婦幼衛生白皮書

中華民國周產期醫學會
1996 年度報告

台灣之剖腹產

Taiwan Society of Perinatology
1996 Annual Report

Cesarean Section in Taiwan

中華民國周產期醫學會
1997 年 5 月修訂

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Foreword & Acknowledgments

The Cesarean section rate is considerably higher here in Taiwan than in our neighbor's in Japan. Due to this fact, a number of people have criticized our Taiwanese obstetricians of abuse in their practice of this operation.

However, the fact is that whenever a malpractice suit is brought against an obstetrician due to birth injuries suffered during vaginal delivery, the plaintiff's routinely complain that their request for a Cesarean section was *turned down* by the physician.

Thus, everyone can be a Monday morning quarterback; anybody can be as wise as Solomon *after the fact*. But it is only the doctor—and not the unconcerned onlookers--who can deeply understand, and thereby seriously and solemnly decide on a course of action.

In our opinion, the high Cesarean section rate in Taiwan is multi-factored, and there is no ultimate answer to the question, "What is the optimal rate?" Nevertheless, we present these Cesarean section-related topics and data, including section rate, indications, complications, perinatal outcome, and trend. These findings are presented to a variety of people: Department of Health officials, National Health Insurance Administration, hospitals, physicians, and too, of course, and most importantly, the public.

It is my sincere hope that from this data, all of these—officials, organization, and individuals—can carefully consider how, from his/her own point of view and expertise, we can truly make progress with this very real, and multi-factored problem.

I gratefully acknowledge the invaluable assistance of many people. First, of Dr. Wei-Hwa Chen, for his meticulous data collection and perseverance in completing reports. Next, to our board of editors, Professor Fon-Jou Hsieh, Dr. Chang-Sheng Yin, Dr. Shih-Chu Esther Ho, Dr. Man-Li Yang, Dr. Tsung-Hsien Su, Dr. Jeng-Hsiu Hung, Dr. Chu-Hui Su, Dr. Kwang-Pong Yeh, Dr. Chien-Nan Lee, I also owe a debt of gratitude. Third, to the many hospitals without whose generous supply of data this yearbook would not have been possible. And finally, to our secretary, Ms. Ming-Chih Wu, who dotted every i and crossed every t. Thank you all.

T'sang-T'ang Hsieh, M.D.
President, Taiwan Society of Perinatology
December 1996

前　言

台灣的剖腹產率比起鄰近的日本高很多，有不少人也以此來責難婦產科醫師，認爲是醫師濫用手術。然而，每當婦產科醫師因生產糾紛而挨告的時候，幾乎所有的原告都指稱“我曾多次要求醫師剖腹生產，但醫師不要，所以會造成我小孩的傷害”。人人都有事後之明，但在爲與不爲之間，只有當事人才能體會個中的滋味，而非凡事以成敗論英雄的人所能感受的。

剖腹產率居高不下的原因很多，多少才算合理？我認爲是沒有絕對的答案。但是將台灣地區剖腹產的相關議題，包括剖腹產的施行率、剖腹產的適應症、剖腹產的合併症、因臀產式而剖腹產和剖腹產後之陰道生產等，在這40年來的演變，呈現在醫療政策決定者、醫療給付制定者、醫療機構、醫師、以及社會大眾面前是有必要的。希望藉由這些數字，讓不同角色的人有不同的思考方向，並進而由自己的立場去謀求改善之道。而不僅是徒呼負負，只會批評法律不周、給付太少、利益掛帥、人力不足等等而已。這就是本年度白皮書的目的。

感謝陳惟華醫師不辭辛勞地蒐集相關文獻資料以及撰寫本文，同時也要感謝謝豐舟教授、何師竹主任、尹長生主任、蘇主惠院長、楊勉力主任、葉光芃主任、洪泰和醫師、吳敏智小姐以及台大、台北榮總、台中榮總、台北長庚、馬偕、台安、慈濟以及彰基等醫院的配合。在沒有官方數據的提供下，我們所努力的是建立屬於自己本土的珍貴資料。而所做的僅是拋磚引玉之舉，企盼能引起政府及相關學界的重視。

中華民國周產期醫學會
理事長　謝　燦　堂
1996年12月

Cesarean Section In Taiwan

Introduction

Cesarean section (CS) has been a major source of interest and concern over the last 20 years. The concern arose because a worldwide trend of increasing CS rate has been seen since the early 1970s. In the United States, the CS rate increased from less than 5% of total births in 1965 to 17.8% in 1981 (Philipson & Rosen, 1985) and continued to escalate, peaking in 1988 with 24.7%. This represented a fivefold increase from the mid-1960s. The CS rate in Western countries has, however, stabilized since the late 1980s, with a very modest decline to a rate of 23.5% in 1991 (Paul & Miller, 1995). Our national data are unavailable, but a steadily rising rate in the last decade at most hospitals (26.6 to 44%) has been reported (Ho et al., 1992). In order to evaluate whether the use of CS in Taiwan is appropriate or not, here we reviewed the incidence and indications for CS from 1951 through 1995, and analyzed 42,813 cesarean data at nine hospitals during the 5-year duration of 1991-1995. From these data we also tried to predict our national CS rate in the future.

Incidence of Cesarean Section

There were totally 128,172 deliveries at nine hospitals in Taiwan during the 5 year period of 1991-1995. The number of vaginal deliveries was 85,359 and the number of cesarean section (CS) was 42,813 with 56.9% of primary CS rate and 43.1% of repeat CS rate (Table 1). The frequency of teenage pregnancies (≤ 19 years) was 3.3% in the group of vaginal deliveries and 1.2% in the group of CS. The incidence of pregnancies with advanced maternal age in the CS group was 18.0% which is higher than that in the group of vaginal deliveries (11.0%). The frequency of primipara in the CS group was 45.1% which is not different from that in the group of vaginal deliveries (47.8%). About 11.6% of pregnancies in the CS group were premature deliveries (< 37 weeks).

During the past four decades, the CS rate at Tri-Service General Hospital (TSGH) rose from 1.5% in 1951, to 5.1% in 1961, to 9.1% in 1971, to 19.5% in 1981, and to as high as 28.5% in 1991 with an average increase of 0.9% per year (Yan & Yin, 1992), and remained stable as 27.9% in 1995 (Figure 1). Similarly, the CS rate at National Taiwan University Hospital (NTUH) also increased steadily from 3.2% in 1951, to 6.7% in 1961, to 12.9% in 1971, to 23.9% in 1981, and peaking to 43.8% in 1991, and declined to 32.1% in 1995 (Figure 1). During the 5-year duration of 1991-1995, the overall CS rate in a total of 128,172 deliveries at the 9 hospitals was 33.4% (Table 1), indicating about one of every three births by cesarean. This represents a 7-fold increase from the 1950s. Therefore, the CS rate has risen dramatically over the past 45 years, probably more than what is needed for the best perinatal outcome.

The major anesthetic method used for CS at NTUH has changed from local analgesia during 1964-1967 (84.9%; Lin & Chen, 1968) to local anesthesia plus ketamine during 1972-1975 (77.2%; Tsai et al., 1979),

and to spinal anesthesia during 1991-1995 (86.6%; Table 1). During 1991-1995, three main anesthetic methods for CS in the 9 hospitals were spinal (71.1%), epidural (18.7%), and general (21.1%) anesthesia (Table 1). It has been shown that the type of CS at NTUH has also changed from classical (36.0%) or cervical (34.7%) incision during 1951-1953 (Chen & Lee, 1965) to low cervical incision in 1964-1967 (71.9%; Lin & Chen, 1968) and thereafter (88.3% during 1972-1975; Tsai, et al., 1979). Now the majority of CS type is still Kerr's method (low segment transverse incision).

Indications of Cesarean Section

The main indications for CS at NTUH during 1951-1963 were antepartum hemorrhage (34.7%), dystocia (cephalopelvic disproportion, 21.8%), previous cesarean section (13.0%), malpresentation (8.0%), and fetal distress (1.1%), while those during 1976-1985 were previous CS (40.3%), dystocia (20.1%), malpresentation (15.8%), antepartum hemorrhage (5.5%) and fetal distress (4.4%) (Lien et al., 1986). The major indications for CS at the nine hospitals during 1991-1995 were previous CS (43.1% of the total CS), dystocia (21.1%), malpresentation (13.8%), fetal distress (4.7%), antepartum hemorrhage (3.1%), and other indications (14.1%, including multiple pregnancy 3.8% and macrosomia 3.0%) (Table 2). The significant trends were decreasing rate of antepartum hemorrhage, and increasing rates of fetal distress and repeat CS as indications of CS over the past 45 years. Cesarean section rate for malpresentation and other indications including multiple pregnancy and macrosomia also showed a moderate rise (Table 2).

Previous CS has accounted for the largest portion of cesarean deliveries since the period of 1964-1975. The incidence of previous CS increased from 0.8% of total deliveries during 1951-1963 to 14.4% of total births during 1991-1995, an 18 folds increase over the past 45 years. The incidence of dystocia increased from 1.4% of total births during 1951-1963 to 7.1% during 1991-1995. The gradual increase in the proportion of primiparous women in the CS group cannot explain this 5-fold rise in the incidence of dystocia, indicating that a lowering threshold in the diagnosis of dystocia is an important contributor. Malpresentation as an indication for CS increased from 0.5% of total deliveries during 1951-1963 to 4.6% during 1991-1995, representing a 9 folds increase. The incidence of fetal distress increased from 0.07% of total births during 1951-1963 up to 1.6% during 1991-1995. The incidence of other indications increased from 1.3% of total deliveries during 1951-1963 to 2.9% during 1976-1985 (Lieu, 1986), and to as high as 4.7% of total births during 1991-1995, a 3.6-fold rise in the incidence during the past 4 decades (Table 2). The increasing rate of the above five indications is most sharply in the categories of fetal distress and repeat CS and less markedly in the categories of dystocia and other indications over the past 45 years. Antepartum hemorrhage as an indication for CS, however, decreased from 2.2% during 1951-1963 to 1.0% of total births during 1991-1995, half of the incidence of antepartum hemorrhage over the past 4 decades.

In summary, the six main indications for CS at the nine hospitals during 1991-1995 were (1) repeat CS (43.1%), (2) dystocia (21.1%), (3) others (14.1%), (4) malpresention (13.8%), (5) fetal distress (4.7%), (6) antepartum hemorrhage (3.1%) (Table 2).

Complications of Cesarean Section

It has been reported that maternal mortality rate at NTUH dropped sharply from 7.8% during 1953-1956 to 0.7% in 1975 while the CS rate moderately increased from 6.3% during 1953-1956 to 13.3% in 1975. From 1976 to 1985, maternal mortality rate was low and remained stationary (between 0 and 0.4%) while CS rate was 14.2% in 1976 and 27.5% in 1985 (Lien et al., 1986). Although CS is considered to be relatively safe, maternal death (16.8/100000) and serious maternal complications (3.0%) still occur during the 5-year period of 1991-1995 (Table 3). They included postpartum hemorrhage (1.7%; including 0.2% of hysterectomy for postpartum hemorrhage), serious wound infection (0.51%), bladder injury (0.09%), and others (1.0%; including anesthesia complications, foreign body retention, burn injury, and sepsis) (Table 3). Therefore, every CS should be performed only when the benefit of this operation clearly outweighs its potential maternal risks.

It has been shown that perinatal mortality rate at NTUH dropped from 76/1000 in 1955 to 14.3/1000 in 1985. The corrected perinatal mortality rate, by eliminating birth weight less than 1,000 gm, was 49.6/1000 in 1967 and 7.0/1000 in 1985 (Lien et al., 1986). It is worth noting that during the years 1955 through 1963 the CS rate remained almost unchanged, whereas the perinatal mortality rate dropped from 76/1000 to 36.9/1000. Contrarily for the years 1977 through 1985, the CS rate increased markedly from 15.1% to 27.5% while the perinatal mortality rate decreased only slightly. Thus, the recent low perinatal mortality rate is difficult to attribute solely to the increased CS rate. Moreover, birth trauma still occurred in newborns delivered by CS (0.45%), including cerebral hemorrhage (0.6%) and fracture (0.09%), lower Apgar's score (3.8%), and NICU transfer (9.2%) (Table 3). It is, therefore, noted that a CS rate over 30% is not rewarded by a proportionally decreased perinatal mortality/morbidity rate and maternal morbidity rate. The incidence of congenital malformations (1.1%; Table 3) in the CS group is, however, not different from that of total population.

Cesarean Section for Breech Presentation

Breech presentation as an indication for CS at TSGH increased from 0.67% of total deliveries during 1971-1975 (Yan & Yin, 1992) to 4.46% during 1991-1995, a 6.7-fold increase over the past 20 years. The relative frequency of a breech presentation at TSGH increased from 6.2% of total CS during 1971-1975 to 16.0% during 1991-1995. Today, more than 90% of infants in a breech presentation are delivered abdominally. Those few breeches delivered vaginally were usually intrauterine fetal death, extremely premature, or those who presented in advanced labor. Since CS is used for almost all breech fetuses, the current incidence of 13.8% of CS for malpresentations (Table 2) is not expected to rise further in the future.

The management of breech presentations has changed dramatically over the past 20 years. It has been shown that the vaginal delivery rate of breech presentations at

Taichung Veterans General Hospital was 50% in 1983, but declined to 15.8% in 1989 and 22.4% in 1990 (HO et al., 1992). The abdominal delivery of a breech-presenting fetus also occurs in over 85% of cases in the United States and the incidence continues to climb. Although the present policy still allows for a vaginal breech delivery in selected cases, the majority of gravida would choose CS to avoid any potential fetal trauma during vaginal delivery. Most obstetricians would agree that certain risk conditions may warrant cesarean deliveries. These included small infants weighing less than 2500 grams, large infants greater than 4500 grams, footling presentations, extended fetal heads, and a small maternal bony pelvis. There are three reasons for recommending routine CS with a breech presentation of a viable fetus. First, because some neurologically abnormal fetuses with poor muscle tone will remain in a breech presentation, the fear of medico-legal action against obstetricians for delivery of a neurologically abnormal infant is a significant factor in obstetrical decision making. Second, there is little that the obstetrician can do to salvage the fetus if a trapping of an after-coming head occurs during the breech extraction of the fetus. Third, there are few recently trained obstetricians who have had adequate experience in the art of vaginal delivery of a breech presentation, compared to their well training in performing CS. If one decided to attempt a vaginal delivery with a breech presentation, maternal informed consent is essential.

Vaginal Births After Cesarean Section

Vaginal births after CS (VBAC) have been proven to be relatively safe with a success rate of 70% (Meier et al., 1982; Flamm et al., 1990; & Tsai et al., 1991). It has been reported that the success rate of VBAC at Taichung Veterans General Hospital during 1983-1991 was 90% in 20.3% of women with previous CS who were willing to trial of labor and only one case of uterine rupture occurred (Ho et al., 1993). VBAC were, however, successful in only 6.2% of 15,279 repeat CS in the 8 hospitals during 1991-1995, with a wide variation (0.4-22.7%) at each hospital (Table 1). There are two main reasons for such low VBAC rate in Taiwan. First, the patients were not being offered the option of VBAC by their physicians because of the medico-legal threats. Second, the patients refused the procedure due to fear of risk. It is accepted that the procedure of trial of labor entails some degree of risk for both mother and fetus. The major fear of obstetricians has been the occurrence of uterine rupture and its catastrophic consequences. Contemporary practice has demonstrated that <1% of women undergoing a trial of labor will sustain a uterine rupture and that when prompt intervention is available reasonably good results can be anticipated (Miller et al., 1994; Flamm et al., 1994; Leung et al., 1993). In addition, the fetal risks associated with trial of labor also demand emergency intervention, although they are not appreciatively more common than those incurred with umbilical cord prolapse, placenta previa, and abruptio placentae. Prompt delivery is necessary to ensure acceptable neonatal outcome. The American College of Obstetricians and Gynecologists guidelines permitting a 30-minute interval between the decision to deliver and the initiation of a CS. It has been, however, shown that fetuses with non-reassuring intrapartum heart rate patterns before uterine rupture had decreased tolerance and increased morbidity when the decision-to-delivery interval exceeded 10

minutes (Leung et al., 1993). Moreover, it has been questioned whether the true cost of doing a scheduled repeat CS is more expensive than a trial vaginal delivery or not. Assuming that an obstetrician gets paid the same per hour for labor-sitting as for operating, the answer is not always yes.

In conclusion, there are still many fears associated with VBAC and trial of labor. However, if trial of labor is still not encouraged in Taiwan our overall CS rate probably will reach over 40% in the near future. Thus, we would like to know what VBAC policy is suitable for us. It has been shown that VBAC in women with two or more CS had three-fold increase in the incidence of uterine rupture. Thus, some authors proposed a policy that permits selective trial of labor with two or more cesarean deliveries but does not promote its usage (Paul & Miller, 1995). Because the greatest success and safety occurs in women who have had a single prior cesarean, the reasonable policy seems to be that "once a cesarean, a trial of labor should precede a second cesarean except in unusual circumstances (Rosen, et al., 1991). However, before instituting this policy, obstetricians' fear of lawsuits should be solved, because in the United States 80% of obstetric lawsuits claim that CS was not done at all or not early enough. Otherwise, the VBAC program will put obstetricians in more legal threats and problems, in turn women's health right will be hampered. At the present time, one thing we can do is that the obstetricians must consciously consider the impact of "once a cesarean, always a scar". Because if the first section is not performed, the second one will not have to be faced.

How To Reduce Cesarean Section Rate

We do not know what a reasonable CS rate exactly is, but several factors are worth considering. It has been shown that achieving a better perinatal outcome, medico-legal considerations, and the practice style of individual physicians have contributed to the rise in the CS rate. A major factor that encouraged CS usage was its enhanced safety for both mother and fetus. As we mentioned before, maternal death (16.8/100000) and serious maternal complications (3.0%) still occurred in women with CS (Table 3). Furthermore, it has been reported that good perinatal results can be achieved with much lower CS rates than those generally existing in the United States (Notzon et al., 1987). Therefore, every CS should be performed only when the benefit of this operation clearly outweighs its potential risks. Moreover, it has been demonstrated that individual practice style was found to be the only identifiable determinant of different CS rates for the 11 obstetricians at two Green Bay hospitals (DeMott et al., 1990), which, in turn, was supposed to be a result of the variation in physicians' reactions to obstetric legal risks. A recurring accusation during medico-legal debate is that "if a CS had been done early, no fetal damage would have occurred". This attitude apparently has a major impact on obstetricians and unquestionably has contributed to the rise in the CS rate.

Table 1 revealed that near three of five cesarean deliveries (56.9%) are performed for primary indications. During 1991-1995 approximately 83% of all CS were performed for the following indications: previous CS 43.1%, dystocia 21.1%, malpresentation 13.8%, and fetal distress 4.7%. As we compared our CS rate for dystocia (7.1% of total births; Table 2) with that of other developed countries, there is no difference between ours and that in the United States (>7%), but doubling that found in Norway,

Scotland, and Sweden (3.5%) (Paul & Miller, 1995). It is apparent that dystocia is disproportionately higher than found in many countries with advanced medical services. A major factor that increased dystocia rate in Taiwan was a lowering threshold in the diagnosis of dystocia. Therefore, it had better for the obstetricians to get a second opinion before proceeding with a primary CS. The reduction in the dystocia category is achievable if policies such as active management of labor suggested by O'Driscoll et al. (1983), particularly in nullipara, are systematically instituted and labor induction methods can be improved.

Since CS is used for almost all breech fetuses, the present incidence for malpresentations is not expected to rise further in the future. The incidence of CS for breech presentation in Taiwan (4.6% of all births) is, however, higher than that in the US (3%) and in northern Europe (2%) (Notzon et al., 1994). Although optimal use of external cephalic version would possibly result in a decrease of 1-2 % of births, this rate will not change significantly.

Our rate of CS for fetal distress (1.6%) is the same as that in other industrialized countries (2% in the United States). This 1.6% level has been relatively stable in spite of the increased use of electronic fetal monitoring. This indication is therefore a minor contributor.

The rate of CS for other indications including multiple pregnancies and macrosomia, failed induction of labor, and others in Taiwan (4.7%) is higher than that in the United States (3.5%). This recent increasing incidence in this category is worrisome (Table 2). Possible reduction could occur in the areas of fetal malformations, elderly gravida, and macrosomia, because there is no scientific basis for doing a CS for these indications. Furthermore, CS performed for failed induction of labor can be reduced by introduction of more effective methods of cervical ripening such as intracervical administration of prostaglandin E_2 or E_1. Thus, the category of other indications would be expected to produce a modest decrease.

The single largest contributor to the use of CS lies within the repeat category. About two fifth of all CS occurred as the direct result of a previous CS. These women have often been managed under the 1916 dictum "Once a cesarean, always a cesarean" (Craigin, 1916). Trial of labor and VBAC are major focal points to reduce the CS rate. The achievement of VBAC in Taiwan occurred in 6.2% of women with prior CS during 1991-1995. In contrast to our experience, the rates in the Unites States (25%) and in European countries (50%) are much higher than ours. It is clear that VBAC can be achieved with relative safety in as many as 70% of women with prior CS (Miller et al., 1994; Flamm et al., 1994). It seems reasonable and feasible that the current estimated VBAC rate of 6.2% could reach 25% in the future, which would be comparable with the rates in the Taichung Veterans Hospital (22.7%; Table 1) and the United States (25%; Paul & Miller, 1995). Therefore, continuing education on VBAC as an alternative to repeat CS is essential to decrease the CS rate. The elimination of 25% from the current repeat CS would reduce the current repeat CS rate (14.4%) by 3.6%.

Summarizing the potential reduction in CS rate in Taiwan, we can expect the great reduction to occur for the diagnosis of dystocia. It seems reasonable to accept a level of 3.5%, which is common in other advanced obstetric care systems. Such a reduction from the current 7.1% would be a 3.5% reduction in primary cesarean use. Furthermore, a further 1% reduction could be achievable in the category of other indications, from the present 4.7% to the 3.5% of United States rate in the future. Given the current 19.0% of total births in the primary CS rate, reduction in the above two categories would reduce the primary rate to ap-

proximately 14.5% of the obstetric population. The elimination of the 4.5% from the primary CS rate would have an enormous subsequent impact by removing these women from the category of repeat CS. Therefore, a total reduction of 4.5% in primary rate and of 3.6% in repeat CS rate will produce a net 8.0% reduction in the current overall CS rate of 33.4%. If we want to set our national goal, a rate of 25.5% is our theoretically reasonable national goal by the year 2001 or 2010, depending on the situation of medical-legal threat.

It has been shown that institutional approaches to control the CS rate are effective. A common guidelines are aggressive management of abnormal labor, a second opinion before proceeding with a primary CS, a vigorous program of trial of labor after previous CS, and a detailed review of all CS regularly. A department can review its CS and compare results with neighboring similar institutions on a regional basis. Within the institutional assessment each physician's cesarean rate can be critiqued by peer-review methods. However, 25.5% of the national goal will be achieved only when the obstetricians are relieved from constant litigious threat .

Table 1. Cesarean Sections at Nine Hospitals in Taiwan during 1991-1995.

Hospitals		台大	台北榮總	三總	台北長庚	慈濟	台中榮總	馬偕	台安	彰基	Total
Years		**91-95**	**91-95**	**91-95**	**91-95**	**91-95**	**91-94**	**92-95**	**94-95**	**91-95**	**91-95**
Total deliveries	**no.**	13314	16193	8679	23718	4736	6380	23980	11633	19539	128172
A. VBAC	**no.**	311	200	101	126	3	170	133	94	-	1138
	%	14.1%	7.7%	10.2%	3.3%	0.4%	22.7%	3.9%	11.8%	-	6.2%
B. Cesarean sections	**no.**	5124	5602	2420	9091	1763	1512	7756	2559	6911	42813
	%	38.5%	34.6%	27.9%	38.3%	37.2%	23.7%	32.3%	22.0%	35.4%	33.4%
Primary C/S	**no.**	2912	2990	1429	5287	1029	764	4378	1759	3744	24367
	%	56.8%	53.4%	59.0%	58.2%	58.4%	50.5%	56.4%	68.7%	54.2%	56.9%
1) Dystocia	**no.**	892	1163	406	2441	299	316	1567	556	1398	9038
	%	17.4%	20.8%	16.8%	26.9%	17.0%	20.9%	20.2%	21.7%	20.2%	21.1%
2) Malpresentation :	**no.**	586	733	387	1203	288	253	931	518	1027	5926
	%	11.4%	13.1%	16.0%	13.2%	16.3%	16.7%	12.0%	20.2%	14.9%	13.8%
3) Fetal distress	**no.**	230	374	70	330	95	59	380	196	283	2017
	%	4.5%	6.7%	2.9%	3.6%	5.4%	3.9%	4.9%	7.7%	4.1%	4.7%
4) Antepartum hemorrhage	**no.**	128	269	92	260	52	61	240	46	194	1342
	%	2.5%	4.8%	3.8%	2.9%	2.9%	4.0%	3.1%	1.8%	2.8%	3.1%
5) Multiple pregnancy	**no.**	225	139	87	295	54	20	349	97	365	1631
	%	4.4%	2.5%	3.6%	3.2%	3.1%	1.3%	4.5%	3.8%	5.3%	3.8%
6) Macrosomia	**no.**	210	80	57	429	66	7	310	82	30	1271
	%	4.1%	1.4%	2.4%	4.7%	3.7%	0.5%	4.0%	3.2%	0.4%	3.0%
7) Others	**no.**	641	307	330	329	175	48	601	264	447	3142
	%	12.5%	5.5%	13.6%	3.6%	9.9%	3.2%	7.7%	10.3%	6.5%	7.3%
Repeat C/S	**no.**	2212	2612	991	3804	734	748	3378	800	3167	18446
	%	43.2%	46.6%	41.0%	41.8%	41.6%	49.5%	43.6%	31.3%	45.8%	43.1%
C. Anesthesia											
1) General	**no.**	266	264	39	433	488	149	5483	72	934	8128
	%	5.2%	4.7%	1.6%	4.8%	27.7%	9.9%	70.7%	2.8%	13.5%	21.1%
2) Spinal	**no.**	4486	4910	2356	3178	1257	1294	1817	2412	5669	27379
	%	87.5%	87.6%	97.4%	35.0%	71.3%	85.6%	23.4%	94.3%	82.0%	71.1%
3) Epidural	**no.**	331	428	25	5480	18	69	456	75	308	7190
	%	6.5%	7.6%	1.0%	60.3%	1.0%	4.6%	5.9%	2.9%	4.5%	18.7%

Table 2. Changing Indications of Cesarean Section at Nine Hospitals in Taiwan during 1951-1995.

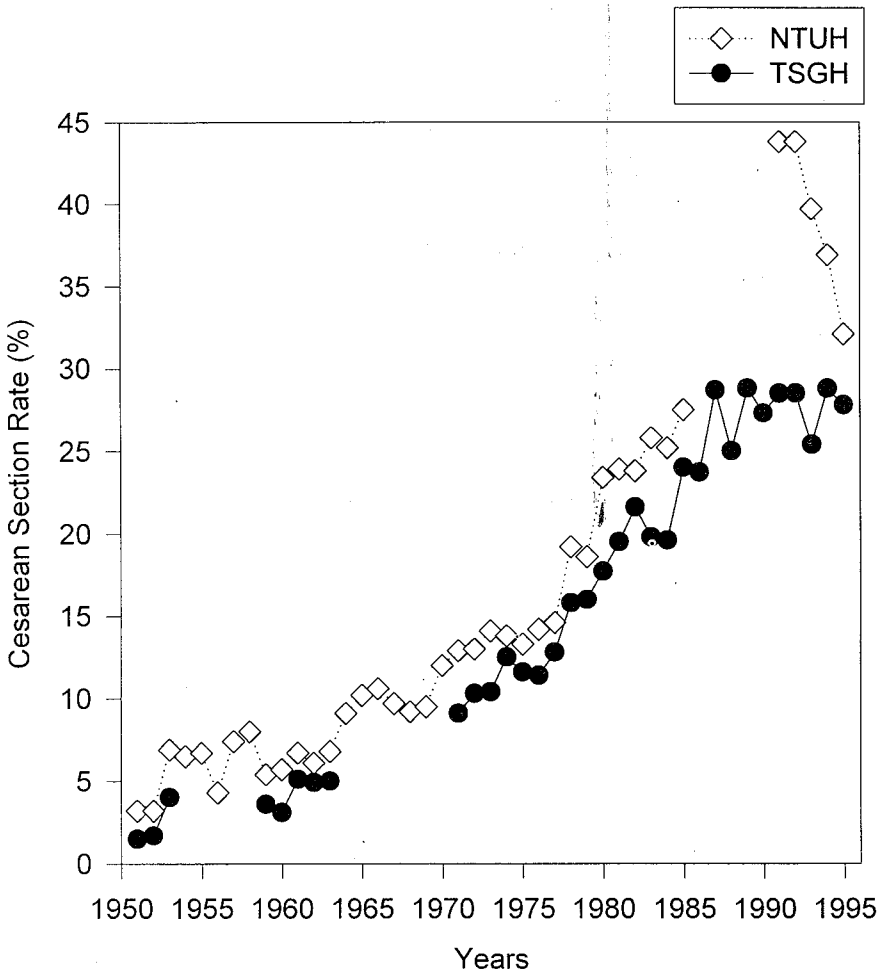
Indications		1951-1963	1964-1975	1976-1985	1986-1990	1991-1995
		(NTUH*)	(NTUH*)	(NTUH*)	(TSGH*)	(9 hospitals*)
1. Previous CS	(% of TD)	0.8	3.7	8.5	10.3	14.4
	(% of CS)	13.0	31.6	40.3	38.7	43.1
2. Dystocia	(% of TD)	1.4	3.9	4.2	6.1	7.1
	(% of CS)	21.8	33.2	20.1	23.0	21.1
3. Malpresentation	(% of TD)	0.5	1.1	3.3	4.3	4.6
	(% of CS)	8.0	9.1	15.8	16.1	13.8
4. Antepartum hemorrhage	(% of TD)	2.2	1.8	1.2	0.8	1.0
	(% of CS)	34.7	15.1	5.5	3.1	3.1
5. Fetal distress	(% of TD)	0.07	0.2	0.9	0.8	1.6
	(% of CS)	1.1	2.0	4.4	2.9	4.7
6. Others	(% of TD)	1.3	1.0	2.9	4.4	4.7
	(% of CS)	21.5	8.9	13.9	16.4	14.1
Total deliveries (TD)		19815	27426	31116	11554	128172
Total CS		1226	3172	6555	3075	42813
CS (%)		6.2%	11.6%	21.1%	26.6%	33.4%

* NTUH: National Taiwan University Hospital; TSGH: Tri-Service General Hospital; 9 hospitals: please refer to Table 1.

Table 3. Maternal And Neonatal Mortality/Morbidity Rates in Cesarean Sections at Eight Hospitals in Taiwan during 1991-1995.

Hospitals		台大	台北榮總	三總	台北長庚	慈濟	台中榮總	馬偕	台安	Total
Years		**91-95**	**91-95**	**91-95**	**91-95**	**91-95**	**91-94**	**92-95**	**94-95**	**91-95**
A.Maternal death	**no.**	3	0	2	-	0	0	0	3	5
	%	0.0585%	0%	0.0826%	-	0%	0%	0%	0.1172%	0.0168%
B.Maternal morbidity	**no.**	217	458	9	62	41	26	266	7	1068
	%	4.2%	8.2%	0.4%	0.7%	2.3%	1.7%	3.4%	0.3%	3.0%
1) Postpartum hemorrhage	**no.**	185	186	6	53	31	5	223	-	470
	%	3.6%	3.3%	0.2%	0.6%	1.8%	0.3%	2.9%	-	1.7%
Hysterectomy for PPH	**no.**	9	34	-	7	2	4	11	7	74
	%	0.2%	0.6%	-	0.1%	0.1%	0.3%	0.1%	0.3%	0.2%
2) Wound infection	**no.**	8	107	1	2	-	9	20	-	127
	%	0.16%	1.91%	0.04%	0.02%	-	0.60%	0.26%	-	0.51%
3) Bladder injury	**no.**	2	10	2	-	1	1	3	-	16
	%	0.04%	0.18%	0.08%	-	0.06%	0.07%	0.04%	-	0.09%
4) Others	**no.**	22	121	-	-	7	7	20	-	157
	%	0.4%	2.2%	-	-	0.4%	0.5%	0.3%	-	1.0%
C.Neonatal death	**no.**	354	33	22	73	61	-	4	106	653
	%	6.9%	0.6%	0.9%	0.8%	3.5%	-	0.1%	4.14%	1.8%
D.Neonatal morbidity	**no.**	700	309	132	858	89	56	864	80	5146
	%	13.7%	5.5%	5.5%	9.4%	5.0%	3.7%	11.1%	3.1%	13.4%
1) Birth trauma	**no.**	117	21	2	1	3	-	5	-	146
	%	2.3%	0.4%	0.1%	0.01%	0.17%	-	0.06%	-	0.45%
i) Cerebral hemorrhage	**no.**	117	3	-	-	-	-	4	-	124
	%	2.3%	0.1%	-	-	-	-	0.1%	-	0.6%
ii) Bone fracture	**no.**	0	18	2	-	3	-	1	-	24
	%	0.00%	0.32%	0.08%	-	0.17%	-	0.01%	-	0.09%
2) Congenital malformations	**no.**	131	99	40	90	15	22	11	-	408
	%	2.6%	1.8%	1.7%	1.0%	0.9%	1.5%	0.1%	-	1.1%
3) Low Apgar score (<7/5 min)	**no.**	637	155	30	161	71	41	-	-	1088
	%	12.4%	2.8%	1.2%	1.8%	4.0%	2.7%	-	-	3.8%
4) NICU transfer	**no.**	318	54	60	482	-	-	65	80	3241
	%	6.2%	1.0%	2.5%	5.3%	-	-	0.8%	3.1%	9.2%

Figure 1. The Trend of Increase of Cesarean Section Rate at TSGH And NTUH in Taiwan during 1951-1995.



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台灣之剖腹產

前　言

剖腹產是過去20年來產科學界一直關切的課題，主要是因為自1970年代早期開始，全世界普遍出現剖腹產率上升的趨勢。在美國，剖腹產率從1965年不到5%，逐漸上升到1981年的17.8%，在1988年時甚至達到24.7%的最高記錄，足足增加了將近5倍[1]。從1980年末期開始，西方國家的剖腹產率漸趨穩定，大概維持在23.5%左右[2]。雖然國內目前沒有這方面官方的統計數據，然而，在過去的10年內已經有許多醫院陸續報告同樣出現剖腹產率逐漸上升的現象，從26.6 %到44 %之間不等[3]。為了瞭解台灣地區剖腹產手術的施行是否得當，我們回溯性的研究自1951年到1995年間，台灣地區剖腹產手術施行的比率以及其適應症，同時也分析了9家大型醫院在1991年到1995年間43,938人次剖腹產手術的資料。冀望能藉由這次的研究分析，探討國內剖腹產的發生率及相關課題。

剖腹產的發生率

從1991到1995的5年期間，台灣地區9家大型醫院（台大、台北榮總、三總、台北長庚、台中榮總、馬偕、台安、慈濟、彰基）總共有128,172次生產記錄登錄，其中有85,359產次是經陰道生產，有42,813產次是接受剖腹產，而首次剖腹產率是56.9%，重覆剖腹產率為43.1%（請參考表1）。另外，未滿20歲的青少年產婦佔陰道生產的3.3%，剖腹生產的1.2%。而高齡產婦則佔剖腹生產的18.0%，比陰道生產的11.0%來得顯著增高。至於初產婦所占的比例在兩種生產方式之間並無明顯差異，分別是45.1%和47.8%。值得注意的是，在接受剖腹產的人裡有近11.6%的比率是早產。

過去40年裡，三軍總醫院婦產科的剖腹產率從1951年的1.5%，1961年的5.1%，1971年的9.1%，1981年的19.5%，一路爬升到1991年的28.5%，平均以每年增加0.9%的速度上升，直到近幾年才維持穩定在1995年的27.9%左右[4]（請參見圖

1）。同樣地，台大醫院婦產科也出現類似的情形，其剖腹產率從1951年的3.2%，1961年的6.7%，1971年的12.9%增高到1981年的23.9%，在1991年甚至高達43.8%，之後下降到1995年的32.1%（請參見圖1）。統計自1991到1995的5年期間，在前面提過的9家大型醫院共計128,172產次裡，總剖腹產率是33.4%（請參見表1），也就是說，在不到3個產婦中，就有1個是經剖腹產產下她的寶寶。這個數字是1950年代的7倍之多。由上述事實，我們可以說，過去的45年裡，台灣地區的剖腹產率顯著地上升，甚至可能比為了達到最好的周產期預後而需施行剖腹產的實際比率來得更高。

剖腹產時施行的麻醉方式也隨年代的演進而有所不同。以台大醫院為例，從1964-1967年間以局部麻醉 (84.9%) [5]，1972-1975年間以局部麻醉輔以Ketamine注射為主 (佔77.2%) [6]，轉變到1991-1995年間以腰椎麻醉 (佔86.6%) 為主的麻醉方式（請參見表1）。而統計過去5年裡，上述9家大型醫院行剖腹產時最常採用的三種麻醉方式分別是腰椎麻醉 (71.1%)、硬膜外麻醉 (18.7%) 以及全身麻醉 (21.1%) (請參見表1)。台大醫院的統計也資料顯示，剖腹產的術式同樣隨年代演進而改變，從1951到1953年間最早的古典式 (36.0%) 或子宮頸切開式(34.7%) [7]，演變到1960到1970年代間的子宮頸下段切開式 (71.9-88.3%) [5,6]。今天，台灣地區大多數的剖腹產都是採用Kerr's method，也就是子宮下段橫切的手術方式。

剖腹產的適應症

根據台大醫院的統計，在1951到1963年間，剖腹產的主要適應症依序為產前出血（34.7%），難產（胎頭骨盆不對稱，21.8%），前次剖腹產（13.0%），胎位不正（8.0%）以及胎兒窘迫（1.1%）。而在1976到1985年間，主要適應症排名依序則變為前次剖腹產（40.3%），難產（20.1%），胎位不正（15.8%），產前出血（5.5%）及胎兒窘迫 (4.4%) [8]。綜合分析前述9家大型醫院在1991到1995年間施行剖腹產的主要適應症，依序為前次剖腹產（43.1%），難產（21.1%），胎位不正（13.8%）、胎兒窘迫（4.7%）、產前出血（3.1%）以及其他原因（14.1%，包含多胞胎妊娠3.8%，胎兒過大3.0%）（請參見表2）。由這些數據可以清楚地觀察到，過去45年來，因為產前出血而行剖腹產的比率明顯下降，但因胎兒窘迫

或前次剖腹產而行剖腹產的比率，卻明顯增加。另外，由於胎位不正或多胞胎妊娠以及胎兒過大等其他原因而行剖腹產的比率也顯著地增多（請參見表2）。

自1964年起，前次剖腹產就成了剖腹生產最主要的適應症。過去45年裡，前次剖腹產佔總生產數的比例，由1951-1963年間的0.8%，上升到1991-1995年間的14.4%，足足增加了18倍之多。另外因難產而行剖腹產的比例也由佔總生產數的1.4%（1951-1963年間）上升到7.1%（1991-1995年間）。雖然我們同時可以發現，在接受剖腹產的產婦中，初產婦的比例也逐年增加，然而這並不足以解釋這45年來因難產而行剖腹產的比例為何增加了5倍；換言之，較寬鬆的難產診斷標準，可能也是導因之一。再來，我們發現因胎位不正而行剖腹產的比例，由佔總生產數的0.5%（1951-1963年間），增加了9倍，上升到1991-1995年間的4.6%。而因胎兒窘迫而行剖腹產的比例，由佔總生產數的0.07%（1951-1963年間），上升到1.6%（1991-1995年間）。至於歸屬在其他類的剖腹產適應症，則由佔總生產數的1.3%（1951-1963年間），增加了3.6倍，達到1991-1995年間的4.7%（請參見表2）。相反地，因為產前出血而行剖腹產的比例，在這40年裡，由佔總生產數的2.2%（1951-1963年間），下降了一半，達到1.0%（1991-1995年間）。簡而言之，根據前述9所大型醫院累計1991-1995年間的統計結果，目前施行剖腹產的前六項主要適應症依次為（1）前次剖腹產（43.1%）；（2）難產（21.1%）；（3）其他（14.1%）；（4）胎位不正（13.8%）；（5）胎兒窘迫（4.7%）；（6）產前出血（3.1%）（請參見表2）。

剖腹產的合併症

根據台大醫院的統計報告指出，母體死亡率從1953-1956年間的7.8%，急遽下降到1975年的0.7%，在這個同時，剖腹產率也從1953-1956年間的6.3% 增加到1975年的13.3%。從1976到1985年間，母體死亡率就一直維持在0.4%以下，而剖腹產率則分別為14.2% (1976年) 及27.5% (1985年)[8]。儘管現在剖腹產已經被認為是一種相當安全的手術，然而在過去的5年期間，仍有母體死亡 (16.8/100,000) 及嚴重手術合併症 (約3%) 的發生 (請參見表3)。這些合併症包括有產後大出血(1.7%，其中有0.2% 的病人因而施行子宮切除手術)，傷口感染(0.51%)，膀胱誤傷

(0.09%)，以及其他等等(1.0%，如麻醉合併症、外物置留腹腔內忘了取出、電燒灼傷及敗血症) (請參見表3)。因此，在施行剖腹產前，皆應該仔細評估其必要性與可能對母體的危害性。

在周產期死亡率方面，台大醫院的統計顯示，其周產期死亡率從1955年的76/1000下降到1985年的14.3/1000。 如果扣除出生體重小於1000公克的胎兒不算，那麼修正後的周產期死亡率分別是49.6/1000 (1967年) 及7.0/1000 (1985年)[8]。值得注意的是，在1955-1963年期間，雖然剖腹產率沒有明顯增加，但是周產期死亡率卻從76/1000降低到36.9/1000。相反地，在1977-1985年期間，雖然剖腹產率從15.1%上升到27.5%，但是周產期死亡卻只有稍為降低一點。因此，近年來周產期死亡率的降低，很難單純地歸因於剖腹產率的升高。再者，經剖腹產娩出的新生兒仍然可能也會有某種程度的生產傷害(約0.45%)，例如大腦出血(0.6%)、骨折(0.09%)、較低的Apgar score (3.8%)以及進一步轉送新生兒加護病房照護(9.2%) (請參見表3)。由此可知，剖腹產率如果超過30%，並不能夠等比例降低周產期死亡率、罹病率以及母體罹病率；而在接受剖腹產的產婦中，發生胎兒先天畸形的機率(1.1%) 並沒有比一般大眾來得高。

因臀產式而剖腹產

過去20年來，根據三軍總醫院的統計，因胎兒臀位而行剖腹產的比例由1971-1975年間的0.67% [4]，增加了6.7倍，上升到1991-1995年間的4.46%。同時期裡，胎兒臀位出現的比例，也由占總剖腹產數的6.2%（1971-1975年），增加到16.0%（1991-1995年）。今天，有超過90%以上的臀位胎兒是以剖腹產的方式生產出來的。而少數經陰道生產者，常是那些因為胎死腹中、極度早產或產程進展到後期才發現胎兒臀位等的情形。既然目前幾乎所有臀位胎兒都採剖腹生產，因此可以預期未來因胎兒臀位而行剖腹產的比例將不會比現在的13.8%再明顯地升高了。

對於臀位胎兒的處理，過去20年來已經有了重大的改變。台中榮民總醫院的資料顯示，原本在1983年時還有50%的臀位胎兒採陰道生產，但是這個比例在1989年時下降到15.8%，1990年時則為22.4% [3]。在美國也有類似的情形；目前85%以

上的臀位胎兒都是採剖腹生產的方式，而這個比例也正逐年爬升當中。雖然目前產科學界認為，少數經過審慎評估後的特定案例，仍然可以嘗試陰道生產；然而大多數的孕婦仍舊會選擇剖腹產以避免在陰道生產時可能發生的傷害。大部份的產科醫師都同意，在某些情況下，剖腹產是比較恰當的生產方式。這些情況包括有預估胎兒體重小於2500公克，預估胎兒體重大於4500公克，足先露產式，胎頭過度伸張，以及母體骨盆狹窄等。有的產科醫師甚至主張，只要胎兒具有存活力的話，所有的臀產式，都應該以剖腹產生產。主要的理由有三：第一，某些罹有先天神經性疾患的胎兒，由於肌肉張力鬆弛，因此特別容易呈現臀產式。為了避免萬一生到這種胎兒而引起無謂的醫療糾紛，產科醫生寧可採行剖腹產，以免被指摘胎兒的不良預後是由於陰道生產時處置不當所造成。第二，臀產式在經陰道生產時一旦發生胎頭卡住的情形，產科醫師往往束手無策。第三，愈來愈少的產科醫生有足夠的臀產式經陰道生產的經驗；相反地，現在的產科醫生大多接受了完善的剖腹產手術訓練，因而在面對臀產式時，寧可採用他們熟練的生產方式。因此，如果臀產式的產婦想嘗試陰道生產的話，往往被要求要立下書面的同意書。

剖腹產後之陰道生產

剖腹產後嘗試陰道生產已經被証明是一種相當安全的分娩方式，它的成功率大約在70% 左右[9-11]。台中榮民總醫院針對1983-1991年間剖腹產後嘗試陰道分娩的孕婦進行分析，結果顯示有20.3% 的前次剖腹產產婦嘗試陰道分娩，其成功率高達90%，而且只有一例發生子宮破裂的情形[3]。然而根據八家大型醫院在1991-1995年間的統計，在15,279個有前次剖腹產的產婦中，嘗試經陰道分娩而成功的，只有佔總人數的6.2% ，而且各醫院間的數據，彼此差異很大，從0.4%到22.7%不等(請參見表1)。為什麼台灣地區嘗試剖腹產後陰道分娩的比例會這麼低呢？主要有兩個原因：第一，由於擔心發生醫療糾紛，產科醫師並沒有告知他的病人，提供這項選擇。第二，雖然病人知道也可以嘗試陰道分娩，然而害怕可能發生的危險，因此不願意嘗試。的確，剖腹產後嘗試陰道分娩必須承擔某種程度的危險性，產科醫師尤其害怕子宮破裂的發生及其後果。然而，現階段實行的結果顯示只有不到1% 的產婦會發生子宮破裂的情形，而且如果能儘早處理的話，大多數都能

有不錯的預後[12-14]。另外，雖然嘗試陰道分娩對胎兒危險性的發生並不會比臍帶脫垂、前置胎盤、或胎盤早期剝離等情況來的常見，然而一旦發生，也必須立即處理，儘快將胎兒娩出以求最佳的新生兒結果。美國婦產科學院的指導準則裡，容許自決定剖腹產到下刀為止，有30分鐘的遲延時間。但是，卻有研究報告指出，如果在待產中，子宮破裂之前，胎兒心搏監視器就顯示出不好的徵兆，當決定開刀到胎兒經剖腹產娩出的時間超過10分鐘的時候，常會伴隨著有較高的新生兒罹病率[14]。再者，就經濟效益層面而言，是否例行性再次剖腹產的花費真的比嘗試陰道生產來得高呢？這一點頗受質疑。因為，如果假設一個產科醫生每小時的鐘點費是一定的話，那麼將嘗試陰道分娩時待產加上生產的時間與剖腹產所花費的時間做個比較，結果不見得剖腹產的費用會高於經陰道分娩的生產方式。

總結地說，目前對剖腹產後嘗試陰道分娩仍有許多疑懼。但是，如果不鼓勵這樣的嘗試，可以預期在不久的將來，台灣地區的剖腹產率勢必會超過40% 。因此，找出一個應對之策是我們要努力的方向。據報告，曾經接受過兩次或兩次以上剖腹產的產婦，再嘗試陰道分娩時，子宮破裂的機會會增高三倍，因而有些學者就建議，對曾接受過兩次或兩次以上剖腹產的產婦，經過審慎的評估與諮商後，某些產婦仍然可以嘗試陰道生產，但卻不全面性地鼓勵這類的產婦做這樣的嘗試[2]。另外，也有研究報告指出，只接受過一次剖腹產的產婦，在嘗試陰道分娩時是最安全而且成功率也最高。因此，合理的應對之策應該是“對曾經接受過一次剖腹產的產婦而言，在沒有特殊的情況下，應該先嘗試陰道分娩”[15]。然而，在推動這項政策之前，要先解除產科醫師們對醫療糾紛的疑懼，因為根據美國的統計，有將近八成的產科醫療糾紛，是集中在責難醫生為什麼不做或不儘早做剖腹產手術。除此之外，嘗試陰道分娩的計劃也促使產科醫師面臨更多法律上或其他的相關問題，在恐懼糾紛的疑慮下，產婦的健康權利可能會被剝奪。目前我們能夠做的就是讓所有產科醫師們都瞭解“一旦接受過剖腹產，子宮終將有個疤”這個事實的影響；只要儘量避免第一次剖腹產，自然就沒有面臨再次剖腹產的問題了。

如何降低剖腹產率

雖然我們不知道究竟合理的剖腹產率應該是多少，但是有許多因素值得我們去思考。一般認為，為了有較好的周產期結果，基於避免醫療糾紛的考量以及產科醫師個人的執業態度都是造成剖腹產率節節上升的原因。這當中，為了保障母體及胎兒安全更是主要的因素。如前所述，剖腹產也可能會發生母體死亡(16.8/100,000) 和其他嚴重的併發症 (3.0%) (請參見表3)。再者，也有學者指出，較低的剖腹產率一樣可以有良好的周產期結果，不一定要高到像美國一樣，才能有好的預後[16]。因此，每次剖腹產手術之前，應該仔細評估衡量，只有明顯地當利大於弊時，才進行手術。其次，研究報告指出，產科醫師個人的執業態度是造成每位醫生剖產率不同，唯一可以辨認的因素，而這就是在面對可能出現醫療糾紛危險性時，每個人不同的反應結果[17]。“只要能夠及早施行剖腹產，就不會有胎兒傷害的情形發生”這句話經常在發生醫療糾紛時，被提出來控訴醫生的處置不當或延誤。這樣的論調，對產科醫師衝擊很大，而且毫無疑問地會促成剖腹產率的升高。

表1的結果顯示，每5例剖腹產中就有將近有3例是首次剖腹產。前面曾提過，在1991-1995年間，將近83% 的剖腹產是基於下列四大適應症而施行的，依序是前次剖腹產(43.1%)，難產(21.1%)，胎位不正(13.8%) 和胎兒窘迫 (4.7%)，如果把台灣地區因難產而剖腹產的比例(占總生產數的7.1%) 和其他已開發國家相比較的話，我們和美國之間差距不大，但卻是挪威、蘇格蘭及瑞典的兩倍[2]。很明顯地，我們難產的比例比這些醫療水準先進的國家來得高，主要的原因可能是在台灣難產的診斷標準過於寬鬆的緣故。因此，產科醫師在決定進行首次剖腹產前，最好再徵詢一下其他醫生的意見，以避免不必要的手術。另外，如果能更積極地介入產程，加上引產方法的改善，那麼就可以達到降低因難產而剖腹產的比例這個目標[18]。

既然目前幾乎所有的臀產式都已經採行剖腹生產，所以可以預期的是，未來因臀產式而剖腹產的比例將不會比現在再增加多少。然而，目前台灣地區因臀產式而剖腹產的比例 (4.6%) 仍然比美國 (3.0%) 及北歐 (2.0%) 等國來得高[19]。雖

然適當地使用體外胎頭轉位術將胎位轉正，或許可以稍稍減少剖腹產手術的施行，但卻無法明顯地降低整體的剖腹產率。

我國因胎兒窘迫而做剖腹產的比率，大約在1.6% 左右，和其他工業化國家相比較（例如美國2.0%），相差不大。而這個比率一直保持穩定，不因電子胎兒心搏監視器的廣泛使用而改變。這表示因胎兒窘迫而做剖腹產這個適應症並不是造成剖腹產率過高的主要原因。

在台灣，因為多胞胎妊娠、胎兒過大、引產失敗等其他原因而做剖腹產的比例是4.7%，比美國3.5% 還來得高。目前這個比率正不斷地上升，值得令人擔憂。我們可以做的努力是降低因胎兒畸形、高齡產婦、和胎兒過大這幾個項目而做剖腹產的比例，因為沒有科學證據指出，這類的產婦就必須非得接受剖腹產不可。再來，我們可以藉由前列腺素E_2或E_1陰道塞劑的使用，加速子宮頸成熟，以提高引產的成功率。這些做法大概可以減少在這方面的剖腹產率到一定的程度。

事實上，造成這麼高的剖腹產率最主要的是因為前次剖腹產的緣故，而它佔了將近五分之二的比例。1961年有學者提出"一次剖腹產，終身剖腹產"的觀念[20]，而這正是促成產科醫師廣泛施行剖腹產的原因。因此，鼓勵這類產婦嘗試陰道分娩是降低剖腹產率的主要關鍵。1991-1995年間，台灣地區八家大型醫院的統計資料顯示，嘗試剖腹產後經陰道分娩成功的產婦只占所有曾接受過剖腹產的產婦的6.2%，遠不如美國的25% 及歐洲的50%。既然剖腹產後嘗試陰道分娩已經被証實為一種相當安全的生產方式，而且有70% 的成功率[12,13]，那麼要達到如台中榮總的22.7% 或美國的25% 是指日可待的目標[2]。因此，繼續推廣並教育醫生及產婦，讓他們瞭解其實曾經接受過剖腹產也可以嘗試陰道分娩，而不一定非得再開刀不可，這樣才能有效地降低整體的剖腹產率。這將可以減少百分之3.6的現行再次剖腹產率。

針對前面提過有關如何降低台灣地區剖腹產率的討論做個整理如下：首先，勵行嚴謹的難產診斷標準，將因難產而剖腹產的比例，從目前的7.1%，降低到如其他先進國家一樣的3.5%，這樣可以將首次剖腹產的比率，減少3.5個百分比。其次，如果再把因為多胞胎、胎兒過大、引產失敗等其他原因而做剖腹產的比例，從目前的4.7%，降低到像美國的3.5%，那麼又可以將首次剖腹產率再減1個百分比。以現在首次剖腹產佔總生產數19.0% 的比例估算，就可以把首次剖腹產的比

率降低到14.5%，而所減少的4.5%再加上前述減少3.6%的再次剖腹產，因而總共可以減少8個百分比，把總剖腹產率從現今的33.4%，降低到25.5%；而這個數字是我們預計在2001或2010年前達成的理想目標。至於是否可以如期達成，還要看醫療法律環境的變遷如何而定。

由相關醫學會制定準則來推行控制剖腹產率的做法，已經被證明是一種有效的方式。常見的準則包括有：對異常產程的積極處理，進行首次剖腹產前徵詢其他專家的意見，一套嚴謹的有關剖腹產後嘗試陰道生產的計劃以及定期詳實地自我評量等。一所醫院可以將自己的資料和同一地區鄰近的其他醫院做一番比較，而醫生們也可以藉由同儕之間相互的評核來控制剖腹產的品質。然而，唯有讓產科醫生能自層出不窮的醫療糾紛的夢魘中解脫，才能冀望達成25.5% 的剖腹產率這個理想目標。

表一：1991-95 年間台灣地區九所大型醫院剖腹產統計

醫院名稱		台大	台北榮總	三總	台北長庚	慈濟	台中榮總	馬偕	台安	彰基	Total
西元紀年		**91-95**	**91-95**	**91-95**	**91-95**	**91-95**	**91-94**	**92-95**	**94-95**	**91-95**	**91-95**
總生產數	no.	13314	16193	8679	23718	4736	6380	23980	11633	19539	128172
剖腹產後陰道分娩	no.	311	200	101	126	3	170	133	94	-	1138
	%	14.1%	7.7%	10.2%	3.3%	0.4%	22.7%	3.9%	11.8%	-	6.2%
剖腹產	no.	5124	5602	2420	9091	1763	1512	7756	2559	6911	42813
	%	38.5%	34.6%	27.9%	38.3%	37.2%	23.7%	32.3%	22.0%	35.4%	33.4%
A.首次剖腹產	no.	2912	2990	1429	5287	1029	764	4378	1759	3744	24367
	%	56.8%	53.4%	59.0%	58.2%	58.4%	50.5%	56.4%	68.7%	54.2%	56.9%
1. 難產	no.	892	1163	406	2441	299	316	1567	556	1398	9038
	%	17.4%	20.8%	16.8%	26.9%	17.0%	20.9%	20.2%	21.7%	20.2%	21.1%
2. 胎位不定	no.	586	733	387	1203	288	253	931	518	1027	5926
	%	11.4%	13.1%	16.0%	13.2%	16.3%	16.7%	12.0%	20.2%	14.9%	13.8%
3. 胎兒窘迫	no.	230	374	70	330	95	59	380	196	283	2017
	%	4.5%	6.7%	2.9%	3.6%	5.4%	3.9%	4.9%	7.7%	4.1%	4.7%
4. 產前出血	no.	128	269	92	260	52	61	240	46	194	1342
	%	2.5%	4.8%	3.8%	2.9%	2.9%	4.0%	3.1%	1.8%	2.8%	3.1%
5. 多胞胎	no.	225	139	87	295	54	20	349	97	365	1631
	%	4.4%	2.5%	3.6%	3.2%	3.1%	1.3%	4.5%	3.8%	5.3%	3.8%
6. 胎兒過大	no.	210	80	57	429	66	7	310	82	30	1271
	%	4.1%	1.4%	2.4%	4.7%	3.7%	0.5%	4.0%	3.2%	0.4%	3.0%
7. 其他	no.	641	307	330	329	175	48	601	264	447	3142
	%	12.5%	5.5%	13.6%	3.6%	9.9%	3.2%	7.7%	10.3%	6.5%	7.3%
B.再次剖腹產	no.	2212	2612	991	3804	734	748	3378	800	3167	18446
	%	43.2%	46.6%	41.0%	41.8%	41.6%	49.5%	43.6%	31.3%	45.8%	43.1%
麻醉方式											
1. 全身麻醉	no.	266	264	39	433	488	149	5483	72	934	8128
	%	5.2%	4.7%	1.6%	4.8%	27.7%	9.9%	70.7%	2.8%	13.5%	21.1%
2. 腰錐麻醉	no.	4486	4910	2356	3178	1257	1294	1817	2412	5669	27379
	%	87.5%	87.6%	97.4%	35.0%	71.3%	85.6%	23.4%	94.3%	82.0%	71.1%
3. 硬膜外麻醉	no.	331	428	25	5480	18	69	456	75	308	7190
	%	6.5%	7.6%	1.0%	60.3%	1.0%	4.6%	5.9%	2.9%	4.5%	18.7%

表二： 1991-95 年間台灣地區剖腹產適應症變動趨勢

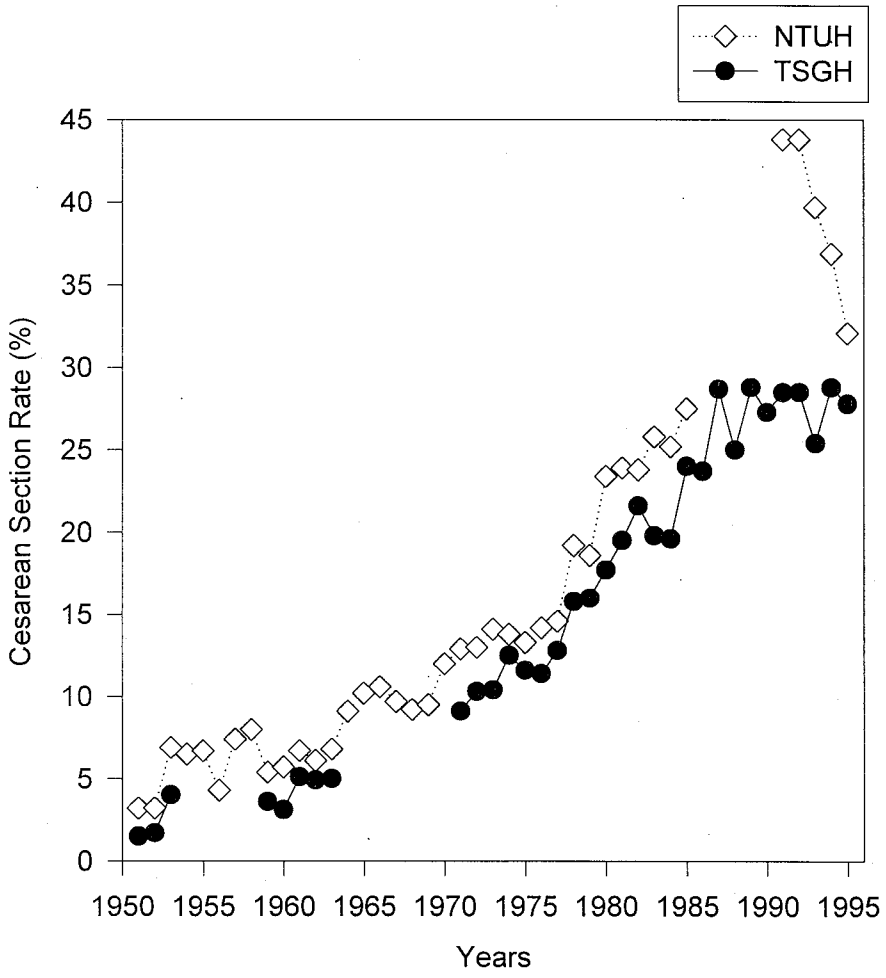
適應症		1951-1963	1964-1975	1976-1985	1986-1990	1991-1995
		台灣大學附設醫院	台灣大學附設醫院	台灣大學附設醫院	三軍總醫院	*九所大型醫院
1. 前次剖腹產	(佔總生產數%)	0.8	3.7	8.5	10.3	14.4
	(佔總剖腹產數%)	13.0	31.6	40.3	38.7	43.1
2. 難產	(佔總生產數%)	1.4	3.9	4.2	6.1	7.1
	(佔總剖腹產數%)	21.8	33.2	20.1	23.0	21.1
3. 胎位不正	(佔總生產數%)	0.5	1.1	3.3	4.3	4.6
	(佔總剖腹產數%)	8.0	9.1	15.8	16.1	13.8
4. 產前出血	(佔總生產數%)	2.2	1.8	1.2	0.8	1.0
	(佔總剖腹產數%)	34.7	15.1	5.5	3.1	3.1
5. 胎兒窘迫	(佔總生產數%)	0.07	0.2	0.9	0.8	1.6
	(佔總剖腹產數%)	1.1	2.0	4.4	2.9	4.7
6. 其他	(佔總生產數%)	1.3	1.0	2.9	4.4	4.7
	(佔總剖腹產數%)	21.5	8.9	13.9	16.4	14.1
總生產數		19815	27426	31116	11554	128172
總剖腹產數		1226	3172	6555	3075	42813
剖腹產率		6.2%	11.6%	21.1%	26.6%	33.4%

*九所大型醫院名稱請見表一。

表三：1991-95 年間台灣地區八所大型醫院剖腹產母親及新生兒之死亡率與罹病率統計

醫院名稱		台大	台北榮總	三總	台北長庚	慈濟	台中榮總	馬偕	台安	Total
西元紀年		**91-95**	**91-95**	**91-95**	**91-95**	**91-95**	**91-94**	**92-95**	**94-95**	**91-95**
A. 母體死亡	**no.**	3	0	2	-	0	0	0	3	5
	%	0.0585%	0%	0.0826%	-	0%	0%	0%	0.1172%	0.0168%
B. 母親罹病率	**no.**	217	458	9	62	41	26	266	7	1068
	%	4.2%	8.2%	0.4%	0.7%	2.3%	1.7%	3.4%	0.3%	3.0%
1. 產後大出血	**no.**	185	186	6	53	31	5	223	-	470
	%	3.6%	3.3%	0.2%	0.6%	1.8%	0.3%	2.9%	-	1.7%
併全子宮切除	**no.**	9	34	-	7	2	4	11	7	74
	%	0.2%	0.6%	-	0.1%	0.1%	0.3%	0.1%	0.3%	0.2%
2. 傷口感染	**no.**	8	107	1	2	-	9	20	-	127
	%	0.16%	1.91%	0.04%	0.02%	-	0.60%	0.26%	-	0.51%
3. 膀胱誤傷	**no.**	2	10	2	-	1	1	3	-	16
	%	0.04%	0.18%	0.08%	-	0.06%	0.07%	0.04%	-	0.09%
4. 其他	**no.**	22	121	-	-	7	7	20	-	157
	%	0.4%	2.2%	-	-	0.4%	0.5%	0.3%	-	1.0%
C. 新生兒死亡	**no.**	354	33	22	73	61	-	4	106	653
	%	6.9%	0.6%	0.9%	0.8%	3.5%	-	0.1%	4.14%	1.8%
D. 新生兒罹病率	**no.**	700	309	132	858	89	56	864	80	5146
	%	13.7%	5.5%	5.5%	9.4%	5.0%	3.7%	11.1%	3.1%	13.4%
1. 生產傷害	**no.**	117	21	2	1	3	-	5	-	146
	%	2.3%	0.4%	0.1%	0.01%	0.17%	-	0.06%	-	0.45%
(1) 大腦出血	**no.**	117	3	-	-	-	-	4	-	124
	%	2.3%	0.1%	-	-	-	-	0.1%	-	0.6%
(2) 骨折	**no.**	0	18	2	-	3	-	1	-	24
	%	0.00%	0.32%	0.08%	-	0.17%	-	0.01%	-	0.09%
2. 先天畸形	**no.**	131	99	40	90	15	22	11	-	408
	%	2.6%	1.8%	1.7%	1.0%	0.9%	1.5%	0.1%	-	1.1%
3. 低 Apgar score	**no.**	637	155	30	161	71	41	-	-	1088
	%	12.4%	2.8%	1.2%	1.8%	4.0%	2.7%	-	-	3.8%
4. 新生兒病房加護轉送	**no.**	318	54	60	482	-	-	65	80	3241
	%	6.2%	1.0%	2.5%	5.3%	-	-	0.8%	3.1%	9.2%

Figure 1. The Trend of Increase of Cesarean Section Rate at TSGH And NTUH in Taiwan during 1951-1995.



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