

# **The radical cure of reducible inguinal rupture / by Oliver Pemberton.**

## **Contributors**

Pemberton, Oliver, 1825-1897.

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THE RADICAL CURE  
OF  
REDUCIBLE INGUINAL RUPTURE.



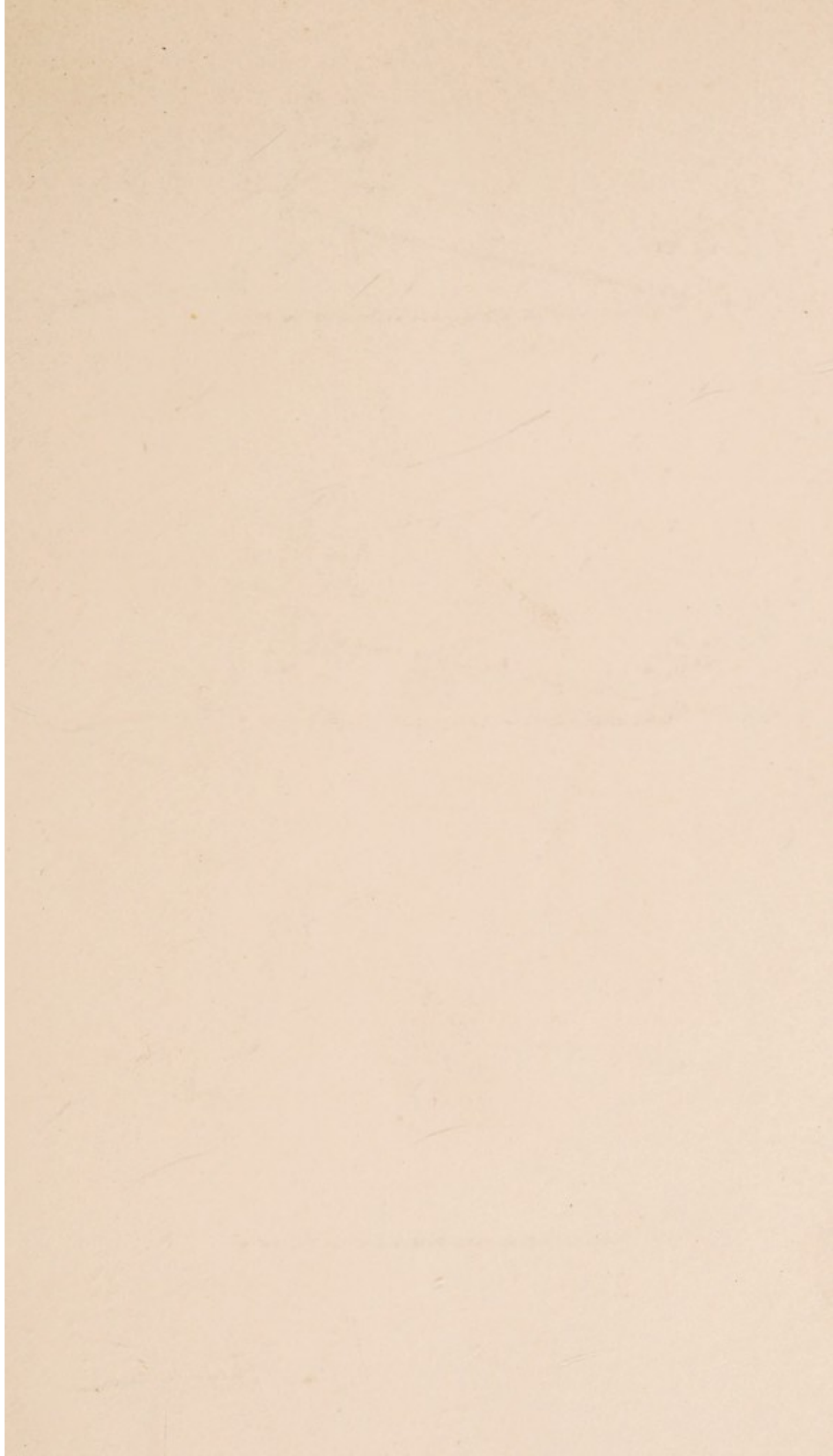


FIG. 1.

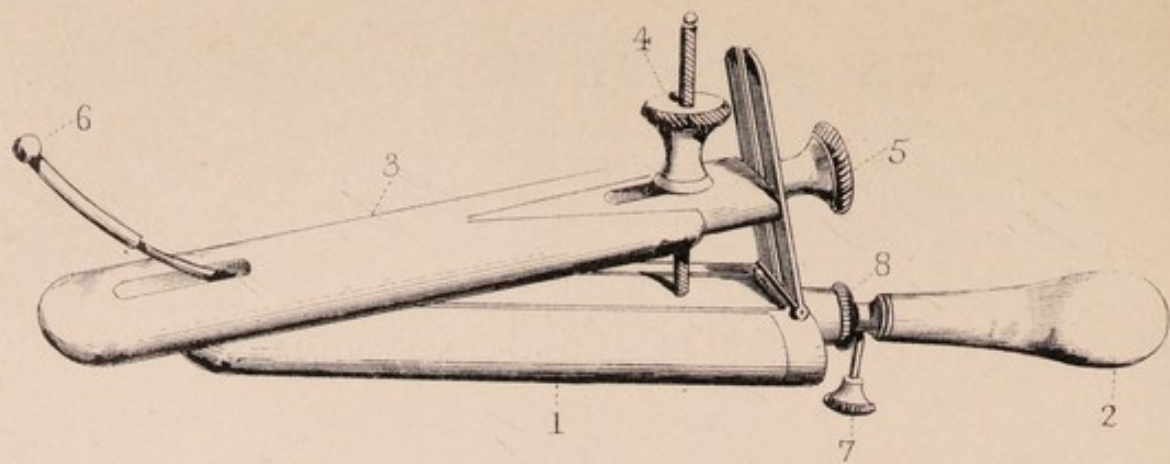


FIG. 2.

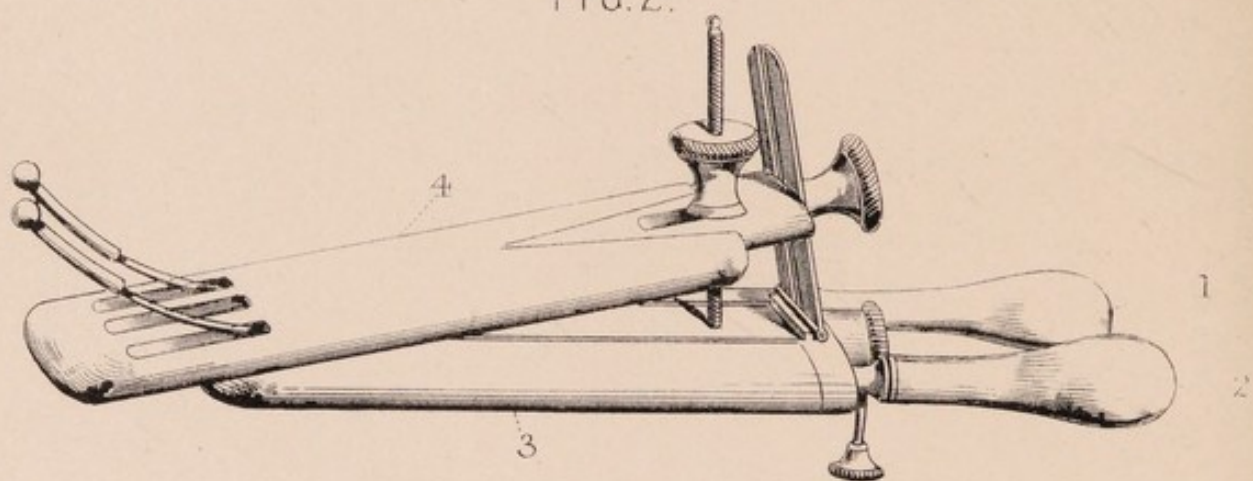


FIG. 3.

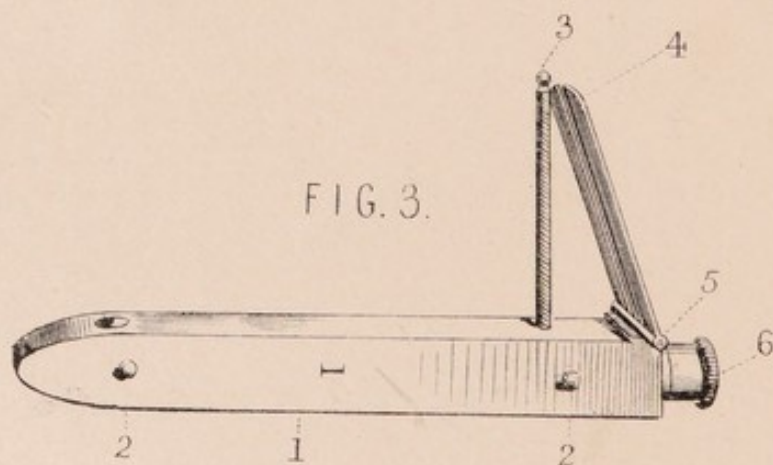


FIG. 6.

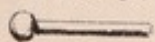


FIG. 4.

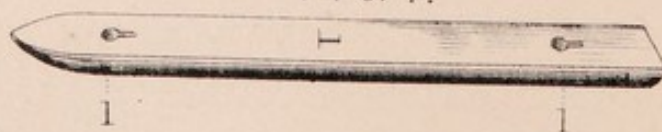
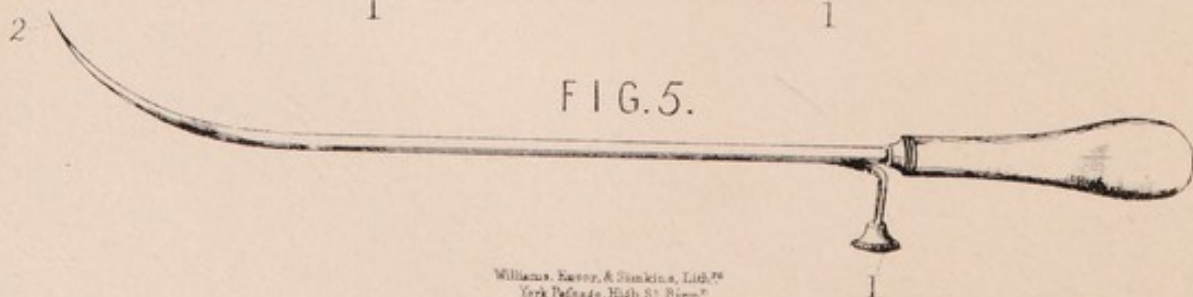


FIG. 5.




THE RADICAL CURE  
OF  
REDUCIBLE INGUINAL RUPTURE.

With a Plate.

BY  
OLIVER PEMBERTON,  
SURGEON TO THE BIRMINGHAM GENERAL HOSPITAL ; ETC.

LONDON:  
T. RICHARDS, 37, GREAT QUEEN STREET, LINCOLNS INN.  
BIRMINGHAM: CORNISH BROTHERS.

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## DESCRIPTION OF THE PLATE.

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*Fig. I.* Rothmund's modification of Wützer's instrument complete.\*

1. The oval cylinder perforated by the needle 2, and fitted with the cover 3 by means of screws 4 and 5. 6. The point of the needle protected by a sheath and knob. 7. Spring to prevent the needle from slipping when pushed home. 8. Screw to fix side pieces.

*Fig. II.* The same instrument perforated for two needles 1 and 2, and fitted with larger side pieces 3, and with a corresponding cover 4. The instrument also admits of enlargement by means of the side pieces, where required, so as to take three needles. A cover, increased in breadth and perforated for three needles, is also made use of.

*Fig. III.* 1. The central cylinder with side pieces and needle withdrawn. This is of metal—electro plated, numbered, and furnished with two projecting points at 2 2 to fix on the side pieces. 3. An upright screw, fixed, and 4 a plate slit in the centre and movable at a hinge 5 for the reception and adjustment of the cover. 6. A screw for fixing the side pieces.

*Fig. IV.* A side piece with grooves at 1 1 to receive the projecting points at 2 2 in *fig. iii.* These side pieces are of various sizes, are constructed of ebony lined on the inside by plated metal, where they are numbered to correspond to the particular sides of the cylinder.

*Fig. V.* The needle having, at 1, a spring to retain it when pushed home. The needle is silver plated, having a steel point at 2.

*Fig. VI.* Silver plated sheath and knob to protect the needle.

\* Made by Ferguson, London.

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and development. It begins with the first settlers who came to the New World in search of a better life. They found a land of opportunity, but also a land of challenges. The early years were marked by struggle and hardship, but the spirit of the pioneers was unyielding. They built a nation from scratch, one that was based on the principles of liberty and justice for all. Over the years, the United States has grown from a small colony to a great power. It has faced many challenges, but it has always emerged stronger and more united. The story of the United States is a story of hope and dreams, of a people who have built a nation that is truly great.

## PREFACE.

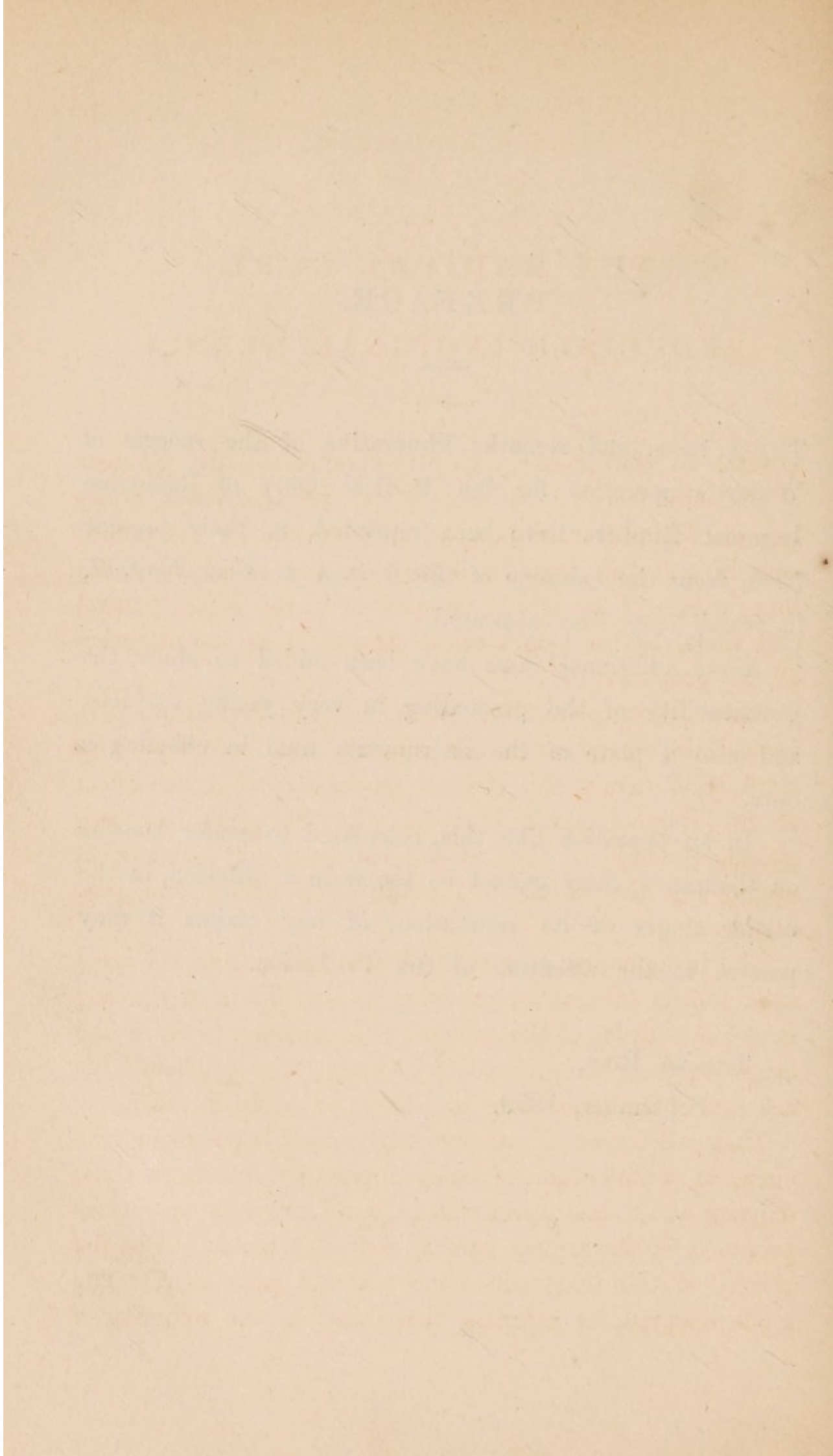
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THESE cases and remarks illustrative of the success of Wützer's operation for the Radical Cure of Reducible Inguinal Rupture have been reprinted, in their present form, from the columns of the *British Medical Journal*, in which they first appeared.

Some additional cases have been added to show the practicability of the proceeding in very young subjects, and also a plate of the instruments used in effecting a cure.

In an operation like this, calculated to confer benefits on thousands, there cannot be too wide a diffusion, in the earlier stages of its reputation, of any claims it may possess to the attention of the Profession.

Temple Row,  
September, 1859.



# THE RADICAL CURE OF REDUCIBLE INGUINAL HERNIA.

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OWING to the ability and perseverance of Mr. Spencer Wells, the lecturer on surgery at the Grosvenor Place School of Medicine in London, an operation for the radical cure of reducible inguinal hernia, on the principle of the invagination of the scrotal integument in the inguinal canal and rings, has at length taken firm hold on the attention of the profession.

Since 1850, when Mr. Wells, for the first time, performed the operation in this country, but more especially since 1856, when Mr. Holmes Coote carried it into effect at St. Bartholomew's Hospital, the procedure has been gaining ground; so that at this time we may deem it as undergoing the fairest test as to both utility and permanence.

The invagination of a plug of skin taken from the scrotum, and its subsequent retention at the mouth of the sac, or at the margins of the internal ring, appears to have had origin in the plan proposed by Gerdy, who published his account of the proceeding in 1835, and again in 1837.

Here, then, was a principle fairly started, possessing the claim to consideration of being apparently free from those dangers which had beset well-nigh all previous operations proposed for the radical cure of reducible hernia. But the closure of the rings and canal was not permanent. The mode adopted for effecting this failed in the majority of

instances ; so that it remained for the followers of Gerdy to advance the principle a step further.

This has been accomplished by Wützer and Rothmund. Wützer happily devised, to retain the plug in the inguinal canal, the use of a cylinder perforated by a needle which fixed it effectually, for a time, to the margin of the internal ring ; whilst carefully-regulated pressure, by means of covers fitted so as to press on the inguinal canal and its contents, ensured the production of such a degree of adhesion between the plug and the canal, or such an amount of contraction at the internal ring, that protrusion of the bowel was prevented.

Rothmund modified the shape of the cylinder ; but the merit of perfecting the principle suggested by Gerdy belongs to Wützer.

The instruments essential to the accomplishment of this operation, as approved of in the present experience of the profession on the subject, consist, then, of a cylinder, nearly oval in shape, capable of being fitted to side pieces of various dimensions, according to the size of the canal. The cylinder carries within it a passage terminating a little short of its extremity in an aperture destined to give exit to a silver-pointed needle, by the protrusion of which, when the cylinder has taken the place of the index finger in the canal, the scrotum is fixed to the margin of the internal ring. Lastly, a cover, slightly concave in shape, is fitted over the point of the needle, and, by the aid of adjusting screws, is made to exercise a pressure, capable of exact regulation, on the structures between it and the cylinder, so as to more certainly ensure the retention and adhesion of the plug of scrotal skin in its new situation. Where it is desired, the cylinder can be so constructed that two or more needles can be made use of to retain the invaginated scrotum.

With such an apparatus, modified according to the

features of the individual case, the operation for the radical cure of reducible inguinal hernia may be accomplished, without doubt, in many instances.

As to the best method of using this, a few words are necessary. For my own part, I prefer to stand or sit behind the pelvis of the patient, and to use the left forefinger to invaginate the scrotum on either side. By thus using the finger from behind, the structures forming the roof of the inguinal canal can be more strongly raised, so as to define more clearly the rings and passage, and enable the cylinder to slip along in its place with increased facility.

The only precautions necessary to be observed are, to avoid perforating with the needle short of the margin of the internal ring; and to be satisfied, when the cylinder has advanced such a distance as to render this accident unlikely, that it has not slipped between the tendon of the external oblique and the integument: in other words, that it has not passed altogether out of the canal.

To avoid the first misfortune, care should be taken to begin the invagination of the scrotum sufficiently low down so as to secure the introduction of a piece long enough to reach fairly, and without straining the internal ring; nothing being so likely to embarrass the proceeding as a neglect of this observance.

The cylinder should be well oiled previous to introduction; and it may or may not be smeared with blistering cerate. If the cerate be used, the patient will undoubtedly suffer a good deal more annoyance than he would otherwise have, owing to the smarting and tenderness to which it will give rise; but I do not consider that he will derive a corresponding advantage. I have met with quite as great success without it as with; and I therefore, in general, should not recommend its adoption.

At the point of perforation, the integuments may be protected both from undue irritation and from pressure by the

use of a small piece of prepared India rubber, or, better, by the felt plaister recently introduced, and which may be obtained of Ewens, of Jermyn Street, London. Great care should be taken, during the retention of the instrument to support the scrotum, not only with the view of avoiding any strain on the plug, but also with the object of saving the loose tissue of the part from the chances of œdema and consequent inflammation. After the removal of the instrument, this care becomes even more necessary; and the scrotum must then be firmly held up by a suspensory bandage, at the same time that the parts in the inguinal canal and the rings are firmly and accurately compressed by pads of lint and a well applied roller.

As to the length of time necessary for the instrument to be retained, this must vary according to the symptoms presented in individual cases. Some persons will bear the irritation of its presence without manifesting annoyance; whilst others, becoming irritable and nervous, cannot sustain it with the same requisite degree of patience. Where this susceptibility of irritation exists, it will be better to remove it at as early a period as practicable, with the prospect of benefit from the operation. I have, for such a reason, removed everything as early as the fourth day; and the case was most successful. This is, however, I doubt not, an exception to what would generally result. On the average, the time may be said to vary from the sixth to the seventh or eighth day; but little benefit being likely to arise by the treatment being prolonged beyond this.

There appears to be no danger of peritoneal inflammation in these cases, although the peritoneum may have been punctured, and frequently is, through more than one of its layers. I have witnessed nothing more alarming than, on one occasion only, a slight attack of erysipelas, which took its rise from near to the point of exit of the needle, and occurred in a patient of reduced and feeble habit.

I am not aware that any other complications have arisen in connection with this proceeding, which would tend to weigh against its reception, as to safety. The experience, indeed, of all surgeons who have investigated the question, has given the most decisive assent to this conclusion.

The question of safety being therefore established, can we say as much of the not less important ones of success and permanency?

Mr. Spencer Wells tells us that the operation in this country has been "almost uniformly successful." Abroad, Professor Rothmund, according to the same authority, has operated "a thousand times." He had not a fatal case, and scarcely a failure. Wützer counts by hundreds, but they were not all cured. In this town, my friend, Mr. Redfern Davies, of the Workhouse infirmary, has availed himself of the large number of ruptures presenting themselves in such an institution, to test very fully its value. I am informed that the results in the cases treated by Mr. Davies are highly successful. In addition, he has applied the operation to the cure of femoral and of ventral or direct hernia, and has thus been the first to afford the profession an assurance of the safety and success of the measure in these cases. (*Medical Times and Gazette*, Feb. 12, 1859.)

These are prosperous results, abroad and at home, sufficient, one would think, to establish the reputation of a proceeding of far greater moment than this; and if the cases were selected—young, strong adults, with recent herniæ, the canal and rings firm—then I can fully believe that the profession possesses data enough to establish the certainty of cure in any number of similar instances that may hereafter undergo the operation. But this class of hernia is not the one most commonly met with: it is not that kind which will be found in large numbers claiming, at our hospitals, the aid of the radical cure.

The effect, more or less, of all protrusions of the intestine

through the canal and rings, will be to approximate the latter; and in some instances, where the hernia has descended into the scrotum, to so shorten the former that the internal ring entirely disappears, and a wide external one communicates at once with the abdominal cavity in an almost straight direction from the pubes to the sacrum. My experience of the examination of ruptures, some thousands in number, during the past twelve years, tells me that these features are those most commonly to be recognised in the cases applying for trusses. To this class of cases, pretty much as they presented themselves in the out-patient room of the hospital, I have applied the radical cure—with what amount of success I shall presently detail; but I may here state that it has not been by any means “uniform.” I have no wish to cast a doubt on the value of this operation, for it must even now be ranked amongst the most promising that has ever been laid before us for the cure of an almost universal malady; but I do desire that we should be in possession of more of the attendant characters of the cases treated, in order that its individual usefulness may be really estimated. I cannot but fear that certain cases only have been selected for the proceeding; so that, at best, we possess only a partial knowledge of its applicability to the most frequent and most disabling forms of herniary protrusions.

Without entering into the question of the particular mode in which the sac, the plug, and the integument form a common bond of adhesion for the effectual attainment of a cure, beyond expressing my opinion that Mr. Spencer Wells’s very simple and accurate diagram (*Dublin Quarterly Journal of Medicine*, May, 1858) most probably conveys to us a knowledge of the real state of the parts, I am, nevertheless, anxious to record my own experience in reference to certain points in connection with the adhesions formed by the plug, in reference to the contiguous

inflammation established, and also as to its permanency in its new situation.

The construction of the instruments at present in use for the radical cure of hernia admits of the needle penetrating the superjacent textures of the anterior margin of the ring only: consequently the attachment of that part of the plug behind the cylinder depends on the amount of contiguous inflammation which the cylinder, the needle, and the sustained pressure may set up. I am quite satisfied that this adhesion is a very slight one; and that it is one easily broken down by the impetus of the intestine, in many instances, the cases I have observed lead me without hesitation to affirm.

On the other hand, it does not appear to me that it is absolutely necessary in all cases for the plug to remain firm, in order that a cure may take place. I believe that, in many instances, a sufficient degree of inflammation is set up about the ring and canal, possibly between the sac and canal, so that a closure is the result.

I am the more inclined to this opinion as, in cases under my own notice, where some time has elapsed from the operation, and where no relapse has occurred, yet there has been every evidence, from the appearance of the scrotum, that the invaginated plug has subsided to its former position. Mr. Holthouse (*Medical Times and Gazette*, Oct., 1858) confirms the correctness of this view in the description of a case in which a similar result obtained.

I shall now offer a tabulated statement of fifteen cases in which I have performed the radical cure at various times previous to the last three months, leaving for a future report more recent instances. The table, with the single addition of the occupations of the patients, is on the plan suggested by Mr. Wells.

No. of case.	Sex.	Age and occupation.	Variety.	Size of ring and canal.	Duration.	Date of operation.	Immediate effects.	Date of removal of instrument.	Result, &c.
1	Male.	33 Handcuff-filer.	Right oblique inguinal hernia, descended into the scrotum; of large size.	Ring of the width of a finger and a half; canal short-ened.	Twelve months.	Jan. 1, 1859.	Tenderness about the seat of puncture, with some sickness on the third and fourth days.	Jan. 5.	Successful. Despite an incessant cough, there has been no protrusion at the end of six months.
2	Male.	37 Coach-maker.	Left oblique inguinal, descended into the scrotum; of very large size.	Ring of the width of two fingers; canal short, and textures around relaxed.	Five weeks.	Jan. 19, 1859.	Hardly any irritation at the seat of puncture. The lower part of the cylinder by friction and pressure on the scrotum, produced a small slough.	Jan. 26.	The plug of scrotum remained firm; but on coughing, protrusion of the bowel took place slightly behind. To wear a truss.
3	Male.	50 Porter.	Right oblique inguinal hernia, descended into the scrotum; of the size of the two closed hands.	Ring of the width of three fingers; canal almost lost, and textures around flabby and relaxed.	Eighteen years.	Jan. 19, 1859.	No symptoms beyond ordinary. A small slough at seat of puncture.	Jan. 25.	Fourteen days after the operation, protrusion took place behind the plug; this remained firmly adherent. Enabled for the first time for eight years to wear a truss, and keep the bowel in place.

4	Male.	29 Baker.	Left oblique inguinal hernia; small.	Ring well defined; canal short.	Four years.	Jan. 19, 1859.	No symptoms beyond ordinary. Being an inmate for the cure of stricture, some additional irritation of the urethra was the natural consequence.	Jan. 25.	The plug remained firm; but at the end of a fortnight the bowel descended behind the invaginated scrotum. Desirous of having the operation renewed.
5	Male.	42 A retired soldier.	Right oblique inguinal hernia, descended into the scrotum; very large.	External ring communicating almost at once with the abdominal cavity, and is of a width of nearly four fingers.	Sixteen years.	Feb. 2, 1859.	On the sixth day a little sickness and pain at the lower part of the bowels. Has an incessant bronchial cough. On the seventh, an erysipelatous blush formed and extended itself about the seat of puncture. Small slough at the point of perforation.	Feb. 9.	The plug remained firm. Thirteen days after the operation, his cough continuing incessant, protrusion took place behind the invaginated scrotum. He requests a second operation.
6	The same patient.	—	—	—	—	Mar. 12, 1859.	No irritation followed the use of the instrument. A large mass of the scrotum was invaginated internal to the former portion pushed up.	Mar. 19.	The second plug remained firm. A month after the operation, on violent coughing, there was protrusion behind the plugs. He can wear a truss, and keep the bowel in place.

No. of case.	Sex.	Age and occupation.	Variety.	Size of ring and canal.	Duration.	Date of operation.	Immediate effects.	Date of removal of instrument.	Result, &c.
7	Male.	47 Glass-maker.	Left oblique inguinal hernia.	Ring firm; canal narrow; slightly shortened.	Nine months.	Feb. 23, 1859.	No symptoms of irritation.	Mar. 2.	Successful. No protrusion on coughing or straining. To wear a truss for a few months.
8	Male.	30 Carpenter.	Right oblique inguinal hernia.	Ring firm; canal narrow; slightly shortened.	Four months.	Mar. 16, 1859.	No symptoms of irritation. Very free suppuration of the canal.	Mar. 22.	Successful. No protrusion on coughing or straining. To wear a truss for a few months.
9	Male.	36 Fireman.	Right oblique inguinal hernia, descended into scrotum.	Ring small and firm; canal slightly widened and shortened.	Six years.	Mar. 30, 1859.	No symptoms of irritation. A slough at seat of puncture of the size of a sixpence.	April 6.	Successful. The plug very marked and prominent.
10	Male.	12 Errand boy.	Right inguinal hernia.	Ring and canal firm.	From a few months after birth.	Mar. 16, 1859.	No symptoms of irritation. A slough at seat of puncture, and free suppuration of the canal.	Mar. 22.	Successful.
11	Male.	7	Right oblique inguinal, descended into scrotum; very large.	Ring large, easily admitting one finger; canal shortened.	Observed at birth.	Mar. 30, 1859.	No symptoms of irritation.	April 6.	Unsuccessful. On removing the cylinder in the ordinary way, the plug of scrotum returned with it.

12	Male.	7.	Left oblique inguinal - scro- tal.	Canal and ring admitting index finger.	Three years and a half.	May 17.	No symptoms of irritation.	May 24.	Successful. The plug remains firm. The tes- ticle is drawn up, and lies close to the outer ring.
13	Male.	30 Nail cutter.	Right oblique inguinal.	Large exter- nal ring; small and distinct in- ternal. Tex- tures around somewhat re- laxed.	Six weeks.	June 4.	No symptoms of irritation.	June 11.	Successful. Firm re- tention of plug, and closure of ring.
14	Male.	17 Brass worker.	Right oblique inguinal - scro- tal.	Internal ring well defined and firm; ca- nal wide, ca- pable of admit- ting a breadth of a finger and a half.	Twelve months.	June 15.	No symptoms of irritation.	June 22.	Successful. Firm re- tention of plug, and closure of ring.
15	Male.	5.	Right oblique inguinal - scro- tal.	External ring relaxed; in- ternal one will just admit point of little finger.	Soon after birth.	June 15.	No symptoms of irritation.	June 25.	Successful. Firm re- tention of plug, and closure of ring.

In all the cases in the preceding table where the canal and rings were of largely increased dimensions, Rothmund's instrument was applied, in order to combat the anatomical changes of the parts by the aid of the side pieces. In the others, Wützer's was made use of.

Case I, aged 38, is altogether a remarkable one. The instrument was removed on the fourth day, in consequence of some little tenderness and sickness, which soon subsided. The cylinder had not been smeared with the unguentum lyttæ. No bandage was applied, the puncture being dressed with simple ointment, and merely a support being used for the testicles. There was free suppuration about the seat of puncture, and a good deal of ulcerative irritation about the entrance to the invaginated scrotum. There was no evidence, during the three weeks that this patient was confined to his bed, of the plug having slipped down into its place again.

The following is his condition six months from the time of the operation: No protrusion of intestine through the internal ring. No trace of plug to be felt in the canal. Rugæ of scrotum, on the side operated on, natural, save a slight redness in one spot. The internal ring itself can be distinctly localised, and is felt to be contracted and thickened.

I submitted this man to the examination of the members of the Birmingham Branch of the British Medical Association, at their meeting in April last. A very numerous assemblage of surgeons manipulated the rings under the influence of the patient's cough, which had never left him. I heard no opinion expressed that did not affirm my own, as to the ring being effectually closed against protrusion, and likewise that the invaginated scrotum had subsided to its former position.

Case II, aged 37, had one of the largest and most unmanageable ruptures I ever felt. All the parts were

flabby, and he had an incessant cough. He had been ruptured for eighteen years, and for the last eight had not been able to wear a truss. The external ring communicated almost immediately with the abdominal cavity. Despite these drawbacks, the operation enabled him to wear a truss for the first time for eight years, and to keep his rupture effectually in place.

In Case IV, aged 29, the plug remained firm, but the bowel descended slightly behind at the end of a fortnight. This patient suffered from obstinate stricture, frequently complicated by retention of urine; this latter condition being aggravated during the wearing of the instrument.

In Case V, aged 42, on the seventh day of wearing the instrument, an erysipelatous redness of distinct character, and accompanied by the ordinary constitutional disturbance, spread about the abdominal wall from the seat of puncture. The cylinder was at once removed, and the symptoms soon subsided. The man had a bad habit of body, and had lived freely. There was no undue pressure exercised, and not more than the ordinary slough at the seat of puncture.

In Case XI, aged 7, the boy had a large scrotal rupture, observed at birth. The canal was shortened and much straightened. In removing the cylinder, on the seventh day, with ordinary gentleness, the plug of scrotum descended with it. There was free suppuration about the puncture, and a good deal of adjacent inflammation in the canal, so that the bowel did not protrude for some few days; but the internal ring was a very large one for so young a subject, or I might have hoped for the curative contraction and adhesion to have been set up, as in Case I. This ended, however, in the bowel coming down into the scrotum, as before.

In Cases XII and XV are afforded good illustrations of the success of the operation in young subjects, their ages being respectively seven and five. In both instances the

amount of bowel protruded was considerable, and descended into the scrotum.

In regard to the operation on children, generally, I am at present of opinion that from four to five will be found the best ages for the proceeding. It may be attempted, and may, indeed, succeed earlier; but there are difficulties and some dangers in the undertaking at very tender years which are as well avoided by a delay which is, after all, of no great importance.

Of the preceding instances, then, nine have resulted, at present, in the closure of the inguinal canal against all protrusion of the intestine. Five have so lessened the width of the passage that the amount of bowel escaping has been diminished considerably; so that a truss, in some instances for the first time for many years, could be worn. One failed altogether, from the slipping down again of the plug of scrotum, on the removal of the instrument.

In the cases in which the bowel came down, the plug of scrotum yet remaining attached, the escape invariably occurred behind its position, at the anterior margin of the ring.

One case alone evidenced during the treatment some alarming symptoms: these were, however, accounted for by the advent of a slight attack of erysipelas.

The sloughs, which generally formed at the point of exit of the needle, were limited in size, and soon healed; whilst the suppuration in the canal of the plug, and in the inguinal one also, were throughout of the most manageable character.

Taking into consideration, therefore, the varieties of reducible inguinal ruptures in especial regard to the utility of this operation, my opinion is, that we may fairly estimate their prospects of cure, improvement, or absolute failure, according to certain characteristics which place them in three divisions.

In the first we number the small, firm, well-defined internal ring in the narrow canal, not much shortened. The more muscular and youthful the subject, the better.

In the second, a large ring, relaxed, with a broad short canal and surrounding flabby textures, as in so many old ruptures.

In the third are the protrusions of persons in very advanced life, the features of which are marked by vast size, by long continuance, and by their constant enemy, the bronchial cough.

