bony outline could be felt either in the throat or in the neck. There was no stiffness of the muscles of the neck.

The diagnosis of fracture dislocation in the neighborhood of the sixth or seventh cervical vertebra was made. The symptoms, both motor and sensory, seemed to point to the location of the injury, probably to a crush of the cord at a point between the sixth cervical and second dorsal vertebra.

As will be seen in the diagram there was an area of anesthesia on the hands but none on the arms.

Consent, however, could not be obtained to operation until October 5, when, with the aid of Schleich's infiltration method, with a few whiffs of chloroform, an incision six and a half inches long was made from the fourth cervical to the first dorsal spines. The spines and laminae of the sixth and seventh cervical were removed. There were no evidences of hemorrhage or fractured bone. A probe passed four inches downward inside the spinal canal and one and a half inches upward met with no obstruction. The dura looked normal. It was opened but there was no evidence of injury to the cord; where it was exposed for three or four inches the dura was sutured and the external wound closed by suture with the exception of a narrow space for a gauze drain. Time of operation was 45 minutes.

No shock followed, but also no improvement. The temperature which before the operation had ranged between 98.5 and 101 now steadily rose, till on October 11 it reached 106. Extensive bed-sores with rapidly spreading sloughs developed on each buttock. The temperature continued to rise till on the 19th it reached 110, on which day she died.

At autopsy there was found to have been a complete separation between the fourth and fifth cervical vertebra where there evidently had been a dislocation which had immediately sprung back after crushing the cord opposite the interspace between the fourth and fifth cervical vertebra. For half an inch or so the cord at this point was disintegrated and running upward and downward from this point were degenerated nerve tracts. The distribution of nerves in this case was most peculiar. A more careful study of sections of the cord, etc., will be found in "Med. and Surg. Report of Presbyterian Hospital," New York. Vol. V.

In 159 cases collected by Lloyd there were 59 deaths following immediately after operation and 32 at a later period. The so-called operative mortality was 49.18 per cent. Of my own laminectomies in fractures of the spine, 6 in number, 2 have recovered and 4 have died.

(To be continued.)

THE GYNECOLOGIST AS CONSULTANT.*

HUNTER ROBB, M.D.

Professor of Gynecology, Western Reserve University; Gynecologist-in-Chief to the Lakeside Hospital.

CLEVELAND, OHIO.

Since my audience to-day consists mainly of men in general practice, who have to deal with more common, though possibly sometimes fully as difficult, conditions, as those encountered by the specialists, I thought it would be well to touch briefly upon a subject which must interest all of us, and to suggest a few ideas upon which may be based a discussion which may serve to elucidate more freely certain points dealing with the relations of the gynecologist to the general practitioner, and show how one can help the other to their mutual advantage as well as to the best interests of the patient. I shall, therefore, deal briefly with the following questions: 1. What are the qualifications necessary to render a man fit to take up gynecology as a specialty? 2. When should his aid be sought by the general practitioner? 3. How can this aid be sought

for and given without detriment to the general practitioner?

In the first place the gynecologist, no less than any other specialist, must have had a thorough, broad training and experience in general medicine and surgery before taking up his specialty. But just here—quoting from a paper written by me some time ago—I would say that the argument so often heard, that gynecology is only a branch of surgery, and that the general surgeon is therefore better equipped to operate upon diseased conditions of the reproductive organs than is the gynecologist, would not seem to be wholly logical. Although only a branch of general surgery, under the circumstances existing at the present day, gynecology presents such a wide and important field that it requires the entire attention of the man who intends to obtain the best possible results. It is true that no one should practice gynecology unless he has a thorough understanding of the principles of general surgery, and every surgeon should also have had a good laboratory training in bacteriology and pathology. As a consequence of such a deficiency in their training we too often find surgeons who have little or no appreciation of surgery except from a mechanical standpoint. Much still remains to be developed in gynecology, from the operative point of view as well as from the pathologic and bacteriologic sides of the question, and it will hardly be disputed that the gynecologist, all other things being equal, is better qualified to scientifically investigate the problems connected with his special branch than those who are able to devote only a part of their time to the subject. It is owing to the investigations of the gynecologist that pelvic surgery has reached the high plane that it holds to-day. To anyone familiar with the development of the various operative procedures that are carried out for pathologic lesions of the pelvis, it is readily apparent that the necessary technique has been evolved by the gynecologist and not by the general surgeon. In order to appreciate the present condition of affairs one has only to compare the results obtained by any well-known general surgeon with those of the gynecologist in the first rank in a similar line of work, both as to morbidity and mortality. Taken as a whole the evidence will be found to be strongly in favor of the gynecologist. That there really exists a wide difference between pelvic operations and those belonging to other parts of the body can be well seen by observing the methods of procedure of a general surgeon and those of a trained gynecologist when operating for pelvic inflammatory diseases.

Of course it is evident that the specialist should be as broad in his views as the general surgeon; and to be a good gynecologist nowadays demands the preliminary training of the general surgeon supplemented later by an especial study of the morbid conditions existing in certain parts of the body.

2. When should the aid of the gynecologist be sought by the general practitioner? Patients frequently come to the specialist who have been under the care of the general practitioner or general surgeon for varying periods of time, without having received any relief from the more or less expensive and more or less tedious treatment that has been carried out. Nor should these failures be a matter of surprise when we consider that the exact pathologic condition in not a few cases has been unrecognized, and that unless we start with the right diagnosis our treatment must always be vague and usually ineffectual. For the best interest, then,

* Read before the North Central Ohio Medical Society, at Mansfield, March 29, 1901.

of all parties concerned, the family physician no less than the patient, it would seem advisable, whenever a patient presents symptoms that suggest some pelvic inflammatory disease, and no improvement has taken place after a reasonable length of time from the course of treatment that is being pursued, a pelvic examination should be carried out by one who devotes his whole time to dealing with pathologic conditions of the pelvic organs. If such a procedure were carried out more frequently I have no doubt that many patients would be relieved before the local condition has had time to become more or less chronic. Again, there is no doubt that as a consequence of such an examination made at an early date many a patient would be spared an unnecessary routine of local treatment. It is no rare experience to meet with a patient who has undergone a long course of treatment for a supposed displacement of the uterus, and in whom careful examination (under anesthesia if necessary) shows that the organ is in a normal position. It may be argued that such a finding does not necessarily cast doubt upon the correctness of the original diagnosis, but even the most experienced among us will not hesitate to confess, that it is often difficult to recognize the true position of the uterus in certain cases, and that it is still harder to put the organ in its normal position. Under these circumstances one can hardly avoid the conclusion that a considerable number of women are treated for imaginary malpositions of the uterus. Perhaps a brief report of a few cases will serve to demonstrate the importance of the early recognition of diseased pelvic conditions.

CASE 1.—Chronic adherent Salpingitis and Ovaritis: Mrs. K. K., aged 25, married six years; occupation, seamstress, nullipara; one miscarriage five years ago at three months. Her menses first appeared when she was 13 years of age; they have always been regular and painless, but scanty. She has had a profuse leucorrheal discharge. She has been complaining for the past five years of a sharp pain with soreness in the right lower abdomen, which is increased on exertion. Five years ago she was in bed for two weeks on this account; the pain has been much worse during the past year. She has also had a great deal of backache. The family history has no special bearing on the case.

On examination of the pelvic organs the following notes were recorded: The vaginal outlet is relaxed, the cervix is in the axis of the vagina. The uterus is forwards, enlarged, sensitive but movable. On the right side an adherent tubo-ovarian mass can be made out. The left tube and ovary also seem to be adherent. After a careful examination under anesthesia the adherent tubes and ovaries and the vermiform appendix were removed. This patient had been under the care of a general practitioner for over a year. Twice weekly, she had received local treatment and medicine for which she paid three dollars a visit. Her income was five dollars a week. Finally, she lost all confidence in her medical adviser and came to our clinic. By the surgical procedures that were carried out she was entirely relieved, although her condition at the time of the operation was far from satisfactory, as in addition to the local condition she had developed markedly hysterical symptoms. When she came to us her resources were so reduced that she was willing to have the operation postponed until she could make money enough to pay her hospital expenses. One can not but believe that this patient's prolonged suffering and reduced financial condition were undoubtedly largely due to the fact that the local condition had not been recognized.

CASE 2.—Cancer of the Cervix: A. G., aged 58, IV-para; oldest child 33, youngest 19. Menopause at 43 years of age. Two years ago a large amount of blood came from the vagina. The flow ceased, however, within a few hours and no vaginal examination was made. In August, 1900, she began to have attacks of slight bleeding from the vagina, and during the past

month she has been passing small quantities of blood at intervals of every few days. The symptoms that she presented when she came under our notice were the bloody discharge from the vagina, with general asthenia. On examination the outlet was found somewhat contracted; the cervix was flush with the vagina, particularly on the right side; the tissue of the cervix was friable, and even gentle manipulation caused a profuse hemorrhage. The uterus was enlarged. After an anesthetic had been administered, on pelvic examination the uterus was found to be of about the size of that of a two months' pregnancy. The cervical canal was dilated, and several ounces of a muco-purulent fluid escaped. The cervix was then thoroughly curetted and cauterized, and the cervical lips were brought together with ligatures after packing the uterus with gauze. Vaginal hysterectomy was then performed. On the right side of the vaginal wall it was necessary to incise the wall well up into the lateral fornix in order to get beyond the infiltrated tissue. In doing this the ureter was tied on this side. The patient, however, made a practically uninterrupted convalescence. On the day after the operation she began to have considerable distress in the right iliac region, and at this time we could detect a resistant globular mass in this region. No urinary discharge occurred from the vagina at this time, and she was secreting from 36 to 56 ounces of urine daily. On the sixth day after the operation the urine began to come from the vagina; the tenderness in the right side disappeared, and the amount of urine passed from the bladder now materially decreased. We believe that we had to deal with a transient hydronephrosis as a result of the ligation of the ureter, but that an uretero-vaginal fistula occurred.¹ With this exception the convalescence has been normal and so far as we can ascertain at the present time there has been no recurrence of the disease. On examination of the mass which was removed, it was found to consist of the dilated uterine body—which was practically a pus sac—and the cervix uteri which was involved in the cancerous growth. Microscopic examination showed a squamous-celled carcinoma of the cervix.

If this case had been examined at the time when she had the first hemorrhage some two years ago, the condition would in all probability have been suspected. No examination, however, was made until a few weeks before she came under our care although there had been two or three evidences of a bloody discharge in a woman who had reached the menopause some fifteen years before. This is one of the many instances of this condition that are overlooked until it is too late to do much beyond giving the patient a lease of life and relieve her of some discomforts. Such cases should be a warning to all of us, to take nothing for granted when a patient is bleeding from the vagina, be it ever so slight in amount.

CASE 3.—Extra-uterine Pregnancy: Mrs. M. S., aged 35, married, III-para; oldest child 10, youngest 6. One miscarriage, eleven years ago at three months. The patient had been well until she was suddenly seized with a severe pain in the left lower abdomen, which was accompanied with a feeling of faintness, cold sweats and a bloody discharge from the vagina. When I saw her some three hours after the beginning of the attack the abdomen was somewhat distended. On vaginal examination a fluctuating mass could be palpated in the left side of the pelvis. The expression was anxious, the pulse was 120. We concluded that she was suffering from a tubal pregnancy which had ruptured into the broad ligament. We watched the patient for the next few hours, and as she gradually improved, we determined not to carry out any operative procedures at the moment, preferring to wait until she became stronger. After a week had elapsed she entered the hospital, and an abdominal section was performed. A considerable amount of free and clotted blood was found in the abdominal cavity; there was also a tubo-ovarian mass on the left side as large as the closed fist, which was undoubtedly the gestation sac. This was removed. The tube and ovary on the right side were adherent, and after enucleation they also were removed.

1. Careful examination failed to show any injury to the bladder. Three months following the operation the fistula closed.

The debris in the pelvis was wiped out and the abdomen was flushed with salt solution. We closed the abdomen without drainage after pouring into it 500 c.c. of a sterile salt solution. The patient made an uninterrupted convalescence. The microscopic examination confirmed the clinical diagnosis. This patient's condition had been early recognized by her attending physician, and he had at once sought additional help.

Such cases undoubtedly are frequently being met with by the general practitioner, in which the history is suggestive of an abortion or where the patient has missed several menstrual periods, and then suddenly has an attack similar to the one that we have just described. If such cases are examined at once and seen in consultation by a competent gynecologist, many lives would undoubtedly be saved by the immediate institution of the necessary operative procedures.

CASE 4.—Double inflammatory disease of the Tubes and Ovaries with a sub-peritoneal Myoma of the Uterus: S. T., widow, aged 37, nullipara. For twenty years she has complained of a pain in the back, and for the past seventeen years, off and on, she has had a "neuralgic" pain in the left ovarian region. For five years she has had sharp pains at frequent intervals in the lower abdomen. During the past ten years she has had thirty attacks of pelvic peritonitis, which necessitated her staying in bed for from three days to two weeks at each attack. These attacks have become more severe during the last two years; the last one occurring in December, 1898. Three days prior to this attack I examined her and found a sub-peritoneal myoma as large as a fetal head. The small uterus could be made out beneath and attached to the myoma. The lateral structures were also adherent on either side. We advised that an examination be made under an anesthetic and the necessary operative procedures be carried out. The patient, however, would not give her consent. Three days later she had another attack of pelvic peritonitis. I attended her during this illness and after a two weeks' siege she recovered. She now concluded to submit to operative measures. On January 13, 1899, an operation was performed consisting of a myomectomy and a double salpingo-oophorectomy, with removal of the vermiform appendix—which was slightly adherent—and the separation of many velamentous adhesions between the small and large intestines. The omentum was also adherent to the myomatous tumor and to the broad ligament. On the left side we had to deal with a hydrosalpinx and on the right a hematosalpinx. The lateral structures were released and removed after separating many strong adhesions. The patient made an uninterrupted convalescence and she is now well.

In all the years during which she had been suffering she had only been examined once or twice per vaginam prior to coming to us, and the physician had mistaken the myomatous tumor for the uterus. The only treatment that she had received was general massage, and a few applications of cotton tampons to the cul-de-sac. It seems hardly conceivable that such a condition of affairs could exist, and yet pass unnoticed, particularly as this woman had had so many attacks of pelvic peritonitis. Shortly before coming to us she had taken out a life insurance policy for \$100,000, and I feel quite sure that no company would have been willing to have assumed this risk, if they could have known of the condition of the pelvic organs.

I could readily multiply these instances at great length, but I will not take up any more of your time by doing so. I am free to confess that the specialist makes mistakes, some of them grave, but one can not help but feel that in the very nature of things they must be rarer than those of the general practitioner whose attention from the study of special organs is so perpetually being distracted by his multifarious duties.

3. How can the general practitioner call in the aid of a specialist without detriment to his own interests

and reputation? In the first place he can be assured that as a rule the patient will appreciate his efforts to do the best for her, whereas his mistakes and delays in calling in the aid of a specialist will be spread abroad by the patient, as soon as she discovers that other treatment might have proved beneficial long before. Loss of confidence in the family physician has far-reaching results and its effects can not be reckoned merely in dollars and cents. Secondly, it is easy for the general practitioner to guard his own interests by applying to a specialist, who is not only competent but who is a gentleman in the truest sense of the word. Again, often it will be found that no operative measures are necessary and in these cases the specialist will leave the patient in the care of her physician, and the latter can go on treating her with the full assurance that everything that is necessary is being done. As a specialist I can assure you that it is distasteful to me above all things to meet with patients who have lost all confidence in their family physician, especially when I see that the latter could have readily relieved himself of the responsibility without losing either in money or in professional reputation. One cannot but feel that the existence of full confidence between patient, family physician and specialist, is undoubtedly productive of the best results for all parties concerned.

702 Rose Building.

THE RATIONALE AND TECHNIC OF PNEUMATIC AURAL MASSAGE.

B. ALEX. RANDALL, M.A., M.D.

PHILADELPHIA.

The estimate of von Troeltsch that one-third of all adults are deaf in one or both ears has never been authoritatively questioned, and the extensive studies of school-children by Bezold and others have shown even in early life a serious loss in from 5 to 10 per cent. of all examined. As our clinical statistics prove that the great majority of these defects are due to impaired conducting apparatus and but a tithe to nerve-lesion, we are constantly facing the problem of how best to improve this conducting apparatus, both to check any progress of the defect and to regain, if possible, what has been lost. To this end the restoration of impaired mobility has long seemed a cardinal measure and hundreds of devices have been brought forward with more or less ardent claims as to their efficacy. The last word will not soon be said as to many of these, nor can any one man fully test them all; yet some twenty years of constant employment of various forms of massage has enabled me to form a fair opinion of the principles on which they must proceed and to recognize the fallacies which are too often presented in the advocacy of new candidates for acceptance.

Dealing with an apparatus essentially pneumatic, as is the middle ear, we naturally make most use of pneumatic massage for the desired mobilization; yet, just as the best efforts of the masseur upon stiffened joints elsewhere in the body are of slight avail in some cases until more radical surgical measures have broken up real or pseudo-ankylosis, so in the minuter field of the tympanum ruder means must at times have first employment. Cutting procedures should be resorted to only when the blunt force of probe and hook have failed; for the divided bands too often reunite into a worse hindrance than before. But the cotton-tipped probe can often do much to mobilize stiffened parts and rub