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Original Communications.

SURGERY IN THE ARMY.

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Royal Army Medical Corps.

(Continued from page 269.)

PHYSIOTHERAPEUTIC DEPARTMENT (MASSAGE AND ELECTRIC TREATMENT).

In most hospitals the trained masseur works under your supervision. If possible, he should be made to go round the wards with you to discuss his cases, and should render a weekly report on the progress of out-patients. He is a member of the surgical team. Never send a case to his department with a scrap of paper, on which is written merely "For massage." A *pro forma*, which I instituted some years ago, is now in use in the Army. The main feature of this form is that it insists on the masseur being in possession of the fullest information on the case: what the diagnosis is, for instance, or if for post-operative treatment the nature and date of the operation. The condition for which massage has been prescribed may be something quite different from that for which he has been treated in the ward. The masseur keeps his own register, with notes on progress, and a record of attendances. When massage is discontinued the form may be filed with the case notes, and remains as a permanent record of this part of the patient's treatment.

ADMISSIONS TO HOSPITAL.

Emergency Cases.—When an emergency case is admitted to your wards, you will naturally try to see the patient as soon as possible. Should you be out and not immediately available, this duty falls to the orderly medical officer (O.M.O.). It should be an invariable custom for anyone seeing a case on admission on your behalf, not only to make a complete examination, but to record (*in writing* if called away before he can deliver his message in person) his personal impressions, and add such points on the patient's history and state on arrival as are not brought out on the sick report which

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should accompany him to hospital. The O.M.O.'s notes are sent to the ward and should give directions for preliminary, temporary, or symptomatic treatment, as he thinks fit. It is unnecessary to stress the value of such notes when circumstances have made it impossible for you to see the patient until an hour or so has elapsed, and by which time the officer who saw the case on arrival may be absent on other duties. It should also be a standing order that when a serious accident case is admitted or a man in a fit, unconscious, drunk, or arriving after an attempt at suicide, that the wardmaster (senior N.C.O. on duty in the reception room) should take full particulars of names, addresses, and statements, from all who accompanied the case to hospital, noting all these particulars, with the time of admission, in his report book. It not infrequently happens that a case of the class here mentioned, arrives in the early hours of the morning, and is somewhat unceremoniously dumped down by a few excited, mystified, or "exhilarated" companions, or even by civilians who found him on the road. A sleepy and unthinking wardmaster, just sufficiently awake to appreciate that the man's pulse and general condition do not suggest that he is in any immediate danger of expiring, allows the rescue squad to depart. The O.M.O., when he has seen the case, may agree with the wardmaster on the question of immediate danger. You are not called. In the morning you go to the ward and see the case for the first time and the O.M.O.'s notes. If the patient recovers all is usually well, but it may not be so. And all is most certainly not well if the patient gets worse, without regaining consciousness, and dies. Inquiries are instituted, the police arrive, and nobody in the hospital is able to give any but hearsay and very garbled information of the circumstances leading up to the admission. Witnesses have to be traced by mere descriptions, and if a charge of manslaughter or even murder arises out of the case, the guilty party has a good start of the police.

It would appear on occasion even justifiable to take the first opportunity of interrogating a head case who shows signs of recovering consciousness, even at the risk of disturbing the rest to his contused brain, that we all appreciate as necessary. I have vivid recollections of one case, a soldier who recovered full consciousness and most of his memory, and who stated that he had been set upon by two "roughs" in a pub, and that the attack had been deliberate. He described his assailants vaguely, but I was not interested at the time. I persisted in refusing to let the police interview him till he had recovered sufficiently and was unlikely to be upset by a barrage of questions. That man died suddenly on the twelfth day and without having given any useful information to anyone! His assailants, who were anti-social, anti-military, in fact "agin' all government," and had attacked this harmless and well-behaved, though rather elated, soldier, purely in pursuance of their confessed political ideas, were never brought to book for a criminal assault of a particularly ugly nature.

Interval Cases.—Most of these will be transfers, or cases you have already examined as out-patients, and whose names have been noted in your waiting

list for operation. It is simply a case of requesting the C.O. or Registrar to get them in on the date you select, and of making your arrangements in advance for any preliminary investigations and for such operation or other treatment as you may consider necessary. It has been my experience that a very large percentage of officers, even many staff officers, in other branches of the Service, are completely ignorant of the regulations concerning the question of the entitlement of officers to admission and treatment in military hospitals (K.R. & Regs., M.S.A., para 275, etc.). It is a good plan to see that these regulations are posted in the officers' ward for all to see, or that some reference to the fact that their admission for conditions which cannot be attributed to military service is a "privilege" is contained on a *pro-forma* used as an admission slip.

The main surgical wards, and the surgical cases in the officers' wards, are usually under the personal charge of the surgeon. In the larger hospitals the surgical division is under a senior administrative officer. Junior officers in sub-charge of other wards are responsible to the divisional officer or surgeon for orderliness, discipline, and case records. Patients will look to the surgeon to direct their treatment, no matter what amount of confidence they have in the juniors. Though sometimes irksome to the juniors, such an attitude is both human and natural; by tactful co-operation a keen junior's ideas may be backed up and his local control strengthened.

While the diagnosis of a patient on admission is in doubt, and while it remains "N.Y.D.," the most likely provisional diagnosis should be written, in pencil, in the correct space on the diet sheet. When the true diagnosis becomes obvious, this can be recorded on the sheet in ink. The object of the "pencil" diagnosis is to keep the C.O. informed during his daily round, at which you may not be able to be present.

Except in special cases, the dieting in a surgical ward can be safely left to the sister in charge. She sees all meals and knows how each patient is reacting to what is set before him. I confess to having felt irritated nearly every time I have signed, at the back of a diet sheet, that I "certify that the articles of diet hereon were ordered by me and were necessary for the patient (or officer)." The signing of such a certificate always suggests premeditated dishonesty. Both the C.O. and the hospital steward have several means of checking extravagance. I suppose such a certificate is part of the intricate machinery controlled by the Army Audit Department for placing responsibility.

In ward management every effort should be made to foster good ward morale. Discipline as seen on the parade ground is out of place with sick men; if you want to see that splendid fellow Thomas Atkins at his best, see him either when he is really sick or in a tight corner. Examine every new admission with the least delay. Nothing undermines ward morale like delay; get on with his treatment, get him up as soon as possible and get him out. Tell him the programme you have in mind for him and elicit his co-operation. Surround his case in an atmosphere of non-communicative

mystery and his imagination may run riot and produce a mild panic. Remember that a young soldier's first admission to hospital can be a very important event in his life. Listen to him with sympathy and examine him either behind screens or, better still, in your consulting room. Fear of ridicule, that mild form of bullying prevalent in some barracks, may make him stupidly reticent. It always gladdens the heart to hear a new admission welcomed in the ward by an old hand, with the following type of remark: "You're 'oright mate. We'll soon put you right in *our* ward!" That's the spirit! Such a remark may do far more good than much of our sometimes misguided treatment. It pays to address patients by their correct rank, especially during C.O.'s inspection. Even the latest-joined Guardsman is proud of the term "Guardsman," and a new Lance-Corporal is apt to write you down as unobservant if you do not appear to notice his rank. I am a great believer in getting cases up, even on a couch or wheeled chair, early. There is no better incentive to progress than a view of the outside world or the football pitch from a sunny veranda. It is occasionally forgotten that a patient, particularly after an abdominal section, thinks immobility essential to his recovery. I have known some suffer considerably in maintaining it, and to express amazement and relief when told to move about a bit in the bed.

The report by the night sister should always be read on arriving in the ward in the morning. In this connexion, has it never occurred to anyone as strange that the reports of night and day sisters are invariably written on any old form or blank book which has to be ruled and headed each day? These report books are most useful records on occasion. An official ward report book might be adopted with appropriate headings, and index printed and pages for addresses, next of kin, telephone numbers, etc.

During the last ten years or so there has been a welcome change in our outlook on the question of dressings for wounds. At one time even clean incisions were smothered in layer after layer of gauze, while on top were placed wads and wads of hot wool. Nowadays it is usual to see such an operation wound with nothing but the thinnest covering, or a "cracker" fixed by tension sutures, in fact just enough covering to exert local pressure and to prevent the bedding catching in the sutures. I have seen a whole ward of cases recently operated on and not one had a dressing. They were all healing *per primam*. A sheet of perforated cellophane, which can be sterilized by H.P. steam, strapped on, makes a good protection as well as an inspection window. Some form of sealed dressing, such as elastoplast, is now a commonplace. The value of rest or support is not forgotten, but it is a mistake to render the area uncomfortably hot in attaining these ends. The best dressing for abrasions is Nature's dry clean scab. The same may be said to apply to wounds of the face. Böhler and his followers decry external dressings for compound fractures, and many discharging wounds will do very well if simply covered with a protective cage and the discharge wiped away as it accumulates. The edges of granulating wounds where

the epithelium is commencing to grow in, should be covered with paraffin lint or protective. Having had little experience of treatment of open wounds by direct application of plaster, one anticipates with a certain degree of excitement future opportunities to apply the methods advocated by exponents of closed plaster, more particularly after the recent reports by Trueta of his results in the fighting in Spain. All acknowledge the work of Winnett Orr and his followers, and there would appear to be much evidence which suggests that the deranged local circulation in large oedematous granulating areas actually derives support from the pressure of this form of splinting, a support normally provided by undamaged muscle sheaths and fascial compartments.

I believe that forty-eight hours after a clean surgical incision, by which time the small amount of blood and lymph which may exude has coagulated and dried, the lips of the wound are sealed and protected from further infection and no dressing is necessary. Neither is it really necessary to use a mass of sterile towels when inspecting such a wound. Certainly the wasteful practice of using small "postage stamps" cut from an expensive roll of lint as towels for this purpose, is to be condemned. Ward dressing towels are, however, necessary at times, and I have known ordnance officers to be rather perturbed at the suggestion that the better parts of his old and condemned bed-sheets might be cut and hemmed for the purpose. There is some excuse for such perturbation in India, because the officer has to make certain that condemned sheets are completely destroyed by burning, or they find their way to the bazaars, there to be sold, repurchased by the ingenious linen store man, and used to replace deficiencies in his store. It takes a real Sherlock Holmes to catch out some of these wily gentlemen abroad in this kind of swindle.

Nursing staffs to-day cannot be expected to appreciate what it means to have to dress once or even twice daily a whole ward of hideous open and discharging war wounds. The agony that some of these poor victims suffered often broke their spirit, in spite of every effort to prevent pain from movement and dressings sticking by a liberal use of paraffin strips. One would willingly put up with a whole ward full of mawkish smelling plasters if it would prevent the pain of such dressings. And plaster most certainly would do so. Think of the saving of time and dressings too. When it is necessary to remove a large dressing which is sticking, I have found Higginson I.R. syringe an excellent irrigator. A thin stream of saline and weak peroxide can be directed on to the edges of the dressing by the same hand working both bulb and nozzle, while the other hand assists with forceps. We do not now change dressings on granulating areas as often as we used to. Wright and others taught us the value of pressure and rest for varicose ulcers, and elastoplast was introduced. Not many years ago I saw in India a case with a simple abrasion of the shin, which had become septic, being assiduously dressed night and morning, as part of his routine by a junior Indian assistant, using gauze wrung out in 1:80

carbolic. This had been going on for sixteen weeks! The local surgeon, not appreciating the situation, was frankly sceptical when a W.R. had been pronounced negative. Little wonder that this innocent wound had been reduced to the state of a chronic indurated ulcer, with heaped-up and almost cartilaginous edges, by this daily insult. Excision of the area and the use of sealed pressure dressing resulted in such rapid healing that the intervention of Allah was not in doubt. More faith in Nature and better understanding of the processes involved in the healing of a wound and the exemplary attention to routine duties exhibited by this subordinate would have been better rewarded.

Operative Work.—Keep a calendar in the theatre in which you can write up your lists for operation in advance. Always remember to inform a patient that you intend to operate; permit him to question you freely, and reassure him. It is rare for a man to refuse operation if he has had ample opportunity to ask the why and wherefore in advance and is asked to co-operate, so to speak. While serving abroad a soldier's C.O. acts in *loco parentis*, but at home it is necessary to obtain written permission from parents or guardians before operation is performed on a minor. In any real emergency, however, this precaution is not necessary, and the surgeon will always be backed up in official circles should the case terminate fatally.

To even the stoutest heart an operation may be an ordeal. Let us never forget that. To a patient with no previous experience of an operating room an operation, no matter how trivial or routine to the surgeon, will be regarded as a momentous event. His first excursion into the dark regions beyond consciousness may be fraught with considerable dread, if not regarded with foreboding.

Unless rendered adequately amnesic by premedication, a patient should not reach the anæsthetic room until the anæsthetist is ready and waiting for him. The orderly who goes to the ward to fetch a case for operation can do a great deal to reassure the nervous patient by tact and gentle banter. What a change this last century has seen in the paraphernalia associated with the anæsthetist! Twenty years ago we had no qualified specialist anæsthetists, although every officer was supposed to be able to administer one. In spite of this there were always a few who would run a mile to avoid being asked to do so. Other officers, with no special training—in fact “keen amateurs”—could be depended on to keep a patient comfortably relaxed through a longish operation without the veritable maze of cylinders, taps, tubes, and bobbins that modernity and increased knowledge now demand. An open mask and C.E. mixture was found adequate for the vast majority of the wounded in the last war, and the apparatus can be carried in the pockets. Naturally in past years we had trouble at times, but the worst kind of trouble came from the too self-satisfied anæsthetist who approached his victim with an array of gags, tongue forceps, etc., and after a cursory auscultation of the præcordia which should have been done quietly in the ward the day before, pounced on his victim from behind

with a saturated mask, commanding him to "Breathe in—and don't struggle!"

To me, and I feel sure to others, the atmosphere of a well-ordered operating room suggests calm efficiency. The keynote to this is team work. In other words, a thorough understanding between the surgeon, his assistants, and staff. The watchword should be silence; without it, concentration is liable to relax. Clouston, in an excellent article published some years ago, remarks how often the wrong answer is given to the question: "Who is the most important person in the theatre?" In numbers of instances the answer will be "The surgeon, the anaesthetist, or the sister in charge." How very far wrong such answers are!

When working with regional or local anaesthesia, that is to say with a conscious patient, see that knives and other worse horrors are not handed to you past his face. Neither should it be necessary to ask aloud for the knife. A nod or a sign should suffice. I believe it is better to screen off a patient who has had little premedication, rather than to bandage his eyes. Imprisoned, as it were, in darkness and with nothing visual to distract his attention, many will react acutely to trivial subjective sensations. Aim at making your work, in all its aspects, painless. A painful operation under local or a painful "spinal" will bring both these excellent anaesthetics into disrepute. Such an occurrence undermines confidence, leads to talk in the wards later, and has been known to initiate a strange epidemic of post-spinal headache.

Whereas speed in operating, provided that it entails no sacrifice of care, is desirable, it is not nearly so necessary as it used to be, because the more modern anaesthetics have little cumulative effect. We hear less nowadays of Mr. X. who could do a certain operation in some incredibly short time. Watching many of these Mr. X.s at work, one used to be impressed more by the amount of rending and blunt dissection that their methods demanded, than by the time taken to carry out the operation. Should anything happen to spoil the record there was wont to follow a pathetic exhibition of temper, and the sorely tried staff were apt to be the victims of it. Such operators are now rare. The writer was fortunate to have had the opportunity of assisting two of the best surgeons the Edinburgh School has ever produced. One of them never wore gloves and his neatness and dexterity with a scalpel were things to marvel at. Coupled with an exceptional knowledge of anatomical facts and relations speed was assured, and his incisions healed with a minimum of local and general reaction.

The late Sir David Wilkie published an article in January, 1930, in the *Journal of Surgery, Gynaecology and Obstetrics* under the title "Some Principles of Abdominal Surgery." This part is well worth repetition.

"The capacity of the peritoneum and the abdominal viscera to tolerate even gross interference has been fully tested during the past 50 years and has formed the basis and the backbone of modern surgery. So great is that tolerance that we surgeons are apt to presume on it and to lose that sense of reverence for living tissues which should be a fundamental law in operative

surgery. By an elaborate ritual we endeavour to insure that our operations shall be aseptic; but ritual without reverence may be a mockery, and technique associated with trauma will be tolerated less well than much less perfect asepsis but perfect handling. If we had to epitomize our guiding rules of surgery of the abdomen, I believe we might correctly do so by stating 'No traction, no tension.' The primary impression conveyed to the mind at the first sight of the interior of the normal abdomen is the remarkable flaccidity of all hollow viscera; in quietness and in relaxation lies their strength. When disease and operative measures interfere with this relaxation and introduce tension, trouble and pain result. Our guiding principle thus will be to relieve tension when we find it, and so plan our operative work that neither during nor after operation shall tension on the abdominal wall, the viscera, or the mesenteries be present. . . ."

"If we visualize the tissues as living, delicate cellular structures, we become less and less intrigued with elaborate mechanical appliances, such as powerful self-retaining retractors and mighty crushing clamps, instruments which not only injure directly the patient's tissues, but blunt obliquely the surgeon's sensitivity. Retractors should be used to retain out-of-the-way tissues which have been gently pushed aside—too often we have seen them used as if they were weapons."

It is still common to hear ligature material blamed when collections of serum or sero-pus appear in operation wounds made under aseptic conditions in a clean field. Is it not possible that trauma has in reality been responsible? The power of healing possessed by healthy tissues is one of Nature's marvels. But even the most healthy tissues will resent the presence of the most sterile foreign body if those tissues have been previously bruised. Teach your assistants to swab by firm pressure and quick release. Why use a swab as though attempting to burnish the wound? Which method will traumatize the delicate tissues most? A clean purposive incision, made with a sharp scalpel, causes a minimum of trauma. Avoid scratching, scraping, and pricking about. Should an operation wound become acutely inflamed in spite of all due precautions and the greatest gentleness, it is possible that a septic focus within the compass of the area lymphatic system has been missed. The patient may have a septic focus in the tonsils or teeth. The infection is autogenous. I can recollect such an instance. In adjoining beds were two men on whom I had operated. In the case of Pte. A. I had removed, *secundum artem*, a knee meniscus which had been torn and displaced. On the seventh day his temperature rose and the knee became swollen and painful. I removed the dressings to inspect the incision and joint and found the former more red than I liked and the joint tense, hot, and tender. Aspiration revealed infection, and in panic I almost made plans to pack my kit and ask for leave—in fact do anything to get out of the station before amputation became necessary. On the tenth day, however, the man complained of sore throat, and to my relief I found two large infected tonsils, and under appropriate treatment both throat and knee cleared up, but that man was off duty for some weeks. The other, Pte. B., was a grand type of old soldier who accidentally had driven a meat chopper covered with fat, hairs, etc., into the outer aspect of his knee-joint just

beside the patella. The hospital was close to the cookhouse, and the victim reported direct with a bit of dry floorcloth wrapping the joint. On removing this first-aid covering I exposed a gaping wound, from which synovial fluid was oozing, and I could see that there was a split in the articular surface of the anterior aspect of the external condyle. He was taken to the operation room, anæsthetized, and wound toilet carried out. I excised the bruised wound edges, washed out the joint and sutured the synovial membrane, leaving the capsule and skin merely approximated, and splinted the limb. During the next three days I waited for the inevitable signs of infection. That wound had healed on the tenth day, and by this time the patient was walking and entreating me to be permitted to return to barracks. He was back at duty in three weeks with a joint which appeared as sound as its fellow !

I believe that the element of trauma plays such an important part in the smooth healing of operation wounds and in the liability to post-operative complications, that I have never been impressed with the absolute necessity for separate clean and septic theatres. I realize that this statement borders on heresy, also that I should find it difficult to produce convincing proof of innocence or a sound defence should a wound "go wrong," when a previous case dealt with in the same theatre on the same day was known to have been heavily infected with a hæmolytic streptococcus for instance. But I should be the last to carry out the second operation under the circumstances before the theatre had been thoroughly swabbed down, and well ventilated. Even so, I would be more inclined to look for some error in technique than to blame contamination from the previous case. The main reason for having a second theatre is that it saves time. A clean case can be tackled without the delay due to the necessity for swabbing down, before the operation proceeds. By employing a correct order of precedence with cases, both types can be dealt with in the same theatre. In my experience it is common in the Army, when a second theatre exists, for this to become converted into a combined plaster room and fracture clinic, and for both purposes it is very useful. When there is no septic theatre, the majority of minor septic operations can be performed in a theatre annexe, and this will reduce very considerably the amount of floor and wall swabbing which would have been necessary had the main theatre been used. In larger military stations the question of the possibility of expansion for war has to be taken into consideration ; a second theatre will then become an asset. The surgery of war is a specialized form of traumatic surgery in which the excision of bruised and devitalized tissues is a fundamental factor ; it behoves us to see that we do not convert our operation wounds into war wounds.

When dealing with minor septic conditions requiring incisions, it saves labour and minimizes soiling of towels, basins, and theatre furniture if a purely antiseptic technique be employed. Septic infections of the hand can never be included in this minor category. For the usual abscess a short anæsthetic suffices. There are few which cannot be dealt with under nitrous

oxide, and this has advantages over the intravenous anæsthetics when it is not intended that the case should be admitted or detained as recovery is rapid. A scalpel or bistoury, sinus forceps, and scissors usually suffice for instruments. These, with a few pledgets of wool, are put into a basin containing antiseptic. The anæsthetic is not commenced until the patient is "positioned." A clean mackintosh is placed under the part and a warmed kidney tray held in such a position that the discharge will trickle into it. Assistants place their hands on a leg or arm, to steady the patient, but there should be no suggestion in this action of restraint; the patient should be informed that he is not being held down, but merely steadied. If the gas be properly given there should be no struggling, and little jactitation. The operation should be the affair of a moment. The scalpel in the gloved hand makes the stab and outward cut without permitting the pus to touch more than the instrument. If necessary, the incision is widened with forceps, but it is seldom necessary to introduce a finger, because as soon as the overlying skin and fascia have been incised the abscess will evacuate itself naturally. It is not necessary to "rootle round" with a finger, unless there be definite evidence of loculation; even then, intervening partitions should be broken down with the greatest gentleness. While it is most unwise to explore forcibly with the gloved finger, it is criminal to use a spoon. Most of us know of instances where dangerous septicæmia has occurred after a misguided attempt to express the core of a septic skin focus. Nature is doing her best to wall off and localize the infection. Break down the barrier, and spread is rendered possible. Forcible exploration in abscess cavities has been known to start serious hæmorrhage, by rupturing blood-vessels, which can sometimes be felt traversing the cavity. Incision is made only with the object of relieving tension, for this reduces pain, decreases toxic absorption, and hastens recovery. Where the cavity is deep and a tube seems to be indicated, it is a mistake to insert it just as the gas is wearing off. Who has not seen a well-given anæsthetic ruined by doing so? Either put in the tube while the patient is well under or wait till he is fully conscious and can appreciate what is being said to him. Then explain to him that the operation is over and that you must insert a tube and that it may hurt a little; he will not mind and will lie still. Do this when he is half round and more than likely he will wake with a yell, scattering instruments and staff, and let you know in no uncertain terms that he felt the whole "blue pencil" operation. He will not be impressed if attempts are made to explain that he did not feel the cut; he cannot dissociate the two causes of pain. Hurt him and you damage the anæsthetist's reputation and your own, because the occurrence will be luridly described when he regains his bed. Using the simple bag and mask, and suitably spaced breaths of air, it is possible to keep a man anæsthetised with nitrous oxide for a long time, while a painful dressing is done. Why do we still see on occasion a person who has been asked to give a "whiff," smack the patient's face just after the mask is removed? Smacking will not dislodge dentures from the pharynx or relax a spasmodic jaw. A patient with a spasmodic jaw, even though his colour be puce, can wait a while

and will come round presently without interference. The pale case with relaxed jaw will not respond to smacks though! He requires something else, and his condition may well give rise to anxiety. Anyone who has had gas will agree that coming round may be both pleasant and amusing, but like a dream which is said to be due to some waking stimulus it can be very greatly influenced by waking impressions. Speaking of dreams, my cabin mate on one sea trip was a heavy smoker and mouth-breather—audibly so! He invariably reacted in the same way when I woke him by trickling a thin stream of cold water down his cheek into the dry mouth. Sitting up, he gazed for a moment round him, looking horrified, then seized his lifebelt. I had to escape quickly to avoid his later and more conscious reactions. I can recollect a patient coming round from gas respond in much the same way because he heard an assistant remark "Ready to cut." It was some time before the man could be persuaded that he had had his operation and that the remark he had heard referred merely to Christmas hams. Let a patient who has had gas come round in silence and in his own time, and without socking him on the jaw or drowning him with water. If there is conversation, it is a good tip to block his ears with the palms of your hands until that unmistakable expression in his eyes which indicates returning consciousness has been replaced by one of puzzled and fascinated amusement. If he should then burst into song or roars of laughter, and end by calling sister a darling—what does it matter? He has probably merely forestalled the whole staff by stating a fact which they hesitated to mention, and for the rest, is simply expressing the joy of living.

I have lived to see intravenous basal anaesthetics largely replacing N_2O . I have had both. Both are pleasant, but gas only so if not rushed during induction. I have never seen a fatality that could be attributed directly to gas and, like most of us, know hundreds of patients who think one or the other marvellous.

SURGICAL EQUIPMENT.

The peace-time surgical equipment in the Army, though it may appear lacking in some respects by comparison with that of many civil hospitals, is ample for our purposes. There is no surgical emergency which could not be dealt with adequately with the instruments available at any of our surgical centres. The necessity for a large degree of standardization demands a system of supply in the Army which makes it impossible to cater for individual preference concerning items. The young surgical specialist will soon find out that it is a wise precaution to possess a few pet instruments, which he must purchase from private funds, and can carry about with him. While serving abroad, it is not uncommon for work to be held up because one of the more complicated items, such as a cystoscope, requires repairs. Skilled instrument technicians are scarce in the colonies and dominions and the damaged instrument may have to be sent away, so that one is without it for two or three weeks. The obvious remedy is to stock spares in stores depots, but it must be admitted that this remedy is expensive; I believe, however, in the end it would save money to the government concerned

because the cost of retaining cases in hospital pending the necessary investigation and treatment, which is considerable, would be saved.

RECORDS AND REPORTS.

Detailed notes of all major operations performed must be entered in the Register of Operations (Army Book 485). The notes should indicate the technique followed, record difficulties encountered, and note in the remarks column the result of pathological investigations. Your own memory may not require the aid of such notes, but they may be of much value to your successors.

To enable him to keep in touch with the surgeons working at home, a monthly report is submitted to the consulting surgeon. At the end of the year the annual report is compiled from copies of these and other data in the registers. When the excellent opportunity for follow-up in an organization like the Army is considered, we might make more use of our clinical material. A soldier can be traced from the day he enlists until he dies, or returns to civil life on or off the Reserve, with comparative ease. The Corps *Journal* has often contained excellent accounts of interesting or atypical cases, but few of studies of a group of cases and their after-histories or progress. The truth is, most surgeons have no time for so doing.

CONCLUSION.

"There is no doubt (Mr. Zachary Cope says) that surgeons at hospitals are worked harder than in past years, if the number of operations can be taken as a criterion." He goes on to say that at one London hospital the number of operations in 1906 was 1,632, and that in 1938 this number had been more than doubled. "These statistics show that the increased work has been thrown on the individual surgeon." What is more, the scope of surgery has greatly increased in the last twenty years. What Mr. Cope says of civil surgery certainly applies also to surgery in the Army. An increase in the numbers of officers specializing in surgery is necessary.

I have known it to be exceedingly difficult for surgeons to get the time to study war organization, or to take part in field war exercises. It may handicap them in later years. As soon as the Army leaves a peace footing, special qualification in professional subjects may have to be subjugated to the major demand for those with knowledge of organization. Our energies must be pooled in the common effort to assist in organizing and in collaborating with our civilian colleagues, who join us after mobilization, and without whom we could not carry on. It is a case of *collective effort* with the administrative officers most in the limelight. During peace, on the other hand, collective effort tends to be overshadowed by the individual efforts of each officer, N.C.O., and man. The more each *individual's ability* is subjected to public scrutiny and trial, the greater is that *individual's personal responsibility* in maintaining the reputation of the Corps. All must admit that if the question as to whether a medical officer should be primarily doctor or primarily officer were put to the vote of the Army as a

whole, the verdict in favour of the former would be overwhelming. Our "public," that is to say our patients in and out of the hospital in the station or community where we work, to say nothing of their families, relatives, even their friends, rightly demand of us that we should be good doctors, sound physicians, and safe surgeons, who can look after them when sick or injured. In peace then, the extent to which we are able to meet this very natural demand is to all intents and purposes the index of our Corps' reputation. Officers may contribute toward the Corps' reputation in a station by social attainments and activities or by prowess in other directions, but if they be engaged in the treatment of patients, it is essential that they possess professional ability. No matter how desirable it is not necessary for them to possess professional eminence. The difference between mere reputation and eminence in the profession is well summed up in the *Lancet*, October 22, 1938: "Professional eminence according to the accepted canons of the medical profession, is based on innate worth and character, something recognized by expert judgements of fellow practitioners, not something conferred by almost accidental verdict of popular opinion." Unfortunately it is a fact that the work of the maternity specialist, the surgeon, and the physician, makes a morbid appeal, where the laity is concerned, to the sense of the dramatic; consequently these officers bear most of the brunt of keeping up our Corps' reputation in a station. The laity does not always appreciate that the officer who toils unobtrusively in an administrative department may be doing work of far-reaching consequence to the Army as a whole. What is more, within the walls of his office and shielded, as it were, by regulations concerning the discussion of official matters in public, he works in a relative "black-out" in comparison with his professional colleague, who is constantly in the glare of the limelight, and a victim to all manner of scrutiny and gossip. Within the narrow confines of station life, and until his ability and personality have enabled him to establish it, the young specialist's professional reputation is about as safe as that of the proverbial vicar's at a sewing bee. None will deny that the very nature of their work brings to the officer engaged in surgical, maternity, or medical work, worries, responsibilities, and exactions, as well as the constant liability to answer calls, which is usually entirely foreign to other officers of the Corps. I am sure that the other officers do realize this, but I hope when they close their office door at 5 p.m. on Fridays virtually assured of a peaceful and undisturbed week-end they will not forget it, and will continue to remain, as I have generally found them, sympathetic towards a plea from one of their tired and overworked professional colleagues, for change and respite. The popularity of the Corps from the point of view of recruitment to the commissioned ranks will always depend on its social and professional status, and the chances it offers for advancement. One bad "doctor" can do more harm than twenty indifferent administrators. Good surgeons and physicians not only raise the professional status of the Corps, but contribute very largely to its popularity as a career.

POSTSCRIPT.

Before this article was complete we were once more at war. It is strange to see circumstances and difficulties identical with those which occurred during the early months of the Great War, again cropping up, and it is reassuring to find that most have been anticipated. The real problems are known only to the administrative officers. Doubtless we shall again meet the type of emergency commissioned officer, who is inclined to be intolerant of Army routine; any suspicion of "red tape" irritates him. But these rather wordy advocates of short cuts and business methods are incapable, in my experience, of appreciating that modification of a machinery which is built up on years of accumulated experience cannot be effected in a day without upsetting the works. While effective surgery remains the essence of the treatment of most war wounds, there will be the same demand for surgeons. There should be fewer "misfits" this time. There was a good deal of grouching on this score in the last war, as many with more self-assurance than practical experience held surgical posts until a select committee put things to rights. The birth of the team system initiated an all-round improvement in the surgical organization and results. Great strides were made in the treatment, if not in the understanding of the scientific explanation of the shock syndrome, and the early incidence of tetanus fell rapidly by 1917. Reconstructive surgery made headway under the home consultants.

When demobilization came many gaps in civil ranks were filled by young "war surgeons," but the public in some cases, and the more conscientious doctor in others, did not take long to realize that a technique developed largely while wielding a scalpel in the field was an indifferent substitute for actual experience of the class of surgery which every general surgeon in civil practice has to tackle. Nevertheless, the influence which war surgery had exerted in many other directions had come to stay. It was responsible, for instance, for much improvement in methods of treatment of fractures. I believe that Major M. Sinclair, R.A.M.C., an ex-regular surgeon, was the first to advise segregation of this type of case, in war. From this suggestion, and the experience then gained, arose the special fracture clinics for which there had long been a crying need in this country. War surgery initiated many advances in thoracic surgery and provided—unfortunately—many opportunities and much material on which to work out new technique in plastic or maxillo-facial surgery.

This present war will mean privation and suffering to many. It is surely no vain wish to hope that some good will come of it and that surgery will further benefit.

It only remains for me to thank a few who have encouraged me to present this article for publication, and to state that I absolve them from all responsibility and to thank Major-General W. B. Purdon, K.H.S., D.S.O., Commandant, Royal Army Medical College, for his permission to do so, and at the same time to state that the writer appreciates the difficult position in which he placed the Commandant, and admires his temerity!