For this test the laboratory strain was employed. Curiously enough, her own strain was agglutinated very slowly by G.'s serum, but was agglutinated by anti-typhoid horse serum in dilution of 1 in 8,000. The G. strain had also considerable virulence for the guinea-pig; 2 c.cm. of a twelve-hour bouillon culture inoculated intraperitoneally caused death within twenty-four hours.

The patient G. was isolated on September 24th and treated with intestinal antiseptics. On October 12th samples of faeces and urine of G. were received. Typhoid bacilli were not found in either. On October 21st the *B. typhosus* was readily isolated from the faeces, and a fourth sample received on November 29th was also positive. The urine remained negative.

With the isolation of G., it was hoped that no more cases of typhoid fever would recur, but this did not prove to be the case. Towards the end of October a case of typhoid fever occurred in the small asylum, and accordingly we proceeded to examine the faeces of all the female patients systematically (34 in number). Another carrier was thus brought to light. This patient, M.C., is about 60 years old. She had an attack of typhoid fever in 1895, and has been continuously in the small asylum since that time. She is able to walk about and do a little work, but she has never been employed in the kitchen. Her habits are cleanly, and she has occasionally assisted in the laundry. It has to be noted that though there are two separate blocks, they are really one, from the extent of communication that goes on between them. The dinners are cooked at the main asylum and brought over to the smaller block. The clothes are washed also at the main asylum, but patients from the small asylum would occasionally assist. As in G.'s case, the plates of M.C. showed almost pure typhoid to the exclusion of lactose fermenters.

The strain obtained from M.C. was agglutinated by antityphoid serum in dilution of 1 in 7,000. The serum agglutinated the laboratory strain, her own strain, and the G. strain up to 1 in 200. The M.C. strain had also the same degree of virulence for the guinea-pig as the G. strain. On November 29th, the *Bacillus typhosus* was again isolated from the stools of M.C. but not from the urine.

So far the blood has not been examined for typhoid bacilli in either G. or M.C.

All the females in both buildings had now been gone over, but it was felt advisable to repeat the examination in some of them, especially those who had suffered from typhoid fever in recent years.

A third carrier negative on the previous occasion was thus revealed.

This patient, C., is about 30 years old and had typhoid fever in 1904. She is not of dirty habits, and has never been employed in kitchen or laundry. The plates prepared from C. showed very few colonies, and in this respect differed from those of G. and M.C. The serum gives a marked Widal reaction, and the strain obtained from the stools is agglutinated by antityphoid serum in dilution of 1 in 7,000.

Up to the present time, therefore, we have succeeded in isolating three typhoid carriers out of a total of ninety females examined. The male patients have so far not been investigated, but we are at present considering this step.

Prophylactic Measures.

We shall conclude with some observations as to the treatment adopted in these cases. In addition to isolation and disinfection of excreta, so-called intestinal and urinary antiseptics have been employed in our cases, but it is not at all likely that they will do the slightest good. Other workers have recorded quite negative results with milk diet, chloroform, hepatic cholagogues, salol, etc.

It seems probable that in these cases the bacilli vegetate in the gall bladder, from which they are intermittently ejected into the intestine. An interesting case, showing the importance of the gall bladder as the seat of vegetation of the *Bacillus typhosus*, is recorded by Levy and Kayser (1907). A female asylum patient who had been isolated as a typhoid carrier on October 17th, 1905, died on October 18th, 1906, after a short illness, in which fever, pulmonary trouble, and stupor were marked symptoms. At the necropsy, hypostatic pneumonia was found, the spleen was slightly enlarged, and a gall stone was present in the fundus of the gall bladder. Typhoid bacilli were isolated from the liver, spleen, bile, gall bladder wall, and interior

of gall stone. In view of the general distribution of the typhoid bacillus in this case, the authors conclude that death was due to an autoinfection from the gall bladder, where the bacillus had so far led a saprophytic existence.

Dehler (1907) has actually performed cholecystostomy and drainage of the gall bladder in two asylum carrier cases, though in neither were there symptoms pointing to gall-bladder disease.

Numerous examinations of the stools were made after the operations, and it was found that in a few months the typhoid bacilli ceased to appear in the faeces, and the patient's serum failed to agglutinate the typhoid bacillus.

It cannot, however, be expected that this form of treatment will become popular, at least where otherwise healthy carriers are concerned.

The appropriate treatment of these cases presents many difficulties, but one conclusion is clear—that a person who is found to be a typhoid carrier should be kept constantly under bacteriological supervision. Perhaps also many typhoid epidemics would be avoided if the excreta of recovered typhoid cases (especially female cases) were examined systematically (say once a month) up to six months after recovery.

BIBLIOGRAPHY.

1906. Kayser (1): Ueber die Gefährlichkeit der Typhusbazillenträger. *Arb. a. d. kais. Gesundh.*, Bd. 24, p. 176.
1906. Kayser (2): Milch u. Typhusbazillenträger. *Arb. a. d. kais. Gesundh.*, Bd. 24, p. 173.
1907. Kayser (3): Ueber Untersuchungen bei Personen die vor Jahren Typhus durchgemacht haben und die Gefährlichkeit von "Bazillenträgern." *Arb. a. d. kais. Gesundh.*, Bd. 25, p. 223.
1906. Klinger: Ueber Typhusbazillenträger. *Arb. a. d. kais. Gesundh.*, Bd. 24, p. 91.
1906. Nieter u. Liefmann: Ueber bemerkenswerte Befunde bei Untersuchungen auf das Vorhandensein von Typhusbazillenträgern in einer Irrenanstalt. *Münch. med. Woch.*, p. 1611.
1907. Nieter: Ueber das Vorkommen und die Bedeutung von Typhusbazillenträgern in Irrenanstalten. *Münch. med. Woch.*, p. 1622.
1906. Levy u. Kayser: Bakteriologischer Befund bei der Autopsie eines Typhusbazillenträgers. *Münch. med. Woch.*, p. 2434. Also, *Arb. a. d. kais. Gesundh.*, Bd. 25, p. 254, 1907.
1907. Friedel: Zur Casuistik der Typhusträger. *Zeitsch. für. Med.-Beamt.*, No. 6.
1907. Dehler: Zur Behandlung der Typhusbazillenträger. *Münch. med. Woch.*, No. 16 and No. 43.
1907. Soper: The Work of a Chronic Typhoid Germ Distributor. *Journ. Amer. Med. Assoc.*, vol. xlviii, p. 2019.

THE CONTENTS OF IRREDUCIBLE INGUINAL HERNIAE IN FEMALE SUBJECTS, AND TRUE HERMAPHRODITISM.

By EDRED M. CORNER, M.C.CANTAB., F.R.C.S. ENG.,
SURGEON IN CHARGE OF OUT-PATIENTS TO ST. THOMAS'S
HOSPITAL AND TO THE CHILDREN'S HOSPITAL,
GREAT ORMOND STREET, ETC.

THERE is a condition of inguinal hernia found in females which deserves much more attention than has hitherto been given to it. It is concerned with the irreducibility of the hernia, and differs in a most marked manner when found in adults from that when found in children. This condition is the presence of some of the female internal genitalia in the hernia sac. In order to arrive at extensive information on the subject, I asked Mr. S. G. Allen, F.R.C.S., of the Children's Hospital, Great Ormond Street, to obtain for me some figures of the irreducible herniae in female patients admitted at that institution. He looked through 11,800 cases, and amongst them found 103; 90 were reducible, 4 were irreducible, and 9 were strangulated. Of the latter 13, the contents of the hernia were recorded, every one containing some of the internal genitalia of the female. The uniformity of the condition in them is most striking.

To contrast with this, Mr. L. E. C. Norbury, F.R.C.S., Surgical Registrar to St. Thomas's Hospital, made for me a list of the irreducible inguinal herniae of female patients admitted to the hospital. Since 1878, 52 such cases have been admitted and operated upon. Of these 52, 3 were children, and have been added to the 13 of Great Ormond Street, bringing the total up to 16. These two groups of hospital cases, children and adults, possess distinctive features as regards the age of the subject and the contents of the hernia.

Age.

Class 1.—All were infants, the youngest being 9 weeks and the oldest 13 months.

Class 2.—All were adults, the youngest being 15 and the oldest 19. The generality of the patients were between 40 and 50.

Contents of the Hernia.

Class 1.—Some of the internal generative organs were found in 15 out of 16 cases, approximately 94 per cent. of the infants.
Class 2.—Amongst the irreducible herniae of female adults, the internal generative organs were only found four times, approximately 8 per cent.

In order to direct further attention to the striking characters of the irreducible inguinal hernia in infant and adult females, the cases are recorded likewise in tabular form, and to this I have added four met with by myself.

The tables demonstrate the fact that an irreducible hernia in a female infant is almost sure to contain some of the internal genitalia; whilst in an adult, though it may, it is unlikely to do so. An irreducible hernia may be present under one of four forms—simple irreducible, inflamed, incarcerated, or strangulated. As the two middle conditions are of the very rarest occurrence, there is no practical use in discussing them. But simple irreducibility and strangulation are not infrequently found, so that it is worth while to discuss the peculiarities they possess.

1. When *irreducible*, the hernia of a female child will be felt to contain a small rounded body, about the size of a small pea, which is freely movable upon its pedicle. It is the ovary.

2. When *strangulated*, there is an irreducible non-translucent mass over the external abdominal ring through which it protrudes. If it does not contain bowel, as was only found in 15 per cent. of the irreducible female herniae of infants, there need be no sickness and the bowels will act. The lump gets larger and larger, but, strange to say, may cause the infant very little inconvenience. This seems to be accounted for by the strangulation of the tube and ovary causing the distension of the ovary and tube with blood and serum, producing in time a kind of an infiltration anaesthesia. Otherwise it is hard to understand the apparent painlessness of the hernia.

A *diagnosis* is easily made. In fact, it is more than suggested by the fact that the case is one of an irreducible inguinal hernia in a female infant. When the hernia is simply irreducible, the ovary and tube can be easily felt. When the hernia is strangulated and has no impulse on crying, the diagnosis is easily made by the nontranslucence of the swelling and the association of it with no more symptoms than, perhaps, some slight irregularity of the bowels and the digestion.

The formation of these herniae is of some interest, and is doubtless connected with an excess of the natural descent of the ovary we know to occur, like that of the testicle—a fact demonstrating that the hernia is of truly congenital origin. But the hernia contents need not be, and in fact are not necessarily, present at birth. For instance, I saw a child in whom the mother was certain that the irreducible lump came on the left side when the baby was a fortnight old, a similar swelling appearing on the right side when she was 4 to 5 weeks old; so that it may be said that the ovaries appear not at, but shortly after, birth. Their irreducibility to some extent depends on the difficulty that there may be in manipulating a small movable body through a small hole. I believe it to be unusual, but I have certainly seen one of these organs undergo spontaneous reduction. But it is unwise to wait in expectation of this, because the mobility of the ovary lends itself to torsion of its stalk, leading to swelling by impeding the return of blood in the veins, attacks of inflammation, which may destroy the gland entirely, and, in any case, will prevent its full maturation and development at puberty. The use of a truss is absolutely contraindicated on account of the injury it may do to the gland. Operation, then, is the only treatment for these cases. With simple irreducibility the gland may be returned to the abdomen and the hernial sac removed. With strangulation, owing to the lateness when usually the diagnosis is made, it will be necessary to remove the ovary in the majority of the cases, but if the diagnosis is made early the gland need not be sacrificed.

Before concluding this brief notice, there is another imperfectly known and most interesting feature of the generative glands found in the inguinal hernial sacs of female children. If they are removed and examined with the microscope, in some cases they will be shown to be immature testicles, and not ovaries. When this is so, the

case is truly hermaphrodite—male generative glands and female generative organs. On this account it has been advised that these glands be removed, so as to avoid the

TABLE I.—CONTENTS OF IRREDUCIBLE INGUINAL HERNIA (INFANTS).

—	—	Age.	Side of Hernia	Contents of Sac.
1	Great Ormond St. Hospital	6 months	R.	Tube and ovary.
2	Ditto	9 weeks	R.	Ovary.
3	Ditto	8 months	R.	Tube and ovary.
4	Ditto	6 months	L.	Uterus, ovary, tube, and small bowel.
5	Ditto	3 months	L.	Tube and ovary.
6	Ditto	6 months	L.	Ovary.
7	Ditto	5 months	R.	Ovary.
8	Ditto	7 months	L.	Tube and ovary.
9	Ditto	11 weeks	R.	Ovary.
10	Ditto	5 months	L.	Fallopian tube.
11	Ditto	12 months	L.	Tube and ovary.
12	Ditto	13 months	R.	Ovary.
13	Ditto	12 months	R.	Tube and ovary.
14	St. Thomas's Hospital	3 months	L.	Ovary, tube, and bowel.
15	Ditto	12 months	L.	Ovary.
16	Ditto	9 months	R.	Small bowel.
17	Edred M. Corner	11 weeks	R.	Ovary and tube.
18	Ditto	11 weeks	L.	Ovary.
19	Ditto	6 months	R.	Ovary.
20	Ditto	9 months	L.	Ovary and tube.

The percentage of those which contained female generative organs for these 20 cases is 95.

TABLE II.—CASES ARRANGED ACCORDING TO THE CONTENTS OF THE HERNIA.

Infants (Great Ormond Street).

Contents of Hernia.	No. of Cases.	Percentage.
Ovary	8	40
Ovary and tube	8	40
Ovary and tube and bowel	1	5
Ovary, tube, uterus, and bowel ..	1	5
Fallopian tube	1	5
Bowel	1	5
Female internal generative organs present	—	95
Bowel present	—	15

Adults (St. Thomas's Hospital).

Pyosalpinx	1	2
Hydrosalpinx and ovary	1	2
Fimbriae of Fallopian tube with hydrocele in the sac	1	2
Fallopian tube, ovary, small bowel, and omentum ..	1	2
Small bowel	19	39
Small bowel and omentum	9	18
Omentum	12	25
Omentum with secondary carcinomatous growth ..	1	2
Omentum with large bowel	1	2
Fatty appendix epiploica	1	
Containing internal female generative organs	—	8
Containing bowel	—	65

child growing up to be an imperfect man. This is extremely doubtful advice, because an emasculated being is not female, but of a neuter sex, and has been deprived of certain perfected secondary characteristics, such as bodily and mental energy.

A NOTE ON NEPHROPEXY.

By FREDERIC EVE, F.R.C.S.,
SURGEON TO THE LONDON HOSPITAL.

THE subject of the methods of performing nephropexy having been opened by Mr. Billington and others in recent numbers of the JOURNAL, I send a description of an operation which I have performed for some years.

The principles underlying the operation which I have taught are as follows:

1. That owing to the friability of the renal tissue the capsule only should be used for its fixation.
2. That a decorticated surface of the kidney should be brought into immediate relationship with the quadratus lumborum and psoas on which it normally lies without the intervention of any connective tissue.
3. That no sutures should be affixed to the capsule of the kidney in its upper third, as when passed through the parietes they would as a rule fix the kidney in a position below that which is normal.

THE OPERATION.

The kidney is exposed through a vertical incision, with a slight inclination outwards, running parallel with the outer edge of the quadratus lumborum. The fatty capsule is opened and stripped from the kidney, which is then brought out through the wound. An incision is made through the kidney capsule on its posterior surface parallel to and about three-quarters of an inch internal to the convex border. This is carried from above, at the junction of the upper with the lower two-thirds, downwards to the inferior pole. The capsule is then stripped off the posterior surface from the incision as far as the hilum. And again it is stripped from the incision in a forward direction over the convex edge to the middle of the anterior surface. The detached flaps of capsule are then rolled or folded together, so that there are two rolls parallel with the axis of the organ, one lying on the posterior surface just external to the hilum, the other about the middle of the anterior surface of the kidney. Through these rolls of capsule silk sutures are passed at equidistant points, three on the posterior and three on the anterior surface; they range from the inferior pole to the junction of the upper with the lower two-thirds of the kidney. To ensure a firm hold each suture is carried two or three times through the rolled-up capsule. Each suture is then clamped with a separate pair of artery forceps, the needle—a small curved one—being retained in the suture; and to prevent confusion a different pattern of forceps is placed on the anterior from those on the posterior row of sutures. The kidney is then replaced in the abdomen. The fatty capsule posteriorly is pushed inwards or cut away, and the loose cellular tissue is stripped from the surface of the quadratus lumborum. The kidney is held forwards by a broad retractor, while the operator passes the three needles carrying the posterior sutures transversely through the substance of the quadratus lumborum, the uppermost suture being placed as high as possible. To do this properly the operator must be provided with an electric forehead lamp. These sutures are then tied so that the roll of capsule posteriorly is firmly fixed to the anterior surface of the quadratus lumborum. Next the anterior lip of the wound is retracted and the three anterior sutures are carried through the fascia transversalis and subjacent muscle as far towards the middle line as possible. The anterior row of sutures I consider of little importance, and have sometimes omitted them. The wound in the muscles is closed with catgut, and the skin wound with silkworm gut. The operation is rendered easy by the method of passing sutures through the detached capsule before the kidney is replaced in the abdomen.

I have seen several of my patients at intervals of some years after the operation, and have always found the kidney firmly fixed, and in good position.

MEMORANDA: MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF INJURY TO THE SHOULDER.

THE following case, being of an uncommon character, seems worth recording. The patient, a laundry vanman, aged 18, consulted me on October 3rd, 1907, stating that he had fallen from his bicycle on to his outstretched hand.

On examining him the head of the humerus was very distinctly felt, resting in the subspinous position. The dislocation was reduced with very little difficulty by Kocher's method. After reduction no shortening could be detected. The arm was fixed to the side for five days, after which massage and passive movements were commenced. As considerable difficulty occurred in movement, the humerus getting apparently "locked" with the arm at an angle of 30° from the vertical, my friend Dr. Nuttall kindly skilographed the case. The picture obtained revealed an impacted fracture of the anatomical neck, and showed that the locking was due to the greater tuberosity impinging on the coracoid process.

Nevertheless the upward movement of the arm is only slightly lessened, the patient being able to bring the hand well above the head and to reach the back of the neck. He has now returned to his work and with the exception of difficulty in raising parcels high with the right hand, he complains of no inconvenience. In the skilogram the line of fracture can be distinctly seen, together with the callus thrown out around the shaft of the humerus.

Colwyn Bay.

CRAUFORD MATTHEWS, M.B., Ch.B.

DIABETES MELLITUS IN THE CHINESE.

IN reference to the discussion on diabetes in the tropics at the last annual meeting, and to the question raised thereat as to the immunity from the disease which the Chinese as a race are supposed to enjoy, the following cases may prove of interest.

In 1902 I had under my care at Tamsui, North Formosa, a well-to-do Chinese farmer, aged 55, who presented most of the symptoms of typical diabetes mellitus. He passed daily between 150 and 200 oz. of urine of specific gravity 1036, containing 2 to 3 per cent. of sugar. He suffered from pruritus, eczema, and boils, and after about four months of treatment double cataract developed rapidly. His condition went from bad to worse, and he eventually died six months after I first saw him. Drug treatment did not benefit him in the slightest degree, while dieting proved too irksome.

His sister, a married woman aged 45, next consulted me for dyspepsia and increased secretion of urine. She also was found to be suffering from diabetes mellitus, and passing approximately the same percentage of sugar daily as her brother. The after-history of her case was not obtained, she having attended the dispensary but twice.

Neither brother nor sister indulged in European food; they were typical Chinese of the moderately well-off class. Formosa is but ninety miles from the mainland of China, and has been occupied by the Chinese for at least 300 years, the customs and habits of the present population differing little, even under Japanese rule, from those of the mainland dwellers.

Glycosuria is not an infrequent cause for refusal of life insurance risks in China. Out of some 200 examinations personally made in widely-separated districts I have come across 3 examples, 2 of which showed the presence of albumen in addition to sugar, the applicants being over 50 years old. The other case was an intermittent glycosuria in a man aged 30. In the out-patient department of a native hospital in Nanking one typical case of diabetes mellitus was detected out of some 24,000 individual surgical and medical cases drawn almost entirely from the very poor and the labouring classes. Perhaps the idea that diabetes was an unknown disease amongst the Chinese arose from the fact that until comparatively recently foreign medical treatment was better appreciated by the coolie class than by the wealthier and more conservative merchants and officials, and because examinations of wealthy natives for insurance were not so common in China ten years ago as they are to day.

Nanking, China.

A. C. LAMBERT, M.D., C.M.,
Trin. Univ., Toronto, Canada.