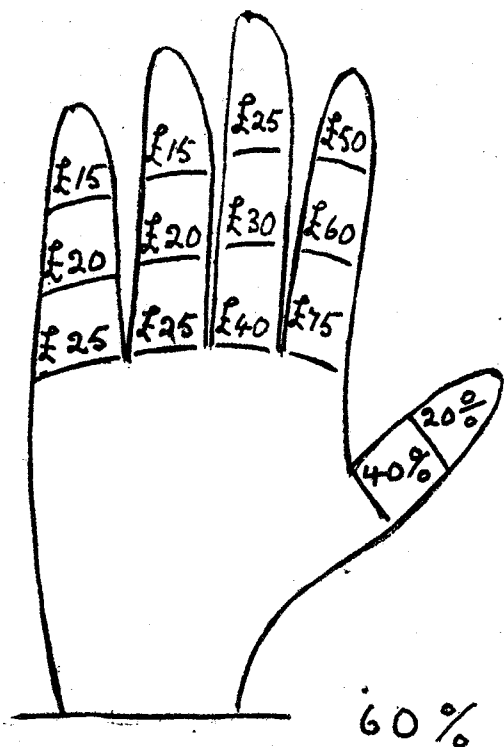


*The Prognosis after Surgical Interference.*

In assessing hand injuries the prospects of improvement by surgical interference will be kept in mind. The assessor will have the opportunity of utilising his surgical knowledge and of making suggestions to the parties concerned. A hand with one finger permanently ankylosed and bent into the palm may seriously interfere with the power of grip of the hand. Amputation is called for as the only means of restoring the usefulness of the hand. Refusal to undergo operation would be deemed unreasonable. Accidents arising in the employment of large corporations have the advantage that suitable work can be offered to men with certain disabilities. Our continental neighbours, owing to being State owners on a large scale, are in this position, instead of having to rely on the generosity of private concerns for the employment of disabled men. This is specially true when dealing with army pensioners. When an injured hand has soundly healed the



Assessments for injuries in accordance with the scale of the Ministry of Pensions. Right hand, 60 per cent.; right thumb, 40 per cent.; four fingers (right hand), 40 per cent.; two fingers, 20 per cent. Ankylosed fingers same scale as for loss of fingers or parts thereof.

question of change of occupation has often to be considered, and there are a variety of occupations open to men who are more or less one-handed. Considering the frequency of hand accidents amongst the industrial population the faculty of being ambidexterous should be acquired in early life.

The assessment of hand injuries might almost be said to commence in the operation theatre. I remember a case in a casualty clearing station in France as an example. A man was brought in with a gunshot wound of the right hand. The proximal phalanx of the thumb was shattered, the distal phalanx undamaged. The thumb was hanging loosely on to the hand. Instead of amputation of the whole thumb, I advised clearing away the debris of the shattered first phalanx, "dropping down" the second phalanx and suturing its tissues to those at the metacarpo-phalangeal joint. This the operating surgeon did very neatly, and the man was sent down the line with a one-phalanx thumb, nail intact.

A diagram of the right hand, with appropriate assessments in accordance with the Ministry of Pensions, is appended to illustrate the facility with which assessments can be made when working to a fixed schedule, and it is to be hoped that the Workmen's Compensation Act will be improved on similar lines.

## THE ENTEROCOCCUS AS A FACTOR IN CERTAIN TYPES OF DYSENTERY.

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AND

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THAT the enterococcus is very frequently the cause of a severe type of dysentery is not always recognised in this country, where this micro-organism has not been studied as abroad; in fact, in several of the most popular English bacteriological text-books it is not even described.

The organism was first described by Thiercelin, has also been described by Escherich, Tavel, Éguet, and Besson as an encapsulated streptococcus, and may be considered either as a saprophytic micro-organism which under certain conditions may become pathogenic or, as suggested by d'Este Emery, a pneumococcus which has largely lost its parasitic properties and become very pleomorphic.

If a microscopical examination only is made the organism is often called either a pneumococcus or a streptococcus, according to the form it has assumed, from the fact that it so closely resembles the pneumococcus and also occurs in streptococcus-like chains. It is, both in morbid material and in pure culture, strongly Gram-positive, and most frequently occurs as a diplococcus, of which the elements may be both lanceolate and of equal size, or unequal and one element rounded; a capsule is occasionally found.

In France it is regarded as a very common cause of enteritis in children and adults, as well as of infection of the liver; it is also stated to be the cause of some cases of broncho-pneumonia and of meningitis. The micro-organism is widely distributed, occurring in the alimentary canal, vagina, &c. Schmitz (1913) in bacteriological examinations of 3500 specimens in Germany found it only 15 times, and never in the sputum or stools in health.

The enterococcus is easily cultivated, growing at 20° C., though its optimum temperature is 37° C. Cultures on agar give small round isolated colonies, resembling at first those of the pneumococcus, though later becoming more opaque. On lactose-litmus agar it produces acid and the colonies are minute, resembling those of the streptococcus. At the end of seven days' incubation the colonies are still discrete, slightly larger, and more opaque. The growth on gelatin resembles that of the streptococcus, and the medium is not liquefied. In peptone broth there is general turbidity with deposit and clearing of the supernatant fluid after 24 hours, and it may or may not coagulate milk in which it does not grow well. In lactose, maltose, mannite, and glycerine it produces acid without gas, and it does not produce indol.

The organism is a facultative anaerobe, very virulent to mice, less so to rabbits. The enterococcus is very tenacious of life; according to Thiercelin it remains alive after four years.

*An Interesting Outbreak.*

An outbreak of a very severe type of dysentery, with a mortality of 42 per cent., occurred in the Chapel-en-le-Frith Workhouse in 1919. Dr. Francis G. Bennett, the medical officer to that institution, has kindly given me very full notes of the outbreak, and the available evidence showed enterococcus infection. Dr. Bennett ascribes the cause of the outbreak to the opening up of the floor of a ward, because the patients had been previously resident in the institution for years, had no suspicious article of diet, and had not, as far as can be known, been infected from outside agencies. No further cases have occurred since the cavity has been disinfected and filled up.

Considering the longevity of this micro-organism, this view of the cause of the outbreak is quite probable, but the debris was not sent for examination. The floor of the ward was disturbed at the end of the first week in March, and the first case of acute diarrhoea occurred on March 22nd, cases continuing to occur until April 7th, 1919. Dr. Bennett thus describes the outbreak.

The general symptoms were severe abdominal pains, acute diarrhoea, backache, headache, vomiting in the acute stage, in some cases sore-throat. The motions were foul smelling, containing blood and mucus in the fatal cases. The number of cases was 12; of these 5 died in 3, 6, 8, 8, and 9 days respectively.

Fæces from three of the fatal cases were sent to this laboratory. In all pus and blood were present, and the fæces were semi-liquid with a very foul smell. Direct micro-

THE late Mr. David Evans, of Swansea, bequeathed £2000 to the Swansea General and Eye Hospital for the endowment of two "David Evans" beds.

scopical examination of films from the fæces showed in each case a large number of Gram-positive diplococci closely resembling the pneumococci, and short chains of oval diplococci were also present. Plate culture on bile-salt agar showed in 24 hours coliform colonies; no other colonies developed in three days, but the organism has been found to grow on this medium. On lactose-litmus agar in 24 hours there were a large number of minute transparent colonies, becoming in 48 hours gradually more opaque and about double the original size. Further incubation did not seem to increase the size of the colonies which always remained discrete.

The cultural reactions were as follows:—

Peptone broth, 24 hours, growth with deposit.	Maltose, acid.
Agar, 24 hours, minute transparent colonies.	Mannite, acid.
Gelatin growth, not liquefied.	Glycerine, acid.
Lactose, acid.	Milk, clotted in 14 days.
	Peptone water, 48 hours, no indol.

Blood from a female patient, who subsequently died, was procured, and at once agglutinated the enterococcus in dilutions of 1 in 30 to 1 in 120. Owing to pressure of work and shortage of staff at the workhouse hospital no further specimens of fæces were sent for examination.

#### Two Isolated Cases.

Two isolated cases, due to this organism, in which the clinical symptoms very closely resembled typhoid fever, may also be quoted, one case having been successfully treated by an autogenous vaccine.

The first case was that of a young woman where the provisional diagnosis lay between typhoid fever (clinical symptoms, persistent raised temperature of 103–104° F., marked general exhaustion, with abdominal tenderness and diarrhoea) and septicæmia. A negative Widal reaction against typhoid and paratyphoid bacilli was obtained (patient had been ill for about three weeks). Cultural examination of the fæces gave a very abundant growth of the enterococcus and no bacilli of the typhoid-dysentery group were found. Vaccine treatment was refused, and the patient was seriously ill for many weeks with a protracted convalescence.

The other case, which I am permitted to quote by the kindness of Dr. Winstan St. A. St. John, of Derby, was that of a married woman, a trained nurse, who during the war had been actively engaged in nursing and then went on a tour in France and Germany in 1919. While in France she became ill, and though partially protected by inoculation in 1916 against typhoid and paratyphoid bacilli A and B, the provisional diagnosis of her illness lay between colitis and typhoid fever. The clinical symptoms were those of persistent raised temperature, diarrhoea, and abdominal pain and tenderness, with much exhaustion. Patient had been ill for 25 days when her blood was sent for examination. The Widal reaction showed slight agglutination in dilutions of 1 in 30 and 1 in 60, probably due to the previous protective inoculation, but was completely negative in higher dilution, and also completely negative as regards paratyphosus bacilli A and B.

Bacteriological examination of the fæces gave a practically pure culture of the enterococcus, and no bacilli of the typhoid-dysentery group were found. An autogenous vaccine was prepared from the enterococcus and administered in doses gradually increasing from 50,000,000 cocci every fifth day for five weeks by Dr. St. John. Patient had a slight reaction to the vaccine after the first and second injection, but none thereafter, and made a good recovery, prolonged somewhat by the fact that she had suffered from enteroptosis for years. This patient had, seven months afterwards, symptoms of appendicitis, and the appendix was removed. Emulsions made from the appendicular contents and plated on lactose-litmus agar gave no growth of the enterococcus.

#### Conclusion.

These notes on cases which have cropped up during six months' routine work suggest the advisability of a definite search for the enterococcus in all conditions with obscure clinical symptoms somewhat resembling typhoid fever.

**DEATH OF SURGEON-MAJOR R. R. SCOTT.**—Ralph Robert Scott, M.R.C.P. (Irel.), L.R.C.S. (Irel.), Surgeon-Major, Army Medical Service (ret.), has died at his residence in Bath in his eighty-ninth year. The deceased officer was assistant surgeon to the 16th Regiment and on the staff during the Crimean War. In the Indian Mutiny he was attached to the 8th Hussars and was on the staff in Sir James Hope Grant's flying column, being present at the relief of Lucknow. After the Mutiny he served in India and the West Indies. Surgeon-Major Scott had resided in Bath for the past 25 years and was highly respected. One of his sons lost his life on the *Lusitania*.

## Clinical Notes :

### MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

#### TWO CASES OF INTESTINAL OBSTRUCTION.

BY W. E. TANNER, M.S. LOND., F.R.C.S. ENG.,

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Two unusual cases, (1) obstruction of the small intestine by a large hair-ball, and (2) strangulation of the small intestine by the appendix acting as a band, are here recorded.

**CASE 1. Obstruction of the small intestine by a large hair-ball.**—E. W., a girl aged 7, was admitted to Guy's Hospital on March 12th, 1920. She had been healthy until a year before admission, when she had an attack of abdominal pain and sickness, at first suspected to be due to appendicitis, but diagnosed later as gastritis. She recovered from this and was well until March 9th, 1920, when she had an attack of acute abdominal pain with vomiting of green fluid. The bowels opened twice on March 9th, and on March 11th an enema was given with a small constipated result. The vomiting continued until the evening of March 11th. The abdomen was distended, and paroxysms of pain were accompanied by peristalsis of distended bowel. On admission, pulse 130, temperature 97° F.; the abdomen was distended around the umbilicus, not in the flanks, with visible peristalsis of the small intestine. On rectal examination the house surgeon, Mr. V. E. Lloyd, felt a hard movable lump in the right iliac fossa. Intestinal obstruction was diagnosed, the cause being obscure.

**Operation.**—A right paramedian laparotomy was performed. On opening the peritoneum clear fluid escaped; the appendix was normal. The small intestine was distended, the cæcum collapsed, and a hard movable mass was felt in the lumen of the ileum, 4 inches from the ileo-cæcal valve. The mass could not be broken up, so it was milked through the ileo-cæcal valve and removed through an incision in the anterior wall of the cæcum, because it was thought to be too large to pass the narrow part of the pelvic colon. The cæcum and parietal wound were closed. The mass was found to be a spherical hair-ball 2 inches in diameter, composed of the child's own hair matted together by intestinal fluid and a small amount of faecal matter. The mother said that the child had habitually bitten her hair since the age of 2. Neither the mother nor the child had observed if hair had been passed per anum before the onset of intestinal obstruction or after the attack of gastritis a year before. The child was discharged in good health three weeks after the operation.

In the literature<sup>1</sup> there are many records of hair-balls in the stomach, but I have found no example of a hair-ball causing obstruction in the small intestine.

**CASE 2. Strangulation of the small intestine by the appendix acting as a band.**—Henry J., age 64, was admitted to Guy's Hospital on April 13th, 1920. He had suffered from asthma for 35 years. When screwing a bolt on to some couplings on April 10th he was seized with acute abdominal pain. He went to bed, but the pain persisted. The bowels had not acted since, but there was no vomiting.

On admission, temperature 97° F., pulse 80. A tumour was felt just below and to the right of the umbilicus. There was tenderness and rigidity over the tumour, but elsewhere the abdomen was supple. Appendicular abscess was diagnosed and a right paramedian laparotomy was performed. The great omentum was lifted from the surface of the tumour; pus escaped, and the lower 6 inches of the ileum were found to be gangrenous. The appendix passed upwards and to the left, and was attached by its tip to the front of the mesentery. The gangrenous intestine was lying between the appendix and the front of the mesentery, so that the former acted as a band, strangulating the lower 6 inches of the ileum. A lateral anastomosis was made between the transverse colon and a loop of ileum just proximal to the gangrenous portion, and the great omentum was sutured over the anastomosis. The appendix was then removed and gangrenous ileum resected, the open ends of bowel being closed by double purse-string sutures. The bowels acted on the second day after operation. There was slight superficial suppuration of the wound at the end of four days, but this subsided and the patient was discharged on May 10th.

I am indebted to Mr. R. P. Rowlands, surgeon to Guy's Hospital, for permission to publish these cases.

#### HAIR-BALL IN THE ILEUM CAUSING OBSTRUCTION.

BY HAROLD R. GIBSON, M.D., CH.B.,

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So far as I am aware this is the youngest case recorded in the English literature of a hair-ball in the ileum causing obstruction.

A boy, aged 6 years, was admitted to the London Temperance Hospital on Jan. 24th with a history of vomiting for two days, previous to which he had been quite well. The bowels had not

<sup>1</sup> Wien. Klin. Woch., Nov. 16th, 1899. Index Medicus since 1903.