THE MALE URINARY MEATUS

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The following note is a brief record of the measurements, and appearance, of the male urinary meatus.

Material. A series of one hundred cases in hospital, and private practice, were examined and measured; and a series of thirty-five cases of mentally deficient persons were examined at Earlswood. I desire to thank Dr C. Caldecott, and his son, Mr F. Caldecott, my former house-surgeon, for their kind and valued assistance.

Measurements. The following measurements were made in all cases, *and are recorded in eighths of an inch.*

(1) Dorsal measurement; from the middle of the dorsum of the "Corona Glandis" to the dorsal end of the meatus.

(2) Ventral measurement; from the middle of an imaginary line joining the most proximal parts of the "corona glandis" on each side of the middle line, to the ventral end of the meatus.

(3) The length of the urinary meatus.

Results of measurement. In only one case was the meatus situated amesially, and in this case, one of lateral displacement to the left, there was only a difference of one-eighth of an inch between the two sides. The mesial position of the meatus is very constant.

The mean measurements as defined above, in the various decades of life, are as follows *taken in eighths of an inch.*

	Dorsal (1)	Ventral (2)	Meatus (3)
A. Normal minded:			
1–10 years	5·21	1·75	1·13
11–20 ,,	6·97	2·70	1·81
21–30 ,,	9·00	3·59	2·86
31–40 ,,	9·73	4·10	2·63
41–50 ,,	9·28	4·00	2·71
51–60 ,,	9·35	3·55	2·88
61–80 ,,	9·43	4·75	2·91
B. Mentally deficient:			
1–10 years	—	—	—
11–20 ,,	7·66	3·45	2·05
21–30 ,,	9·57	4·00	2·21
31–40 ,,	9·25	3·75	2·37
41–60 ,,	9·125	3·75	2·125
61–80 ,,	11·00	4·50	2·20

In table A a marked difference is shown between the first, second, and third decades of life, associated doubtless with puberty and adolescence.

From a comparison between the two tables as far as the numbers are of any relative value, it would appear that the urinary meatus, and adjacent parts, attain a larger size at an earlier age in the mentally deficient than in normal individuals.

The average length of the urinary meatus in an adult is 0·35 of an inch. The smallest meatus in an adult is $\frac{1}{8}$ of an inch, and the largest $\frac{1}{2}$ of an inch in length.

These figures do not, however, demonstrate the real interest of the enquiry. It is not necessary to discuss the development of the urinary meatus, and adjacent parts of the urethra; but if this be recalled by the reader it may be stated at once that in a fair percentage of cases there was some fault in complete development, and that in these cases there was some departure from the normal.

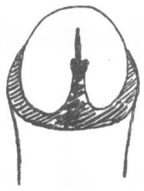

FIG. 1
Arrow Meatus

FIG. 2
Club Meatus

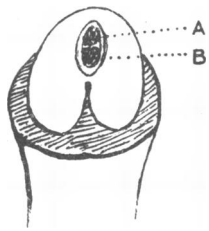

FIG. 3
Concealed Hypospadias
A. Glandular involution B. Urethral termination

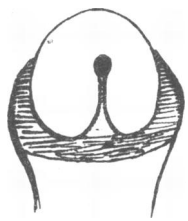

FIG. 4
Normal Meatus

The following description is based upon a departure from the normal meatus, which may be regarded as a mesial slit with lateral walls which may or not be protuberant, thus forming, or not forming, prominent lips.

(1) The arrow-shaped meatus with
  - (α) barb pointing dorsally; 2 cases,
  - (β) barb pointing ventrally (fig. 1); 6 cases.

(2) The club-shaped meatus with
  - (α) head pointing dorsally; 1 case,
  - (β) head pointing ventrally (fig. 2); 2 cases.

(3) Displacement of meatus vertically and
  - (α) ventrally; 2 cases,
  - (β) dorsally; 1 case,
  - (γ) laterally; 1 case.

(4) Rotation of meatus through 90°; 1 case.

(5) Concealed Hypospadias (fig. 3); 4 cases.

(6) True Hypospadias; 3 cases.

In ten cases there was present the remnant of the penile glandular depression which forms part of the terminal portion of the normal urethra.

Thus in thirty-three cases out of one hundred and thirty-five, or nearly 25 per cent., there was some departure from the normal.

COMMENTS ON ABNORMAL CASES

The first two varieties (figs. 1 and 2), namely the Arrow-Headed meatus and the Club-shaped meatus, may be regarded as very mild degrees of hypospadias, in which complete union has taken place between the urethral gutter, and the glandular involution, but evidence is still remaining of their separate origin. Furthermore, the variety of arrow-shaped meatus with the barb pointing ventrally (fig. 1) may be worthy of some attention.

The edges of the barb are merged in to the fraenum and it is possible that the fraenum may take some part in the formation of the completed urethra. In this connection four points are worth mentioning.

(1) It is only as a very exceptional circumstance, that the under part of the urethra near the meatus is formed of erectile tissue. The floor of the urethra in this region is formed by a thin membrane, which is depressed below the surface of the glans, and which is avascular. Thus the meatus may be conveniently enlarged by an incision through this membrane if it is small (fig. 4).

(2) In one case the fraenum was perforated by the opening of the urethra halfway along its length, there being in addition a well-marked glandular involution, which was situated in the usual place.

(3) In one case the arrow-shaped meatus was associated with a hooded prepuce, which is a common accompaniment of an ordinary hypospadias.

(4) The fraenum is intimately connected with the depressed septum.

Rotation of meatus through 90°. In this case the penis was rotated through 90° to the left. There was a completely undescended testicle on the left side and an arrow-shaped meatus, the barb pointing to the left—that is downwards, if the meatus had not been rotated.

Concealed Hypospadias. In these cases the meatus appears to be normal, but when the lips are separated, it is found to be divided into two distinct parts, a dorsal part, formed from glandular involution, and a ventral part from the urethral gutter (fig. 3).

True Hypospadias. The cases, three in number, are introduced only for percentage purposes 3 ex 135 or 2·2 per cent. In one of the cases mentioned previously, in which the fraenum was perforated by an opening through which micturition was performed, the stream of urine was directed at right angles to the direction of the terminal portion of the urethra.

In other cases of hypospadias, which are not recorded here, and in which there was a much more pronounced abnormality, micturition was conducted normally.

SUMMARY

In 31 per cent. of urinary meatuses there is some abnormality, which may be traced to incomplete fusion of the two portions which form the terminal part of the urethra.