Lack of time and the rapid changes which occurred in the staff of the Royal Infirmary of Newcastle have prevented me from carrying out my intention of publishing in the Edinburgh Medical Journal a series of papers which I had commenced, and a full record of my surgical work during 1903. As, however, the chief point of this record was to draw attention to the results obtainable by the simplest and antiseptic methods, i.e. the use of strong antiseptics for everything but the wound, in the worst possible environment, I have asked my house-surgeon, Dr. Bulkeley, to prepare statistics of the major operations performed by me during his term of office as my house-surgeon in the Royal Infirmary, Newcastle. These have been verified by the Surgical Registrar, Mr. G. Grey Turner.

So far as I can judge, the only serious difficulty arising from this old building was the frequent occurrence of pneumonia after, or even independent of, operation.
The record is that of my last house-surgeon in the old Royal Infirmary, and may in a few years possess some historical interest. For more than one month of his term of office (November 1905 to March 1906) I was not on duty. The statistics therefore refer to a period of less than five months, and do not include the cases of my assistants, who do most of the emergency work.

Appendicitis.

Recurrent.—Twelve cases.
Acute Peritonitis.—Four cases.
Abscess.—Ten cases.

Indications for operation.—In all acute cases, with urgent pain, rigidity, rise in pulse and temperature (and we regard a steady rise in the pulse rate as the most important of these indications), the sooner operation is done the better. In each acute case operated upon the appendix was totally gangrenous. In three of them the peritonitis was localised. These patients were sent in early, and operated upon at once. They recovered.

The following are the notes of one case in which the peritonitis was general:—

F., aged 16; admitted February 14, 1906.

History.—Illness of four days' duration. Commenced with severe abdominal pain, followed by vomiting.

On admission.—Looked ill, but not dangerously so. Pulse, 136; temperature, 100°. Abdomen tense, distended, and rigid. Signs of free fluid in both flanks. I broke my rule "never to operate radically on a tense distended abdomen."

Operation.—The gangrenous perforated appendix was rapidly excised, and the pelvis gently mopped out. Death occurred next day.

Post-mortem examination showed general peritonitis.

Much previous experience has taught us that such a peritonitis can localise, and that the patient can recover; and we think that this patient's chance would have been better without an immediate operation.

Four cases; three recovered.

Appendix Abscess.—Indications for operation.—Every definite tender lump resulting from an attack of appendicitis is regarded as an abscess, and an indication for operation. The operation performed was that described by me in the Lancet of 23rd February 1901. A long oblique incision, extending from the back of the ilio-costal space behind to the outer side of the rectus muscle in front, opens the abdomen, allows of complete inspection, packing, posterior drainage, and the removal of the appendix. This has already been located by the relations (shape and position) of the abscess, with the object of removing it, an important aim in every case.¹

¹ Lancet, London, 1903, February 23.
In nine cases the appendix was removed, and the abscess was drained by gauze and tube.

In one case the caecum was gangrenous, and the patient so ill that no attempt was made to find the appendix.

Ten cases; ten recovered.

**Recurrent Appendicitis.**—**Indications.**—To excise the appendix after or at the commencement of a second attack of appendicitis, or if a tender nodule remains after a first attack.

Twelve cases; twelve recovered.

Total, twenty-six cases; one died.

**Radical Cure of Hernia.**

**Radical Cure.**—**Inguinal**—Twenty-nine cases.

" Femoral—Two "

" Umbilical—One case.

Of the inguinal cases, one was strangulated.

Thirty-two cases; thirty-two recovered.¹

**Gall Stones.**

**Cholecystotomy** (emptying and immediate closure of the gall bladder) was done in two cases.

**Indications.**—Repeated attacks of gallstone colic, with patent ducts, and a fairly healthy gall bladder. If the patency of the ducts be not proved by the free escape of bile into the gall bladder after incision, normal saline (as was done in these cases) is syringed into the gall bladder, from which it escapes through the cystic duct, if there is no obstruction. The gall bladder opening is then completely sutured, and the hepatic pouch drained.

Two cases; two recovered.²

**Cholecystostomy** (drainage of the emptied gall bladder).

**Indications.**—Inflammation, without destruction of gall bladder.

One of these cases is of special interest, as it was complicated by subacute pancreatitis.

F., æt. 26; admitted March 10, 1906.

**History.**—Admitted complaining of "gastric ulcer." Married woman, æt. 26. Two children; youngest, æt. 2. Quite well up to five years ago. She had a severe pain in the epigastrium, which went through to the back, between the shoulders. It made her shout, vomit, and took away her breath. The pain persisted for three to four days, followed by a sore feeling for a further similar period. After the attack was over she got well, and was able to do her work as usual. Since the initial attack similar ones had recurred every six months or so, the last being three days prior to admission. Sometimes the pain came on before, sometimes an hour after, food. Patient said she always fainted either before or after an attack; as a rule, she could eat anything,

¹ See a paper on "Hernia," *Edin. Med. Journ.*, 1904, March and April.

² For fuller explanation, see "Gall Stones," *Edin. Med. Journ.*, 1905, October.
though she noticed that a big meal of pastry or vegetables brought on an attack; she had always been troubled with "wind."

On admission.—A well-nourished woman. Temperature, 97°8; pulse, 92. Tongue, dry and furred. Urine acid, sp. gr. 1032. No albumin; no sugar.

Local.—On admission, the only physical sign was rigidity of the upper part of the right rectus muscle.

Later.—In the position of the gall bladder a rounded tender swelling could be felt.

Diagnosis.—Gall stones, with acute cholecystitis.

Operation, March 13, 1906.—Transverse incision. On opening the belly, patches of necrosed fat were seen in the neighbourhood of the head of the pancreas, which formed a large rounded swelling, projecting towards the belly wall. A hole was made through the ascending mesocolon into the inflamed head of the pancreas, which was drained with iodoform gauze. The gall bladder was fairly normal in appearance, but contained several stones, large and small; on their removal, it was drained by a tube. No stone in the common duct.

N.B.—Fat necrosis was seen on omentum, small omentum, over stomach, in mesocolon, and around head of pancreas.

April 4, 1906.—Uninterrupted recovery. Her wound healed before going home.

Three cases; two recovered; one died.

The patient who died was a woman, at 31, admitted on 20th November 1905.

History.—Typical attack of gallstone colic (some jaundice) fourteen days prior to admission. Pain eased after first three or four days.

On admission.—Poor general condition. Large rounded tender mass in gall bladder area. Whole belly very tender.

Operation, November 21, 1905.—The gall bladder was found to be distended with purulent contents and a large number of gall stones, and it was drained. During operation it was noted that there were signs of old tuberculous disease in the abdomen.

After progress was entirely satisfactory till 4th December (fifteen days after operation), when difficulty in taking drink, from stiffness of the jaw, was complained of. Tetanus developed, and on 10th December (six days later) she died.

Post-mortem examination.—The surgical conditions were satisfactory. The gall bladder had so far recovered that the normal tessellated appearance of its mucous membrane was distinctly seen. There were old caseating glands from the iliac arteries to the diaphragm, and remnants of old peritoneal adhesions.

This is one of four other cases of tetanus following operation recently in this district, and, so far as I know, they are the only examples of what used to be no infrequent occurrence. On 21st November 1905 I operated on the following cases, in the order given, and two of these patients developed tetanus; one recovered, and one died:
1. **Excision of Whole of Internal Saphenous Vein for Varix.**—Recovery.
2. **Excision of Uterus, Tubes, Ovaries, and Broad Ligaments.**—Septic. Recovery.
3. **Mammary Tumour.**—Recovery.
4. **Recurrent Appendicitis.**—Recovery.
5. **Gall Stones, Suppurating Gall Bladder.**—Death from tetanus.
6. **Appendicitis, Recurrent.**—Recovery.
7. **Acute Appendix Abscess.**—Drainage of abscess, excision of appendix. *Tetanus* developed ten hours later than in Case 5. Recovery.

In these cases we have good reasons for believing, as I hope to show in a later paper, that the *tetanus* resulted from infected catgut.

**Cholecystectomy** (removal of the gall bladder) was done in two cases. One recovered; one died.

F., æt. 54; admitted March 5, 1906.

*History.*—She has for years had attacks of windy spasms. About ten weeks before admission had sudden acute pain in the area of the gall bladder, which made her vomit for seven or eight hours. The pain was above the umbilicus, and reached up to the shoulder. She went to bed, her doctor gave her some medicine, and the pain got gradually better. A week later, and again a fortnight later, patient had similar attacks, though not so severe. Since this time they have recurred with increasingly shorter intervals, attended by vomiting for five or six hours. The vomit lately had a foul smell. She has had rigors. Patient had severe cramp in the legs during the first attack. She has been jaundiced, and has lost flesh considerably.

*On admission.*—She looks pale and anxious. Temperature normal; pulse, 92; tongue very dry; constipation.

*Local.*—No mass is felt. Tenderness is present in the gall bladder area.

*Operation, May 7, 1906.*—The gall bladder is in a state of hour-glass constriction. A small ulcer at the contraction ring ruptured when the bladder was raised. The gall bladder was excised. There were several small stones, and many plate-like large masses of cholesterin. One stone was impacted in the cystic duct; another lay in the fundus of the gall bladder. In the cavity of the gall bladder there were bile, mucus, and the debris of gall stones. Death from pneumonia. No necropsy.

**Choledochotomy** (removal of stones from the common and hepatic ducts).

Three cases; three recovered.

Twelve years ago I published a paper.1 The object of this paper was to draw attention to a potential space between the liver above and the transverse colon below, and to show that the gall

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1 "The Anatomy of the Right Hypochondrium, relating especially to Operations for Gall Stones," *Brit. Med. Journ.*, London, 1894, November 3.
bladder and bile ducts could be fully exposed and thoroughly drained through a transverse incision over this space. It has surprised me much, and the more as time passes, that surgeons have not recognised the advantage of this route over the usual incision through the right rectus muscle. If the diagnosis of gall stones is definite, I like no other.

Stomach Operations.

GASTRO-ENTEROSTOMY.—The chief indications for this operation are chronic gastric ulcer. In three patients this had produced hour-glass constriction of the stomach. In all, the operations were done by the posterior method with my own decalcified bone bobbin, because this apparatus saves me time and trouble and has given results as good as any published.

Nine cases; nine recovered.

One of the cases of gastro-enterostomy is of more than usual interest.

Male, aet. 48; admitted April 2, 1906.

Twelve months before began to have epigastric pain and an uncomfortable feeling immediately after food. Vomiting gave relief. The vomited matter was unchanged food. These symptoms had continued. He had lost 2 stone weight in twelve months.

On admission, he was an emaciated, very feeble man, with a hard movable lump the size of a Tangerine orange in the pyloric neighbourhood. A definite diagnosis of cancer of the pylorus was made, but it was decided that nothing more should be done than gastro-enterostomy, for his condition was so bad that he would obviously tolerate no more even if he could survive that.

Operation, April 3, 1906.—Posterior gastro-enterostomy with Mr. Morison's button. The operation demonstrated a firm pyloric tumour, which every one present agreed with Mr. Morison to be malignant. There were also enlarged glands along the lesser curvature of the stomach. He made good progress after the operation, and left the infirmary in two weeks. Re-admitted very much improved, May 14, 1906, for pylorectomy. Weight 8 stone 4 lb.

Second operation, May 5, 1906.—On opening the abdomen, it was found that the entire tumour had vanished, and the abdomen was closed.

July 26, 1906.—(Two months after second operation) the patient came and reported, "Can eat anything at any hour." Weight 9 stone 4 lb.

September 1, 1906.—This condition is maintained.

Though similar cases have been reported by several surgeons, they are in my experience, which has not been inconsiderable, very rare, and it is usually safe to say that a definite pyloric tumour in a patient over 40 is due to malignant growth. A still more difficult case for diagnosis occurred to me on one occasion. The pyloric tumour was surrounded by little sago-grain nodules, and though I did not doubt its malignancy, I excised a gland for
microscopic examination. The pathologist reported tubercle, and the patient was cured by gastro-enterostomy.

**Stomach Cancer.**—Exploratory operation in the belief that the patient was suffering from gall stones. Death.

Male, aged 37; admitted March 12, 1906, complaining of "gall stones."

**History.**—Quite fit up to two years previously. Had an acute attack of pain starting in right hypochondrium and running round the abdomen. It was so severe as to make him shout, vomit, and double up. He has never been jaundiced.

For first four months had on an average one attack weekly, then for three months he had daily attacks, and was also in bed for five weeks. After this he was better, and put on weight. Six months before admission the attacks started again, four months before they became very frequent, sometimes seven or eight in one day, and had persisted up to admission. Four months ago he passed two or three gall stones (about the size of the tip of the small finger). Three months ago he passed twenty-eight stones. One month ago he passed seventeen. The passage of stones did not ease his pain. For the past few months he has had dyspepsia. He stated that he had felt a hard lump in the right hypochondrium. His motions have been clay-coloured lately. Perfect health previously. Before the illness he took three or four glasses of beer daily; no whisky. Father, two brothers, and one sister died of "consumption."

On admission, very thin; 8 stone 6 lb. Pulse, temperature, urine all normal. Urea, 17 grs. per l oz.

**Local.**—Tenderness and rigidity over gall bladder area. No mass palpable. Liver not palpable. No stones seen by X-ray.

**Operation.**—Incision over the gall bladder. This and the ducts were normal. A mass and probable stricture of pylorus were felt. The first incision stitched up and second made from the ensiform cartilage to the umbilicus. The stomach was small, indurated like "malignant pancake," and fixed posteriorly. There were numerous nodules in the mesentery and in the lesser sac. Belly closed up.

**Microscopical examination** of a piece of omentum showed "distinct infiltration with epithelial cells."

March 28, 1906.—Patient has never been well since operation; has had incessant vomiting and uncontrollable diarrhoea. Death, sixteen days after operation.

**Necropsy.**—Peritoneum throughout thick and waxy, especially in pelvis. Mesentery studded with small nodules of growth. Adhesions of small gut all over; no obstruction. Stomach small, hard, and infiltrated, especially so about the middle of the body, where an old ulcer was found at the upper part of the posterior surface; the omentum was adherent to this part on its outer surface. No pyloric stenosis. Glands on the aorta were involved. The gall bladder and ducts were normal.

**Microscopic report of stomach.**—"Colloid cancer."

**Gastrostomy.**—**Indication.**—Stricture of the oesophagus advanced far enough to prevent sufficient milk and eggs being swallowed to maintain the body weight. If the patient is not
hungry and dying of starvation, no satisfactory result will follow the operation. In each case the stricture was malignant.

Kader Senn’s operation (by which an inverted cone-shaped opening is made in the stomach) was done in each instance. Three cases; three recovered.¹

On Ovaries and Uterus.

OVARIOTOMY.—In every case the indication was a large cystic abdominal tumour. In two cases the tumour was strangulated from twisted pedicle. In one a four months’ pregnancy complicated the condition. This patient, as rarely happens, aborted after the operation.

One case is of interest from the youth of the patient and the many suggestions offered as to diagnosis and the microscopic report.

F., æt. 13, schoolgirl; admitted April 28, 1906.

History.—Patient had noticed an abdominal swelling since January 1906. It began on left side, and had gradually grown. No pain. Patient had never menstruated.

On admission, healthy looking girl. Abdomen distended to size of a full-time pregnancy by a nodulated fluid swelling. No abnormal sound heard over tumour. No mammary changes.

Per vaginam.—The vagina easily admitted two fingers. The cervix was high up, conical, and hard. Bimanually under an anaesthetic, uterus felt separate from tumour.

Operation, May 1, 1906.—A large cyst adherent behind to peritoneum of pelvis behind sigmoid flexure, and springing from the right ovary, was evacuated and removed. Left ovary normal.

Pathology.—Large unilocular cyst 9 in. by 7 in. It contained 2 pints of yellow viscid fluid, which coagulated on standing. The cyst wall was very thick and edematous, and presented numerous nodules of hard material.

Microscopical report.—“Appears to be a fibrifying sarcoma.”

May 11, 1906.—Left hospital, healed.

Six cases; six recovered.

Two cases of large malignant DERMOID CYSTS OF THE OVARY were operated upon. The presence of extensive adhesions and secondary deposits on the peritoneum made radical operation useless. After emptying and cleansing the cyst cavity, the opening was closed by purse-string suture and the tumour was returned to the abdomen. Both recovered.

LARGE BROAD LIGAMENT CYST WITH FIBROID UTERUS.—

Enucleation of the cyst and supravaginal hysterectomy.

¹ One of these patients whose stricture was opposite the cricoid cartilage died a fortnight later, a few hours after the removal of the pharyngeal growth, the larynx, and the thyroid gland, which were bound together in an infected malignant growth.
Woman, aged 44; admitted January 28, 1906.

History.—Married twenty-five years; four children, youngest 13;
She was quite well till one year ago, when she had uterine hemorrhage persistently for three months. She then continued well till two months before admission, when hemorrhage returned. For three weeks heavy and continuous hemorrhage has persisted.

On admission, she was blanched from continuous loss of blood. Pulse varied from 110 to 150 and could not be felt at times. Next day she had considerably improved. Her abdomen was distended by a large cystic swelling the size of a full-term pregnancy.

Per vaginam.—A large cystic swelling bulged down into the left fornix; cervix large; hard uterus to right side of the tumour.

Operation.—A large broad ligament cyst was enucleated from the left side. A large hard uterus with the right tube and ovary was removed by supravaginal hysterectomy. Oozing from the bed of the cyst was arrested by gauze packing, one end of which was brought out through an opening in the posterior vaginal wall. The operation appeared to produce no shock or any change in her condition. Died suddenly the same night.

Post-mortem examination showed no hemorrhage or other cause of death beyond fatty liver and kidneys.

One; died.

Ectopic Gestation.—We now recognise, clinically, two classes of case—(1) The rarest and most fatal, in which serious symptoms suddenly develop without any warning. (2) The classical variety, with a history of missed menstruation, pain, a supposed miscarriage, sudden development of serious symptoms, and a pelvic tumour.

In the first, rupture of the tube has occurred generally close to the uterus, often too early in the pregnancy to allow of a missed period, and the abdomen rapidly fills with blood. In such a case, the only symptoms may be, sudden pain, usually abdominal but indefinitely located (in one of my cases it was referred to the epigastrium, in another to the heart), followed by marked pallor, signs of free fluid in the abdomen, and profound collapse. Immediate operation accompanied by intravenous transfusion is then indicated.

One case was of this variety, three of the more slow and well-recognised type.

Four cases; four recovered.

Pregnancy in one Horn of a Bicornate Uterus.—The above name is given to what, so far as I know, is a unique case.

Female, aged 32; admitted November 3, 1905.

History.—Marriage five years ago; miscarriage four years ago. A child was born after prolonged labour two years ago. Menstruation ceased, and she thought herself pregnant at the end of March last (1904). From this time her abdomen increased in size up to August, and her breasts grew larger. In the beginning of August (five months) she "quickened." Just after this she had pain in the back and left leg, which came on suddenly and made her feel sick. She thought labour
was coming on, and sent for a doctor. There was no haemorrhage at that time, but a few days later a "flooding" came on. From this time there had been pain every afternoon and evening, and some haemorrhage. The abdomen diminished in size after this, and so did the breasts. There was nothing extraordinary in the progress of the pregnancy before August.

From the history a diagnosis of ectopic gestation with death of the foetus seemed probable. Physical examination gave the signs of an ovarian tumour with a long pedicle.

Operation, November 9, 1905.—On opening the abdomen the tumour was seen to be the colour of a uterine fibroid. It had a long pedicle, and was easily drawn out of the abdomen. Its appearance, position, and relations to the uterus and broad ligament led to the conclusion that it was an ovarian fibroid. What appeared to be a long Fallopian tube led from the lower pole of the tumour to the left corner of the uterus, which appeared of normal size and shape. The pedicle was ligatured with catgut, and the tumour removed by the ordinary method for ovarian tumours. Section of the tumour was a surprise, for it revealed in its interior a mummified foetus of about five months' gestation. More careful examination showed that the tumour measured from pole to pole 5 in. The breadth at its widest was 3 in., transverse circumference 9 ½ in., longitudinal circumference 12 in. The wall of the tumour was thick, and had the appearance that might be expected in the wall of a uterus under similar circumstances. The normal ovary and Fallopian tube were separate from but attached by a pedicle to the upper pole of the tumour; and both the Fallopian tube and the ovarian ligament, which formed this pedicle, ended there. The tube which connected the tumour to the uterus was no larger, but thicker, than an ordinary Fallopian tube. Recovery.

Pyosalpinx.—Indications.—Definite tubal swellings or the indications (peritonitis and haemorrhage) of active and urgent mischief are the only trustworthy evidences of the need for operation. The majority and nearly all chronic cases recover with time, rest, and mercury internally. Some patients present such urgent symptoms that they are admitted as abdominal emergencies, and are sent for immediate operation with a diagnosis of ruptured ectopic gestation or leaking gastric ulcer. In one such case of this series, in which I confirmed the mistaken diagnosis, operation showed a large acute leaking pyosalpinx and pelvic peritonitis. The less acute cases resemble other conditions that cause localised pelvic swellings complicated by active pelvic peritonitis, and often so closely as to be indistinguishable by the most careful and skilful diagnostician. Excluding pelvic appendicitis, which should never be forgotten, these are: leaking ectopic gestation, small inflamed ovarian cysts, and pelvic tubercle.

My rules as to the operation to be performed for pyosalpinx are:

1. When both tubes and the uterus are infected (uterus enlarged, firm, and adherent), removal of the uterus and appendages
by supravaginal hysterectomy. If the uterus is not removed in these cases, the hemorrhage and pain are apt to continue in spite of the fact that tubes and ovaries are gone; and the experience of having had to perform hysterectomy secondarily on several occasions for this cause appears to me good reason for this view. The method of Howard Kelly, by splitting the uterus, cutting transversely, and turning each half with the broad ligament upwards and outwards from below, is an invaluable addition to pelvic surgery.

2. If the uterus is not badly infected, especially in the case of young women, removal of the diseased tubes alone is the operation of election.

Drainage is necessary in cases where pus has leaked into the pelvis, where intestine is damaged, and in septic as apart from gonorrhoeal cases. In doubtful cases, or in those where all oozing cannot be arrested, I always pack and drain, on the principle that as little as possible should be left to chance.

Two cases; two recoveries.

OOPHORECTOMY.—Indications.—This was done for mammary cancer according to Beatson's suggestions. No one who has watched the effects of this operation in a series of cases can doubt that in some it produces a marvellous change for the better. No cure has occurred in my experience, but in several cases marked arrest of the disease and atrophy of the breast tumours has followed this operation. In one case of this series the operation was performed on a woman still menstruating, for advanced and inoperable cancer. 1 In two cases (exceptionally young women, 26 and 34 years of age) it was performed for cancer ten days after complete removal of the breast by Halsted's method, as a possible preventive of return of the disease, which in such young subjects was to be expected early under ordinary circumstances.

Three cases; three recoveries.

UTERINE FIBROIDS.—In addition to the usual indications for operation,—namely, hemorrhage, pressure symptoms, and rapid growth,—it is important to remember that persistent pain is a serious symptom, and does not occur in uncomplicated fibroids.

Supravaginal hysterectomy was performed in every case, though in one instance the tumour was a cervical one 6 in. in diameter.

In the cervical fibroid the fundus of the uterus, perched upon the abdominal aspect of the tumour, was divided down its centre well into the tumour. The tumour was then enucleated, and the two halves of the body of the uterus were excised by transverse division of the cervix from the centre outwards. By this method, which I have practised during the last seven years, and have

1 December 12, 1906.—It is nine months since the operation, and the primary growth and enlarged axillary and neck glands are still shrinking. Her general condition is excellent.
described for insertion in an early number of the *Lancet*, cervical fibroids can be removed with ease and safety. In the great majority of cases I remove both ovaries. Patients with fibroids or other pelvic troubles who have been ill enough to require operation do not make serious complaint of the symptoms described as consequent on removal of the ovaries.

Seven cases; seven recoveries.

**Cancer of the Uterus.**—One case of cancer of the cervix was operated on by vaginal hysterectomy. The broad ligaments were secured in clamp forceps (hemostatic forceps do as well as any other form, but many are required). A strand of iodoform gauze was left reaching from the pouch of Douglas into the vagina. The forceps were removed in forty-eight hours, the gauze on the fifth day (after the bowels had been moved). Until the gauze was taken out, all urine was passed through a catheter. No further after-treatment was needful. This is my usual routine.

One case; one recovery.

**Ventro-suspension of the Uterus.**—The indications were uterine prolapse, and a fixed, tender, enlarged, and retroflected fundus. In addition for the prolapse cases perineorrhaphy and anterior and posterior colporrhaphy were done at the same time; in the retroflexion case the cavity of the uterus was curetted and drained by iodoform gauze.

Prolapse, two cases; retroflexion, one case; three recoveries.

**On Intestines.**

**Intestinal Obstruction.**

**Acute Obstruction.**

A man, aet. 22, was admitted on 25th March 1906, very ill, with a history of six days' pain and vomiting. His abdomen was greatly distended and tense. Immediate enterostomy with local anaesthesia (eucaine) and Paul's tube.

One case; one recovery.

**Recurring Attacks of Abdominal Pain due to Obstruction or Torsion of an Intestinal Tumour.** Meckel's (?)

M., aet. 51; admitted February 2, 1906.

*History.*—Perfectly well up to fourteen days before admission. (1) He awoke at 1 A.M. with a sudden violent pain across the abdomen, making him groan. (2) Shortly after this, vomiting, which lasted for hours, ensued (the character of the vomited matter is not known). His bowels were opened on the night before. Next morning he sent for a doctor, who found a lump in his right iliac region. Next night he had

1 For my views on this important subject, see *Edin. Med. Journ.*, 1904, July-August.

2 Three months later the abdomen was opened, and the obstruction was found to have resulted from bands due to old localised tubercle. These were divided, and the fecal fistula excised. Recovery.

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some return of pain, and for several days he was very sore. His bowels were always regular until after this attack, when he had to take several doses of oil. He had a good appetite, and had lost weight during the past few months.

On admission.—He was a fairly healthy looking man, with a rather lax and pendulous abdomen. When first admitted a hard rounded nodular mass was felt in the right iliac fossa; it could be moved about freely, down into the pelvis, over into left iliac fossa, and upwards into epigastrium. No signs of free fluid were present. Nothing definite was made out per rectum. On examination later, when the tumour could not be found in the abdomen, it was discovered per rectum lying in the recto-vesical pouch, and could be fixed between the hands bimanually.

Operation, February 5, 1906.—A median incision was made below umbilicus. The tumour was pulled out of the pelvis, and found to arise from small intestine, but not within 3 ft. of the ileo-caecal valve. The bowel was clamped above and below, and the growth removed with 2 in. of gut. End to end anastomosis was performed by Murphy’s button. No evidence of intestinal obstruction, no fluid in the belly, nor other growths were seen.

Pathology.—A large lobulated, partly solid, partly cystic, tumour, of a dark violet-red colour, with yellow patches on it (like an ovarian cyst with twisted pedicle), was found growing from the small gut (probably jejunum, since there were many valvulae conniventes), and attached by a pedicle at its free border; large vessels passed from the mesentery round the gut to reach the tumour, as occurs in Meckel’s diverticulum. On opening the gut a rounded depression was found opposite the origin of the pedicle, which held the tip of a little finger. The floor of the depression (which was covered with valvulae conniventes) was very thin, and the growth could be seen shining through. The whole tumour looked as if it had grown subperitoneally. The cyst contained blood.

Weight, 11½ oz.; circumference, 10½ in.

Microscopical report of the main part of tumour.—“Spindle-celled sarcoma, with marked myxomatous degeneration in places.”

On resection of the small intestine, there was a dense opaque area like a scar under the peritoneum and involving it, at the origin of the tumour. This made me suggest that the attack of pain was probably due to twisting of the pedicle of the tumour.

Microscopical report on the scar-like patch.—“This is probably an early infiltration.” Recovery.

In one case of chronic obstruction a lateral anastomosis was made between the ileum and transverse colon.

M., aged 15; admitted November 10, 1905.

History.—Admitted complaining of diarrhoea, colicky pain, and rumblings. Two years ago he had an attack of stomach pain, vomiting, and diarrhoea, and during the past year every fourth week similar attacks occurred, which lasted for seven days. For the past six months there had been in addition loud belly rumblings, which could be heard in the next room. Between these attacks he was wonderfully well.

Is a 7-months child; he did not walk until the age of 4; when 4 years old had “glands in the bowels”; has always suffered from belly
pain after food, and diarrhoea. For two years between ages of 6 and 8 he had epileptiform fits at intervals of two or three months, but has had none since. Fifteen months ago was in South Shields Infirmary for "consumption of the glands of the bowels" (no operation). One year ago was in Sunderland Eye Infirmary for three weeks suffering from "ulcer" of the left eye. Family history good.

On admission.—Looked healthy, but very thin. Heart sounds, chest, temperature, and pulse all normal.

Local.—His belly was slightly distended and resonant except in right iliac fossa. No pain, tenderness, nor mass was made out. Very markedly exaggerated peristaltic movements, starting in the left side of the lower abdomen, passed across to the right, where they terminated in the region of the caecum.

Diagnosis.—Stricture of ileo-caecal valve, probably tuberculous.

Operation.—A 7-in. oblique incision was made over the caecum. The mesenteric glands were enlarged. The lower 10 in. of ileum were distended and hypertrophied (apparently 2 in. in diameter). The ileo-caecal ring was constricted; on the outside of this the peritoneum was roughened, reddened, and covered with large tubercles. The rest of the gut that was seen appeared normal. Glands extended up to the root of the mesentery, those nearest the disease were distinctly caseous. Lateral anastomosis between the ileum (just above diseased portion) and ascending colon by the Morison decalcified button. Recovery.

RECTAL CANCER.—Two cases of cancer of the rectum, of considerable standing, had invaded the surrounding structures, and caused intestinal obstruction. Both had been treated for months as "diarrhoea and piles." The need for examination of the rectum in cases of "diarrhoea complicated by piles or sciatica" cannot be too strongly impressed upon students, and the importance of rectal examination has become even more pressing, since radical operations for cancer have been attended by such a measure of success during late years.

Colostomy was done in both to relieve the obstructive symptoms. I am very chary about accepting any other indication for this operation.

One case also advanced, but not beyond hope of radical cure, was treated by excision of the whole rectum, coccyx, a part of the sacrum, and the formation of a sacral anus.

Three cases; three recoveries.

EXCISION OF MALIGNANT GLANDS SECONDARY TO CANCER OF Sigmoid.—A year previously I had excised the sigmoid flexure and mesocolon for an advanced malignant growth, and the patient returned, in excellent condition, to see if anything could be done to close the artificial anus. On opening the abdomen (March 20, 1905) with this object, I found further involvement of the mesenteric glands, and removed them by so extensive an operation that I was unable to attempt the cure of the artificial anus at the same time. Recovery.¹

¹ Died 9th October 1906.
Intra-abdominal Abscess; Intestinal Obstruction.

Boy, æt. 8; admitted December 12, 1905. For three weeks he had acute abdominal trouble, pain, and vomiting.

On admission, there was a rounded swelling the size of an orange to the right of the umbilicus, under the rectus muscle.

Operation, December 5, 1905.—An incision through rectus muscle discovered a large abscess covered by omentum. This was evacuated and drained. Death, with symptoms of intestinal obstruction, occurred twenty-four hours later.

Post-mortem showed intestinal obstruction to be due to matting together of coils of small intestine. The mesentery of the small intestine was everywhere studded with enlarged tuberculous glands, many of them calcareous. The abscess was apparently due to suppuration, rupture, and localisation by omentum of one of these. There was no disease of the intestines or of the vermiform appendix. Except locally, there was no peritonitis.

N.B.—The boy had "never ailed" before his present illness, and had looked exceptionally healthy. Death.

Ilio-psoas Abscess.—I have included these cases because my operation brings them into the list of abdominal operations. The principle of the operation is to expose to sight every part of the abscess cavity. For this purpose a long incision is necessary. It extends obliquely from the outer edge of the quadratus lumborum behind to the outer edge of the rectus muscle in front, along the nerve track. The abdominal muscles are divided down to the transversalis fascia, which is then separated from the iliac crest. On drawing this upwards and inwards with the underlying peritoneum and intestines, the hinder part of the abscess is exposed and opened by tearing widely through the ilio-psoas fascia. The cavity of the abscess is thoroughly cleansed with irrigation and curetting, thoroughly dried with gauze mops, and the bone focus in the spine is exposed, if possible, and curetted. (This was possible in these cases because the disease was at the dorso-lumbar junction.) The cavity is packed with iodoform paste. The whole wound is carefully closed by buried sutures of catgut. After-treatment directed to the general condition and rest of the spine are needful. I have done this operation for the last ten years, with no mortality due to the operation, and very satisfactory results.

Two cases; two recoveries.

On Kidneys.

Nephrectomy.—The indication in these cases was the presence of a large and dangerous kidney swelling. It may still be useful, though it has become common knowledge, to emphasise the need for careful examination of the urine from each kidney, and of

1 Iodoform powder made into a stiff paste by mixing with watery solution of hyd. perch. 1 in 1000.
cystoscopic examination before excising a kidney. The lesson has been painfully impressed upon me, because on two occasions within the last ten years I have removed the only functional kidney for pyonephrosis. In one of these cases the patient was too ill to allow of abdominal exploration, and instead of draining the kidney, as I ought to have done in the circumstances, I excised it. She died six days later from uraemia.

Post-mortem showed that the left (remaining) kidney had been destroyed years before by tubercle.

In the second case the patient's condition allowed of exploration of the opposite kidney. It appeared to be of normal size and shape, but felt softer than natural (and this I remarked to my assistant at the time, though not attaching sufficient importance to it). The destruction of the enlarged and diseased kidney by suppurating hydronephrosis seemed to be so complete that I removed it. The same sequence of events, good recovery from the operation, but complete anuria, as in the first case, followed, and death on the eighth day. The kidney excised had a stricture at the upper end of its ureter. The opposite kidney was entirely destroyed by gummatous deposits, the result of old syphilis, but still retained its normal shape and size, as if it had been stuffed with gummatous matter.

The notes of the present cases are:

Case 1.—Female, æt. 36; admitted January 10, 1906. Twenty-four years before, patient began to have severe attacks of pain in her right side. These attacks lasted for twelve years. Four years before, shortly after a confinement, she was jaundiced for a month. Six months before, aching pain commenced in the right loin. At the same time she vomited about a quarter of an hour after taking food. These symptoms continued for five months. Shortly after the onset of pain a swelling appeared for the first time in the right side. She did not think it was increasing in size. She had noticed her water very thick. She thought she had got thinner.

On admission.—She was a healthy looking woman with a normal temperature. There was a tumour in the right renal region the size of a foetal head.

Per vaginam.—The right ureter was considerably thickened, and pressure on it caused an urgent desire to micturate. The urine, on standing, showed a thick, purulent sediment; (by segregator),—that from the right kidney was opaque from pus, and contained 1 gr. of urea per oz.; that from the left was perfectly clear, and contained 8 grs. of urea per oz.

Operation, January 16, 1906.—Nephrectomy. The kidney measured 5½ in. by 4½ in., was generally distended by pus, each calyx being separately involved. Very little normal kidney tissue remained. A large uric acid branched calculus filled the pelvis.

Case 2.—Male, æt. 38; admitted December 27, 1906. Eight years before he had a sharp pain in his belly, travelling down to both groins. Seven weeks before he had pains in the back. Six weeks before he felt
ill, and had night sweats. Four weeks before he felt a lump in his right side. Three weeks before he had frequency of micturition and pain just before the act, and passed small quantities of foul urine. For years he had noticed a white urinary deposit, but had never seen blood.

On admission.—A thin, ill-looking man. Pulse and temperature normal. Urine alkaline; sp. gr., 1015. Albumin and pus were present. Urea average, 250 grs. per day. No tubercle bacilli were found. Examination of the bladder was attempted on two occasions, but bleeding was so readily produced that the results were negative. The abdomen was distended by a cystic swelling the size of a seven-month pregnancy, occupying the right kidney region.

Operation, January 6, 1906.—The opposite kidney was first felt through an anterior incision. The swelling was incised, and found to contain non-smelling pus in large quantity; after evacuation of its contents, and clamping the opening, the kidney with the thickened upper half of the ureter were removed.

Pathology.—An immense pyonephrotic kidney. No stone was found in thickened ureter. The calyces were dilated and converted into pus cavities. The walls were lined by granulation tissue. A large stone, \( \frac{1}{2} \) in. by \( \frac{3}{4} \) in., was found in the upper part of the kidney nowhere near the pelvis.

The pathologist’s report after microscopic examination is: “Though not certain, has little doubt that it is tuberculous.”

Case 3.—Female, age 51; admitted February 16, 1906. Six weeks before attacks of pain commenced in the left lumbar region. They came on suddenly, were very severe, and recurrent once a week. Hematuria followed each attack. Three weeks later she noticed a lump in her side the size of a hen’s egg, which had grown gradually larger. Since then there had been no more attacks. She had lost much flesh lately.

On admission.—A small, thin, feeble-looking woman. Temperature, 99°. A large (size of adult head), solid, fixed mass was present in the left kidney region. Urine neutral; sp. gr., 1015. No albumin nor sugar. A mucous deposit present.

On segregation, the urine was as follows:

From the right side—four times quantity from left. Urea, 7 grs. per oz.

From the left side—defective quantity. Urea, 3 grs. per oz.

Operation, February 24, 1906.—There was a large growth in the lower half of the kidney. It was adherent to the vessels in the descending mesocolon, and there was a large irremovable mass of malignant disease on the inner border of the kidney. As a palliative operation, the kidney, the tumour, and a portion of adherent peritoneum were excised.

Pathology.—On section, the growth looked like a hypernephroma. The ureter was blocked with blood clot.

Microscopical report.—Hypernephroma.

Five months later the patient returned in much improved condition, but with evident abdominal growth.

Three cases; three recoveries.

The operation in the first case was done through the ordinary
oblique incision. In the second and third through an incision which I introduced about seventeen years ago. After experiments on the dead body, I found that the best access to a kidney pedicle and the easiest removal of the kidney was secured by a T-shaped incision, the vertical portion passing through the rectus muscle, and the transverse back into the flank. For large kidneys I always use it still, and have discovered no drawback. Hernia is the objection raised, but I think we have learned that it is equally true to say that hernia may be provided against through any abdominal wall incision, while at the same time it is impossible to always prevent hernia.

On Bladder and Prostate.

Hour-Glass Hydrocele.

A male, alt. 18; admitted December 20, 1906.

On admission there was a large scrotal partially reducible swelling on the left side, with a marked expansile impulse on coughing. (A variety of trusses had been tried during the past year, and failed to retain this “rupture,” and he was sent in for a radical cure of hernia.) Pressure above Poupart’s ligament discovered a large deep cystic swelling which could also be felt bimanually (a finger in the rectum and hand on abdomen).

Operation, December 23, 1905.—An attempt was made to dissect out the entire sac through the inguinal canal. The portion from the scrotum was easily dealt with, but the pelvic portion was so thin and so closely adherent to the peritoneum that several holes were made in this, and it is doubtful if the whole of the upper part was excised, though the greater portion of it was. After closing the peritoneal openings, the inguinal canal was closed by Bassini’s methods.

One case; one recovery.

Suprapubic Cystotomy.—Indications.—In one case, that of a child with a large stone and acute cystitis, the bladder was opened and drained, and the stone removed. In three cases the operation was performed for prostatic obstruction. I do not like the ordinary operation of suprapubic prostatectomy in spite of the published results. It is done in the dark, removes more than is essential, occasionally requires considerable force, and is only accomplished by tearing all resisting tissues. No operation with these disadvantages can have come to stay. I do not yet know that in detail the operation I perform is a solution of the difficulty, but it is based on two important principles—(1) To see the cause of the obstruction, and (2) to remove it only.

The bladder is widely opened transversely with the patient in the Trendelenburg posture, and by means of retractors, mops, and a good light the internal meatus is fully exposed to view, and the prostatic urethra explored by a finger. Any obstruction is cut away with punch forceps, or adenomata are enucleated, all bleeding
is arrested, and the bladder wound is sutured except where the drainage tube emerges.

Four cases; four recoveries.

**On Liver.**

**Epiplorraphy.**—*Indications.*—Ascites the result of alcoholic cirrhosis.

A male, æt. 49; admitted January 3, 1906. Since his youth the patient had been a free consumer of beer, and for six months his health had been failing. During three weeks before admission he had been tapped four times, and more than a gallon of fluid was removed on each occasion.

*On admission.*—His general condition was fair. His kidneys and other organs appeared to be healthy. His abdomen was much distended.

**Operation, January 6, 1906.**—A median incision was made above umbilicus. (The diagnosis of hepatic cirrhosis was verified by inspection of the liver and palpation of the much enlarged spleen.) A second incision large enough to admit a drainage-tube was made midway between the umbilicus and pubes. The abdominal cavity was mopped dry, the surfaces of the liver and spleen and adjoining peritoneum were roughly scrubbed with a mop, and the omentum was stitched across the parietal peritoneum lining the anterior abdominal wall. The upper wound was entirely closed. Broad bands of strapping were firmly applied over dressings from the costal margin above to the neighbourhood of the tube below.

*After progress.*—The tube was kept in for ten days, during which it was regularly exhausted by a tube and syringe passed into the rectovesical pouch. It was then removed. He was discharged with the wounds healed, January 23, 1906 (seventeen days after operation). On 28th February he returned with fluid in the abdomen; tapped—28 pints removed. Since then he had twice been tapped by his own doctor, but when he last came to the hospital in June, three and a half months after the last tapping, he was perfectly well, and there was no fluid in his abdomen.

**Summary of Results.**

**Operations for Radical Cure of Hernia—**

| Type       | Number |
|------------|--------|
| Inguinal   | 29     |
| Femoral    | 2      |
| Umbilical  | 1      |

Recoveries, 32.

**Appendicitis—**

| Type       | Number |
|------------|--------|
| Acute      | 3      |
| Abscess    | 11     |
| Recurrent  | 11     |

Recoveries, 24; death, 1.

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**Gall Stones—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Cholecystotomy             | 2     |            |        |
| Cholecystostomy            | 3     |            |        |
| Cholecystectomy            | 3     |            |        |
| Choledochotomy             | 3     |            |        |
| **Total**                  | **10**| **8**      | **2**  |

**Stomach Operations—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Gastrostomy                | 3     |            |        |
| Gastro-enterostomy        | 9     |            |        |
| Exploratory               | 1     | **12**     | **1**  |
| **Total**                  | **13**| **12**     | **1**  |

**On Ovaries and Uterus—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Cases                      | 30    | **29**     | **1**  |

**On Bladder and Prostate—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Cases                      | 4     | **4**      |        |

**On Intestine—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Lateral anastomosis        | 1     |            |        |
| Resection                  | 1     |            |        |
| Enterostomy                | 1     |            |        |
| Excision of rectum         | 1     |            |        |
| Inguinal colostomy         | 2     |            |        |
| Excision of secondary glands| 1   |            |        |
| **Total**                  | **7** | **7**      |        |

**Nephrectomy—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Cases                      | 3     | **3**      |        |

**Other Operations—**

| Procedure                  | Cases | Recoveries | Deaths |
|----------------------------|-------|------------|--------|
| Cases                      | 5     | **4**      | **1**  |

**Total—**

| Category       | Cases | Recoveries | Deaths |
|----------------|-------|------------|--------|
| Recoveries     |       | **123**    |        |
| Deaths         |       |            | **6**  |