Swedish Pediatrics
Pediatric urology team
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Physiologic phimosis

- At birth, prepuce can be retracted completely in 4% of newborns.
- 54% the external meatus can only just be seen.
- 42% the tip of the glans cannot be seen.
  - (Gairdner 1949)

### Incidence of Phimosis, Tight Prepuce, and Smegma in Various Age-groups

<table>
<thead>
<tr>
<th>Age-groups (yr.)</th>
<th>No. and % with Phimosis</th>
<th>No. and % with Tight Prepuce</th>
<th>No. and % with Smegma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>6-7</td>
<td>46/ 591</td>
<td>8</td>
<td>6/545</td>
</tr>
<tr>
<td>8-9</td>
<td>86/1374</td>
<td>6</td>
<td>24/1288</td>
</tr>
<tr>
<td>10-11</td>
<td>96/1662</td>
<td>6</td>
<td>34/1566</td>
</tr>
<tr>
<td>12-13</td>
<td>77/2523</td>
<td>3</td>
<td>70/2446</td>
</tr>
<tr>
<td>14-15</td>
<td>34/2744</td>
<td>1</td>
<td>33/2710</td>
</tr>
<tr>
<td>16-17</td>
<td>6/ 651</td>
<td>1</td>
<td>9/645</td>
</tr>
<tr>
<td>Total</td>
<td>345/9545</td>
<td>4</td>
<td>176/9200</td>
</tr>
</tbody>
</table>
Likely there are regional differences in phimosis

- Zheijiang China: high prevalence of physiologic phimosis in kindergarten children, up to 44% at age 6

- Swaziland (preputial adhesions-39% + phimosis-78% + hypospadias-3%:}

<table>
<thead>
<tr>
<th>Patient age (years)</th>
<th>Number in age group</th>
<th>Percentage (95% CI) with penile abnormality</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 5</td>
<td>3</td>
<td>67% (14–100%)</td>
</tr>
<tr>
<td>6–12</td>
<td>627</td>
<td>87% (84–90%)</td>
</tr>
<tr>
<td>13–19</td>
<td>268</td>
<td>79% (74–84%)</td>
</tr>
<tr>
<td>≥ 20</td>
<td>31</td>
<td>32% (16–48%)</td>
</tr>
</tbody>
</table>
Inner preputial adhesions in the uncircumcised penis

<table>
<thead>
<tr>
<th>Age-groups (yr.)</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>6–7</td>
<td>345/545</td>
<td>63</td>
</tr>
<tr>
<td>8–9</td>
<td>749/1288</td>
<td>58</td>
</tr>
<tr>
<td>10–11</td>
<td>745/1566</td>
<td>48</td>
</tr>
<tr>
<td>12–13</td>
<td>840/2446</td>
<td>34</td>
</tr>
<tr>
<td>14–15</td>
<td>362/2710</td>
<td>13</td>
</tr>
<tr>
<td>16–17</td>
<td>17/645</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>3058/9200</td>
<td>33</td>
</tr>
</tbody>
</table>
Abnormal raphe

Level of measurement of median raphe deviation at foreskin tip

Level of measurement of median raphe deviation at coronal sulcus
Abnormal raphe

Angle of torsion of meatus indicating the torsion of glans

Level of measurement of median raphe deviation at foreskin tip

Level of measurement of median raphe deviation at coronal sulcus
Penile torsion

• Common 12% of men
• Most commonly counterclockwise
• Can be associated with chordee and identified before circumcision by deviated penile raphe
• More likely to be bothered with increasing severity >45 degrees
Penile Chordee
Penile chordee

- Seen in 4-10% of males
- Results from disproportionate development of the tunica albuginea of the corporal bodies.
- Untreated patients may have worse penile perception scores, mentally unhealthy days and increased difficulty with intercourse (> 20 degrees curvature)
- Plication is used almost exclusively with satisfactory curve correction rates in 67-97%.

Do adult men with untreated ventral penile curvature have adverse outcomes?

Menon V¹, Breyer B², Copp HL², Baskin L², Disandro M², Schlomer BJ³.
Inconspicuous penis variants

Fig. 5. Variants of inconspicuous penis. A: Buried penis; B: Megaprepuse; C: Webbed penis; D: Trapped penis.
Penile webbing
Buried penis
Buried penis

After penoplasty
Normal skin fixation in a obese infant
Inconspicuous penis

• When does it “need” to be fixed
• UTIs, urine trapping (megaprepuce variant), recurrent balanitis, continuing phimosis
Open/cleft foreskin
Megameatus variant of hypospadias

OK for newborn circumcision if intact prepuce

- 93 had an aborted newborn circumcision
  - 28 underwent hypospadias repair
  - 47 underwent circumcision completion under general anesthesia
  - 18 either deferred surgery or underwent in-office circumcision.

- 10 had completed circumcision with hypospadias with intact prepuce
  - No complications

- 151 control group patients
  - 5.3% complication rate

- Performing circumcision in newborns with hypospadias and an intact prepuce did not affect repair or the risk of complications.

Discovery of hypospadias during newborn circumcision should not preclude completion of the procedure.

Chalmers D¹, Wiedel CA¹, Siparsky GI¹, Campbell JB¹, Wilcox DT¹.
Proximal shaft hypospadias
Micropenis

(2.5 SD smaller than mean)

ie in newborn < 1.9 cm (0.75 inches)

Normal stretched penile length length of newborn penis 2.8-4.2 cm
Epispadias
Epispadias
Chronic Complications after Circumcision

- Incomplete circumcision and skin tags
- Skin Bridges
- Meatitis and meatal stenosis
- Secondary phimosis and concealed (buried) penis
- Fistulas and megalourethras
- Inclusion cysts
Buried Penis after Newborn Circumcision

- 88 patients with buried penis AFTER newborn circumcision

<table>
<thead>
<tr>
<th>Patient age (years)</th>
<th># of Patients</th>
<th>% with Buried penis (#)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger than 1</td>
<td>14</td>
<td>100% (1)</td>
</tr>
<tr>
<td>1-3</td>
<td>59</td>
<td>32.2% (19)</td>
</tr>
<tr>
<td>&gt;3</td>
<td>15</td>
<td>6.7% (1)</td>
</tr>
</tbody>
</table>

Buried penis in 5-month-old infant. Although only tip of glans is visible, entire penis easily emerges if skin is gently pushed down.
Trapped Penis after Newborn Circumcision

• Retrospective review
• 14 infants with trapped penis
• Within 4 weeks of the newborn circumcision
• 0.05% Betamethasone cream 3 times daily for 3 weeks + manual retraction
• 78% with improvement/able to retract behind head of the penis
• 21% required formal reconstruction
Incomplete Circumcisions

Chronic Complications
Chronic Complications

Adhesions

- Fine adhesions to the corona
- Adhesions covering less than 50% of glans
- Adhesions covering >50% of glans
- Total Adhesions

0%  10%  20%  30%  40%  50%  60%  70%  80%

- less than 1 year old
- 1 to 5 years
- 5 to 9 years
- over 9 years

*Penile adhesions after neonatal circumcision.*
Ponsky LE, Ross JH, Knipper N, Kay R.
Chronic Complications-Skin Bridging
Chronic Complications-Skin Bridging
Chronic Complications - Unusual Skin Bridging
Chronic Complications - Meatal Stenosis

Presumably develops secondary to diaper dermatitis with subsequent scarring
Questions?