Table 1. Incidence or severity of palatal grooving, relation to intubation time. Exclusion criteria was only given by [7].

<table>
<thead>
<tr>
<th>studies</th>
<th>Method and validity</th>
<th>Results</th>
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<tbody>
<tr>
<td>[24]</td>
<td>- Dental casts, using a thermoplastic material.</td>
<td>- At 2-5 Y, 100 % had a high palatal vault. - 28 % had palatal grooving. - 16 % had a posterior crossbite. - Intubation ≤ 15 D: no grooving, no posterior crossbite. - Intubation ≥ 30 D: higher incidence of grooving and posterior crossbite than those intubated ≤ 30 D</td>
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<tr>
<td>[5]</td>
<td>- Probably visual clinical inspection.</td>
<td>- High arched palate at 70 D, cleft at 90 D</td>
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<td>- Probably visual clinical inspection.</td>
<td>- At extubation (50 D) cleft of hard palate. - At four MO no noticeable closure of cleft. - No palatal deformity. - Palatal grooving in 30 (47.6 %) infants; - Intubation &lt; 7 D (n=43) ⇒ 17 (39.5 %) palatal groove. - Intubation 8-14 D (n=12) ⇒ 6 (50.0 %) palatal groove. - Intubation &gt;15 D (n=8) ⇒ 7 (87.5 %) palatal groove.</td>
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<td>[6]</td>
<td>- Impression of maxillary arch (thermal plastic compound, specially developed acrylic tray) (43 (68%) had the maxillary impression taken during the first W of life). - Master cast (dental stone). - Visual inspection of palatal grooving (defined as a narrow channel of variable depth located near the midline of the palate). - No validity of the method was given.</td>
<td>- Out of 106: - 100 had no palatal groove at the time of the initial impression; - Other 6 had previously had an orotracheal tube for up to 757 H duration of intubation; - No significant intergroup differences with respect to BW, mean duration of intubation (no data on comparison of groups with respect to GA given). - None of children in PSD group showed any evidence of palatal</td>
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</table>
- experimental group (n=12), with cold-cure methyl-methacrylat PSD, mean BW 989.2 +/- 379.2 g, mean duration of intubation 33 +/- 20 D
- 22 children without palate plate (mean BW 852 g, 175), mean GA 26.7 W (1.7), average of 29.1 (21.1) D of intubation.
- 18 children with palate plate (mean BW 920 g, 196), mean GA 27.7 W (1.6), average of 27.1 (18.7) D of intubation.

- 40 VLBW neonates with orotracheal tubes randomized to
  - control group (n=22), GA 27.1 +/- 1.6 W, BW 920 +/- 196 g, length of intubation 27.1 +/- 18 D and
  - study group (n=18), GA 26.7 +/- 1.7 W, BW 852 +/- 175 g, length of intubation 29.1 +/- 21.2 D fitted with palatal appliance to protect maxillary arch from the orotracheal tube
- Neonates out of a 12 MO period who required intubation and mechanical ventilation, < 2500g; patients > 800 g BW treated with a 2.5 mm internal diameter group, patients > 800 g BW treated with 3.0 diameter; tubes fixed to upper lip and cheek with tape.  
  - Study group: 57 neonates (standard PVC endotracheal tube; ‘hard’ group (identical internal and external diameters to the soft tube);
  - Control group: 46 neonates with a modified ‘soft’ PVC endotracheal tube (identical internal and external diameters to the hard tube).

- 37 infants, BW 1024 +/- 228 g, GA 29 +/- 2 W
  - 50 % M, 83 % black.
  - 72 % intubated for 34.5 +/- 28.7 D
- n = 1 PT infant (sex not given) with normal palate at birth (GA 26 W, with
  - Probably visual clinical inspection.

- 60 VLBW infants without palatal abnormalities requiring orotracheal intubation (20 therefrom excluded (8 intubated < 5 D, 7 died, 5 required different endotracheal tube), thus randomized
- 46 infants intubated > 30 D = most severe grooving patterns.
- Infants who were most at risk for palatal grooves = infants intubated > 2 W.
- Correlation coefficient between intubation period and groove depth r = .92.
- No statistical significant differences between groups for mean BW, GA or length of intubation.
- Significant difference in rating for initial and final measurements between 3 examiners (p < 0.05).
- Difference (final-initial) did not differ significantly.
- No significant differences in the initial ratings of study and control group.
- Palatal grooves and differences between initial and final grading significantly smaller in the plate group.
- No correlation between severity of groove and length of intubation in the plate group.
- Significant correlation between severity of groove and length of intubation in the control group (p < 0.05).
- No differences between groups for initial grading.
- Significant differences between final and final-initial gradings between groups (p < 0.01).
- Only in the control group did the severity of groove formation correlate with the length of intubation (p < 0.05).

- 7
- ‘Large palatal groove’ after extubation after 70 D
  - All 14 infants in control group experienced grooving from 2- 7 mm in depth: 64 % > 5 mm, 36 % < 5 mm.
  - Infants intubated > 30 D = most severe grooving patterns.
  - Infants who were most at risk for palatal grooves = infants intubated > 2 W.
  - Correlation coefficient between intubation period and groove depth r = .92.
  - No statistical significant differences between groups for mean BW, GA or length of intubation.
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  - Significant differences between final and final-initial gradings between groups (p < 0.01).
  - Only in the control group did the severity of groove formation correlate with the length of intubation (p < 0.05).
orotracheal tube (changed every 3 to seven D) at three minutes of life, ventilation for 70 D

- 40 PT, GA 25-37 W (mean 30.0 +/- 2.6).
- Intubated for 14-243 D (67.6 +/- 51.1).

- Evaluation for palatal grooving by means of wax impressions of the palate at the time of extubation and six MO later.
- At the time of extubation:
- 37 (90%) with grooves.
- 3 without grooves (GA 29, 31, 31 W, intubated 24, 14, 14 D).

BW = birthweight, D = day(s), F = female, GA = gestational age, GW = gestational weeks; H = hour(s); LBW = low birthweight, M = male, MO = month(s), NBW = normal birthweight, NS = not significant, PT = preterm, VLBW = very low birthweight, W = weeks, Y = year(s).