drine it is well to remember that this action is more marked (Hale-White, 1935) in those which have the ethyl group, C_2H_5 , replaced by phenyl, C_6H_5 ; examples of this molecular construction are luminal, prominal, and nirvanol. It might be desirable in certain cases to combine a quick-acting sedative with one more slowly absorbed but having a more prolonged action. In this connexion it should be recalled that luminal sodium is incompatible with chloral hydrate or any salt of ammonium.

Two disadvantages of barbiturates are (1) the occasional occurrence of idiosyncrasy, and (2) the narrow margin of safety with full doses. Mutch (1934) gives the following ratio M.L.D./M.Th.D.: for luminal, 1.3; barbitone, 1.6; soneryl, nembutal, and phanodorm, all 2.4; dial, 2.5; evipan, 5.

Addiction to Benzedrine

Recent publicity has given prominence to the fear that some may learn to partake too freely of benzedrine. But Guttman and Sargent (1937) and Wilbur and others (1937) have shown that the ecstasies fade with repetition. It is the unstable neurotics who need to be kept from drugs of addiction. These unfortunates, being at discord with life, crave one thing above all others—oblivion. The fact that benzedrine robs them of sleep will quickly make it unpopular.

Summary

1. The clinical effects of benzedrine (beta-phenylisopropylamine) sulphate on twenty adults in normal health have been studied, with special reference to changes in pulse rate, blood pressure, and subjective sensations.

2. One hundred cases of sea-sickness treated with benzedrine, alone or combined, are classified according to results.

3. Benzedrine has great possibilities of usefulness in certain cases of sea-sickness in which there are signs of excessive vagus activity.

My thanks are due to Sister Hilda M. Smith for much valuable help in collecting data for this paper.

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G. Ferrari (*Rif. med.*, August 14, 1937) states that though the risks of pneumoperitoneum are almost negligible provided proper precautions are taken, a number of serious cases have been recorded in which infection of the peritoneum, haemorrhage, puncture of the intestine, emphysema, and embolism have taken place. He records one case of a man, aged 31, who suffered from bronchiectasis complicated by haemoptysis. Pneumoperitoneum was carried out as a haemostatic measure, and the haemorrhage, which had been refractory to drug treatment, ceased. Four days later, however, the patient developed lobar pneumonia complicated by a pulmonary abscess.

A CRITICAL SURVEY OF 349 CASES OF BREECH DELIVERY*

BY

C. H. G. MACAFEE, M.B., F.R.C.S.Eng., F.R.C.S.I.,
F.C.O.G.

AND

H. I. McCLURE, M.B., B.Sc., F.R.C.S.Ed., M.C.O.G.

In reading the published results of breech delivery from a variety of sources we have been struck with the marked disparity in the foetal mortality rates. The recorded figures are so much at variance and some of them are so alarming that we decided to investigate a series of consecutive breech deliveries occurring in the Royal Maternity Hospital, Belfast, during the years 1932–6. This paper is based on a review of 349 consecutive cases. These cases represent a frequency of 6.03 per cent. of all deliveries occurring in the hospital over the same period. In reviewing 638 of our own private cases we found the frequency to be 2.5 per cent. Of the 349 cases 305 were primary breech presentations. Three hundred and thirty-two mothers were delivered of 349 babies—that is, there were seventeen cases of twins in which each child was delivered as a breech. The mothers have been classified into four groups, as shown in Table I.

TABLE I.—Classification of the 332 Cases

	Primigravidae	Multigravidae
Ante-natal	67	135
Emergency	48	82
	115	217

With the exception of three cases in which Caesarean section was performed delivery was effected by the classical methods. We wish, however, to draw attention to the fact that the deliveries were carried out by various members of our resident medical staff, and do not represent the results which might be obtained in a series of cases dealt with by an individual obstetrician.

In assessing the results of breech delivery, in our opinion undue stress has been laid on the so-called “complicated breech.” In this paper we define a complicated breech as one where there exists an additional risk to the life of the foetus—for example, placenta praevia, contracted pelvis, or marked prematurity. Provided that adequate management is available we do not regard extension of the limbs as a complication. Extension of the legs, in our experience, is the rule in primigravidae. We at once admit that extension of the limbs adds to the difficulties of delivery, especially in a primigravida; but a mother must be a primigravida at some stage in her career, and therefore the term “breech with extended legs in a primigravida” cannot, in our opinion, be regarded as a complicated breech. Published statistics of foetal mortality in breech presentation vary from 30 per cent. to 8.6 per cent. in primigravidae—for example, Gibberd (1931) gives a gross mortality of 30 per cent. and a corrected mortality of 28 per cent. The gross uncorrected foetal mortality in our series was as follows:

TABLE II.—Gross Foetal Mortality

	Babies Born	Babies Born Dead	Percentage
All cases	349	118	33.8
Primigravidae	118	28	23.72
Multigravidae	231	90	38.96

* Read in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, Belfast, 1937.

Table III shows the rates for ante-natal and emergency cases.

TABLE III.—*Gross Foetal Mortality*

	Babies Born	Babies Born Dead	Percentage
Ante-natal primiparae ..	70	11	15.71
Emergency ..	48	17	35.42
Ante-natal multiparae ..	145	43	29.66
Emergency ..	86	47	54.65

In order to obtain the corrected foetal mortality rates we have eliminated those cases in which the death of the foetus was not primarily or directly due to the breech presentation—that is, where another factor was responsible, such as placenta praevia or marked prematurity. Of the total number of babies born—namely, 349—118 were born dead. For the purpose of computing the mortality rate for which the presentation was directly responsible we have eliminated 103 cases of foetal death, as shown in Table IV.

TABLE IV.—*Cases Eliminated to Obtain the Corrected Foetal Mortality*

	Ante-natal		Emergency		Total
	Primiparae	Multiparae	Primiparae	Multiparae	
Macerated foetus ..	1	12	3	8	24
Version for placenta praevia ..	—	5	1	17	23
Hydrocephalic monsters ..	1	3	2	3	9
Anencephalic monsters ..	2	5	1	—	8
Placenta praevia; foot extracted (primary breech)	1	1	—	4	6
Spontaneous prematurity ..	1	4	—	1	6
Albuminuria; induction of premature labour	—	2	—	3	5
Accidental haemorrhage ..	—	1	—	2	3
Version for prolapse of cord ..	—	1	—	2	3
Albuminuria; spontaneous prematurity	—	—	2	—	2
Version for placenta praevia and prolapse of cord	—	2	—	—	2
Version for neglected shoulder ..	—	—	—	2	2
Version for transverse lie and prolapse of cord	—	1	—	1	2
Albuminuria, hydramnios, and contracted pelvis	1	—	—	—	1
Version for brow presentation ..	1	—	—	—	1
Eclampsia; induction 34 weeks ..	—	—	1	—	1
Albuminuria and version for transverse lie	—	—	—	1	1
Version during induction for heart disease	—	—	—	1	1
Pyelitis of pregnancy; spontaneous premature labour 32 weeks	—	—	—	1	1
Albuminuria; previous stillbirth ..	—	1	—	—	1
Spontaneous prematurity at 32 weeks and prolapse of cord	—	—	—	1	1
Totals ..	8	38	10	47	103

If we eliminate these 103 cases both from the total number of babies born—namely, 349—and from the total number of babies born dead—namely, 118—we find that of 246 babies born, in fifteen the presentation was responsible for the death of the foetus. The corrected foetal mortality rate for which the presentation was responsible was thus 6.10 per cent. for all cases. Similar treatment of all the four groups of cases described in Table III gives the corrected foetal mortality for each group. Table V shows the gross and corrected foetal mortality rates for all groups.

It will be seen that the corrected foetal mortality for primiparae is 10 per cent. and for multiparae 3.42 per

TABLE V.—*Gross and Corrected Foetal Mortality Rates*

Group	Gross			Cases eliminated	Corrected		
	Babies Born	Babies Born Dead	Per cent.		Babies Born	Deaths due to the Presentation	Per cent.
Ante-natal primiparae ..	70	11	15.71	8	62	3	4.84
Emergency primiparae ..	48	17	35.42	10	38	7	18.42
All primiparae ..	118	28	23.72	18	100	10	10
Ante-natal multiparae ..	145	43	29.66	38	107	5	4.67
Emergency multiparae ..	86	47	54.65	47	39	0	Nil
All multiparae ..	231	90	38.96	85	146	5	3.42
Total primiparae and multiparae	349	118	33.81	103	246	15	6.10

cent. Three additional facts emerge from Table V: (a) that the corrected foetal mortality rate in primiparae admitted as “emergencies” is almost four times as great, as that in primiparae who had received adequate ante-natal supervision; (b) that the most common causes of foetal death in multiparae, both “ante-natal” and “emergency,” are to be found in the associated conditions; and (c) the complicated breech, as we define it, is more common in the multiparae. Table VI shows the mortality rates of other writers.

TABLE VI.—*Foetal Mortality Rates of Various Writers*

Author	Primiparae		Multiparae		All Cases	
	Gross	Corrected	Gross	Corrected	Gross	Corrected
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Allan (1935) ..	—	15.6	—	12.3	—	—
Gibberd (1931) ..	30	28	20	15	—	—
Goethals (1936)	—	—	—	—	26	6.9
Westman (1931)	—	11.2	—	5.2	—	8.8
Bourne (1931) ..	—	11	—	8	—	—
Pierson (1933) ..	8.6	8.6	19	13	13	10.8
Macafee and McClure ..	23.72	10	38.96	3.42	33.81	6.10

These figures show a wide variation, but none of these writers enumerated in detail, as we have done, the cases they eliminated to obtain the corrected foetal mortality rates. We have taken the figures they describe as gross and corrected rates from their publications.

Maternal Complications

Maternal Morbidity.—Nineteen mothers were morbid according to the British Medical Association standard—that is, 5.9 per cent. This figure includes five deaths. The average morbidity rate for the hospital during the period under review was 6 per cent. In none of the patients who died was the presentation *per se* responsible for the fatal issue. Two were cases of placenta praevia—one of which ended in death from puerperal sepsis—two of multiple pregnancy, and the fifth patient was admitted dying from cardiac failure the result of aortic regurgitation. In the remaining fourteen cases the morbidity was due to puerperal sepsis—that is, there were in all fifteen cases of puerperal sepsis, or 4.5 per cent. This is a high incidence of sepsis, and is without doubt referable to the increased manipulations required during delivery.

Post-partum Haemorrhage.—This complication occurred in eleven cases (3.3 per cent.). Two of these patients died.

Complete Perineal Laceration.—This occurred on four occasions (1.2 per cent.); all the patients were primigravidae.

Management of the Breech Presentation

It is evident from the foregoing tables that the results of breech presentation, while not so alarming as some writers indicate, show foetal mortality rates of 6.10 per cent. for all cases and 10 per cent. for primiparae, yet we are definitely of the opinion that there are certain essential precautions which should be taken to reduce this figure still further.

Obviously in the short time at our disposal only the outstanding features of the management can be discussed.

First and foremost is ante-natal care, and this resolves itself for the present purpose into the practice of external version. At any stage after the thirtieth week of pregnancy external version should be performed in all primigravidae as soon as the breech presentation is discovered. The likelihood of failure increases with the approach of term on account of the increasing size of the foetus and the tendency to fixation of the presenting part.

We are of the opinion that in multiparae the presentation should be corrected, if possible, not later than the thirty-fourth week. We at once admit Dearnley's (1931) contention "that spontaneous version to a vertex presentation occurs in a large percentage of cases at about the thirty-fourth week to the thirty-fifth week of gestation," but as yet we have discovered no method of diagnosing the case in which this is going to occur. Once version has been successfully performed the patient should be re-examined every week until the onset of labour. This is specially indicated in multiparae, in whom we have found it necessary to correct the presentation on several occasions. In 134 patients upon whom we per-

TABLE VII.—*External Version*

Author	No. of Cases	Foetal Mortality
Gibberd (1931)	232	2 per cent.
Allan (1935)	100	Nil
Sloane Hospital for Women (1933)	91	2.2 per cent.
White (1933)	293	5 per cent.
Macafee and McClure	134	0.74 per cent.

formed this manoeuvre one foetus was born dead, its death being directly due to the version—a foetal mortality rate of 0.74 per cent. The experience of other writers is given in Table VII.

We consider that external version should be performed with the greatest gentleness. An anaesthetic should not be administered lest undue force be employed, resulting in separation of the placenta, a complication we have witnessed. The so-called "light anaesthesia" advocated by some writers is of little value, as sufficient relaxation is not obtained. We have found the Trendelenburg position to be of great assistance, and it has enabled us to perform external version in cases where the legs have been extended.

Attempts at version should not be continued in the presence of convulsive movements of the foetus, since these indicate serious foetal embarrassment. Marked slowing of the foetal heart is another indication to desist. The risk of the onset of premature labour is slight. One of our successful versions was followed by slight ante-partum haemorrhage and the onset of labour twenty hours later. The child was born alive. As

regards delivery, we would stress the importance of "the policy of non-intervention" until the breech has ceased to advance. Any alternative measures at once come under the heading of "meddlesome midwifery."

In the vast majority of cases the breech advances until it reaches the pelvic floor even though the legs be extended. In the light of our experience we must disagree

with Bourne (1931), who states "that if the legs are extended they should be brought down at the beginning of the second stage of labour, except the child be so small that no obstruction be anticipated. . . . I believe that it is wise to bring down at least one leg, and often two, depending on the size of the baby, in all cases as early as the os will conveniently and safely admit the hand." This practice may be reasonably safe in the hands of an experienced obstetric surgeon, but if generally adopted it must add considerably to foetal and maternal risks. We extract legs only under the circumstances mentioned above—that is, when the breech has ceased to advance. An episiotomy should always be performed as a preliminary step in primigravidae and, if necessary, in multigravidae.

In nearly every case where the legs have been extended it is found that the arms are also extended. In bringing down the posterior arm we adopt the classical method; but we fail to agree with the usual instructions of standard textbooks regarding the method of dealing with the anterior arm. For example, Solomons (1928) and Munro Kerr (1916), to mention only two authorities, advise that if the anterior arm cannot be brought down easily, as an anterior arm, the child's back and occiput should be rotated across the hollow of the sacrum. As we will point out, the foetus is thereby forced to retrace a portion of the arc it has already traversed naturally. We find almost invariably that these instructions are not only unnecessary but add greatly to the difficulty. Before extraction of the posterior arm it will be found that the foetus is lying with the bisacromial diameter in the antero-posterior diameter of the pelvis (Fig. 1). When the posterior arm has been extracted two changes occur: (1) the foetus descends, and (2) it rotates so that the bisacromial diameter now occupies the transverse or oblique diameter *with the back in front* and the anterior arm lying at the side of the pelvis (Fig. 2). From this position the arm can in the majority of cases be easily brought down (Fig. 3). In the few cases where there is difficulty the natural rotation of the shoulders should be augmented artificially till the bisacromial diameter occupies the antero-posterior diameter, when the arm can be extracted (Fig. 4).

Most authorities recommend that the shoulders should be rotated in the opposite direction on account of the risk of the arm assuming the nuchal position. This risk is negligible, and can be prevented by the operator placing the hand (corresponding to the foetal arm) with the first two fingers extended along the humerus and maintaining pressure during the act of rotation as we have above described it.

The great objection to rotating the shoulders in the direction usually advised is that the head may assume the occipito-posterior position. Munro Kerr recognizes this risk in his description of the method of rotation to bring the anterior arm into the posterior position, and to avoid it advises continuing the rotation beyond the middle line. This manœuvre, whereby the occiput is rotated posteriorly or the neck severely twisted, is dangerous and complicated compared with the safe and simple method we adopt. Apart from extraction in a contracted pelvis, posterior rotation of the occiput gives rise to the greatest difficulty met with in the delivery of the after-coming head, and is responsible for a high foetal mortality. Hence our insistence on the maintenance of the normal mechanism in dealing with the anterior arm. No good ever comes from interference with normal mechanism. Extraction of the after-coming head is accomplished by the usual methods, but we insist on slow and gentle

delivery to prevent tentorial tears. Holland (1937) has shown that these tears are much more likely to cause the death of the foetus than asphyxia, the excuse for rapid delivery.

Summary

1. A series of 349 consecutive cases of breech delivery is reviewed.
2. The corrected foetal mortality in primiparae is 10 per cent., in multiparae 3.42 per cent., and in all cases 6.10 per cent.
3. Stress is laid on the value of ante-natal version, the method of dealing with the anterior arm, and the extraction of the after-coming head.
4. There is an increased risk to the mother from puerperal sepsis.

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Vigoni (*Scalpel*, Liège, July 31, 1937, p. 1095) emphasizes the difficulty of dealing adequately with the numerous cases of tropical ulcer which are so common in certain countries. The outstanding features of the disease are the rapid development, the slow convalescence, and the long period of incapacity which follows. The ulcer may be pneumococcal in origin or may be due to any one of a variety of microbic organisms. Tropical ulcer occurs most commonly on the foot or leg. It is first noticed as a small pustule. This breaks down, leaving a red or brownish ulcer, which extends rapidly downwards and on the surface until it has become of a considerable size and may even cover the whole leg. Osteomyelitis of the adjacent bones may be seen, and in some cases the ulcer invades and destroys the tendons on the dorsum of the foot. Although in the majority of cases the leg or foot is affected, ulcers of this type may also be seen on the arm and back. It has been noticed that the lesion is much more prevalent in the wet than in the dry season. Trauma followed by infection would appear to be causative, and as the native population have no protection for the feet and legs the predilection of the disease for the lower limbs may be accounted for. There is no specific medical treatment for tropical ulcer, but hospitalization with rest and conditions of hygiene is essential. Inter-mittent irrigation, following the method of Carrel, has been found to be of great value, as has the use of Dakin's solution. Surgical treatment is necessary in those cases in which there is a considerable loss of tissue, which must be replaced by a graft. Excision followed by suture is only applicable to those ulcers which have a diameter of less than 2 cm. Necrosis and recurrence of the lesion are common, and infection after excision may occur, due to the microbic infection of the primary ulcer. Healing is very slow as a rule. Operation was carried out in 528 cases, with healing by first intention in 337 instances. The various operative procedures are described.