstetrical profession is every bit as compelling as that for childbearing women. Being trapped in and by a 19th century model is to be deprived on the wonders of the 20th and 21st century. It is to be segregated off from the mainstream of medical science. It means to get stuck with a profession defined not by other obstetrical professionals but by hospital lawyers promoting risk reduction activities – the "You can't be too careful" school of thought. And yes Virginia, you CAN be too careful, so risk adverse that the very activities of being 'careful' actually, regularly, trip up the system.

Malpractice and physician-centric risk reduction generates caution instead of curiosity (can't be too careful!) and stifles scientific discovery and inventiveness for fear that any obstetricians that does anything "different' may be acquired of negligent or substandard care. This has locked obstetrics at the very lowest level, permitting it to grow stale, become increasingly inbred and for many physicians, to be boring. It takes a good emergency CS to spices thinks up and convince yourself that it was worth going to school for 14 years to become an obstetrician.

The rest of the world has been moving on!

Its interesting to contrast the frozen-in-time nature of obstetrics with the up, up and away course of science and society in general. Without the millstone of obstetrical orthodoxy, the rest of the medical and scientific world has actively embraced the 20th century with creative innovation.".

Being stuck in the 19th century, battling phantom epidemics of the 16th, 17th and 18th century takes the fun out of things, mutes the satisfaction, stifles creativity and makes everyone march in locked step, tied up in the straight jacket of learning more and more about less and less. After a hundred years of increasingly "surgical" methods to conduct childbirth, could there possibly be any room left for innovation? The extreme end of the tunnel has got to lead to Cesarean as the "surgeon's choice" and sure enough, that has come true. What now?

Since there is no where to go after C-sections become the "state of the art", lets instead explore the possibility of what obstetrics could be come if it got out of the 19th century rut and its inappropriate and singular focus on surgical delivery.

21st Century Obstetrics ~ holistic practice, technologically enhanced teaching

Missing for the last century has been opportunities for genuine research and inventiveness to advance the ability of maternity care provides to support physiological process of pregnancy and birth. While that provides a host of wonderful possibilities, it's clear that what childbearing women need most but find most glaringly absent, is the psychological aspect of maternity care. One of the most important 20th century revolutions is the scientific recognition of the "mind-body" connection and the big part that psychology plays in preventive and therapeutic medicine. During the last 30 years everyone – professional and lay public alike – has become mindful of how the mind influences the body and the advantage of working within this paradigm to promote wellness

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and prevent illness.

Unfortunately obstetrics completely missed the mind-body revolution. So far obstetricians have been stuck thinking of the pregnant or laboring uterus as a carburetor that needs to be tinkered with through out eternity. Officially ACOG doesn't believe that psychology – mental and emotional processes -- has anything to do with the conduct of normal childbirth or with perinatal outcomes. In general obstetricians think the touchy-feely stuff is twice suspect, since it is (somehow) "unmanly" AND associated with midwives and other icky weirdoes.

"Pregnancy makes a mother as well as a baby" … Judith Rook, Midwifery In America

Equally important is the general topic of the childbearing woman's psychological status, her emotional experience, the social aspect of pregnancy, birth and new motherhood, which also has been missed by the profession of obstetrics, at least if the table of contents of obstetrical textbooks is any indication of what is being taught to medical students. Pregnancy makes a mother as well as a baby. Of course this wider focus on social and psychological components opens the door to issues such postpartum depression and other places the current practice of obstetrics can't or won't go. This is not necessarily because the individual OB doesn't want to or isn't interested, but because the straight jacket of "standard of care" doesn't permit it. Obstetricians are trapped by the risk reduction process, which organizes everything around the likelihood of litigation.

21st Century Medical Education -- Computer Games, Technological Teaching Manikins

It would be the first time in a hundred years that medical training would include the principles of physiological childbirth and the associated skill sets. Adding physiological management to the curriculum would create an opportunity to bring 21st century technology into obstetrical education and permit obstetricians to achieve mastery.

For example, contemporary medical students have being playing computer games for decades. This type of learning 'in the round' has already been developed in technical areas such as surgery and dissection. What better way to develop the basic understanding and judgment skills for physiological management than using the computer game model, which allows student to learn didactic information and acquire skills in virtual time and try out alternative strategies for management. Using actual case histories of spontaneous labors and normal births to construct teaching cases would help students learn judgment skills without having to fight anyone over the "scarcity of clinical material".

Better yet, it would be fun and a far more interesting way to learn. The game model permits the student to try out different approaches and see if they bring him or her closer or farther away from the goal. Take psychological needs into account, factor in the mothers need for privacy, make right use of gravity and rack up the points, put the mother to bed on her back, start some Pitocin and watch things heat up as the labor goes south and signs of fetal distress get worse and worse. If you have to do a CS to rescue the baby, the program can determine whether it was due to iatrogenic causes, in which case, you loose.

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The New Generation of Technological Teaching Manikins

Another, even more sophisticated, 21st century technology is the new generation of technological teaching manikins. Already there are medical centers in different parts of the country that have special labs set up like flight simulators for anesthesia and surgical residents, which uses a life-like wired manikin developed for simulated surgery as a learning activity. The techy manikins 'breathe', have a heart beat that can be programmed to speedup or slow down and, 'bleed' and the pupil of their eyes can dilate or constrict. If you give them the wrong medicine, go into anaphylactic shock, if you use the wrong surgical technique, they hemorrhage and go into shock. If the residents don't respond to the shock properly, they "die". If the resuscitative measures are timely and done properly, the heart starts to beat again and everyone in the room cheers! The remarkable part of this new educational opportunity is that it can be repeated and over and over again until everyone the medical team becomes experienced and highly skilled, and yet is like no one is harm

In a system that values physiological management, this type of medical simulator would be applied to childbirth. In an obstetrical manikin with an anatomically correct reproductive tract, the 'j' shape of the childbearing pelvis, the mobility of the sacrum, the influence of gravity -- whether right use or wrong use of it -- would be instantly observable. This would permit OB residents an opportunity to see what worked and what didn't from a mechanical standpoint (for example, what happens when you make wrong use of gravity!), without worrying about being sued for any perceived failure to provide the standard obstetrical management. It would also provide instant feedback between the mother's position (prone vs. upright) and blood flow to the placenta and fetus, thus making the dynamics of fetal distress directly observable.

Web Sites, Web Logs (Blogs) and Pod-Casting Lead to New Teaching-Learning Communities

The new technologies of the "wired" age really do open up new ways to reunite us thru shared information and shared experience. Learning is no longer restricted to a university classroom and teaching is no longer restricted to professors of medicine. This helps us take down the "Berlin Wall" that has grown up over the last four centuries between the medical and the midwifery profession. It also permits up to remove the artificial barriers between care providers and those who receive care. Web sites, web logs (blogs) and pod-casting permit medical students and obstetrical residents to form unofficial teaching-learning communities that allow the sharing of knowledge among themselves and also facilitates access to the world of childbearing women and midwives. If doctors would take the time, they would find that childbearing women themselves are the best teachers of what women need and want during pregnancy, labor and birth. Those who had bad experiences with 'conventional' obstetrics can become spokespersons promoting necessary corrections.

Understanding all these vital issues from the inside out will permit obstetrics to become an integrated discipline that *leaves no one out* and *leaves no one behind*.

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Chapter 11.5

Popular Obstetrical Interventions of Induction and Episiotomy

Induction vs. Mother Nature

Another area ripe for 21st century science is research on the natural hormone oxytocin and labor – what starts it naturally, what makes it progress spontaneously and what happens when you try to induce or speed up labor with the artificially produced hormone Pitocin? The obstetrical profession is firmly convinced that Pitocin is chemically identical to oxytocin and that it is an equally effective way to make labor advance. However, the package insert that accompanies the drug reminds the reader that Pitocin is a hard-to-control, powerful drug and that its use can result in rupture of the laboring uterus and the death of both mother and baby. A quick search of the scientific literature on labor induction also reveals an increase in operative deliveries (forceps and vacuum extraction) and C-sections, especially for first-time mothers (CS as high as 35 percent).

There are also questions about the effects of Pitocin on the fetus, due to the longer harder labors associated with induction, a possibly premature labor and the long-term consequences of the drug itself. It should be noted that there is absolutely *no* testing of drugs on children less than 6 years of age. None of the drugs used on pregnant women have ever been tested to determine if they are safe for fetuses and neonates. No one has a clue about the long-term consequences of Pitocin, narcotics, anesthetics or the drugs used in epidurals.

Drugs routinely have many effects beyond those desired in the moment. Genomic research has identified that some individuals have small errors in their DNA that result in a paradoxical or toxic effect from drugs that are generally helpful or at least without harmful side-effects. A *Newsweek* article in July 9, 2000 carried a story about "designer drugs", which are chemically tailored to the specific DNA of a unique patient population. In a study of a particular cancer drug, researchers discovered that 0.3% of the population had a missing letter in their DNA code for that drug. People with this DNA error had potentially fatal reactions to this drug.

Mothers in labor are routinely given several different drugs without any way to know if their unique DNA code or the DNA of their unborn baby makes either or both of them vulnerable to toxic side effects. The propensity to have an adverse reaction is multiplied by the number of drugs received. These risks are then doubled as the drugs are being given directly to the mother *and* delivered to the baby via the umbilical cord. For the baby, whose virgin brain is being influenced by these substances, the risk of side effects is both immediate and life long. Studies done in Scandinavia indicate that narcotic use during labor (within 10 hours of birth) results in a statistically significant increase in drug abuse and addiction of narcotized fetuses as they become teens and young adults. (Jacobson, et al, 1990, Jacobson, Nyberg, Eklund, Bygdeman & Rydberg, 1988)

Another open question is the sharp increase in childhood autistic disorders. Autism reached epidemic proportions in the early 1990s and has continued to rise every year since. A July 2000 cover story for *Newsweek* identified that more children now suffer from the scourge of autism than childhood cancer or Downs Syndrome – as high as 1 out of 500. Autism severely interferes with

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the ability of children to relate to other people and the external world. The severity of autism spans the spectrum of disability from mild to the most sever form, which requires the child to be institutionalized. While no association has been definitively established, there is a statistical link between the increase in labors induced with Pitocin and the increase in autism. The Newsweek article quoted Dr. Eric Hollander, director of an autism clinic at Mt. Sinai Medical Center in New York, as reporting that 60% of his autistic patients were the product of a Pitocin-induced labor (the rate of inductions in 2000 was approximately 20%).

According to research by Doctors Thorpe & Breedlove, (1996), "80% of US women receive epidurals ... narcotics are added to epidural analgesia to speed and enhance pain relief. These drugs cross the placenta to the fetus". There is also no way to determine if the fetus has a particular gene that makes it more vulnerable to an unexpected effect. In addition there is an increased risk of drug interactions when more than one drug is present at the same time, which is frequently the case during labor. Perhaps the epidemic increase in childhood autistic disorders is a result of drug interactions between Pitocin used to accelerate labor and the cocaine-based drugs and narcotics used in epidural anesthesia that normally accompany induced or augmented labors.

Natural Oxytocin vs. the Parke Davis Rx Pitocin?

The use of an artificial hormone as compared to the natural hormone is another one of those areas of study that has for the most part escaped the 20th century. The official assumption of the medical community is that the uterus doesn't really care whether the hormonal trigger for regular contractions is endogenous (naturally secreted from within) or exogenous (from without, i.e, a drug). However, in the last few years there has been more scientific interest in various aspects of this question. In a book entitled "*The Oxytocin Factor*", Dr Kerstin Uvnas Moberg, a researcher in Sweden, points out that natural oxytocin is the hormonal opposite of the "fight or flight" response triggered by various adrenal hormones. She refers to oxytocin as the hormone of "calm and connection". Dr. Moberg's research reveals oxytocin as the powerful hormone involved in sex, childbirth, bonding, breastfeeding as well as relaxation and feelings of calm.

In order to understand why the administration of the artificial hormone as a pharmaceutical drug might be drastically different from the effects of natural oxytocin in a normal labor, I have taken the liberty of a brief detour into the biology of oxytocin.

"…a coordinated system connected like threads in a marvelous web"

There are two types of hormones, one known as 'steroids' (composed of fats related to cholesterol) and the other group called peptides or polypeptides, which consist of small proteins. Oxytocin is universal peptide in all mammals, unchanged over millennia, which plays an important role in the life and wellbeing of both genders. Unlike steroids, peptides hormones do not enter the cell itself but instead activate receptors on the outer surface of cell membranes. In other words, they are like keys that turn on the cell, instead of a substance that is incorporated *into* the cell. One of its unique features is the place in the brain where oxytocin is created – the pituitary -- which is a bulbous gland surrounding the optic nerve and the nuclei of the hypothalamus. The hypothalamus is the seat of our emotional life and coincidentally, the hypothalamus is physically at the very core of our brain, deep down at the exact center.

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There are two different ways that oxytocin peptides work in our bodies. First it is a hormone that triggers reactions in distant organs and tissue all over the body. In this mode, oxytocin circulating in the bloodstream delivers a chemical message or a 'key' to initiate biological responses in the uterus, breast or other sensitized tissue. In the other mode oxytocin is a signaling substance within the nervous system, delivering messages directly via long nerve fibers extending out from the pituitary gland to target tissue in the brain itself. Certain nerves release endogenous (natural) oxytocin into the blood vessels that connect with the pituitary gland's frontal lobe. In this way oxytocin stimulates the pituitary's release of prolactin (breastfeeding hormone), growth hormone (GH) and adreno-corticotropic hormone (ACTH). In its natural state -- produced in the mother's own brain, instead of given in an IV -- oxytocin influences activity in other nerve receptors and signals biological effects in other body systems.

Another of the unique aspects of oxytocin is that it has both short and long term effects, many of which are paradoxical. For example, initially it increases blood pressure and then switches over to its opposite effect and the blood pressure drops. There are several hormonal effects that have this yes/no, stop/go reaction. According to Dr. Moberg: "The body's innate system of checks and balances is complex; oxytocin is constantly present and working in many different ways. The effects of this coordinated system are connected like threads in a marvelous web". [P. 80]

In addition to triggering uterine contractions during sex and labor and the let-down reflex for breastfeeding mothers, the physical, psychological and mental effects of oxytocin include:

Less fearful, more sociable and nurturing
Enhanced social memory
Increased calm and *less pain*
Reduced muscle tension
Improved learning ability
Effects on blood pressure -- both increase or lower, depending on other hormone levels
Balancing body temperature, increasing temperature on front-side of body
Regulating digestion
Regulating fluid levels
Growth and healing of wounds
Effects on other hormones

So the unanswered question that is so ripe for scientific inquiry is whether the artificial source of hormone used to induce labor – Pitocin – might well be only half a loaf.

The size of the artificial hormone molecule (Pitocin) is slightly larger than that of natural oxytocin and may be unable to cross the blood-brain barrier. If so, this would prevent Pitocin from functioning as a nerve signal inside the brain, the way natural oxytocin does. For instance, one of the effects of natural oxytocin is to induce a feeling of calm and to reduce perceptions of pain. Midwives and others who see a large number of unmedicated labors are often surprised at the amazing ability of women to cope effectively with what seems like a hard and no doubt painful labor. It looks as if something has enhanced the mother's ability beyond the realm of normal life. However if you ask women who have been induced with Pitocin whether they experienced any heightened sense of calm, you'll hear a resounding 'no'. As for pain, Pitocin induction is regularly described as 'it hurt like hell' and so typically these women will ask for pain medication or an epidural.

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A natural labor depends on endogenous oxytocin. It precedes at its own internal pace and sets its own rhythm. Could it be that natural oxytocin balances the painful effects of the hormone on the uterus (which causes regular effective contractions) with pain-reducing aspects of oxytocin? This would provide the mother with the hormonal basis for effectively coping with labor, via decreased muscle resistance and increased tolerance for pain and a calm attitude. It's a question worth exploring, one that an obstetrical profession freed from the overwhelming pressure to perform Cesareans, no longer intimidated by a dysfunctional standard of ever-escalating intervention, and relieved of the relentlessly escalating anxiety over their unfair exposure to malpractice litigation, might just find to be a topic worthy area of study.

The Rightful Use of Episiotomy in the 21st Century

There are only two "right uses" of episiotomy in physiological childbearing, regardless of the century. The first and most frequent reason is fetal distress unresponsive to the usual measures to correct (position change, not pushing for a while, maternal O2, etc). In this case the baby will need to be rescued from any additional delay or added pressure of maternal pushing and episiotomy can help facilitate that. The second and more rare reason is because the mother has become exhausted and asks for an episiotomy to help her baby be born without additional time or effort on her part. The use of episiotomy for any other reason in a normal birth is not 'medically' justified, although either the doctor or patient may 'negotiate' for its use, provided such a decision is the result of fully informed and voluntarily consent.

As for the scientific literature justifying the use of episiotomy, there isn't any and never was. Every five years a new study debunking the routine use of episiotomy is published and then ignored like all those that came before it. Given that preamble, it will be no surprise to learn that the most recent statistics on this ever-so-intimate surgical procedure documented that about a third of women in the United States who gave birth vaginally in 2000 had an episiotomy. That is about 1.3 million unnecessary and painful surgical procedures. In a review published in Ob.Gyn.News on June 1 2005 (Vol. 40 • N0 11), entitled "*Routine Episiotomy Offers Women No Benefits or Relief, Review notes longer recovery, some harm*", the situation was described this way by the researchers:

> "Routine use of episiotomy for uncomplicated vaginal births provides no maternal benefits and may harm some who would have had lesser injury without a surgical incision, according to a literature review. When providers restricted their use of episiotomy, women were less likely to have severe perineal lacerations and to need suturing, and were more likely to have an intact perineum and to resume sexual intercourse earlier, reported Katherine Hartmann, M.D., University of North Carolina at Chapel Hill, and her associates."
>
> "The routine use of episiotomy has been standard for years, with apparently limited research to support it," Carolyn M. Clancy, M.D., director of the Agency for Healthcare Research and Quality, which sponsored the study, said in a statement."
>
> In an interview of Jay Goldberg, M.D., director of the fibroid center at Thomas Jefferson University Hospital in Philadelphia, Dr Goldberg said. "Although episiotomy is among the most common surgical procedures performed on women, it is the only one in which neither

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informed consent nor patient assent is obtained before performing the procedure.

No practitioner would think of attempting amniocentesis, external cephalic version, cesarean section, forceps-assisted delivery, or vacuum-assisted delivery without first discussing this with the patient; however, cutting a woman's genitalia, usually unnecessarily, is thought to be in the realm of practitioner discretion," said Dr. Goldberg, who has written extensively on the use of the common procedure. [emphasis added]

None of the studies reviewed found pain to be lessened by routine episiotomy. The evidence showed that the procedure did not protect women against … incontinence, pelvic organ prolapse, and difficulties with sexual function in the first 3 months to 5 years after delivery (JAMA 2005;293:2141-8).

The risk of a woman having an episiotomy during a spontaneous vaginal birth is based more on *physician* than patient characteristics, according to Jay Goldberg, M.D. Dr. Goldberg and his colleagues prospectively collected data between August 2002 and October 2003 on 55 health care providers who together performed 3,536 spontaneous vaginal deliveries with 969 episiotomies (27%) at three Philadelphia hospitals. ….. board-certified [ACOG-certified obstetricians] cut *more* episiotomies than did non-certified practitioners [i.e., family practice physicians and professional midwives].

Education slowly will change practice patterns among practitioners who value an evidence-based approach over a "how I've always done it" one, he said. For other practitioners, an audit methodology is probably needed to reduce episiotomy rates.

The investigators estimated that about 1 million episiotomies could be avoided annually. They called on clinicians to change their practice patterns, noting that episiotomy use is heavily driven by local professional norms, experiences in training, and individual practitioner preference rather than by variation in the needs of individual women at delivery.

This evidence could help many women with uncomplicated births avoid a procedure that is of no benefit to them, she added." [Ob.Gyn.News; "Routine Episiotomy Offers Women No Benefits or Relief, long recovery, some harm" 06/01/05]

What does this mean for Childbearing women and 21st Century Obstetricians?

All across the board the appropriate response is: "Just say No!". Except for the issue of fetal distress and maternal exhaustion, ALL other rationales have been debunked. A cut is NOT better than a tear, its ISN'T easier or better to sew up an incision than a natural laceration, cutting an episiotomy DOESN'T save the mother's perineum.

Class dismissed.

As for the topic of 'natural' lacerations, the use of physiological management vastly reduces the number of serious lacerations. Additional helpful skills can be learned by physicians and midwives to reduce this number even farther. However, lacerations still occur about 20-30% of the time but as the research has demonstrated, an episiotomy would *not* have been better. Some

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lacerations will benefit from suturing while others don't need stitches. The non-suturing of 1st and 2nd degree tears has been studied in the UK and is a method used by midwives both here and abroad for over a decade with very good results. In the Ob.Gyn.News review of episiotomy quoted above, they also note that: "Some evidence suggested that leaving the perineal skin unsutured after an episiotomy may confer some benefit."

What all this adds up to is a 21st century relationship to episiotomy by both physicians and patients that is much simpler and far more satisfactory, biologically and personally, for all concerned.

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Chapter Twelve

The theme of this chapter is to reunite the story that was split asunder in the first 10 chapters. At issue is the rehabilitation of the maternity care system, that is, a science-based birth care as the foremost standard for healthy women with physiological management, regardless of the status of the caregiver (physician or midwife) and regardless of the location of the labor (home, hospital or birth center).

As a standard, physiological management includes social and psychological support and the big question is *how* one does that in a system currently organized around high end, very profitable technologically-based care.

It is also necessary to describe what it looks like (how a physician would conduct him or herself) and how one bills for birth as a biologically event supported physiologically and managed under the rules of aseptic technique, instead of conditions of "surgical" sterility.

And finally, how does one end the political and social controversy and leave us a stable condition that empowers consumers, midwives and socially conscious citizens to make the necessary changes?

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Simplifying the Situation by Simplifying Language (move else where??)

Obviously one does not have to be a midwife to use the principles of midwifery – anyone, male or female, physician, nurse or midwife may employ these sound strategies. In the 20th century the false association of 'midwifery', that is, the discipline of physiological management, with the person of the midwife as an enemy of the medical profession, continues to cause mischief even today. Most obstetricians don't want to be thought of as practicing 'midwifery', but they can operate out of the principles of physiological process, and use physiological management for normal labor and birth. A simple vocabulary correction would permit us to disengage the type of *care* from the type of *caregiver,* which would make the conversation about 21st century science-based birth services more effective.

From Time Immemorial, the word 'midwifery' referred to that entire spectrum of care for normal pregnancy and childbirth, and those who provided that type of care were either 'midwives' or man-midwives. Mothers-to-be considered themselves to be 'maternity' patients who received 'maternity' care. The idea of obstetrics as a medical and surgical practice was first introduced to provide care in abnormal situations only. As providers of medical services, doctors no longer referred to themselves as 'man-midwives' but rather as obstetricians.

By the 1930s, all care for pregnancy and childbirth, whether for normal or abnormal circumstances, was called 'obstetrical care'. By this time the idea of midwifery and midwives had been erased from the medical profession's vocabulary. Until the last few decades, hospital accommodations for all categories of childbearing women were called "maternity wards". Now days all childbirth related services have been subsumed into the idea of "obstetrical", with no one

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speaking of 'maternity care', maternity patients or maternity wards.

I suggest that the category of care to healthy women with normal pregnancies should properly be called maternity care and provided to maternity patients. The proper care for healthy women is physiologic. In this model, it would be the status of the mother -- healthy vs. states of disease or complications – that organizes the type of care provided, rather than the status of the care provider. It is not logical for obstetricians to provide 'obstetrical', ie. medically/surgically interventive, care to healthy women.

Maternity care, whether it is offered by a male or female, physician, nurse or midwife, would still be physiological management because that is the foremost standard of care for healthy woman. With this new vocabulary, an obstetrician could provide maternity care to healthy women and *obstetrical care* to those with *complex situations or complications*.

Safe Maternity Practices for the 21st Century

The challenge for the 21st century is to bring about a fundamental **restructuring of maternity care** in the United States. This is an economic as well as a humanitarian issue, as only the 'social' model of maternity care is designed to address the social, psychological, educational and developmental needs of new mothers and their families. Worldwide, the global economy depends on the use of physiological principles and low-tech, inexpensive methods of midwifery care for normal birth services to retain its competitive edge. The US must also utilize these safe and cost-effective forms of care in order to compete in a global economy. **In the US the social model of childbirth,** which depends squarely on physiological management for its success in providing care to healthy women with normal pregnancies, **must become the foremost standard of care.** At least 70% of the childbearing population is healthy and have normal pregnancies.

Under this system, management strategies would be determined by the *health status of the childbearing woman and her unborn baby*, in conjunction with the mother's stated preferences, rather than by the *occupational status of the care provider* (physician, obstetrician, midwife). At present, *who* the woman seeks care *from* (doctor vs. midwife) determines *how* she is cared for. In a rehabilitated maternity care system, physiological management for healthy women would be the foremost standard, regardless of the status of the caregiver (physician or midwife) and regardless of the location of the labor (home, hospital or birth center).

A Win-Win System and the Rise of Personal Preference of Individual OBs

After obstetrical education is freed from the need to think of birth as always and only a surgical procedure, a spectrum of opportunities will open up. If obstetrics were an integrated, holistic discipline, the principles of physiological management would be part of the bedrock of its practice. This would not only include the physical aspects (right use of gravity) but also the psychological and social, thereby creating a 'new frontier' of practice options. Depending on personal temperament, obstetricians would get to choose between the obstetrical complication end of the spectrum or the 'people part'. Many OBs like developing one-on-one social relationships with the patients they see and are even somewhat envious of the relaxed schedule that midwives enjoy. These physicians like providing 'maternity' care and the opportunity to develop a genuine

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relationship with their maternity patients, provide care at a slower gentler pace, without all the stress and malpractice anxiety typically associated with a busy obstetrical practice.

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What Healthy Woman Maternity Care in a Hospital Setting Would Look Like

To Midwife, the Verb –

This describes the active 'verbs' of maternity care based on the theory of simple kindness, which propagates 'omni-directional' verbs. This is a personal construct of mine based on the idea that "love does not kill to save", and observes that kind verbs are omni-directional or reversible. For example, if we say "I help *you*" OR "you help *me*", as the object of that verb's action, my 'safety' is the same at either end – one of us helps, the other is helped, and all is well. However, if we use the example of "I cut you" (as in episiotomy or C-section), I really will not want you to cut me as a casual act. It will NOT be OK with me to be cut, while it may be OK with me do the cutting.

If you examine the customary "verbs" of midwifery – support, care, treat with respect, etc -- they are fundamentally omni-directional, where as many routine interventions of "usual and customary" obstetrical practices entail the use of forcible means or surgical penetration. They seek to protect the doctor and hospital at the expense of the mother and baby. That is fundamentally unethical and must be addressed.
===

How to Make the System work for everyone Re-write for "Voice" i.e., tone of reconciliation

The main and the plain reading of the scientific literature brings one to the logical conclusion that **physiological management is the safer and most cost-effective form of care for a healthy population**. This leads us to the natural and compelling conclusion that our current hospital-based maternity care system must be rehabilitated.

A **newly formulated national health care policy would integrate physiological principles with the best advances in obstetrical medicine to create a single, evidence-based standard for all healthy women.** That standard must be based on criteria arrived at through an **interdisciplinary process** that **INCLUDES** the traditional **discipline of midwifery** as an independent profession and integrates the **input of childbearing women and their families** into the process.

It is especially important to include testimony from those families who had complications following cesarean surgery or who found it virtually impossible to arrange for a subsequent normal labor and birth after a cesarean (VBAC).

Obviously changes in medical education and obstetrical practice will both be necessary, as well as changes in the way compensation for maternity care is calculated. Physicians who provide maternity care to a healthy population would be required to either utilize the successful strategies of physiological management themselves, cede the care of healthy women to those who do, or obtain truly informed consent for substituting medicalized obstetrical care with its well-documented dangers. Fully informed consent would require true informational transparency relative to the documented consequences of medicalized labor and normal birth conducted as a

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surgical procedure.

Scientifically correct information must be **routinely provided on the limitations and problems associated with the medicalization of labor** – i.e., drugs, anesthesia, and medical interventions and procedures that abnormally limit mobility or confine the laboring women to bed. This severely limits or eliminates access to time-tested strategies of physiological management and right use of gravity, thus increasing artificial stimulation of labor and operative delivery and all their associated complications.

Obstetricians must provide valid information during the last trimester of pregnancy that includes the short and long term complications associated with major medical and surgical procedures performed during the labor – continuous electronic fetal monitoring, restriction of oral nourishment, IVs, labor stimulating/inducing drugs, off-label use of drugs (ex. Cytotec), narcotic medication, epidural anesthesia, indwelling bladder catheters, episiotomy, vacuum extraction, forceps and a 27% cesarean section rate. The benchmark for this transparency should be the same information about complications that is reported to physicians in the scientific literature and obstetrical trade papers, such as *Ob.Gyn.News.* This should be faithfully restated for childbearing parents in lay terms that are appropriate for their concerns.

Transformation in our national maternity care policy would require that:

- Medical educators learn and teach the principles of physiological management to medical students, interns and residents
- Practicing physicians learn and utilize these same skills
- Fully informed consent for obstetrical management of healthy women be provided that includes true informational transparency relative to *the documented consequences of medicalized labor and normal birth conducted as a surgical procedur*.
- Hospital labor & delivery units be primarily staffed by professional midwives, with incentives for current L&D nurses who wish to retrain for hospital-based midwifery practice to do so at minimal expense to themselves
- Third party payers fairly reimburse all practitioners for the professional's time spent facilitating normal childbirth, which helps avoid the need for medical and surgical intervention, as well as reimbursing for medical and surgical procedures
- Tort law (medical malpractice) reform be enacted so that doctors are not inappropriately judged by outdated medical criteria that are not evidence-based

In a rehabilitated maternity care system, professional midwives, family practice physicians and obstetricians would all enjoy a mutually respectful, non-controversial relationship. Appropriate maternity care would be provided by all three categories of professionals in all three birth settings as appropriate – hospital, home and birth center – without prejudice, controversy or retaliation against the childbearing family or against other care providers. By making maternity care in all settings equally safe and equally satisfactory, families would not be forced to submit to forms of care that are not appropriate for their needs or that waste our economic resources.

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This rehabilitative process could be launched by the California state legislature or a public policy organization such as the Pew Charitable Trust which could convene a **blue-ribbon panel consisting of scientists from all the pertinent disciplines** – public health, epidemiology, sociology, anthropology, psychology, biology, child development, law, economics, midwifery, perinatalogy and obstetrics. Such a highly respected forum would study these problems and provide unbiased, fact-based news for the press and broadcast media to report. This public exploration must include listening to childbearing women and their families as a class of experts in the maternity experience.

Such a panel would produce interdisciplinary recommendations for a reformed national maternity care policy. This would include methods to reintegrate midwifery principles and practice into this expanded system of maternity care.

Ultimately such exploration and recommendations would result in legal and legislative changes affecting doctors, hospitals, midwives and the health insurance industry. Such a system would then be **respected and used equally by all maternity care providers with the backing of hospitals, health insurance and medical malpractice carriers, and state and federal reimbursement systems** (Medicaid / MediCal) etc**.**

Unfinished Draft /// End Section Conclusion / wrap-up of political controversy

Midwives and Obstetricians -- Enemy or Friend of The State?

In a democratic society the function of government is determined by consent of the governed. Sanctity of life and protection of vulnerable populations– infants and children, pregnant women, the ill, injured, disabled, the mentally incompetent -- are all considered to be the legitimate duty of The State. At our insistence, elected representatives pass laws authorizing public agencies to do this – law enforcement, child protective services, medical boards to name a but a few -- and we hold agents of the government responsible for achieving those goals.

In the early part of the 20th century, the obstetrical profession considered its care of childbearing women to be an extension of the State's obligation to protect the vulnerable. This perspective was originally based on the notion that epidemics of puerperal sepsis and maternal deaths were inevitable occurrences (since the needs of medical education required that childbearing women be aggregated in institutions). Given that as the background, puerperal sepsis had to be vigorously controlled via the conduct of childbirth by under surgically-sterile conditions. The two US titans of the 20th century obstetrical profession – Drs DeLee and Williams -- were personally convinced that normally childbirth was inherently pathological.

This conclusion was fueled by their observations that even (read 'especially') when childbirth was conducted as a sterile surgical procedure by trained obstetricians on women under general anesthesia, complications *still* abounded. According to their theories, the doctors were not at fault (!), so it must be the women themselves or the nature of their biology that was to blame. Given this as a starting point, it was only logical for the obstetrical profession to conclude that their profession was an extension of the government's role of beneficent to and protection of vulnerable

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populations. By that definition, the physiological principles of midwifery was assumed to be a deficient and old-fashioned form of care, an 'enemy of the state' no longer to be tolerated by 'modern' society.

In this equation, the natural conclusion is simple. If the obstetrical profession is a 'friend' of the State, helping to carry out its functions, then the entire midwifery profession (and all its practitioners) must be an enemy of the state. This describes the present-day relationship of organized medicine, state legislatures, court systems, state medical board and society in general to the principles of physiological care, midwifery as a discipline and midwives as providers of maternity care.

Its assumed that the obstetrical profession saves babies, thus the failure to use the care of the obstetrician is to risk the unnecessary or 'preventable' death or disability of vulnerable women and their unborn/newborn babies. What this adds up to is a 'crime' on the part of the parents and malpractice on the part of the practitioner for any failure to make liberal use of electronic fetal monitoring, labor stimulating drugs, conduct of birth as a surgical procedure, instrumental or operative delivery, etc. Under this system of medicalization, physiological process and midwives are both enemies of the state.

However, when this odd and unexamined assumption – an unproven hypothesis -- is opened up to the rigors of unbiased scientific inquiry, the conclusions arrived at are dramatically, startlingly different. In fact, they are the opposite. Scientific sources make it clear that routine obstetrical interventions and birth as a surgical procedure for healthy women are **always more dangerous** than the use of physiological principles, conjunction with traditional social and psychological support and appropriate access to obstetrical services for complications.

The science-based standard of care for healthy women is physiological management.

Period.

Physicians who provide maternity care to a healthy population are required to either utilize the successful strategies of physiological management themselves, cede the care of healthy women to those who do, or obtain truly informed consent for substituting medicalized obstetrical care.

Period.

The obstetrical profession became a prisoner of their own project when it set up this extreme contrast, one that identified itself as a 'friend' of the State, based on its potential for protecting mothers and babies. Since institutionalized medicalization and obstetrical intervention for a healthy population isn't able to deliver on that promise, it is another example of the double barreled shot gun with one bore twisted back and aiming straight at the conventional practice of obstetrics. Defined by its own criteria, the judgment is harsh.

The Real Enemies of the State Are Ignorance, Prejudice and Disease States

However, nothing is to be gained by simply making obstetrics the bad guy. First, it's not true. Second, generating new controversies and hard feelings would be a stumbling block, preventing

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the achievement of very worthy goals. So lets wipe the slate clean and just start over. *The real enemies are neither doctors nor midwives.* They are ignorance, prejudice, disease states and medical complications, congenital anomalies, lack of access to appropriate medical services and a tort law system that holds us all hostage to unnecessary medicalization and particularly victimizes the obstetrical profession, and indirectly, the rest of society.

Physiological Management for Healthy Women – The Bell that Can't Be Unrung…

Obstetrics as a scientific discipline must once again learn, teach and utilize physiological management for healthy women. To do that, midwives are suggesting, in the strongest of terms, that an exchange of expertise is in order. It is as much the responsibility of physicians to be familiar with the time-honored philosophy, principles and skills of midwifery as it is the duty of midwives to know the principles of anatomy and asepsis. Midwives are in agreement that modern obstetrics has much to teach and much to contribute to the wellbeing of the families it serves.

The Late Dr. Galba Araujo, formally professor of obstetrics from Brazil, in an article urging an "articulated model of midwifery" into contemporary obstetrics stated:

> "We have learned much from the traditional (midwife) and respect is mutual between our parallel groups. We have learned to teach our (obstetrical) students less invasive delivery and above all, to use the vertical position for the mother. Perhaps this is the most valuable lesson among the many we have learned."

Midwives have availed themselves of both formal and informal study of obstetrical science. Likewise, the honorable but unassuming traditions midwifery -- the art of being "with women" -- the quietness of spirit, the patience with nature, the intimacy skills which serve childbearing families so well are also of great value to the bio-medical sciences. We believe that physicians cannot begin to examine their prejudices without specific information on the nature of these principles and the opportunity to build personal and professional relationships with those who practice physiological management of normal birth.

In spite of the fears of many within the obstetrical community, midwives do not represent a feminist conspiracy to eliminate the obstetrician. Quite the obverse -- midwives seek to augment, supplement and complement the contemporary medical model of care. The jewel in the crown of independent midwifery is that it is *not* intrinsically in conflict with the true purpose and glory of obstetrical care -- the compassionate correction of dysfunctional states and the treatment of pathological ones. The immutable standard of maternity care is the same the world over and through out history, it is the same in every language -- the goal is and will remain the practical wellbeing of the mothers and babies it serves. Here on the brink of the 21st century, the first duty of maternity caregivers of every educational and experiential background must be to bring about a cooperative and complimentary system that truly functions in the best interest of childbearing families.

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The time to eliminate prejudice is upon us.

This philosophy of reconciliation is perhaps best described in a little-known story told about Eleanor Roosevelt during the years that she was mother of young children as well as First Lady of the land. When asked what she put first in her life, her husband (who was President of the United States), or their children, she replied that "together with my husband, we put the children first". I have always appreciated that story as portraying the ideal relationship between physicians and midwives -- *that together we put the practical wellbeing of the mother and baby first.*

WE, the People, came together to form a more perfect union.

WE, the People, cannot stop perfecting that union until it includes science-based birth care for all healthy women with normal pregnancies.

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Draft material from other sources

Conservative & Responsible Maternity Care

I am not old enough to remember what it was like when the physiological care of midwives was norm for normal birth, but I am old enough to have been an L&D nurse when maternity care was primarily provided by GPs. While care in the hospital was often not consistent with . Obstetrician-attended birth were the minority and that choice was usually associated with doctors' wives and care of the very wealthy.

The management style of these doctors was conservative, as defined by the classical principles of conservation. In regard to childbirth, the ability of the practitioner to bring about a vaginal birth was seen as a value, while Cesarean section was rightly seen as a dangerous procedure to be used sparingly and then only when all other avenues had failed. The older general practice physicians had trained in the 1930s and 40s and began their practice when the statistical majority of childbirth still occurred at home. These older doctors had a history of working with midwifery assistants who proved the bulk of the labor care at home at the direction of the GP and in some cases, simply conducted all the normal births themselves, with the physician only being called when there was a problem.

As a labor room nurse in the early 1960s, GPs and obstetricians both delivered breeches and twins vaginally, with little or no 'special' attention or preparation. Both of these situations were considered a variation of normal vaginal birth and the outcomes for these mothers and babies were consistent with those of other normal vaginal births. Even complications such as a marginal placenta previa were managed "conservatively", with the professional skill of the practitioner informally judge by his ability to avoid a Cesarean. Except for emergency C-sections, all intrapartum Cesareans required the physician to get a second opinion and that doctor had to be one that was not a part of the same group practice. Every Cesarean performed was reviewed by the obstetrical morbidity and mortality committee meeting each month. Any physician whose C-section rate was substantially above average was cautioned and if the rate stayed too high, would be put on probation (which required a proctor physician to work in conjunction with him) until the rate was not brought back into line with the overall norms forte institution. In 1961 our hospital had a 3% Cesarean section rate.

Deconstructing Conservative and Responsible Maternity Care

During the first ten years of my L&D nursing career, I noticed the incremental elimination of GPs from those physicians with obstetrical privileges. During the decade of the 1960s, the scale tipped slowly towards a majority OBs, but still a fair number of the older GPs who were well known and well liked in the community. By the 1980s the GPs were gone but a few new non-obstetricians from the newly minted 'specialty' of family practice medicine were providing maternity care.

However, the scope of practice of family practice doctors was incrementally restricted over the next two decades by policies passed by the hospital obstetrics department. The chief of OB, who is responsible for the OB department policies, was always elected by a vote of the physicians with obstetrical privileges. As board-certified (ACOG) obstetricians came to dominate the obstetrical staff, the majority of doctors predictably choose a different obstetricians each year to be chief of

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staff. It has been a century-long agenda of the obstetrical profession to reduce the number of non-obstetrician providers of childbirth services. This resulted in increasingly restrictive policies, as non-obstetricians physicians were no longer permitted perform Cesarean surgery (even though they were licensed as 'physicians and surgeons') and also prohibited to attend breeches or twins or VBACs.

The return of Conservative and Responsible Maternity Care

Aside from the ethical principle of autonomy of healthy and mentally competent adults is the disturbing issue of an obstetrical profession that is apparently being held hostage to a radical form of maternity care for healthy women, which seeks to make surgical birth a 'standard of care' for the obstetrical profession. Due to policies set by hospital obstetrical and anesthesia departments, obstetricians are being restricted to a level of obstetrical care well below that of first year obstetrical resident. Obstetricians now need a permission slip from the hospital administration or chief of the anesthesiology department in order to provided care for a planned VBAC. In many case, obstetricians are forbidden, through formal or informal OB department policies, to provide vaginal birth services to mothers with twin or breech pregnancy. (This also applies to providing backup services to midwives or accepting hospital transfer of home birth clients.)

The result of a disenfranchised obstetrical profession is a sky-rocketing C-section rate, which in my professional life (1961 to the present) has gone from 3 to 27 percent. Identified risks of cesarean includes 33 well-known complications (including a **13-fold increase in emergency hysterectomies**) compared to *only 4 specific risks for normal vaginal birth* [see MCA's systemic review "What every pregnant woman needs to know about Cesarean Section" at www.maternityWise,org]. Childbearing women who are delivered by Cesarean section are two to four times more likely to die from the intra-operative, post-operative or downstream complications of Cesarean surgery than from normal vaginal birth. More than a dozen operative and post-op complications for the mother are associated with Cesarean including maternal death, maternal brain damage, anesthetic accidents, drug reactions, infection, accidental surgical injury, hemorrhage, emergency hysterectomy, blood clots in the lungs, need to be admitted to ICU, need to be on life support, inability to breastfeed.

Potentially-lethal complications and protracted difficulties extend into the postpartum period, post-cesarean reproduction, post-cesarean pregnancies and post-cesarean labors. Reproduction complications include secondary infertility, miscarriage and tubal pregnancy. Delayed or downstream complications in future pregnancies include placental abruption, placenta previa, placenta percreta, uterine rupture, and maternal death or permanent neurologically impairment.

Risks to babies include accidental premature delivery, surgical injury during the C-section, respiratory distress, increased rates of admission to NICU. Risks to babies in subsequent pregnancies include placenta abruption/stillbirth, death or permanent neurological disability (do to uterine rupture), lung disease and increased rates of both childhood and adult asthma.

For this reason, the reduction in operative deliveries associated with physiological management is an **important tool in the reduction of maternal mortality and perinatal loss** in future pregnancies. A large number of women with identified pregnancy risks such as VBAC or breech baby at present are totally unable to get appropriate obstetrical care. Some of these women are

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choosing instead to be cared for by midwives and other are choosing unattended home births. These parental choices may address the family's own personal dilemma, but it doesn't address the underlying problem. The major social problem here is a disenfranchised obstetrical profession – doctors forbidden to do doctoring -- and the run-away costs, both personal and economic that are occurring subsequently. This prevents the United States from having a truly conservative and responsible maternity care system, which is also a handicap in a global economy, preventing the US from being competitive around the world.

The solution lies in three specific areas of reform. One is the need for tort law reform in combination with ACOG policy statements and position papers that recognize physiological management as an appropriate category of care provided by obstetricians to healthy women with normal pregnancies, in which the mother neither desires or requires interventionist obstetrical care. The second is for medical educators to acknowledge that physiological management is the foremost standard for healthy women worldwide. This would permit them to learn the principles of physiology themselves and subsequently to teach physiological management to medical students and in obstetrical residency programs, with the expectation that physiological principles would be routinely utilized for healthy women.

And last but not least is the staffing of labor and delivery units of hospitals by professional midwives as *practitioners* who are authorized to provide the full spectrum of physiological care to healthy women. On the continuum of physiological management, the 'birth' or 'delivery' is not a separate activity requiring the services of a surgical specialist, but rather a normal part of normal maternity care as provided by the hospital-based midwife. At the request of either the mother or the obstetrician, the physician may be called to 'catch' the baby, but it would not be required by hospital policy.

Part and parcel to this changed relationship with hospital-based midwifery is also the 'normalizing' or rehabilitating of relationships with community-based midwifery, so that complementary professional relationships can develop between community midwives and hospital obstetricians. This would lead to the integration of community midwives into the health care system and result in "relocated home births" for that category of women with significant risk factors that can be reduced by early and easy access to medical services.

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