Tori, Torus, Exostoses

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Tori: Non-pathologic outgrowth of bone.

I believe this is one way bone responds to stresses applied to it.

Is it due to ionization?
Hypothesis

Tori are very common in today’s population (2004). I believe they are a result of stresses on the bone and are mainly found on nervous, anxious and driver-type personalities. The significant increase in the number and size of tori seen today as compared to prehistoric times are the result of society stresses.

Tori, I believe, will not be found in prehistoric skulls in the frequency or size of today’s tori. Prehistoric man had stresses, but their stresses were the result of survival, not of society stresses.

Difference will be in frequency (can be seen on a daily basis in dental offices today) and size (massive today – not as massive in prehistoric times).
May be genetically linked.
20-25% of people have them.
Females more affected.
Mendelian Dominate.
Evidence of what causes them is lacking.
40-60% of children of parents who had them, will have them.

(Source unknown)
# Frequency of Occurrence of Toru Palatinus

<table>
<thead>
<tr>
<th>Origin</th>
<th>Frequency</th>
<th>Investigator (Year)</th>
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<tbody>
<tr>
<td>Koreans</td>
<td>90%</td>
<td>Osima (1939)</td>
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<tr>
<td>Japanese</td>
<td>73%</td>
<td>Sakaguchi (1939)</td>
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<tr>
<td>Eskimos/Laplanders</td>
<td>60%</td>
<td>Schreiner (1935)</td>
</tr>
<tr>
<td>Venezuelans</td>
<td>24%</td>
<td>Luzardo (1958)</td>
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<tr>
<td><strong>Americans</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>21%</td>
<td>Kolas (1953)</td>
</tr>
<tr>
<td>Black</td>
<td>19%</td>
<td>Austin (1965)</td>
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<tr>
<td>Chileans</td>
<td>.37%</td>
<td>Witkop (1963)</td>
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*Compendium of Continuing Education,* Year and issue unknown.
Enlarged mandibular angle usually associated with powerful masseters.
Panoramic radiograph demonstrating overdeveloped mandibular angles in a strong bruxer / clencher. (See next 2 slides)
Enlargement of one side.
Enlargement of other side.
Square jaw. Typical of clencher / bruxer.
Large mandibular angle of square jawed individual.
Skulls from 1930-1940 era evaluated at the Smithsonian Natural History Museum in 1996.
Smithsonian skull (1930-1940). Note bony tori.
Note bony lingual torus on this mandible. (1930-1940)
Maxillary bony torus. (1930-1940).
Same skull has tori on lingual as well.
Bony tori on the lingual of this mandible. (1930-1940)
Eskimo skulls from Smithsonian that have exostoses and tori.
Eskimo mandible #1. Exostoses and tori.
Eskimo mandible #2. Tori.
Eskimo mandible #3. Exostoses and tori.
Tori growth cases.

Case 1
Mandibular tori. 1994
Same tori in 1998.
Same individual.
Same individual, different pictures.
Case 2
Mandibular lingual tori. 1995
Same individual in 2004. (Post whitening.)
Same individual.

(1995)

(2004)

(Post whitening.)
1995 Mandibular right torus. (Mirror used)
2004  Same mandibular right torus. (Direct view)
1995 (Mirror used)

Same torus in different years.

2004 (Direct view) (Post whitening.)
1995 Mandibular left torus. (Mirror used)
2004  Same mandibular left torus. (Direct view)
Mandibular left torus.

1995 (Mirror used)

Same torus in different years.

2004 (Direct view) (Post whitening.)
1995 Maxillary left torus. (Mirror used)
Same maxillary left torus in 2004. (Direct view)
1995 (Mirror used)

2004 (Direct view)
(Post whitening.)
Individual mandibular / maxillary tori cases.
Mandibular tori.
Mandibular tori.
Mandibular tori.
Massive tori take up tongue space. Lady had OSA.
Mandibular tori.
Mandibular tori.
Mandibular tori. Note heavy ‘wear’ marks.
Mandibular tori.
Mandibular tori. Note multiple gold crowns.
Mandibular tori.
Mandibular tori.
Bonded retainer.
Mandibular tori.
Mandibular lingual tori.
Mandibular lingual tori.
Mandibular tori.
Maxillary buccal tori. (Mirror used)
Maxillary lingual tori.
Maxillary lingual tori.
Multiple Slide Cases

Case 1
Mandibular anterior tori. Lady is 92.
Maxillary tori. Same lady. Age 92.
Case 2
Massive maxillary tori.
Massive buccal and lingual tori. Note multiple crowns.
Massive buccal and lingual tori.
Left side. Massive buccal and lingual tori.
Left and right sides.
Occlusal view of tori and gold crowns.
Another view of tori and crowns. (25 years old crowns)
Massive maxillary left buccal tori.
Massive maxillary right buccal tori.
Person also has a palatal torus.
Case 3
Maxillary and mandibular tori.
Close up of maxillary buccal tori.
Maxillary left tori.
Case 4
Maxillary right torus..
Maxillary left tori.
Models of case.

Tori marked in red.
Case 5
Mandibular lingual tori.
Measuring space between tori.
Daughter of previous person developing tori also.
Case 6
Typical powerful square jaw of bruxer / clencher.
Mandibular tori.
Models of case. Tori marked in red.
Palatal Tori
Youngest torus I have seen. Age 7.
Different palatal torus. Age 9.
Palatal torus.
Palatal torus
Palatal torus.
Palatal torus.
Palatal torus.
Individual thought her torus was a tongue ‘scratcher’.

Massive palatal torus. (See next 2 slides.)
Same palatal torus - different view. (See next slide.)
Same torus on model.
Another massive palatal torus. (See next 2 slides.)
Same torus - different view. (See next slide.)
Another view of same torus.
Treatment Options
Maxillary hard occlusal splint.
‘Lips together - teeth apart.’

Only time your teeth should be squeezed together and touching is when you swallow. Even when you are eating there are usually food particles keeping your teeth apart.