generalized. The immediate result of the operation is fair. Then the testicle begins to ascend, usually until the gland is in the neighbourhood of the pubic spine. Some of these organs descend again, taking upwards of eighteen months to do so. Such cases are the best results of the operation. And until a few years ago I thought that the last word of criticism had been said. But further experience taught that this was not so. Atrophy of the gland may come on any time within about two years of the operation. Even if a gland is well placed by operation it may atrophy. A badly situated gland may atrophy. And the conclusion was borne in upon me that the operation of orchidopexy more frequently fails from atrophy of the gland than by not retaining that gland in a good position.

The treatment suggested for the condition of imperfectly descended testicles can be summed up from the point of view of the age of the patient, as the condition is a congenital one.

At birth and up to the age of about five years: Watch the case to decide if the testicle is merely late in its descent or not. If a hernia is seen to be present operate and conclude by doing orchidoplasty.

From 7 to 20 years of age: Operate if a hernia is present or not. Do either orchidoplasty, orchidectomy, or orchidocoelioplasty.

Above 20 years of age: Do orchidectomy.

There is another point which further experience has taught me. In my book on the *Male Diseases of General Practice* (pp. 95-97), the subject of the "masked imperfect descent of the testicle" was considered, I believe for the first time. Shortly, the imperfect descent of the testicle is masked if the hernia which accompanies it pushes the testicle into the scrotum. Such a condition of imperfect descent is not recognizable until the hernial sac is fully stripped up and removed. The testicle then assumes the position of imperfect descent, or something near it. Since the publication of that book in 1910 I have met many examples of this condition, and am sure that it is a great deal more frequent than I formerly supposed. Such a conclusion supports Mr. Hamilton Russell's theory that every hernia depends for its cause on a congenital fault. Such a congenital fault in the tunica vaginalis is very likely to be accompanied by some fault in the descent of the testicle.

EXPERIMENTAL PROOF OF THE VALUE OF A MASK OVER THE SURGEON'S MOUTH DURING OPERATIONS.

By A. L. CANDLER, F.R.C.S.,

EXETER.

In order to demonstrate the value of a mask over the surgeon's mouth during operations I carried out the following experiments with *Bacillus prodigiosus*, which was used for three reasons: (1) It is absent from ordinary air and from the mouth; (2) it grows in red colonies, and therefore can easily be distinguished from other organisms macroscopically; (3) it is non-pathogenic.

The bacilli were added to water until the mixture was turbid and slightly pink. With this suspension of bacilli the experimenter filled his mouth and gargled, immediately proceeding to either breathe or speak or cough or sneeze, as the case might be, without or with a mask, over a series of sterile agar plates. Any red colonies of micro-organisms found on the plates after incubation must have come from within the experimenter's mouth.

The plates used were in Petri dishes of a diameter of 3½ in., and the mouth was held in all cases 18 in. away from the plate. Each experiment was conducted in a separate room, in order to avoid any air infection of the plates from a previous experiment.

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The mask was made of fine butter muslin of the pattern shown in the diagram. It is cool and acts as a covering for the hair during operations. The total length of the mask is 2 ft. and the width 18 in. Over the part of the

A, Portion for covering the hair; B, portion covering the nostrils, mouth, and chin.

mask which covers the nostrils and mouth plain gauze (shaded in diagram) was stitched. In some tests a mask with four layers of gauze and in others with eight layers was used.

Tests under which the Plates were Exposed.	Duration of Exposure.	Number of Colonies of <i>Bacillus prodigiosus</i> .		
		Without Mask.	With Mask of 4 Layers of Gauze.	With Mask of 8 Layers of Gauze.
Ordinary breathing with mouth open	2 minutes	0	0	0
Quiet speaking	"	0	0	0
Coughing	"	11	4	0
Sneezing	1 sneeze	About 130	0	0
Sneezing	2 minutes	—	About 220	4

It will be seen that with ordinary breathing and quiet speaking (such as easily could be heard by an assistant surgeon or nurse during an operation) no *Bacilli prodigiosi* left the mouth. This test has been tried several times with the same result.

Coughing for two minutes caused only a few bacilli to be emitted, and these were controlled by a mask of eight layers of gauze, one of four layers being insufficient. Since probably no bacilli had reached the larynx or trachea of the experimenter while he was gargling, it is assumed that the organisms emitted during coughing came from the mouth only. There is therefore

no proof in these experiments of infection from the larynx being controlled by a mask, but a surgeon with such an infection would not operate.

Sneezing is shown to be a most dangerous source of infection from the mouth, one sneeze, and that an artificial one, producing 130 colonies of micro-organisms in a circle of 3½ in. diameter at a distance of 18 in. A mask of eight layers is not sufficient to keep back all organisms

Sneezing with mask.

Sneezing without mask.

during prolonged sneezing, although it reduces the infection considerably. There was, however, no growth on a plate exposed to one sneeze through such a mask, and as no one would continue to sneeze, even through a mask, directly over a wound, the mask of eight layers is efficient for practical purposes.

In these experiments the mask has been subjected to far more severe tests than would occur in surgical practice. Such a mask is therefore efficient, and is useful to the surgeon, for with it he can speak, and should his throat tickle or be uncomfortable, he can clear his throat and even cough without fear of infecting the wound.

Objection is sometimes taken to masks by surgeons who wear spectacles; that described does not cause much trouble due to condensation on the spectacles, and is more comfortable and efficient than one suspended on spectacle frames; also it is not uncomfortably hot.

It is hoped that a mask has been shown to be not only necessary but also efficient, and to be a safeguard to the patient during a surgical operation, especially in the case of a surgeon who unfortunately may have a carious tooth or slight nasal or pharyngeal catarrh.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HEPATO-PULMONARY ABSCESS TREATED BY EMETINE.

J. D'C., aged about 35, working as a storekeeper in one of the engineering firms in Bombay, came complaining of cough and bloody expectoration of three years' duration. He gave a strong history of alcohol. There was no history of dysentery for the last twenty years. Neither could he think of any previous attack, although he could not affirm this with confidence. His family history was good as far as could be elicited. He was pale, wasted, faintly icteric; the conjunctivae were anaemic; pigmentation was present in patches here and there, and especially on the forehead. The fingers were markedly clubbed. The chest was flattened antero-posteriorly, scapulae prominent, shoulders raised, neck long, and head slightly bent backwards. There was a perceptible dorsal scoliosis with the concavity on the right side, and the ribs were crowded together, particularly the lower on the right side. Expectoration was easy. Respirations 30, pulse 85.

The right base was consolidated, and no signs of a cavity could be detected; the uppermost lobe showed bronchitic signs. The left lung was normal. Under the microscope I found the sputum crowded with living and dead amoebae, with much debris. A few liver cells were present and a fair number of pus cells.

Among the living amoebae were some vacuolated, actively motile, containing red cells and cocci—in short, presenting the characters of the *Amoeba histolytica*. Search for tubercle bacilli proved negative.

The liver could not be felt below the costal margin, except in its normal situation. Pain could be elicited in the liver region on depressing the interspaces. The bowels were costive. Urine showed neither albumin nor sugar, but there was an excess of indican.

The history was that the illness had begun three years earlier with stabbing pain on the right side, high fever, and cough, accompanied later by blood-tinged expectoration. Subsequently he used to cough out pure blood, the quantity of which increased. The sputum finally changed to a brownish tinge. The fever, at one time high, assumed the hectic type with abundant night sweats; he lost flesh steadily.

I put the patient at once on emetine, giving an injection of 1 grain daily. I gave also some Dover's powder, with the double object of allaying the cough and supplying some more of the specific medication.

Within three days the sputum became muco-purulent. Within a week the cough dwindled to vanishing point, the patient having gained in flesh as far as could be seen with the eye. Later the physical signs cleared gradually, and little, if at all, could be heard of the original condition three weeks after I commenced the treatment. When I last saw him he had none of the wasted appearance, the anxious look, and sunken eyes. He looked a different man.

My attention was directed to the liver by the nature of the sputum, the "bloody" condition of it for three years without his being proportionately worse, the involvement of the right lung alone in spite of three years' duration of the disease, and the comparative comfort of the patient as regards the cough, etc. An interesting feature is the amazingly rapid recovery. The presence of the *Amoeba histolytica* in the sputum without any previous history of dysentery is a notable feature, and makes one inclined to agree with the view of Strong and Musgrave, who regard the amoeba of dysentery as the same as the *Amoeba coli*, but in a pathogenic phase. Rogers has demonstrated a latent amoebic infection with ulceration of the large gut and no symptoms of dysentery. Whether this may be taken as an intermediate step is open to question. It is not to be forgotten that the patient was an alcoholic, and the congested condition of the liver may prepare the way for mischief.

Mazagon, Bombay. A. J. NORONHA, L.M. and S.Bombay.

MOLES AND MULTIPLE PREGNANCIES.

I ATTENDED Mrs. A., aged 25, in her third confinement in June, 1912, a patient whom I had attended a year previously, when she gave birth to a premature stillborn child. In this third confinement a seven months stillborn child, with macerated skin was born by breech presentation. The placenta came away quickly, and was evidently syphilitic. I examined it with the greatest care, and was satisfied that all had come away. The patient did well for two days, but on the third day passed a large piece or clot. I did not see this, but on the fourth day she passed other pieces which I saw, and the native midwife extracted another piece from the uterus. The temperature and pulse were rising, but there was practically no abdominal pain, the uterus seemed to be contracting well, and the discharge was only very slightly offensive. I found the uterus larger than was apparent from the abdomen, as it was retroverted, but I did not find any more pieces adherent to its wall. I gave an intrauterine douche; shortly afterwards the temperature rose to 105° with a rigor. I then gave puerperal serum 10 c.cm., and the temperature came down at once, and only once afterwards rose to 100°; by the seventh day it was normal. The uterus contracted well and expelled slight shreds, and nothing more came away with a second intrauterine douche. The patient made a good recovery.

The pieces expelled if put together would have been the size of the palm of a hand, and some of them looked like placental tissue, others were more membranous. As the pieces came away in such amount, and I had not been able to find any sign of bits being torn off the placenta, I came to the conclusion that this was probably a case of multiple pregnancy, and that a mole was expelled after the confinement.

That diagnosis was suggested to me by a case I had seen the previous year. The patient was a woman who, when seven months pregnant, I had treated for indigestion; shortly afterwards she gave birth to stillborn twins. I did not see her at the time, but the case was reported to me by a native midwife. Three weeks after the confinement I was sent for hastily, the patient being said to be in *extremis* from sudden haemorrhage, occurring after she had resumed her ordinary household work. I found the os open about two fingerbreadths, and what seemed to be an ovum presented. This I extracted after giving chloroform. It was an ovum about 1½ in. long, and firmly attached to the fundus, and I could feel the old placental site on the anterior wall. The specimen was examined at the Parel Institute, Bombay, and was reported as a carneous mole.

In this second case the ovum came away whole, but if such a mole had been incompletely expelled it might have led to serious complications, and I think this may have been what occurred in the first case.

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A PSYCHOPATHIC ward for the examination and treatment of cases in which insanity is suspected is to be added to the Philadelphia General Hospital. If after thirty days' observation the patient is pronounced to be insane he will be transferred to the State Hospital at Norristown. It is intended to provide accommodation for 140 persons.