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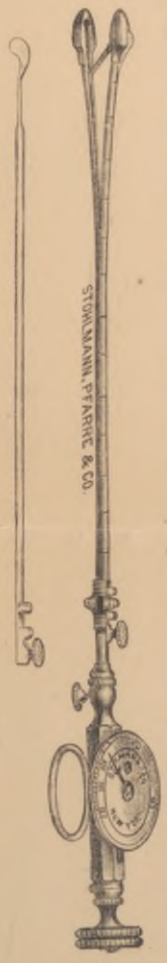
THE METRO-URETHROTOME.

By F. TILDEN BROWN, M. D.

By this name I presume to call the attention of those interested in urethral surgery to an instrument here shown. It was devised for cutting a stricture I could not reach with the instrument I was then using. Since then—two years ago—I have had two others made by the same firm (Messrs. Stohlmann, Pfarre, & Co.), with certain modifications, the most important being a diminution in the size of the bulb, and a simpler adjustment of the blade. This drawing will at once suggest the urethrometer of Dr. Weir, with the blade of Dr. Otis's urethrotome. With slight alterations in each, the metro-urethrotome is practically a combination of the two. The arms spread perpendicularly instead of horizontally to the plane of the dial. The blade is introduced through a slot in the graduate screw-ring, just in front of which it is received by a groove, along which it runs to the upper semi-bulb, where it sheaths itself. To raise and hold the blade in position while cutting is effected by turning the graduate screw-ring which bears against a shoulder at the blade hilt, thus drawing up the blade, the back of which rides on an incline in the upper semi-bulb. Spreading or closing the bulb does not, of course, influence the elevation of the blade, except relatively to the lower semi-bulb. In this respect the instrument offers an opportunity for fine and accurate adjustment unattainable in any I know of. Here one complete turn of the screw-ring unsheaths the blade to a certain height; the dial records the bulb spread, and any resistance then felt in drawing the instrument forward is referable only to the limited area in apposition with the semi-bulbs, the depth of which is known by noting the inch- or half-inch mark on the staff at the meatus.



As can be seen, the instrument offers facilities for cutting the urethra up to any desired caliber without interfering with a meatus which admits only a 15 French. In this respect I believe it to be unique. With it I had hoped to satisfy myself upon the much-mooted question of the necessity of enlarging the meatus to the size of the urethra where cut at the strictured portion, but the want of a specially made dilating sound for subsequent treatment has thus far deterred me from making the test. Until we have some such form of small-necked dilating sound—one which will dilate, at the same time, about four inches and a half of the urethra symmetrically without stretching or affecting the meatus—until then, the necessity of this nearly uniform caliber is evident; for a meatus one or two sizes smaller than the urethra within renders ineffectual the presence of the largest sound permissible by such a meatus. As already stated, the instrument was devised for a special case, where a deep organic stricture of gonorrhœal origin existed. I had previously cut two anterior strictures, and hoped the disappearance of this deeper one would prove its spasmodic origin. Disappointed, however, I attempted two weeks later to operate with Dr. Otis's straight urethrotome, but failed to reach it because of the subpubic curve preventing sufficient insertion. I thought of resorting to a Maisonneuve or a Civiale, but the size of blade in each and the location of the stricture deterred me. The Weir urethrometer was modified for the purpose, and the stricture cut without annoying hæmorrhage or complication of any kind. Although this has been the only deep stricture of the sort I have met with in two years, I have still had occasion to use the instrument or its modifications in a large proportion of operations in the penile urethra.

In cases presenting an almost continuous two inches or more of dense stricture tissue, occupying any part of the anterior four inches of the urethra, and where the caliber will permit its use, the great advantages of Dr. Otis's instrument are too manifest to require comment. There are few instruments of surgical importance which so perfectly fulfill their mission. In lesser operations, however, where one or several, more or less distinct, annular strictures exist, whether deep or anterior, I believe the metro-urethrotome will be a safer and more accurate instrument. The economy of time in handling is also some advantage, for with it a single insertion may serve to diagnosticate and locate a stricture, to cut it, and to prove the satisfactory completion of the operation. An almost universal acquaintance with the urethrometers of Otis and Weir renders it needless to describe the handling of the metro-urethrotome as a diagnostic instrument. As to its management as a cutting agent a few words will suffice. Say at three inches a stricture is found permitting 27 French, the urethra anterior and posterior to it expanding to 32, representing the normal in this particular case. The closed instrument with sheathed blade is passed to the proximal side of the stricture—*i. e.*, about three inches and a half. The semi-bulbs are spread to 27, and brought a little forward until they are at the verge of the contracted zone. Now, by two complete turns of the screw-ring, the blade is unsheathed to its fullest extent and presents against the center of the urethral roof. By moderate and guarded force the whole instrument is drawn forward. As the stricture is severed a characteristic sensation is conveyed to the hand. Sheath the blade, lessen the bulb spread, and sink to the starting point, enlarge to 32, and draw forward; perhaps at the point of stricture the spread must be relaxed to 31; if so, unsheath the blade slightly by a partial turn of the screw-ring and repeat as before. I think it better to go over the ground in this way, two or three times if necessary, rather than risk injury by undue cutting or stretching in attempting instant completion. Although it has been my practice to repeat the incision along the urethral roof, it may be found advantageous in some cases to sever the opposite face or the side wall of the stricture when a second section is found necessary. I have reason to believe that severing a stricture is much less painful than putting it on the stretch; for, in using this instrument without even cocaine anæsthesia, patients have assured me that the cutting was not nearly so annoying as the pain previously caused by passing a sound. The last changes in this instrument affect the lever which spreads the bulb; the point now impinges upon almost the apex of the upper semi-bulb, thus affording additional stiffness, and a long, narrow fenestra in the lever permits the blade to sheath through it and thus utilize the hollow space in the lower semi-bulb; in this way a reduction in the size of the bulb has been obtained. The drawing shows the blade partly unsheathed in the upper semi-bulb.

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