neglect—but to support the deduction which I intend to draw that the presence of gauze packing in contact with healthy bowel for any length of time may result in the visceral walls being perforated. I have, on not a few occasions, noticed that, on withdrawal of a gauze pack which had been left in the wound for a few days after the operation, a faecal discharge has, if not immediately, in a day or two, ensued. One could not be certain that the gauze was the cause; but the sequel has been too frequent not to make one somewhat suspicious of its being so. It was only after noticing the very striking and comparatively rapid effect of a piece of dry gauze in contact with the bowel for so short a time as half an hour—as illustrated in the first case narrated—that my suspicions seemed confirmed. It is quite possible that, had the gauze been previously wrung out of a warm saline or sodium citrate solution, this rapid adhesive effect would not have been produced. But with such results as those which accrued in the latter two cases it is hardly possible to conceive that any different course would have been pursued by the gauze had it been dry or moist. For, if used dry, it must soon have become soaked with the exudates, and so acquired much the same condition as that originally inserted moist. It is reasonable, however, to infer that a solution such as that made with sodium citrate, when saturating gauze tissue, will render it less irritating to the peritoneum—for the comparatively short period of an operation—than if the material had not been so treated and had been employed dry.

There may be said to be four other disadvantages arising out of the use of gauze packing, and these are in more or less direct proportion to the length of time the packing is retained. One is that if the packing be employed in septic cases without the adjunct of a drainage tube, it may act as a dam to the escape of any discharge. As soon as the gauze has taken up the exudates to the limit of its absorptive power, the overplus must either make its exit through the meshes of that part of the pack which is led out of the parietal wound, or it must accumulate in the infected region or be diffused further afield.

A second disadvantage is the possible, and, indeed, probable irritative effect of the packing upon neighbouring coils of healthy bowel, leading to a low form of adhesive peritonitis. Coils of intestine may thus become matted together or become adherent to the parietal peritoneum, and the adhesion so resulting may in some way lead to obstruction.

A third disadvantage is that whenever an opening is maintained through the parietal wound for any time—and the longer the time the more likely is the accident to happen—a weakened cicatrix is almost the inevitable precursor of a ventral hernia.

And, lastly, the withdrawal of a gauze pack is a very painful process. The degree of painfulness is possibly dependent upon the amount of gauze in contact with, and probably to some extent adherent to, the peritoneum lining the abdominal parietes. It is a known fact that while the visceral peritoneum possesses little or no sensitiveness to mechanical irritation, any friction or undue pressure upon the parietal peritoneum causes pain. So great is the pain in some cases when a "pack" or "plug" is being withdrawn that the administration of an anaesthetic becomes necessary.

In thus indicating the advantages and disadvantages of the use of gauze packing in intraperitoneal work, I have sought to do so by simply stating facts, the result of my own personal experience in abdominal surgery; the disadvantages would seem to so greatly outweigh the advantages that but one conclusion appears warranted—that gauze packing should be avoided except under definite and clear limitations. These limitations may be thus expressed: the use of as small a piece of gauze as possible and for as short a time as possible, which equally connotes the avoidance of large packs retained for several days.

A RECENT enactment of the Government of the Argentine Republic forbids pregnant women to work for a month before the expected date of delivery, and requires mothers to rest for forty days after confinement. They are to receive their full wages during both periods. Every factory and workshop where they are employed must be provided with rooms furnished with cradles, and mothers must go there for fifteen minutes every two hours to nurse their babes.

REMOVAL OF TONSILS AND ADENOIDS.

BY
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THE admirable paper by my friend and former house-surgeon, Mr. W. H. Bowen, in your issue of October 4th, on the whole question of operation for removal of tonsils and adenoids deserves to be carefully read. It seems to me the soundest presentation of the subject we have had for a long time. I ask permission to emphasize one point, and to differ on another.

I.

That complete removal of the tonsil can be effected by the ordinary Mackenzie guillotine I have demonstrated for many years. That I have not succeeded as often as I wished is probably, and I hope is, due to my ignorance of the method described by Mr. Bowen. The ring, as he points out, needs to be placed behind and below the tonsil. Standing on the right side with the head very slightly inclined back, the left tonsil is first removed. The handle of the guillotine is brought across to the right, the fingers of the left hand press the tonsil inwards, while the thumb presses the blade outwards. Thus a firm grasp is secured. The head is immediately turned to the right and the blood swabbed away. Then the process is repeated on the other tonsil, the operator remaining on the patient's right. The fingers of the left hand control the blade while the thumb presses the tonsil inwards from behind the angle of the jaw. Mr. Bowen uses the guillotine with blade reversed, as have others, but the special feature to my mind is the manner in which he manipulates the inter-palatal portion of the tonsil into the ring of the instrument. If it falls to my lot to remove any more tonsils this method must be tried, though a few days ago both tonsils on removal by the method described showed rounded capsulated deep surfaces.

II.

Is complete extirpation necessary? What amount of relief has followed partial removal? and in what proportion has recurrent tonsillitis occurred? These are important questions, especially in view of the large number of children now submitted to operation under the education scheme.

Some years ago I collected the after-history from private cases over a period of ten years and found the results had been almost uniformly good. Recurrence was very exceptional, and I can recall only one case requiring a repetition of tonsillectomy. I doubt if there be 1 per cent. of recurrence in children. If so, the modern operation of complete removal by dissection, involving as it has done serious bleeding, followed at times by anaemia, and sometimes by death, requires much to justify its general adoption.

My long experience and my notes of cases convince me that the guillotine is the best instrument. Those who operate frequently will develop modifications of their own, which they may think suitable for general adoption. It must be remembered that safety is a matter of the first importance, that the operation is widely practised, and by many with limited opportunity of acquiring dexterity.

No doubt in most operations the deep portion of the tonsil remains. Though the amount of harm that results is very small indeed, I have for some years removed this remnant by a curette, and think with benefit. Hartmann's right-angled adenoid curette is the most convenient, but any sharp spoon will answer.

III.

The point on which I would differ from Mr. Bowen is the anaesthetic employed. In a well organized unit of experts, constantly doing team work, risks are reduced to a minimum, and the anaesthetic securing the most rapid effect and quickest recovery will be employed. But again, for wide employment and by persons of varying experience I cannot think that ethyl chloride is safe, nor does it give sufficient time for any but the dexterous operator who can complete removal of tonsils and adenoids in two minutes. Even then I much doubt if there be sufficient time to clear Rosenmüller's fossa when filled with soft adenoid tissue. For these reasons I have never

liked this agent. But this may be prejudice. Whatever anaesthetic be employed, safety must be the first consideration. Death should never occur in so simple a proceeding, and has always been due to the anaesthetic. Chloroform, either pure or in mixture, has been the cause. It is surely an excuse to talk of the status lymphaticus.

My object in this note is to emphasize the safety of ether for general use in removal of tonsils and adenoids. It became necessary in the out-patient department at Guy's Hospital as early as 1890, when these operations became numerous, to devise a rapid and safe method of producing anaesthesia, and one followed by quick recovery. Ether given by Clover's inhaler we found fulfilled all these conditions, and during thirty years I have—except when in private a special anaesthetist has insisted on some modification—employed no other method. To this, and this alone, I must attribute the absence of any fatality. There were some 300 operations each year at Guy's, and, adding cases in private, the number might safely be set down as between 4,000 and 5,000. Let me add that in private in the early days the anaesthetic was nearly always given by the medical man, who very rarely knew anything about ether. I never went to a case without ether and a Clover's inhaler, and generally put the patient under myself, leaving the doctor to carry on while completing my preparations.

Though I have been constantly operating during the war and supervising others, and therefore attending many operations, I question whether any anaesthetic can compete with ether for short operations, or Clover's inhaler as a means of administration where gas and oxygen are not available. The open method has, of course, replaced all others for long operations. There are some little tricks no doubt connected with the successful use of a Clover, and if you will give me space some day I will describe how a child or adult can be put under without a struggle, and without any feeling of suffocation, in four minutes.

Gas given before ether in throat operations is distinctly harmful; it produces much congestion and mucus, and prolongs the whole operation. Ether given by Clover's apparatus will, after four minutes, give an equal period of complete anaesthesia without abolishing the reflexes.

Let me in conclusion confirm the great importance of Mr. Bowen's test of safety when ethyl chloride is used, and I would also add chloroform—not to begin until there is a pharyngeal reflex. In my early operations on tongue cases I noticed that the breathing sometimes ceased when the tongue was drawn forward; I therefore waited until some resistance to the opening of the mouth returned. Then only is it safe to insert the gag, and the same applies to all mouth and throat operations.

CUTANEOUS ANTHRAX.

BY

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ANTHRAX is extremely common in Kashmir among cattle. Every few years an epidemic sweeps through the valley, carrying off thousands. It is discreditable to the administration that the prophylactic serum, which is procurable at the Imperial Bacteriological Laboratory, Muktesar, has not yet been brought into use.

Since 1900 seventy-five cases of "malignant pustule" have been treated in this hospital. The disease is becoming more frequent, for during the past three years twenty-five patients, or one-third of the whole, were admitted. All were males and between the ages of 14 and 57. I have never seen "malignant pustule" in a female. No doubt in some instances the disease was contracted while skinning sheep and cattle dead from anthrax. So far as I know, the hides of these animals are exported without any kind of warning or precaution. Flies do not, I think, play an important part in the transmission of cutaneous anthrax. It is quite as common in midwinter when there is hard frost as in the summer.

Of the cases 40 per cent. were affected in the upper extremity, 32 per cent. on the head, neck or face, 12 per cent. on the back, and the rest on the abdomen, chest, or lower extremity.

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Cutaneous anthrax is a better name than "malignant pustule." The appearance is characteristic. The lesion is like a very large and acutely inflamed vaccination vesicle, with depressed dry dark brown centre and raised circumference with vesicular edge. The skin around is red, and there is inflammatory oedema. There may be satellite vesicles. These blisters contain serum, and the bacillus can easily be demonstrated. In some cases the lesion is of considerable size. I have seen one five inches across, and another with a diameter of four inches. The lesions may be multiple. One patient had six separate infected areas, another five. In a third the forearm and the head and neck were involved. A fourth case had five lesions on the abdomen. Another, a man who worked among sheep, and who had an abscess in the iliac region, got infection of the wound. The constitutional symptoms vary much. In cases brought late there may be profound toxæmia, with circulatory depression, high temperature, running pulse, albuminous urine, and other signs of visceral infection. One patient died the evening of admission. Four others died within forty-eight hours. In these late cases in which systemic infection has occurred, no treatment avails. In Kashmir the cases occur among villagers, farmers, shepherds, etc. I have not met with a single case of pulmonary infection.

The treatment we adopt is very thorough cauterization with a red-hot button cautery. Excision and incisions, recommended by some textbooks, I regard as almost equally dangerous, tending as they do to open up fresh planes of communication, and thereby promote systemic infection. The natural local reaction to the pathogenic irritant is very strong. There is most vigorous leucocytosis. As a rule the blood is not infected. The cautery, while destroying the virus, also increases the local reaction. Clinically, our records point to this as the most satisfactory method of local treatment. Solvay's serum has been recommended. But most of these cases, when they come under treatment, must have already produced their own antitoxins; those who have not and are almost or quite moribund are hopeless. Seven cases of our series of seventy-five died, giving a mortality of 9.3 per cent.

RUPTURE OF LARGE INTESTINE: OPERATION: DEATH.

BY CAPTAIN E. HUNTLEY, R.A.M.C.,

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I WAS under the impression that without ulceration, associated with recent or old disease or with the presence of new growth, rupture from straining at stool could not occur. In the following case, however, a man, straining badly, ruptured his bowel at a site where neither enteric nor dysenteric ulcers are commonly found.

Captain —, aged 34, was admitted to hospital on May 26th, 1919, suffering from intense abdominal pain. The history he gave was that he had always been very constipated. He had served nine years in India, but had never had typhoid or dysentery. He had had attacks of malaria, the last five or six years ago, but up to the afternoon of the day of admission he had enjoyed excellent health, being, as he expressed it, "as strong as a lion." About 4 p.m. on the day of admission he went to the latrine, and while straining very hard, felt "something give way," and a sudden pain in the splenic region of his abdomen. He had felt sick, but up to the time of admission, about 6 p.m., had not vomited; he had passed flatus. He was in a somewhat collapsed condition, cold and clammy. Temperature 97° F., pulse 88. The abdomen was distended, but not markedly. There was general tenderness all over, but mostly under the left costal margin, and here there was more rigidity than elsewhere. Liver dullness was absent. Whilst examining him he vomited. There was nothing characteristic in the vomit. Examination by the rectum revealed nothing abnormal; no faeces could be felt. An attempt to give an enema caused him such intense pain that it was given up.

Captain J. R. Caldwell, R.A.M.C., very kindly saw the patient with me, and it was decided to operate at once. An abdominal incision was made in the middle line above the umbilicus, and later extended both upwards and downwards. As soon as the peritoneum was opened there was an escape of turbid fluid with flaky material. Large quantities of fluid were found in both flanks, with portions of floating vegetable matter. After diligent searching, nothing in the nature of a rupture was found until the abdominal incision was extended downwards well below the umbilicus, when a rent in the large bowel about the junction of the sigmoid and rectum was visible. This rent