

A REPORT OF FIVE YEARS' ACTIVITIES OF THE MATERNITY SERVICE, SECOND (CORNELL) DIVISION,  
BELLEVUE HOSPITAL\*

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THE predominant motive in presenting this report is to show that an obstetric service in a general hospital may be conducted with as little loss of life from childbirth as occurs in institutions devoted specifically to maternity work. In order to obtain such results, unusual safeguards against sepsis must be enforced. Nearly 50 per cent of the patients admitted to the Bellevue Hospital obstetric wards have had no prenatal supervision by us, and many of the women have not the simplest notions of antenatal hygiene—in some cases marital relations are continued to the very day of labor. A number of the patients are likewise admitted after attempts at operative delivery by private physicians.

The hospital protects the obstetric service by prohibiting vaginal examinations by ambulance surgeons or admitting officers and by sending to the gynecologic wards all incomplete abortions and all patients admitted more than twenty-four hours postpartum, considering these groups as possibly septic. (In New York State one-third of the fatal septic cases follow abortions.)

In our effort to protect the patients against sepsis, we have conducted normal deliveries without rectal or vaginal examinations, and we make the few vaginal examinations necessary in abnormal cases with antiseptic, as well as aseptic, precautions.

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Operative intervention has been as conservative as was consistent with the patient's welfare.

This report covers the work of the Second (Cornell) Division at Bellevue Hospital, which has charge of the obstetric wards for six months of each year, from February 1 to August 1. There are two large wards in the main building, which provide beds for sixty adult patients. In addition there is a building two blocks away with an indoor service of fifteen beds and an outdoor service of about thirty cases a month. The midwives reside and are taught in this building. We have, then, an average outdoor service of about 30 patients a month and an indoor service of 147. Practically all of the more serious cases occurring on the wards at the School for Midwives are transferred to the main building.

From 1922 through 1926 there were 4396 indoor deliveries. Seventeen hundred and seventy-two of the patients attended our prenatal clinic, 1527 had no prenatal care, and 982 were given prenatal care by the School for Midwives. In 115 cases the histories were incomplete in regard to prenatal care.

There were 2505 multiparae and 1841 primiparae. The parity in 50 cases was not recorded.

Seventy-three per cent of the presentations were occiput anterior, 14 per cent were occiput posterior, and 5 per cent were breech. There were 10 face presentations, 23 scapular, and 1 compound. In 285 cases the presentations were not recorded.

There were 55 sets of twins and 2 sets of triplets. All of the triplets weighed under 1500 grams and all died.

During the five years, we delivered a total of 5520 patients, 4396 indoor and 1124 outdoor. There were 33 obstetric deaths and 15 deaths from medical or other causes. These have been classified according to the International Code as used by the United States Census Bureau. Two of the obstetric deaths occurred on the outdoor service. Table I and brief individual summaries of these 48 deaths are here given and in addition, I would like to discuss them in groups according to the principal cause of death.

#### MATERNAL MORTALITY—OBSTETRICS

##### *Puerperal Septicemia—8 Deaths:*

A. M. 5/5/22. Para i. At term. Spontaneous delivery. No vaginal or rectal examinations. Temperature from third to tenth day. Three hundred c.c. polyvalent antistreptococic serum. Wassermann 4-plus.

M. M. 4/11/22. Para iv. At term. Spontaneous delivery. No vaginal or rectal examinations. Intrauterine culture showed *Streptococcus hemolyticus*. One hundred and fifty c.c. antistreptococic serum. Lobar pneumonia. Temperature from third to sixteenth day.

H. H. 5/9/22. Para i. At term. Spontaneous delivery. No vaginal or rectal examinations. Two hundred c.c. antistreptococic serum. Temperature from fifth to tenth day. Home A. O. R. on twelve day. Returned few days later to gynecologic ward where she died.

M. F. 2/26/22. Para vi. At term. Delivery by breech extraction on the outdoor service. Transferred to the hospital four days postpartum with a high temperature. Died on the eighth day postpartum.

E. A. 5/22/23. Para iii. Premature delivery at home. Manual removal of the placenta attempted at home by private physician. Admitted four hours postpartum with placenta partially retained. Died of peritonitis on the fourth day.

TABLE I. MATERNAL DEATHS IN 320 DELIVERIES, 1922-1926

DEATHS FROM OBSTETRIC CAUSES							DEATHS FROM MEDICAL CAUSES						
	1922	1923	1924	1925	1926	TOTAL		1922	1923	1924	1925	1926	TOTAL
Sepsis	4	1	3	0	0	8	Pneumonia Antepartum	2	2	2	0	2	8
Premature Separation Placenta	1	3	0	0	0	4	Pneumonia Late Postpartum	0	0	1	0	0	1
Placenta Previa	1	0	1	1	1	4	Cardiac Disease	0	0	0	0	1	1
Postpartum Hemorrhage	0	0	0	2	0	2	Epilepsy	1	0	0	0	0	1
Embolus	0	0	1	0	1	2	Tuberculosis	0	0	0	1	0	1
Ruptured Uterus	0	0	0	1	0	1	Tuberculosis Meningitis	0	0	0	0	0	0
Eclampsia	0	0	0	1	1	2	Meningitis	0	0	0	1	0	1
Toxemia	1	1	0	1	0	4							
	13	5	5	6	4	33		5	2	2	2	2	11

1124 outdoor cases, 2 obstetric deaths or 0.17%  
 4324 indoor cases, 31 obstetric deaths or 0.71%  
 3229 in- and outdoor cases, 33 obstetric deaths or 1.02%

1124 outdoor cases, no medical deaths  
 4324 indoor cases, 15 medical deaths or 0.34%

C. L. 7/6/24. Para i. At term. Admitted after attempted forceps delivery by private physician. Delivered by high forceps of 4000 gram stillborn child. Died of peritonitis on fourth day.

J. D. 4/15/24. Para i. At term. Admitted thirty-nine hours after labor had started. One rectal examination outside. Spontaneous delivery. Temperature from third to eighteenth day. Pleurisy developed on twelfth day. Death on the eighteenth day. Autopsy: endometritis; general peritonitis; double empyema.

B. B. 4/8/24. Para i. At term. Delivered at home by ambulance surgeon. Admitted with retained placenta. Manual removal. Temperature from first to twenty-sixth day. Blood transfusion on eighth day. Autopsy: acute endometritis; general peritonitis; chronic nephritis.

#### *Eclampsia—8 Deaths:*

T. V. 2/22/22. Para i. Six months pregnant. Admitted in coma after 6 convulsions at home. Had a total of 14 convulsions. Died ten hours after admission, undelivered.

H. P. Para v. Seven months pregnant. On admission B. P. 220/80. Albumin 4-plus with casts. One convulsion. Induction by bag. B. P. dropped 120 points after expulsion of bag twelve hours later. Died at once. Stillborn baby delivered postmortem.

I. S. 5/10/22. Para i. Six months pregnant. Admitted in coma after 4 convulsions at home. Induction by bag. Spontaneous delivery of macerated fetus. Died eighteen hours after delivery.

E. S. 3/24/22. Para iii. Seven months pregnant. Admitted after 3 convulsions at home. Induction by bag. Spontaneous delivery. Had a total of 10 convulsions. Died eighteen hours after delivery.

J. L. 5/30/22. Para vii. Seven and a half months pregnant. Admitted in labor. Albumin 4-plus. B. P. 225/120. Spontaneous delivery of twins. Seven convulsions postpartum. Died six and a half hours after admission.

M. McN. 5/22/22. Para ii. Admitted in coma after delivery of twins at home. Three convulsions before admission. Total of 9 convulsions. Died seventeen hours after admission.

J. A. 2/24/25. Para ii. Nine months pregnant. In coma on admission. B. P. 164/126. Two convulsions. Died eighteen hours after admission, undelivered.

E. R. 4/7/26. Para xiii. Twenty-seven weeks pregnant. Admitted with albumin 4-plus. B. P. 260/150. Had chronic nephritis. Membranes ruptured artificially. Went into coma after 2 convulsions. Died eight and one-half hours later, undelivered. Diagnosis: uremia.

#### *Toxemia of Pregnancy—4 Deaths:*

R. L. 1/13/22. Para i. Nine weeks pregnant. Vomiting of pregnancy. Therapeutic abortion twenty-two days after admission. Died same day. Had symptoms of acute yellow atrophy.

A. D. 3/15/23. Para vii. Six months pregnant. Admitted acutely ill with history of vomiting for three weeks. Sugar by vein. Died undelivered a few hours after admission. Symptoms of acute yellow atrophy.

A. O. 5/7/25. Para i. Thirty weeks pregnant. Wassermann 2-plus. History of vomiting continuously for five days. Spontaneous delivery. Died sixty-four hours postpartum. Symptoms of acute yellow atrophy.

M. R. 5/25/25. Para i. Thirty-eight weeks pregnant. Albumin 4-plus. B. P. 160/110. Induction by bag. Died immediately after anesthesia was started for forceps delivery. Living child delivered postmortem. Autopsy: chronic nephritis; chronic endocarditis; chronic myocarditis.

*Placenta Previa—4 Deaths:*

B. V. H. 5/2/22. Para i. At term. Complete placenta previa. Cesarean section. Temperature from second to tenth day. Embolism of vessels of leg.

M. T. 2/11/24. Para iv. On outside ward with erysipelas. Profuse bleeding. Induction by bag. Delivery by version and breech extraction. Uterus packed. Temperature from first to fifth day. Peritonitis.

A. N. 4/11/25. Para ix. At term. Bleeding for past month. Induction by bag. Delivery by version and breech extraction. Uterus packed. Hemorrhage behind packing. Death two hours after delivery.

A. L. 6/21/26. Para iii. At term. Central placenta previa. In shock on admission. Hypodermoclysis 1000 c.c. Delivery by version and breech extraction. Uterus packed. Hemorrhage behind packing. Died two and one-half hours after delivery while being transfused.

*Premature Separation of the Placenta—4 Deaths:*

M. G. 3/8/22. Para xv. Seven months pregnant. Admitted in shock. Spontaneous delivery. Transfusion. Died eighth day, apparently of an embolus.

G. T. 3/28/23. Para vi. At term. Induction by bag. Spontaneous delivery. Uterus packed. Profuse hemorrhage through packing. Shock. Died seven hours postpartum. Toxic on admission—B. P. 158/110.

D. A. 5/15/23. Para vi. Toxic—B. P. 220/140. Albumin 3-plus. Had been bleeding nine hours before admission. Induction by bougie and packing, followed by bag. Delivery by version and breech extraction. Shock.

S. B. 7/19/23. Para viii. Seven and one-half months pregnant. Membranes ruptured. Induction by bag. High forceps delivery of stillborn child. Manual removal of placenta. Uterus packed. Shock. Death one hour after delivery. Autopsy: tear of lower uterine segment.

*Intrapartum Hemorrhage—1 Death:*

R. B. 2/25/25. Para ii. At term. Admitted after delivery of first twin at home. Second twin in utero. In shock. Died fifteen minutes after admission, undelivered.

*Postpartum Hemorrhage—1 Death:*

M. G. 2/3/25. Para ii. Thirty-eight weeks pregnant. Admitted in second stage of labor. Spontaneous delivery. No vaginal or rectal examinations. Temperature started to rise after delivery. Sixth day pneumonia. Death on tenth day. Pulmonary embolism.

*Puerperal Embolus—2 Deaths:*

M. B. 2/22/24. Para i. At term. Low forceps delivery. Postpartum hemorrhage. Uterus packed. Pyelitis. Temperature from third to eleventh day, with scarlatinal rash and desquamation. Death on fifteenth day. Embolus and cerebral hemorrhage left temporal lobe of brain.

A. F. 3/28/26. Para i. At term. Attempted forceps delivery by private physician at home. Delivered by high forceps of stillborn child, weighing 4300 grams. Temperature below 100° until sixth day, when patient suddenly died of pulmonary embolus.

*Ruptured Uterus—1 Death:*

M. C. 3/27/25. Para x. At term. Delivered on the outdoor service by version and breech extraction. Admitted in shock three and one-half hours postpartum. Manual removal of placenta. Gum glucose and transfusion. Hysterectomy. Died thirty hours later.

MATERNAL MORTALITY—MEDICAL

*Antepartum Pneumonia—8 Deaths:*

I. G. 2/8/22. Para i. At term. Admitted with temperature 101.6°. Pulse 120. Intensely cyanotic. Lobar pneumonia. Spontaneous delivery. Death four days later.

A. D. 2/1/22. Para i. At term. Transferred from medical ward with temperature 102.4° and pulse 112. Lobar pneumonia. Spontaneous delivery. Anti body solution 3 times. Died five days postpartum.

C. I. 3/10/23. Para ii. At term. Transferred from medical ward with temperature 102.4° and pulse 100. Lobar pneumonia. Low forceps delivery. Death same day.

C. C. 2/19/23. Para iv. At term. Ill eight days before admission. Bronchopneumonia. Breech extraction without anesthesia. Death five days later of pulmonary edema.

S. L. 4/3/24. Para vii. Thirty-eight weeks pregnant. Admitted with temperature 101°. Mitral stenosis. Spontaneous delivery with no anesthesia. Consolidation of right lower lobe next day. Death two days later.

J. McD. 3/8/24. Para i. Eight and one-half months pregnant. Admitted with temperature 101.6° and pulse 120. Pneumonia and pyelitis. Fourth day blood culture positive for *Staphylococcus hemolyticus*. Low forceps delivery on ninth day. Death next day.

M. H. 6/4/26. Para i. At term. Bronchitis on admission. Mid-forceps delivery L. O. P. One oz. of ether. Consolidation second day postpartum. Death on fifth day of lobar pneumonia.

C. C. 3/23/26. Para iii. Thirty-six weeks pregnant. Admitted with lobar pneumonia. Spontaneous delivery shortly after admission. Death few hours later.

*Postpartum Pneumonia—1 Death:*

F. S. 5/12/24. Para iv. At term. Toxemia of pregnancy and chronic cardiac disease. Spontaneous delivery. Transferred to medical ward on seventh day postpartum and died there of pneumonia.

*Chronic Pulmonary Tuberculosis—1 Death:*

A. R. 1/28/25. Para viii. Thirty-two weeks pregnant. Precipitate delivery four hours after admission. Transfusion. Died on eleventh day postpartum. Chronic pulmonary tuberculosis; secondary anemia; tubercular kidneys; uremia.

*Tuberculous Meningitis—2 Deaths.*

R. L. 2/28/22. Para i. Three months pregnant. Transferred from medical ward with acute vomiting of pregnancy. Seven days later diagnosis made of tuberculous meningitis, and patient was transferred back to medical ward. Died the next day. Autopsy: tubercular kidneys and ureter; tuberculous meningitis.

G. S. 5/16/22. Para v. At term. Induction by bag. Spontaneous delivery. No anesthesia. Death on third day postpartum. General miliary tuberculosis with meningeal involvement.

*Meningococcus Meningitis—1 Death:*

C. B. 2/22/25. Para vi. At term. History of otitis media for past three weeks. Comatose on admission. Had 6 convulsions. Died same day. Postmortem delivery of stillborn child.

*Chronic Cardiac Disease—1 Death:*

C. K. 3/6/26. Para iii. Twenty-eight weeks pregnant. Admitted with decompensation and acute bronchitis. Pulmonary edema developed two days later. Spontaneous abortion on fourth day. Death ten and one-half hours postpartum. Mitral stenosis and insufficiency.

*Status Epilepticus—1 Death:*

L. N. 3/29/22. Para iii. History of frequent epileptic seizures. Had 14 convulsions. Death sixteen hours after admission, undelivered.

MATERNAL MORTALITY—OBSTETRIC

*Septicemia.*—Eight patients died of sepsis. Three of these women were delivered spontaneously under our care and *without vaginal or rectal examinations* during labor. Another was admitted after thirty-nine hours of labor, with a history of one rectal examination by a private physician. She delivered spontaneously without further rectal or vaginal examination. One patient was delivered by breech extraction on the outdoor service and was transferred to the gynecologic ward on the fourth day and died there of sepsis. Manual removal of the placenta was necessary in two cases. One of these patients was delivered at home by a private physician who removed the placenta manually; the other was delivered at home by an ambulance surgeon and was admitted to the hospital with a retained placenta which was extracted manually because of bleeding. Another patient was admitted after an unsuccessful attempt at forceps delivery by a private physician and was delivered by us with high forceps.

At the beginning of 1922 we conducted a study<sup>1</sup> of the effects and curative value of polyvalent antistreptococcic serum. It was unfortunate that we were unable to obtain positive blood cultures from these patients who were apparently suffering from a streptococcic infection, as one-half of them had positive cultures from the body of the uterus. In the fourteen cases clinically diagnosed as streptococcemia, there was a mortality of but 15.3 per cent. While the lack of positive blood cultures may fail to convince others of the value of the serum, we are satisfied by the prompt subsidence of the temperature and other symptoms that it is in some instances life-saving and is harmless when properly administered.

Following the reports by Drs. Gellhorn and Rawls, demonstrating the value in gynecologic infections of intramuscular injections of boiled milk, we have used this foreign protein in all cases of postpartum infection which were apparently caused by the staphylococcus, colon bacillus, or saphrophytic organisms. These patients all had the symptoms of fever, free foul lochia, parametric tenderness, and exudate. We also used the milk injections in patients showing signs of pyelitis. There is no danger from the injections, provided the patient is tested for the protein and, frequently, after two or three doses the fever and symptoms subside.

*Eclampsia.*—The largest number of deaths occurred from eclampsia and toxemia of pregnancy. Six of the eight eclamptic deaths were in 1922. Labor was induced by bag in three of the patients. Five of the patients were brought to the hospital after convulsions at home. None of them had reached the eighth month of pregnancy.

TABLE II. ECLAMPSIA IN 4396 INDOOR DELIVERIES, 1922-1926

	1922				1923-1926			
	CONSERVATIVE TREATMENT				MODIFIED STROGANOFF TREATMENT			
	NO. OF CASES	MATERNAL DEATHS	INFANT DEATHS	METHOD OF DELIVERY	NO. OF CASES	MATERNAL DEATHS	INFANT DEATHS	METHOD OF DELIVERY
Antepartum	11	4	8	Bag 8 Forceps 2 Under 1	15	0	11	Spontaneous 10 Bag after recovery 2
Intrapartum	0	0	0		4	0	2	Forceps 4
Postpartum	4	0	0		5	0	1	
	15	4 (40%)	8		24	0 (0%)	14	

Total Cases 1922-1926, 43.

Maternal Mortality, 15.6%.

After 1922 we followed the Stroganoff régime for the treatment of eclampsia, varying it only by the elimination of the last two doses of chloral. In Table II great improvement is shown in the results. The patient who died in 1925 was admitted in coma and died eighteen hours later. The 1926 death was undoubtedly one of uremia, but we have included it under the eclamptic deaths because in the last revision of the International Code, puerperal uremia was placed under the diagnostic heading of Puerperal Albuminuria and Convulsions. This patient had had thirteen pregnancies with a history of chronic nephritis in all.

Of the patients who recovered, two were undelivered, and in both instances the child was alive. In these women labor was induced, one a few days after recovery from the convulsions, the other two weeks later.

There were two maternal deaths, or an incidence of 7.1 per cent, in the 28 cases during the last four years. This remarkable drop in the death rate from over 30 to 7 per cent leads to the conclusion that the Stroganoff treatment is preferable to the method formerly employed, that is, induction by bag.

*Toxemia of Early Pregnancy.*—There were 21 cases of pernicious vomiting. One patient had a spontaneous abortion; there were four therapeutic abortions, and 16 patients were cured by dietetic control. One progressed to a condition that we considered as acute yellow atrophy, and her death is recorded under this diagnosis. At the time of death she was eight weeks pregnant, dehydrated and jaundiced, and had been under treatment for two weeks by hypodermoclysis, glucose by rectum, and feeding through a duodenal tube. Finally, with a  $\text{CO}_2$  combining power of 26 per cent, it was felt that the uterus could be safely emptied without the use of anesthesia. The jaundice deepened, and she died the same day. This death occurred in 1922, and at that time we were not giving sugar by vein. There were five other cases of the acute yellow atrophy type of toxemia; two died and three recovered. The patients who died were in the sixth or seventh month of pregnancy. One was admitted after three weeks of vomiting and was acutely ill, but her temperature was  $99.4^\circ \text{F}$ . Fifty grams of sugar in 10 per cent solution were given by vein; this was followed by a chill and a rise of temperature to  $107.4^\circ$ , with delirium. She died three and a half hours after receiving the glucose. This death occurred in 1923, and there is no doubt that the glucose was given too rapidly. The other patient had been vomiting at home for five days and was admitted in labor. She delivered spontaneously a 1700 gram baby. The patient was dyspneic and in very poor condition and died on the third day postpartum.

The first of the three patients who recovered was three months pregnant and had been operated upon for appendicitis. When the

vomiting continued and jaundice appeared, it was realized that there was a liver disturbance. On the second day postoperative she was transferred to us and given hypodermoclysis and sugar by vein. This was repeated on the following day, and the  $\text{CO}_2$  rose to 64 per cent, although there was still a considerable amount of acetone in the urine. Three days later she aborted spontaneously. Her condition improved steadily, although the urine contained much bile. The second patient had black vomit for five days. Labor was induced by bag and she delivered a 2250 gram stillborn child. Hypodermoclysis was given and also fifty grams of sugar by vein. The vomiting ceased after the delivery. On admission the N.P.N. was 63;  $\text{CO}_2$ , 30. Nine days later the N.P.N. was 24;  $\text{CO}_2$ , 58. In the third case the patient had had black vomiting and tenderness over the liver for two days, and had been suffering from marked obstipation. Labor was induced by a bag, and she delivered a 2600 gram living baby. This patient also was given saline solution by hypodermoclysis but no sugar. Recovery promptly followed delivery.

*Chronic Nephritis.*—There were 36 cases of chronic nephritis that required treatment for the condition. Labor was induced in eight cases by bagging and in two by rupture of the membranes. One patient was delivered by vaginal hysterotomy. The remaining 25 went into labor spontaneously after the administration of castor oil and quinine. Twenty-seven of these patients had a systolic blood pressure ranging over 150 and nine over 200. In all instances the albumin in the urine was from 2- to 4-plus. One woman who had had a prolonged labor died just after the anesthesia was started for a forceps delivery. Sixteen of the 36 babies died; 8 were abortions, and 5 were macerated fetuses.

*Preeclampsia.*—There were 87 cases of preeclampsia. All of them had albuminuria, and most of them had a rise in blood pressure. Labor occurred spontaneously in 63 cases. Twenty-one of the 63 babies were stillborn or died shortly after birth; 6 were macerated fetuses, and 7 were abortions.

Labor was induced in 15 cases. Six of the babies were dead at birth—2 were abortions and 4 were macerated. Nine of the women went into labor spontaneously but were delivered by operative procedures. In this group one baby was stillborn. The total infant death rate of preeclamptic mothers was, then, including abortions and macerated fetuses, 32 per cent, but it should be noted that many of the babies were premature.

In addition to the 87 cases of preeclampsia there were 30 cases of toxemia of pregnancy accompanying premature separation of the placenta. These have been considered under the latter heading and are not included here.

*Placenta Previa.*—We had 58 cases of placenta previa—26 central, 11 partial, and 21 marginal—with four maternal deaths or a rate of 6.9 per cent. One of these women, however, had erysipelas before delivery. Twenty-eight of the babies died, and of these 6 were abortions, giving an infant death rate of 48.2 per cent.

Twenty-nine of the patients were induced by the extraovular insertion of a Voorhees bag, and we believe that our good results are largely due to the fact that the routine treatment requires the operator who inserts the bag to remain with the patient until she is delivered and out of shock. Four spontaneous deliveries, 1 forceps delivery, and 24 breech extractions followed the bagging. Four women were delivered by abdominal cesarean section and 2, in early pregnancy, by vaginal hysterotomy. One of the patients who had an abdominal cesarean section operation died; this was the only death from cesarean section during the five years.

TABLE III. PLACENTA PREVIA IN 4396 DELIVERIES, 1922-1926

METHOD OF DELIVERY	NUMBER OF CASES	MATERNAL DEATHS	INFANT DEATHS	REMARKS
Cesarean	6	1	4	2 vaginal hysterotomies, 5½ months
Bag	29	0	10	22 versions & extractions 2 breech extractions 1 forceps. 4 spontaneous
Version & Extraction	10	1	5	9 4-fingers dilated on admission
Ruptured Membranes	4	0	3	1 Braxton-Hicks All marginal
Forceps	2	0	2	Dilated on admission
Spontaneous	7	0	2	All marginal. Moderate bleeding
	58	4*	28†	*1 case of erysipelas antepartum 16 were abortions

Maternal Mortality 6.9%  
Infant Mortality 48.2%

Central placenta previa 26  
Partial placenta previa 11  
Marginal placenta previa 21

The great difficulty with abdominal section in placenta previa lies in the fact that the majority of serious cases, that is, the central and partial types, are likely to be more or less exsanguinated on admission, and operative procedure so increases the prostration and shock that recovery is problematical. The one cesarean death in our series was from uterine sepsis, a complication that is always to be anticipated in patients who are brought in after they have been examined through an unprepared vulva. Eleven, or one-half, of the women with marginal placenta previa were delivered spontaneously, following rupture of the membranes.

We instituted no operative procedure in the hemorrhage cases while shock existed, contenting ourselves with the treatment of this condition and the prevention of further blood loss. In every case of par-

tial or complete placenta previa, the uterus was packed following delivery. Two of the four deaths were due to postpartum hemorrhage that occurred behind the packing.

*Premature Separation of the Placenta.*—There were 67 cases of premature separation of the placenta, 35 occurring before the eighth month of gestation. In all, four women died, a mortality of 5.9 per cent. Two of the patients who died lapsed into shock immediately following delivery which was spontaneous in one instance and by version in the other. It has seemed to us that the shock might have been due to splanchnic dilatation due to lowered intraabdominal pressure, because in one case there was an immediate drop in blood pressure from 220 to a point at which it could not be ascertained. Another woman was admitted in shock; she improved following a transfusion but died on the eighth day of an embolus. The fourth woman died from trauma during delivery by high forceps. The autopsy showed a small tear in the lower uterine segment but no involvement of the large vessels.

There were 43 infant deaths including 15 abortions, giving a mortality of 64 per cent.

TABLE IV. PREMATURE SEPARATION OF THE PLACENTA IN 4396 INDOOR DELIVERIES, 1922-1926

AMOUNT OF HEMORRHAGE	NO. OF CASES	TOXEMIA	PACKING	SHOCK	MATERNAL DEATHS	INFANT DEATHS	REMARKS
Severe 2000 c.c.	22	9	10	14	4	21	Bag, 10 Membranes ruptured, 5 Version, 3 Cesarean, 1 Spontaneous, 3
Moderate 1500 c.c.	16	7	1	0	0	10	Bag, 3 Forceps, 1 Cesarean, 1 Memb. rupt. & version, 2 Memb. rupt. & spont., 1 Spontaneous, 8
Slight 1000 c.c.	29	13	0	0	0	12	Bag, 3 Forceps, 1 Memb. rupt., 3 Spontaneous, 22
	67	29	11	14	4	43*	*15 were abortions

Maternal Mortality, 5.9%; Infant Mortality, 64%.

We have divided the cases of premature separation of the placenta into three groups according to the amount of hemorrhage—the serious, with hemorrhage estimated as more than 1500 c.c.; the moderate, with hemorrhage of from 1000 to 1500 c.c.; the slight, with hemorrhage of approximately 1000 c.c. Any bleeding estimated as less than

1000 c.c. was not considered as a hemorrhage. All of the maternal deaths and half of the infant deaths were in the severe group, giving for this type of hemorrhage a maternal mortality of 18.1 per cent and an infant mortality of 95.4 per cent. As indicative of the extent of the bleeding, it is interesting to note that 14 of the 22 serious cases went into shock. Five of them, in addition to hypodermoclysis, etc., were given a transfusion. There were 16 cases of moderate hemorrhage, with no maternal or infant deaths. None of these patients showed symptoms of shock before delivery. In the 29 cases with slight bleeding there were no instances of shock and no maternal deaths. Twelve, or 41 per cent, of the babies died.

Thirty-three or about one-half of the patients delivered spontaneously. Toxemia, as evidenced by a rise in blood pressure and albumin in the urine, was noted in 29. As we were observing particularly the incidence of toxemia, we were careful to have definite signs before we credited the premature separation of the placenta with this complication or origin.

Patients who, on admission, are noninfected and have a dilated or dilatable cervix should be delivered from below, unless the blood pressure is 200 or over. In this case it is better to do a cesarean section because of the high incidence of shock that follows the lowering in intraabdominal pressure after rapid delivery from below. When, however, the delivery occurs through the natural channels, a Beck binder should be tightened as the child is extruded or a sand-bag should be placed on the abdomen.

*Postpartum Bleeding.*—There were 66 cases of postpartum hemorrhage which we have divided into two groups, those with serious and those with moderate hemorrhage.

Each of the groups has been subdivided according to whether the hemorrhage occurred before or after the removal of the placenta. It was necessary to pack the uterus in 25 of the 66 cases. The packing—iodoform gauze—was inserted through a tube packer and removed within twenty-four hours. Sixteen of the patients were delivered by operative procedures. The placenta was manually removed in 29 cases. Twenty-four of the patients developed shock.

Five, or 7.5 per cent, of the mothers died. Two patients in whom the placenta had been removed manually died of sepsis. A third patient died of cerebral embolus. A fourth was admitted in a dying condition and died in fifteen minutes. The fifth died on the tenth day, of bronchopneumonia. She had been delivered spontaneously and had had only a moderate hemorrhage. We have listed this case here because we felt that the pneumonia was caused by numerous small emboli that formed immediately after the hemorrhage.

*Shock.*—As death follows the advent of shock in many hemorrhage cases, we made a study<sup>2</sup> of the action of gum glucose in obstetric

TABLE V. 66 CASES OF POSTPARTUM HEMORRHAGE IN 4396 DELIVERIES, 1922-1926

	SEVERE HEMORRHAGE									MODERATE HEMORRHAGE								
	NO. OF CASES	DELIVERY			PLACENTA		PACKING	STOCK	MAT. DEATH	NO. OF CASES	DELIVERY			PLACENTA		PACKING	STOCK	MAT. DEATH
		BYST.	OPERAT.	AT HOME	MAN. HEM.	CURD					BYST.	OPERAT.	AT HOME	MAN. HEM.	CURD			
Intrapartum*	21	0	0	0	15	6	11	0	11	17	12	0	0	5	10	4	0	1
Postpartum	17	0	0	0	1	16	10	11	11	10	4	0	0	10	1	0	1	1
	38	14	11	12	16	19	21	10	22	27	16	0	0	20	5	0	2	2

\*After delivery of baby and before delivery of placenta. *Internal Medicine*, 1927.

TABLE VI. INFANT DEATHS IN 4396 INDOOR DELIVERIES, 1922-1926

CAUSE	INFANT DEATHS		CAUSE	ABORTIONS UNDER 1500 GRAMS
	STILLBIRTHS	NEONATAL		
Cesarean	4	3	Antepartum Bleeding	25
Forceps	30	8	Syphilis	19
Version & Extraction	24	3	Toxemia	36
Craniotomy	7	0	Tuberculosis	3
Antepartum Bleeding	24	12	Acute Infection of Mother	5
Difficult Labor	7	3	Unknown	49
Prolapsed Part	9	2		
Monstrosity	6	3		
Toxemia	29	12		
Syphilis	13	5		
Spontaneous Delivery				
Miscellaneous	33	25		
	195	74		137
	(Mac. 57)			(Mac. 47)

Stillbirths and neonatal deaths including abortions: 406 - 9.2%  
 Stillbirths and neonatal deaths without abortions: 269 - 6.1%  
 Stillbirths and neonatal deaths without abortions and macerated: 212 - 4.8%

cent. This high rate, of course, markedly affects our general rate and is due largely to the deaths of infants whose mothers had toxemia, placenta previa, and accidental hemorrhage.

Toxemia stands foremost as the cause of stillbirths and, including abortions, accounts for 19 per cent of the deaths. Antepartum bleeding stands second with a rate of 15 per cent. Forceps and version deliveries stand third. There were 9 monstrosities.

Thirty-seven, or 9.1 per cent, of the deaths were attributed to syphilis as the primary cause, but the total death rate of children of syphilitic mothers was 13 per cent.

In the 406 deaths, 104, or about 25 per cent, were macerated fetuses. This point is important, as most of the mothers in these cases had had no prenatal care. If we deduct the macerated fetuses and abortions, in other words include in the death rate only those infants for whom we might be considered responsible, the death rate is 4.8 per cent. The total death rate, including all stillbirths and neonatal deaths is 9.2 per cent.

*Mortality on the Outdoor Service.*—The infant death rate on this service is very low, but this was to be expected as the mothers were all normal multiparae. There were 23 stillbirths 10 of which were macerated, and 11 neonatal deaths 2 of which were abortions—a total loss of 34 infants or 3 per cent.

#### MATERNAL MORBIDITY

*Morbidity on the Indoor Service.*—Patients with temperature of 100.4° for two consecutive days (excluding the first day) during the postpartum period have been included in this group. We have found the morbidity rate slightly higher than was expected in view of the fact that 58 per cent of the indoor deliveries were conducted without

TABLE VII. ANALYSIS OF MORBIDITY IN 4348\* INDOOR DELIVERIES, 1922-1926

YEAR	OBSTETRIC MORBIDITY			MEDICAL AND OTHER MORBIDITY				
	NO VAGINAL OR RECTAL EXAM. 2302 CASES	VAGINAL EXAM. 952 CASES	OPERATIVE 735 CASES	MASTITIS	PYELITIS	RESPIRATORY DISEASES	TUBERCULOSIS	MISC.
1922	52	13	26	5	1	6	4	7
1923	21	5	21	6	2	6	2	1
1924	40	21	26	1	9	20	1	1
1925	39	8	18	2	3	2	10	4
1926	43	9	32	2	1	4	4	2
	187	66	103	17	16	34	15	15

\*No fatal cases in this group. Mortality considered separately.

Total Uterine Morbidity, 9.6%; Uterine Morbidity over 3 days, 3.2%

vaginal or rectal examinations. We have divided the cases with morbidity into two groups—those with temperature due to uterine infection and those with temperature due to medical or surgical causes. The total uterine or obstetric morbidity was 9.6 per cent.

Comparison of the temperature in patients who were examined vaginally or rectally with those who were not show that in the former group the rate was 6.6 per cent and in the latter 7.2 per cent—a difference of 0.6 per cent. The slightly lower rate in the cases that were examined is explained by the fact that during the past year we have been using vaginal injections of 2 per cent mercurochrome as a routine procedure before examination. Vaginal injections of 2 per cent mercurochrome have also been made in all operative cases. We have used mercurochrome injections more and more frequently since Mayes' report before this Society in 1925. There was a morbidity rate of 21.7 per cent in the operative cases.

Of the 410 cases with obstetric morbidity, 44, or 1 per cent, of the 4396 indoor deliveries, had a temperature for ten days or more. Fourteen of the 44 were in the operative group. Special mention must be made of one patient who lost both legs—one, half way to the knee and the other at the ankle. This woman, a primipara, was delivered by low forceps, as the head had been on the perineum for some time. Her temperature gradually rose to 103° on the seventh day, and at this time she complained of cold and numbness in both feet. She was transferred to the surgical service, and three days later there was a well-recognized demarcation line of the right foot and left leg up to a point just above the ankle. The left leg was amputated six days after the first signs of thrombosis were discovered and the right foot on the nineteenth day. The patient had a stormy convalescence but finally recovered.

In the group of cases with morbidity attributable to nonobstetric causes, there were 17 cases of mastitis. Most of these did not have abscess formation; the temperature subsided after compression or the application of an ice-bag. There were 16 cases of pyelitis with a temperature for two days or more. In addition, there was active pyelitis in one woman who died of sepsis and in another who died of pneumonia. In the latter case there was a positive blood culture of staphylococcus before delivery. Five patients with pyelitis showed no rise in temperature, and sixteen were discharged antepartum or admitted postpartum and therefore are not recorded in the table.

*Morbidity on the Outdoor Service.*—Twenty-three of the 1124 outdoor patients had morbidity in the postpartum period. Any of the outdoor cases that showed marked abnormality were transferred by ambulance to the hospital, and therefore there was very little operative procedure.

In making the abdominal examination we try first to map out the fetal back. We then determine in the head positions the side to which the occiput presents. We palpate the upper and the lower poles of the fetus by deep lateral palpation of the abdomen. This almost invariably determines the extent of flexion of the presenting head. Brow and face presentations may be ascertained in a like manner. The amount of engagement may be accurately learned by the Pawlik grip by which, with the thumb on one side and the four fingers on the other, the fetal head may be grasped through the abdominal wall. As labor advances, the dilatation can be determined by the rise of the contraction ring. When this ring is four-fingers' breadth above the symphysis, the cervix will be found to be almost fully dilated. As a rule, further definition cannot be obtained by this examination. When operative delivery becomes necessary, it can be performed on a clean case or at least on one that has not been infected by the attendants.

During the five years we have conducted 58 per cent of the labors on the indoor service in this way and in the last year, 72 per cent. On the outdoor service, last year, 195 labors were conducted with 52 vaginal examinations. The chief difficulty that we have to overcome is the objection on the part of the internes and students to the substitution of the abdominal for the vaginal examination. They feel that part of their training is being withheld, and therefore each new staff must be convinced through observation and experience.

#### OPERATIVE PROCEDURES

*Cesarean Section.*—We have had 93 cesarean sections in the five years. Sixty-six were of the low cervical type; 19 of them were elective because of previous section, and 47 patients had labors that averaged twenty-three hours. In most instances these patients were admitted after some hours of labor at home, and many of them had had vaginal examinations so that the morbidity was high, but there were no maternal deaths.

There were two vaginal hysterotomies for placenta previa in the fifth month and one for chronic nephritis.

It will be noted that there were 21 operations where the incision was low, but the bladder was not retracted. This operation was done

TABLE VIII. CESAREAN SECTIONS IN 4396 INDOOR DELIVERIES, 1922-1926

	NUMBER OF CASES	PRIMARY UNION	STITCH ABSCESS	WOUND INFECTION	MORBIDITY	MATERNAL DEATHS	INFANT DEATHS
Low Flap*	66	49	12	5	34	0	4
Low Uterine	21	18	1	1	1	1	5
Mid Uterine	3	2	1	0	1	0	0
Vaginal Hysterotomy	3	3	0	0	0	0	3
	93	72	14	6	36	1	12

\*47 low flap with average labor of 23 hours.

Maternal Mortality 1.07%  
Gross Infant Mortality 12.9%  
Net Infant Mortality 8.6%

TABLE IX. 419 CASES OF CONTRACTED Pelves IN 4396 INDOOR DELIVERIES, 1922-1926

	TOTAL NUMBER OF CASES	SPONT. DELIVERIES		OPERATIVE DELIVERIES					
		NUMBER	INFANT DEATHS	TOTAL	CEASAREAN	FORCEPS	VESICONS	CRANIOTOMIES	INFANT DEATHS
Generally Contracted	173	113	3	38	31	29	3	2	4
Flat	210	134	8	16	30	25*	6	1	7
Funnel	33	19	1	14	4	9	1	0	1
Irregular	3	0	0	3	2	1	0	0	1
	419	266	12	151	67	71	10	3	17

\*1 maternal death from sepsis.

rather than the low cervical because of previous sections or overhanging and corpulent abdomens. The only death that occurred from cesarean section was that of a patient with placenta previa who was delivered with a low uterine section.

*Pelvic Contraction.*—We felt that the apparent safety with which the low cervical cesarean section can be done late in labor justified trial labor in the treatment of patients with relatively contracted pelvis. There were 419 cases of pelvic contraction. Two hundred and sixty-eight delivered spontaneously after trial labors; 151, or 37 per cent, were delivered by operative procedures, 67 of which were cesarean sections.

The only patient in the series who died was delivered by a median forceps operation. Death was caused by septic thrombus of the brain. There were 26 infant deaths or, deducting 4 deaths due to maceration, 2 to hydrocephalus, and 1 to erysipelas, a net loss of 19, or 4.5 per cent. A report<sup>5</sup> of our cases of pelvic contraction has already been published.

TABLE X. FORCEPS DELIVERIES IN 4396 INDOOR DELIVERIES, 1922-1926

	NO. OF CASES	INFANT DEATHS	MATERNAL DEATHS	REMARKS ON MATERNAL MORTALITY
High Forceps	71	23	4	1 premature separation of placenta 1 sepsis 1 chronic nephritis & cardiac disease
Mid Forceps	150	17	2	1 pulmonary embolus 1 antepartum pneumonia
Low Forceps	179	13	2	1 antepartum pyelitis & sepsis 1 antepartum pneumonia 1 antepartum pneumonia & pyelitis
	430	53 (6 mac.)	8	

Net Infant Mortality, 10.9%.

*Forceps Deliveries.*—The number of our forceps deliveries—430—seems large, but in many of the cases the forceps procedure consisted merely in lifting the head over the perineum, the so-called forceps control, a procedure that we believe to be a conservative operation.

One hundred and forty-four of the forceps deliveries were necessitated by occiput posterior positions. Forty-one of these were high forceps operations performed after an average of thirty-five hours of labor with engagement of the fetal head. One mother who, before admission, had had prolonged attempts at forceps delivery by a private physician, died of sepsis. Eight babies died. There were 67 mid-forceps deliveries after an average of twenty-four hours of labor. Three of these infants died. Thirty-six patients were delivered by low forceps, with 4 infant deaths. The total stillbirth and neonatal death rate in the occiput posterior cases was 10 per cent. The Williamson<sup>6</sup> operation, that is, the application of the forceps to the head in a transverse position, is the one that we regularly use. There

is no danger in this procedure provided the cervix is retracted over the head and no traction is made until after rotation occurs as the forceps is locked.

In the 430 forceps deliveries one woman died from sepsis and one from embolus. There were 6 other maternal deaths from complicating conditions for which the forceps procedure was done: one from cardiac disease, 3 from antepartum pneumonia, and one from premature separation of the placenta. A total of 53 infants died. Six were macerated fetuses, and deducting these, the infant mortality rate was 10.9 per cent. The obstetric morbidity was 16.6 per cent.

*Breech Extraction.*—Breech extraction was performed in 227 cases of spontaneous breech presentation. One of the patients died of eclampsia and one of antepartum pneumonia. There were 71 stillbirths and neonatal deaths or, deducting 18 macerated fetuses and 18 abortions, a net total of 35 deaths, or 15.4 per cent.

TABLE XI. BREECH DELIVERIES IN 4396 INDOOR DELIVERIES, 1922-1926

METHOD OF DELIVERY	NUMBER OF CASES	INFANT DEATHS	MATERNAL DEATHS	REMARKS
Breech Extraction	227	71 (18 mac.) (18 abor.)	2	1 eclampsia 1 antepartum meningitis
Version & Extraction	77	33 (2 mac.) (1 abor.)	3	1 antepartum pneumonia 2 placenta previa

Breech Extraction—net infant mortality, 15.4%; Version—net infant mortality, 38.9%.

Indication for versions: Placenta previa, 30; Prolapsed part, 20; Transverse, 4; Premature separation placenta, 5.

*Version and Breech Extraction.*—Seventy-seven patients were delivered by version and breech extraction. Thirty of these operations were done for placenta previa, 20 for prolapsed parts, 4 for transverse positions, and 5 for accidental hemorrhage.

There were three maternal deaths, two from placenta previa and one from antepartum meningitis. There were 33 infant deaths, including 2 macerated fetuses and 1 abortion; deducting these, the net infant death rate was 38.9 per cent. While the infant mortality seems high, it may be noted that the majority of the babies were premature.

In all cases of placenta previa, external version to bring down the breech was attempted before the administration of anesthesia; if not successful it was done after the anesthesia was complete. This procedure is very easy in patients with complete placenta previa, because the presenting part is not in the pelvis.

*Induction.*—Labor was induced in 103 cases (excluding 4 therapeutic abortions), in 85 by bag, in 8 by rupture of the membranes, in 9 by partial manual dilatation, and in 1 by bougie. The infant mortality in the cases that were induced by bag was 50 per cent. This high rate is due to the complications for which the induction was

done: in 32 cases of toxemia, eclampsia, and chronic nephritis there were 18 infant deaths, and in 45 bleeding cases there were 21 infant deaths.

The number of cases induced by rupture of the membranes, manual dilatation, or bougie are too few to be used for purposes of comparison. In all instances the indication was some form of toxemia or of bleeding. Thirteen infants died, making the total infant death rate in the 103 induced cases 54 per cent, a fact that leads to the conclusion—and correctly—that the inductions were done for the benefit of the mother.

*Episiotomy.*—There were 68 lateral episiotomies. The majority were done before breech extraction or with forceps operations.

*Third Degree Lacerations.*—Third degree lacerations occurred in 8 cases. Three other patients who had been delivered at home by private physicians were admitted with this injury. Primary repairs were made in all cases.

*Craniotomy.*—Craniotomy was performed in 13 cases. Nine of the babies were known to be dead before the operation. The remaining 4 babies had been so traumatized by prolonged labor and operative attempts at delivery that death was imminent, and the birth of a living baby impossible. No mothers died.

*Cardiac Disease.*—Forty-nine patients had cardiac disease with decompensation. There were 4 maternal deaths. One of them, a patient with advanced chronic nephritis, has been recorded as an anesthetic death. One died after a spontaneous abortion at the twenty-eighth week, and two died of pneumonia, one antepartum and one postpartum.

Thirty-six of the patients were delivered spontaneously, 8 by forceps, 3 by induction by bag and 2 by cesarean section. There were 12 stillbirths and neonatal deaths, including 2 macerated fetuses and 2 abortions.

Our method of treatment consisted in restoring the compensation and refraining from induction or operative delivery while decompensation existed. If anesthesia was necessary, we used gas and oxygen, 3 parts to 1.

*Tuberculosis.*—Twenty-two of the women had tuberculosis. Two died—one undelivered—with tuberculous meningitis. There were 4 infant deaths, 2 being abortions and 1 macerated. Seventeen of the deliveries were spontaneous.

*Syphilis.*—There were 139 cases of syphilis, accepting 3- and 4-plus Wassermann reactions as an indication of the disease. Fifty-four of the infants died; 32 were macerated fetuses and 6 were abortions.

*Prolapsed Parts.*—Prolapse of the cord occurred in 39 cases and in 10 of these there was also prolapse of the arm. Twenty babies, including one set of twins, died; 11 were dead before delivery, and 3 were abortions.

DR. HAROLD BAILEY presented **A Review of the Work of the Second Obstetrical Division of Bellevue Hospital.** (For original article see page 462, April issue.)

#### DISCUSSION

DR. B. P. WATSON was interested to hear Dr. Bailey place such reliance on antistreptococcus serum in septic cases. His own experience of late has not quite borne that out, especially where there was definite blood infection. The number of cases of accidental hemorrhage and premature separation of the placenta, was also rather striking. He did not know whether the doctor included cases that had lost less than 1,000 c.c. blood because in a great number of cases where there is a very slight blood loss before delivery and where there must have been some slight separation of the placenta, this is of no moment either from the point of view of the mother or the child.

DR. J. O. POLAK was impressed by the difference in the results following the conservative method of treatment of eclampsia versus the more radical interference.

The other point of interest was the relatively large incidence of postpartum hemorrhage. Dr. Bailey has answered the matter by his own criticism. Evidently the intern resident staff in his hospital was not taught the physiology of the placental stage as it should be taught. Dr. Polak found that since leaving hands off the patients, that there was a marked diminution of postpartum hemorrhage.

DR. A. B. DAVIS did not agree with those who advocate rectal examination as being better and safer than vaginal examination in obstetrics. Rectal examinations do not provide the information sought. By lifting forward the rectovaginal septum and the posterior vaginal vault, often with a pool of accumulated secretion, there is greater danger of injury and infection than by vaginal examinations. In the out-patient department of the Lying-In Hospital, a vaginal examination of cases in labor is required every two hours until delivery. More often than not, these examinations are made by pupils or doctors possessed of very little obstetric training. This plan has been followed for more than thirty-seven years, in something over eighty-eight thousand cases, and they had yet to see bad results from this procedure. The development of sepsis and morbidity is quite as low as in the indoor department. It is fair to state that in some one hundred and twenty-five postpartum cases there is an average, through the year, of not above ten cases a day, showing an 8 A.M. temperature above 99° F. This includes operative and complicated cases. In this service a few cases of septic infection develop. The majority of such cases are brought in as emergencies already infected. In their

treatment Dr. Davis and his staff had used various serums and methods proposed to combat puerperal sepsis. Thus far, they have been unable to report any results of value from their employment. "So long as we continue to have emergency cases which have, in many instances, been previously mismanaged by incompetent doctors or midwives, we are bound to meet with puerperal sepsis, especially in the city hospitals. This state of affairs will exist until the rank and file of the profession who practice obstetrics, and the lay public, become so educated that they will not tolerate the occurrence of such cases in anything like the number met with at the present time."

DR. W. S. SMITH said that Dr. Bailey seemed to use high forceps a good deal more often than at the Brooklyn Hospital.

DR. BAILEY (closing), in reply to Dr. Watson's remarks said, that the serum is useful when the streptococcus is in the blood, but in none of his cases, even in those that died, did they find this organism in the blood, although the infection was apparently streptococcal, as positive cultures came from the body of the uterus. He believed the early use of polyvalent antistreptococcal serum to be of great aid. It is not of much value late in the disease because the bacteria are then located in too many places. He found that after the administration of the serum there was a tendency to the production of abscesses in the parametrium. There seemed to be a localization of the organism about the uterus.

Dr. Bailey believed that the uterus should be left alone and not handled, to avoid hemorrhage. Attempts to shorten the actual labor by squeezing out the placenta are bad.

In this service ether is used, chloroform being employed for ordinary delivery over the perineum but in operative work ether is given unless the patient is in shock, and then gas-oxygen in the proportion of 3 to 1.

In reply to Dr. Ryder's question about pituitrin, Dr. Bailey said they did not give it unless forced to do so; in other words unless the uterus is empty. In all bleeding cases, however, they give 1 c.c. of pituitrin immediately and, if the placenta is still retained, compress the uterus as much as possible in an attempt to express it with the first contraction after the administration of the pituitrin. They have not given pituitrin, routinely, before the delivery of the placenta.

In reference to Dr. Davis' remarks about vaginal examination: there is certainly a difference between the indoor and outdoor cases. The outdoor women have been through many labors. Bellevue conducts an outdoor student service where the students make a limited number of vaginal examinations. However, they were literally forced to adopt the method of no vaginal or rectal examinations because of the amount of sepsis that preceded the year 1922.

In the conduct of the service, they have to free themselves of responsibility for infections. Many of the women have had no prenatal care or advice and come in for labor with a history of intercourse on the day or the day before the pains start. When Dr. Bailey joined the Bellevue service in 1909 every woman admitted was given a vaginal douche. Although not done now, the question arises as to whether they shall not be obliged to return to some form of antiseptic care.