

### EXAMINATION BY THE SPECULUM OR PROCTOSCOPE

By the aid of suitable specula and reflected light, the whole inner surface of the rectum up to the sigmoid flexure may be inspected. The openings of glands and the condition of the valves and any alteration in color or unevenness of the surface of the mucous membrane



FIG. 545.—The Sims rectal speculum. (Hirst.)

are noted. Ulcers, polypi, new growths, malignant disease, strictures, the internal openings of fistulous tracts, hemorrhoids, and congestion or inflammation of the rectal mucosa may be distinguished by the experienced examiner.

**Instruments.**—The ordinary rectal specula are made in various shapes and styles, such as the Sims (Fig. 545), the bivalve, the duck-bill (Fig. 546), the fenestrated-blade (Fig. 547), the conical, etc. These are all useful instruments for inspection of the lower 4 or 5

inches (10 to 12 cm.) of the bowel, but their usefulness is limited to that region.

For examination of points higher up Kelly has devised a set of tubular specula (Fig. 548) which permit a thorough inspection of the whole rectum and the sigmoid flexure. This set of instruments consists of: (1) a sphincteroscope, (2) a long and (3) a short proctoscope, and (4) a sigmoidoscope. The sphincteroscope is short and slightly conical; the diameter of the lower end of the tube is 1 inch (2.5 cm.) and of the upper end 1 1/5 inches (3 cm.). The cylinder of the short



FIG. 546.—Duck-bill rectal speculum. FIG. 547.—Fenestrated-blade rectal speculum.

proctoscope is 5 1/2 inches (14 cm.) long, and 7/8 inch (22 mm.) in diameter. The long proctoscope is 8 inches (20 cm.) long and of the same diameter as the short proctoscope, and the sigmoidoscope is of like diameter and 14 inches (35 cm.) long. Each speculum consists of a cylindrical metal tube, at the outer end of which is a funnel-shaped rim about 2 inches (5 cm.) in diameter to which a handle is attached. A blunt obturator is provided to facilitate the introduction of the instrument into the bowel. Illumination is secured from an electric light held close to the sacrum, which is reflected by a head mirror into the speculum, or else an electric head light or the direct sunlight may be employed.

Murphy has modified Kelly's instrument in such a way that the specula telescope, the proctoscope fitting into the sphincteroscope, etc. This does away with the necessity of withdrawing and inserting a speculum through the anus each time a smaller size is used. The sphincteroscope is used first, and into this the next smaller size is passed without withdrawing the original instrument, until all have been introduced in succession.

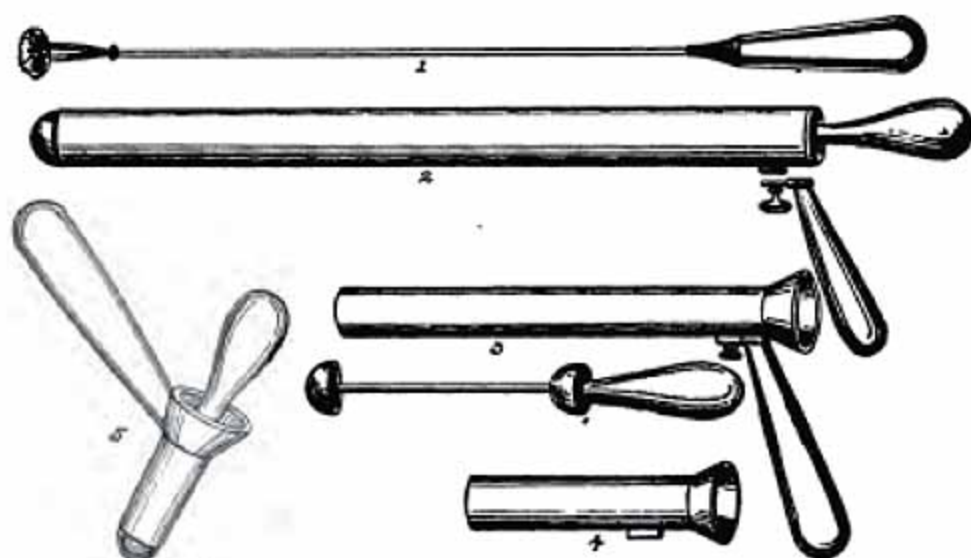


FIG. 548.—Kelly's set of tubular specula. 1, Swab and holder; 2, sigmoidoscope; 3, long proctoscope; 4, short proctoscope; 5, sphincteroscope.

The pneumatic proctoscope, such as Tuttle's modification of Law's instrument (Fig. 549) is not dependent upon atmospheric pressure as a means of dilatation, this being accomplished by a special inflation apparatus connected with the instrument. Tuttle's proctoscope consists of a long cylinder, to the circumference of which is fitted a small metallic tube closed at its distal extremity by a flint-glass bulb. An electric light fitted upon a long metallic stem is carried through the small accessory cylinder to the end of the speculum. An obturator fits into the distal end of the large cylinder to facilitate the introduction of the instrument. In addition, there is an air-tight-fitting plug containing either a plain glass window or a lens focused to the length of the instrument to be inserted in the proctoscope when the obturator is removed. This plug is in connection with an inflating apparatus. An adjustable handle is supplied with the instrument. These specula vary in length from 4 to 14 inches (10 to 35 cm.). Tuttle recommends a 4- and a 10-inch (10 and 25 cm.) tube for ordinary use. The light is furnished by a four or a six dry-cell

battery. In using the specula and proctoscope long dressing forceps and cotton balls with which to swab out the bowel will be required.

**Asepsis.**—The specula may be sterilized by boiling or by immersion in a 1 to 20 carbolic acid solution. In case the latter is

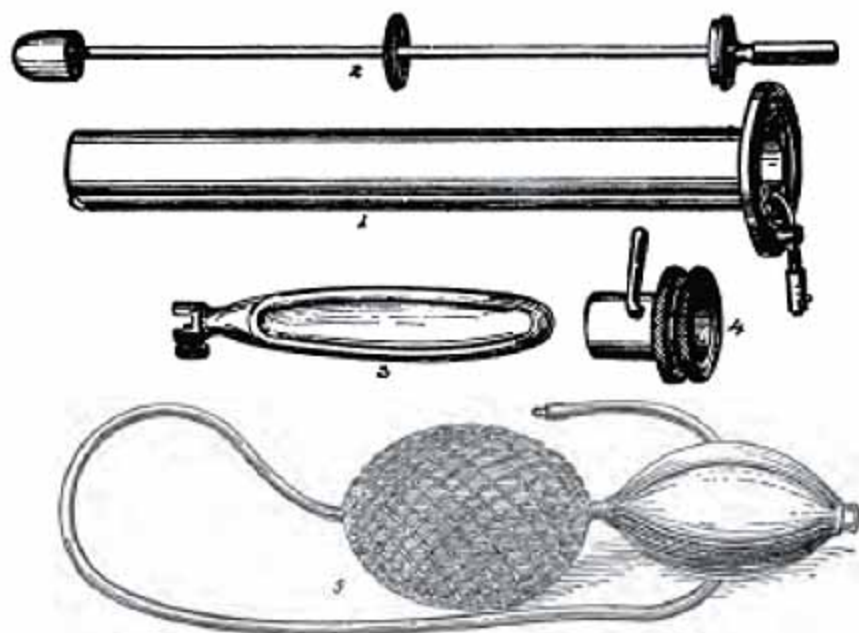


FIG. 549.—Tuttle's pneumatic proctoscope. 1, Proctoscope with obturator removed; 2, obturator; 3, handle; 4, air-tight plug with glass window; 5, inflating apparatus.

employed, the instrument should be rinsed off with alcohol or sterile water before use.

**Position of the Patient.**—In employing the ordinary proctoscope, the patient should be placed in the knee-chest position, so that the



FIG. 550.—Method of holding the proctoscope.

rectum will balloon up upon the entrance of air through the instrument. When using the pneumatic proctoscope, which does not depend upon atmospheric pressure for inflation, the Sims position may be employed instead of the knee-chest, if desired.

**Anesthesia.**—An anesthetic is not required, as a rule, unless the patient is extremely hyperesthetic.

**Technic.**—1. *With the Kelly Instrument.*—The instrument should always be warmed and lubricated with sterile vaselin before its



FIG. 551.—Proctoscopy. First step, method of inserting the instrument.

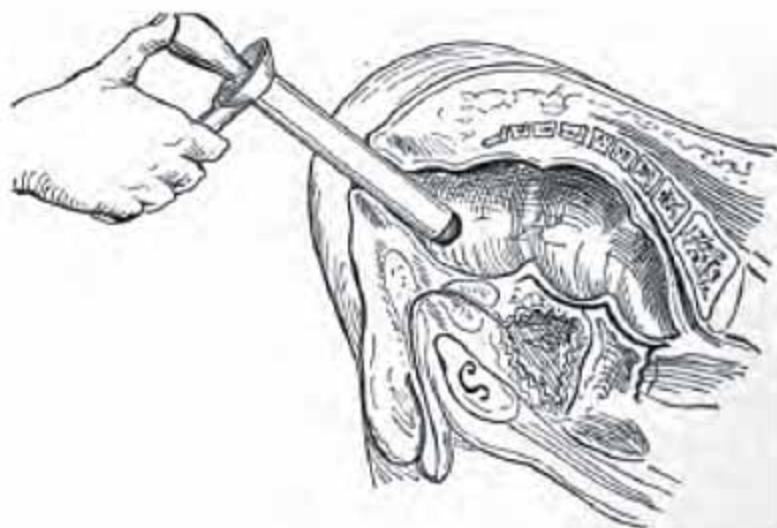


FIG. 552.—Proctoscopy. Second step, showing the direction of the instrument in passing through the anus.

introduction. In using the sphincteroscope the handle of the instrument is grasped in the right hand with the right thumb pressing against the obturator, as shown in Fig. 550. The buttocks are then drawn apart and, with the end of the obturator held against the anal

orifice, the patient strains slightly and the speculum is slowly pushed into the bowel in a direction downward and forward until the funnel-shaped rim prevents its further progress. The obturator is then removed, allowing air to pass in and distend the bowel. The light

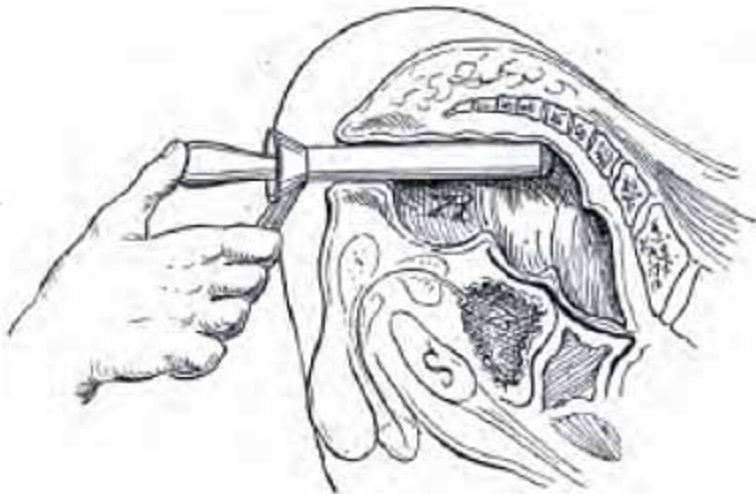


FIG. 553.—Proctoscopy. Third step, showing the direction of the instrument in entering the ampulla.

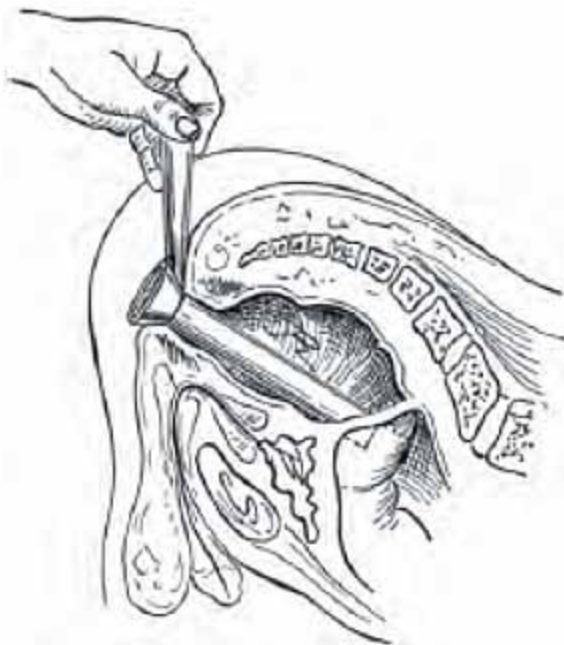


FIG. 554.—Proctoscopy. Fourth step, showing the instrument inserted to its full extent.

is reflected into the instrument in such a way as to thoroughly illuminate the interior, and, as the instrument is slowly withdrawn, the whole of the anal canal is carefully inspected.

The proctoscope is inserted in precisely the same manner, first

pushing the instrument in a direction downward and forward (Fig. 552) and then upward toward the sacral hollow (Fig. 553). As soon as the tube enters the ampulla, the obturator should be withdrawn allowing air to enter and expand the bowel. The light is then thrown into the instrument and the ampulla is inspected. From this point the instrument is advanced past the valves entirely *by sight*. Some difficulty may be experienced in following the direction of the canal from a valve or fold of mucous membrane occluding the end of the instrument. In such a case the distal end of the instrument should be



FIG. 555.—Showing the method of performing proctoscopy by the aid of a head mirror and an electric light.

gently moved from side to side until the opening of the canal is found. In this manner the whole interior of the rectum may be inspected. As the instrument is withdrawn, the condition and character of the mucous membrane as it falls over the end of the instrument is noted (Fig. 555).

In introducing the sigmoidoscope it is to be remembered that the upper portion of the canal gradually turns to the left, hence the point of the instrument is turned in that direction as it slowly ascends the bowel.

2. *With Tuttle's Proctoscope.*—The proctoscope, warmed and well lubricated, is introduced in much the same manner as is Kelly's instrument. To avoid causing the patient any discomfort from the presence of the auxiliary tube, however, it is well to insert the index-finger of the left hand into the bowel first and then to introduce the instrument with the end of the auxiliary tube pressed against the

finger (Fig. 556); as the tube enters the bowel the finger is withdrawn. When the internal sphincter has been passed, the obturator is withdrawn and the plug containing the glass lens is substituted. This makes the instrument air-tight. Pressure upon the bulb of the inflating apparatus distends and straightens out the canal as the instrument is advanced. Should the lamp become obscured by feces or mucus, the plug is removed from the instrument and, without re-



FIG. 556.—Showing the method of inserting Tuttle's instrument with the finger in the rectum and the auxiliary tube pressing against it.

moving the instrument, the glass is wiped off with a cotton wipe held in long dressing forceps. At the completion of the examination the cap at the end of the tube is withdrawn and the air is allowed to escape from the bowel before the instrument is removed.

### EXAMINATION BY SOUNDS AND BOUGIES

The employment of the rectal sound or bougie for the diagnosis of stricture has been superseded to a large extent by the use of the proctoscope. The bougie, furthermore, is not a very reliable instrument, as strictures that do not exist may be imagined to be present from the point of the instrument catching in the folds of mucous membrane or in a diverticulum, or from being arrested by fecal matter, the promontory of the sacrum, a retroverted uterus, or an enlarged prostate. Again, the instrument may bend or curve upon itself.

**Instruments.**—There are many varieties of sounds and bougies made for diagnostic purposes, but the only instrument that should be



employed is a soft-rubber one, the Wales bougie (Fig. 557) being a type. Metal or hard-rubber sounds are dangerous, even in the hands of an expert, unless they are inserted by the aid of a proctoscope, as they may easily be pushed through the rectal wall into the peritoneal cavity, especially if the rectum is weakened by some pathological condition. The Wales bougie is made of soft rubber in different sizes, and in length measures about 12 to 14 inches (30 to 35 cm.). It is perforated by a canal running through its center for the purpose of allowing fluid to be injected into the bowel to aid in its passage. In using this instrument a Davidson syringe should be provided.

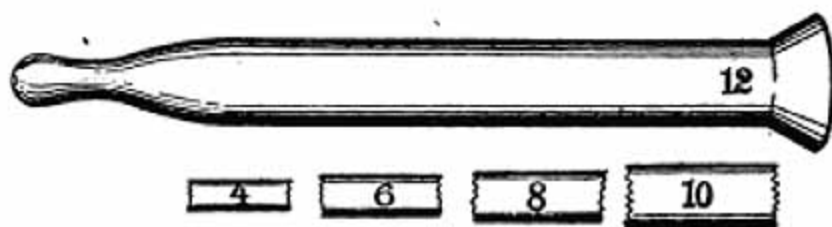


FIG. 557.—Wales' bougies.

**Technic.**—The bougie, well lubricated, is gently inserted into the bowel until its further progress is impeded by some obstruction. The Davidson syringe is then attached and a stream of warm water or oil is forced through the instrument for the purpose of dislodging any fecal matter or folds of mucous membrane that may be interfering with its passage. In this way the whole length of the bowel may be explored without danger, and the instrument may be passed into the sigmoid provided no stricture exists.

### EXAMINATION BY THE BOUGIE À BOULE

The rectal bougie à boule is made use of in diagnosis to determine the size and length of a stricture.



FIG. 558.—Rectal bougie à boule.

**Instruments.**—The bougie à boule consists of a flexible wire or rubber shaft with a handle to the extremity of which acorn-tips of various sizes may be screwed (Fig. 558). The bougie à boule is used

to best advantage in connection with a cylindrical speculum or a proctoscope.

**Technic.**—A speculum is introduced into the anus and is carried up to the seat of the stricture so that a clear view of its opening may be secured. The examiner begins by selecting a large bougie and passing it through the speculum to the opening in the stricture (Fig. 559). If it is found to be too large to enter the stricture, smaller instruments are selected until one is found that will just pass through the contracture. This is inserted entirely through the stricture, using



FIG. 559.



FIG. 560.

FIG. 559.—Method of estimating the length of a rectal stricture, the bougie à boule at the face of the stricture.

FIG. 560.—Method of estimating the length of a rectal stricture. The bougie à boule is withdrawn until its base is arrested at the distal end of the stricture.

gentleness only in manipulation, and as it is withdrawn its base catches the distal opening of the stricture (Fig. 560). From this examination the exact length and size of the contracture may be readily ascertained.

### EXAMINATION BY THE PROBE

Probing has but little utility in the diagnosis of rectal diseases except as a means of determining the situation and course of a recto-vaginal or ischio-rectal fistula.

**Instruments.**—A silver probe 8 or 10 inches (20 to 25 cm.) long

with a flat handle is employed (Fig. 561). The probe should be flexible that it may be bent in any direction if desired. When examining for a recto-vaginal fistula a Sims speculum will be required in addition to expose the fistulous opening in the vagina.



FIG. 561.—Rectal probe.

**Technic.**—The index-finger of the left hand, well lubricated, is first introduced into the rectum. The probe, grasped in the right hand, is then passed through the external opening in the supposed direction of the fistulous tract. The tract of the sinus is thus slowly explored, removing the probe and bending it so as to alter its shape to correspond with the direction of the sinus if necessary. The internal finger at once recognizes the tip of the probe as it enters the rectum (Fig. 562).



FIG. 562.—Showing the method of probing an ischiorectal fistula. (Ashton.)