A. Behind the guidelines: six randomized controlled trials
   1. The trials included 4,231 patients, but only 16 were on the head or neck\textsuperscript{1-6}
   2. None of the trials included MIS or distal extremities

B. Head & neck melanoma is frequently partially excised
   1. Can we extrapolate trunk & extremity data to treat head & neck?
   2. Even if assume 1-2cm, surgeons frequently take less\textsuperscript{3,7-10}
   3. On head & neck, photodamage can obscure the true lesion border

   ![](image)

   4. Recurrence rate for WLE on head & neck is 9-13%
   5. Recurrence rate for Mohs on head & neck is 0.2-1.2%
   6. Studies suggests 1cm may clear only 52-91% of H&N melanoma\textsuperscript{10-12}

C. Melanoma in situ statistics
   1. 35% of MIS are LM subtype
   2. 4-67% of MIS contains an invasive component\textsuperscript{13}
   3. 23% of recurrent MIS will be invasive, with mean Breslow depth of 0.94\textsuperscript{14}. The invasive component may be 1cm away from the pigmented area.\textsuperscript{15}

   ![](image)

D. Wide local excision with 5mm margins is inadequate; 1cm may be better
   1. 5mm recommendation based only on consensus in 1992\textsuperscript{16}
   2. Multiple studies report clearance rate with 5mm margins between 0-86%
   3. AAD and NCCN now recommend 0.5-1cm margin\textsuperscript{17}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Thickness & AAD & NCCN Surgical Margin \\
\hline
In situ & 0.5-1cm \\
\hline
\leq 1mm & 1cm \\
\hline
1.01-2mm & 1-2cm \\
\hline
>2mm & 2cm \\
\hline
\end{tabular}
\end{table}
4. Pittsburgh study of 1,120 MIS found 86% clearance with 6mm and 99% clearance with 9mm margin. Lower clearance rates for face and larger lesions.\textsuperscript{18}

G. LM and non-LM MIS have similar margin requirements
1. Subclinical extension associated with LM, but instead may be effect of photodamage
2. MIS on the H\&N is more likely to need 1.2-1.5mm margin
3. Because LM subtype unreliably reported, and because LM and MIS have same margin requirements, recommendations are made for MIS as one entity. Future guidelines may be wider for MIS and invasive melanoma on the head \& neck.

<table>
<thead>
<tr>
<th>Treatment of H&amp;N Melanoma</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide local excision with 2cm margin</td>
<td>This recommendation is for trunk &amp; extremities only. No RCT has included H&amp;N location. On H&amp;N, clearance rate using guideline margin may be 91%.\textsuperscript{10}</td>
</tr>
<tr>
<td>Wide local excision with 1cm margin</td>
<td>This recommendation is for trunk &amp; extremities only. No RCT has included H&amp;N location. On H&amp;N, clearance rate using 1cm margin may be 52-91%.\textsuperscript{10-12}</td>
</tr>
<tr>
<td>Wide local excision with &lt; 1cm margin</td>
<td>Though common when anatomically impractical, this will result in high recurrence rates. On H&amp;N, clearance rate using less than guideline margin may be 77%.\textsuperscript{10}</td>
</tr>
<tr>
<td>Mohs, or other method with complete peripheral histologic examination</td>
<td>Ideal for lesions that are ill-defined or within photodamage. Best when unable or unwilling to excise full 1-2 cm margin.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment of MIS</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide local excision with 5mm margin</td>
<td>May be fine in select cases on trunk &amp; extremities where 86% clearance is acceptable.\textsuperscript{18}</td>
</tr>
<tr>
<td>Wide local excision with 1cm margin</td>
<td>On the trunk &amp; extremities, LM and other MIS both have a 97% clearance rate. On H&amp;N, both have 93% clearance rate.</td>
</tr>
<tr>
<td>Mohs, or other method with complete peripheral histologic examination</td>
<td>Best choice for LM and other MIS on H&amp;N, diameter &gt; 2cm, or ill-defined. Note: wide subclinical extension is associated with H&amp;N location.</td>
</tr>
</tbody>
</table>

References
5. Gillgren P et al. 2 versus 4cm surgical excision margins for melanoma thicker than 2mm. Lancet 2011; 378:1635-42.