Flannel roller bandage, unbleached calico, cotton-wool, iodoform, carbolized catgut ligatures, boric acid done up in 1-drachm packets, and some rusty surgical needles. The needles were soon polished with emery cloth, and then boiled; some of the calico—for use as a drain, as will be shown later—was boiled, and an abundant supply of boiling water and water which had been boiled was soon ready.

Surgeon Cock, who also happened to be playing golf, arrived and assisted to wash and return the bowel; the latter, which was about 4 ft. in length, and fortunately uninjured, had escaped through a wound $2\frac{1}{2}$ in. in length, horizontal in direction, situated in the left inguinal region, with its outer extremity just internal to the anterior spine of ilium, exposing Poupart's ligament.

Each portion of the gut was most carefully washed with boiled water, and returned into the abdominal cavity, a drain composed of the sterilized calico being inserted, and the wound sewn up with "blanket-stitch" sutures passing through the whole thickness of the abdominal wall (without needle-holders or forceps it was impossible to suture the muscles apart from the skin, but this was done on a subsequent occasion). Sufficient space being left for the drain, the wound was bathed with a solution of boric acid, and covered with a pad of cotton-wool sprinkled with iodoform, kept in place by a broad flannel roller bandage. The time which had elapsed from when he was injured to when the intestine was returned could not have been much more than one hour, or less than fifty minutes.

The patient, who seemed moribund when first seen, rallied shortly, and bore the operation of returning the bowel and suturing the abdominal wall remarkably well; in fact he had recovered so much by the time that this was completed, that he was able to express his gratitude for what had been done. He was given some opium to allay the pain and keep the bowels at rest, and written instructions were left with a man who could speak English as to the necessity for keeping the patient absolutely quiet, and that he should only be given milk or water in the smallest possible amounts so as to moisten his lips. The injured man's home was in the village of Campamento, some 400 yards from the inn, and whether the innkeeper was desirous of getting rid of him, or the friends were anxious to get him home, is uncertain, anyhow despite the written orders he was moved that evening, and without any ill-effect.

After-progress.—He was visited by us next day, May 27th. He had passed a quiet night, free from pain, but had only slept for about three-quarters of an hour. Pulse 80, somewhat irregular and intermittent; temperature 98°. The wound was bathed with 1 in 1,000 solution of hydrarg. perchlor., a cyanide gauze drain introduced in place of the improvised one of calico, and a pad of gauze and cotton-wool was placed over the wound and bandaged. He had been able to pass water satisfactorily, and had no acute pain in the abdomen. After the wound had been dressed $\frac{1}{4}$ gr. of opium was administered, and was repeated at 10 p.m. It should be mentioned that there was a little oozing of blood from the wound.

May 28th. The patient was not seen by us this day, but he was visited by Dr. J., who was watching the case in a judicial capacity. He reported next day that satisfactory progress had been made, but that there had been some tympanites and sickness. Dr. J. requested us to continue the care and treatment of the case, as we had treated it in the first place, but each day visited the patient when we were there, and was on all occasions most kind and anxious to assist us in every way, and when the ship left visited the patient and carried on our treatment.

May 29th. Patient passed a fair night. Temperature 98.4°, pulse 80, full and soft, with occasional intermissions; there was some slight distension of the abdomen, but no symptoms of peritonitis. Wound dressed as before. Drain changed. Still only taking milk in very small quantities and a little broth. Patient vomited at 6 p.m., and at 6.30 p.m. fell asleep and slept till 5 a.m. next day.

May 30th. Was given some milk on waking, which he immediately vomited. He was visited by us at 5 p.m. Temperature 99°, pulse 75; he had taken and retained one egg beaten up in $\frac{1}{2}$ pint of milk since 11 a.m. There was still some oozing of blood from the wound. Abdomen somewhat distended, and patient suffering from occasional tormina. He was given a large soap-and-water enema containing 1 drachm of tinct. valerian; this was followed by a copious evacuation in which were some scybala, after which he was considerably easier.

May 31st. At 1 p.m. we received a note informing us that the patient was much worse and had been bleeding all night. Dr. J. had been summoned and had changed the dressings. On our arrival, about 2 p.m., we found that at 1.30 a.m. and again at 9 a.m. patient had vomited some brown-coloured offensive fluid; that which he had last vomited had been kept, and it had a slightly faecal appearance and odour. His abdomen was a little distended, but there was no rigidity and no tenderness except close to the wound. He had slept for an hour and a half during the previous evening, but had only dozed lightly during the night. The bowels had not acted again since the enema, but flatus had been passed. Nourishment still entirely liquid. He received $\frac{1}{4}$ gr. of opium at 5.30 and 9 p.m. yesterday and at 5 a.m. to-day.

5.30 p.m. Dressings changed; some blood was observed on the dressings, but all haemorrhage or oozing had ceased: temperature 99.2°, pulse 72; patient quite comfortable.

June 1st. The patient had a good night, slept from 9 till 11 p.m.; he was then awake for a short time, after which he slept for the remainder of the night. At 5 p.m. he seemed listless and apathetic, but apparently free from pain. Tongue clean and moist, pulse 70, without intermissions, but weaker than before. Temperature 99.0°. When the dressings were changed it was noticed that a small knuckle of gut was protruding from and adherent to the wound. He was given another enema containing tr. valerian, but only a slight action resulted.

June 2nd. Temperature 97.8°, pulse 64. The patient slept for two hours and dozed lightly during the rest of the night. There was a slight cough, and with each cough a sharp pricking sensation in the wound (due to adhesions). The bowels were opened naturally three or four times; there had been no sickness for two days, and there was no flatulence, hiccup, or distension. The dressings removed were slightly stained with serum. The adhesions of the bowel to the edges of the wound were broken down with the handle of a scalpel, the knuckle of bowel returned into the abdomen, and deep, buried, catgut sutures were put in so as to unite the cut edges of the muscles, only just enough space being left for the drain. By this time the patient was taking more food—namely, bread and milk, egg beaten up with milk, broth and meat extract, and jelly. His voice was stronger and general appearance greatly improved.

June 3rd. Temperature 97.7°, pulse 92, quite regular. Sleeping a little better.

June 4th. Temperature 97.8°, pulse 90. Bowels opened twice after taking 1 drachm of Carlsbad salts. Slept for seven and a half hours last night, only waking once. Given solid food to-day for the first time in shape of bread and butter and minced beef.

June 7th. Drain taken out and not replaced. Superficial sutures at inner edge of wound had given way, but not the deep ones.

June 8th. Temperature 98.6°, pulse 90. Bowels opened three times. He was free from pain, taking plenty of nourishment, and smoking as usual since the 5th. There was no sign of prolapse of the intestine.

Result.—June 10th. H.M.S. *Magnificent* left Gibraltar, and we did not see C. until we returned on June 26th, by which date he had completely recovered. The wound had entirely healed, and there was no sign of ventral hernia, as we had rather feared there would be. On July 4th we visited him just before leaving with the Atlantic Fleet for Brest; he was walking about and seemed in excellent health and spirits, and, in accordance with our directions, wearing a pad and bandage over the site of the injury.

Considering the age and conditions under which this man received his wound, it seems to us a good example of how much can be done under unpromising conditions, with slight resources, provided strict asepsis be maintained.

A METHOD OF GUARDING THE PERINEUM IN LABOUR.

By W. J. CAIE, M.A., M.B.,
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Nor the least important part of the second stage of labour is that known as the "guarding of the perineum" against laceration and rupture. There are several time-honoured methods which have received more or less acceptance, notably the direct and indirect methods, but all of these, to which I have given a prolonged trial, seem to me to break down sooner or later, and I therefore venture to put forward one or two suggestions which are the outcome of my own experience, as I hold that, given a reliable method of guarding the perineum, in the hands of a practised accoucheur, rupture ought to be a very rare accident indeed, while I urge that not nearly enough importance is attached to keeping the perineum intact as a certain means of preventing many of the *post-partum* diseases to which women are liable, not to speak of the annoyance caused by suture and subsequent removal of stitches during the puerperium.

I shall enumerate, first, the points in which, in my opinion, the various methods break down, and thereafter put forward a few suggestions whereby I think these failures may, to a great extent, be obviated.

(a) In attempting to pull forward the vertex by passing the left hand between the thighs of the mother and employing traction on the scalp.

(b) In "supporting the perineum" in the direct method by pressure thereon of the concavity between the thumb and forefinger of the right hand.

(c) In endeavouring to push the fetal head forwards by the indirect method either by inserting two fingers in the rectum or by pressure behind the anus.

(d) In the delivery of the shoulders.

(a) In most textbooks great stress is laid upon this method

of traction forward by the left hand upon the vertex, but it seems to me that its value as a means of getting the head forwards is almost *nil*, until the danger point of a ruptured perineum is practically past; granting that it is of any value, it must tend to promote premature extension, which is the very thing we want to avoid. When the head is distending the perineum, and the point of greatest tension of the forehead thereon is reached, the occiput is firmly fixed behind the pubic arch, and no amount of traction forwards will relieve the tension on the perineum at that stage. The occiput cannot, in other words, be pulled forwards without causing the forehead to rotate forwards, thus increasing the strain upon the perineum. Besides, even if we allow that traction forwards is of any value at that time, I do not think it reasonable to suppose that any appreciable amount of force can be exerted by mere pressure forwards, and that too at a great mechanical disadvantage upon such a thing as an extremely slippery vertex.

(b) This method, whereby the perineum is safeguarded by pressure of the concavity between the thumb and first finger of the right hand, seems to me to break down because, at the part of the perineum where most support is required, the point where normally would be situated the junction of the two labia majora behind, least support can be given. The two lateral parts are undoubtedly supported by the thumb and forefinger, but, at the apex of the concavity between the latter, little if any support can, I hold, be given, and it is just here where lacerations commence, and therefore most support is required. The apex of the concavity between the thumb and forefinger is quite soft, and can exert scarcely any lateral pull towards the middle line of the perineum. In addition to this, the parts are usually very slippery, and do not admit of much prehension.

(c) Any push forwards, either per anum or by pressure behind it, is largely negated by the fact that the occiput is more or less fixed behind the pubic arch, just at the time when there is most danger of perineal rupture, and, therefore, any attempt to push forward is futile. In fact, any pressure from behind forwards seems to me to have the effect, not of pushing the head forwards, but of producing a small amount of rotation of the head round an axis through the points where the occipital or parietal bones, as the case may be, impinge on the pubic arch. After the occiput has passed these points, pressure from behind forwards will certainly drive the head forwards, but, as I have already observed, the danger point of rupture has then passed.

(d) Too little attention seems to me to be paid to delivery of the shoulders in preventing laceration of the perineum, as a large proportion of ruptures is caused, not by delivery of the head, but by faulty delivery of the shoulders.

I shall now venture to give a short outline of a method which I have employed in a large number of cases with very satisfactory results.

When the fetal head is moderately distending the perineum, the latter and the parts adjacent are thoroughly dried with a hot sterilized towel; all moisture must be wiped off. At the moment when the tension on the perineum is approaching its maximum—this can be determined easily with a little experience—the left hand of the accoucheur is employed in pressing slightly upon the vertex to prevent any premature or sudden expulsion of the head; there is no necessity for passing the arm between the thighs of the mother. The right hand then grasps the perineum in the manner alluded to in (b), but with this important difference: that between it and the perineum is interposed a hot sterilized towel—the small rough sanitary towlettes are excellent for the purpose—in such a way that the edge of the concavity between the thumb and index finger, the edge of the towel, and the lip of the perineum are just in line with each other, a double fold of the towel to fit into the apex of the concavity having previously been made, to supply the deficiency alluded to at that point. Firm pressure is then exerted at every pain, through the bitemporal diameter of the fetal head, if there appear to be any undue stretching or tendency to laceration. No attempt is made to push the head forwards until the occiput ceases to engage behind the pubic arch. By these manoeuvres three purposes are served:

1. By firm pressure through the bitemporal diameter premature extension of the head is prevented, without retarding its progress.

2. By means of the drying of the parts and the hot towel a much firmer grip, and consequently much greater support, of the perineum can be obtained than could possibly be produced by the bare hand on a surface which is usually very slippery.

3. Uniform pressure is obtained on all parts of the perineum, and the part where there is most stretching receives its due measure of support.

On the head being delivered, and when restitution has taken place the shoulders are lying in the anterior posterior diameter of the outlet, and their delivery again endangers the perineum to a much greater extent, I think, than is usually supposed, chiefly due to the prevailing practice, as recommended in textbooks, of allowing the posterior shoulder to be born first. If, now, after the head is born we exercise gentle traction backwards, the next pain will usually cause the anterior shoulder to free itself from its position behind the pubic arch, while the perineum lies over the posterior shoulder and is subjected to only a moderate degree of tension, and if the outlet is narrow the anterior arm can usually be extracted with very little difficulty after the anterior shoulder is born, thus substituting a much smaller diameter of the child. If we allow the posterior shoulder to be born first, the anterior shoulder remains firmly fixed behind the pubic arch, while the posterior shoulder sweeps over the perineum and stretches it again to its utmost limit. No "guarding" can be carried out at this point, because if any pressure backwards on the shoulders be exerted, the progress of the child is seriously retarded.

I put forward this brief outline of my modified method with a considerable amount of diffidence, knowing that it is at direct variance with some of the textbook canons of the second stage of labour; but I can only say that since I have employed it in about 400 consecutive cases of labour I have found it singularly effectual, and I should be extremely interested to hear how it fares after trial by more practised hands than my own.

A CASE OF QUADRUPLETS.

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MRS. G., aged 32, of French extraction, married twelve years, with a family history of twins on her maternal side, gave a personal history of six previous confinements, resulting in delivery of ten children in following sequence: Twins, triplets, a single child, then twins again, and two single children, all of whom are living except the triplets, which were premature (seven months). In addition, eighteen months ago, she had placenta praevia at five months with decomposing fetus, necessitating removal piecemeal under anaesthesia.

On May 22nd the patient was examined, owing to slight escape of liquor amnii, and twins (at least) diagnosed, as two or more fetal heads could be felt in her enormously-distended abdomen, but no distinct fetal heart sounds could be made out owing to loud uterine souffle.

On May 26th, being then eight months pregnant, slight uterine contractions came on at 2 a.m., with only slight pain. The head of the first child—a boy—was found on perineum, and it was born within an hour. The membranes of the second child being ruptured a head was felt presenting, but it was delayed by the third child's feet at the brim, being impacted against the head of the second; this necessitated slight chloroform anaesthesia and introduction of the hand to push up the feet of the third child, and to bring down the second child's head into cavity of pelvis. The child—a boy—was easily and rapidly delivered by forceps about three-quarters of an hour after the delivery of the first. The third—another boy—was easily seized by the feet and delivered five minutes later, but was stillborn and resisted all efforts at resuscitation. The pains now became much stronger, and after rupturing the membranes a fourth child—a girl—was born as a breech presentation a quarter of an hour after the third.

Until then there had been no haemorrhage whatever, but it now became very free, and although the huge flabby uterus contracted fairly well, simple expression was unsuccessful to expel the secundines, and the hand had to be introduced, and each of the four adherent placentas were manually removed separately, the haemorrhage being then controlled by a hot antiseptic douche. There were four distinct and separate placentas about 5 to 6 in. square and four separate bags of membranes, although the second and third placentas were found united after removal by a band of membrane some 4 in. or more wide. The patient had a slight elevation of temperature on the second and third days, which intrauterine douching reduced; with this exception, mother and her three children