Focal mucosal abnormalities have a high likelihood of being treatment related, especially on the initial post-treatment PET/CECT, so that in most cases, it is prudent to assign a “2a” and let surgeons or oncologists directly inspect. If a more mass-like or nodular mucosal abnormality develops later in the time course of surveillance, it may warrant a “3”.

**This guideline for PET and CECT discordance only applies if the original tumor was FDG avid**

Morphologically abnormal features which are definitive= new necrosis or gross extra nodal extension (ENE) as evidenced by invasion of adjacent structures

### NI-RADS Category Descriptors, Imaging Findings, and Management

<table>
<thead>
<tr>
<th>Category</th>
<th>Primary Site</th>
<th>Neck</th>
<th>Imaging Findings</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incomplete</strong></td>
<td>0</td>
<td>0</td>
<td></td>
<td>Assign score in addendum after prior imaging examinations become available</td>
</tr>
<tr>
<td><strong>No evidence of recurrence</strong></td>
<td>1</td>
<td>1</td>
<td></td>
<td>Routine surveillance</td>
</tr>
<tr>
<td><strong>Low suspicion</strong></td>
<td>2a</td>
<td>2</td>
<td>Focal mucosal enhancement or FDG uptake on initial post treatment scan</td>
<td>2a: Direct visual inspection</td>
</tr>
<tr>
<td></td>
<td>2b</td>
<td>2</td>
<td>Deep, ill-defined soft tissue, with only mild/ mod FDG if PET available</td>
<td>2b or neck 2: Short interval follow-up (3 months) or PET if scoring on CECT alone</td>
</tr>
<tr>
<td><strong>High suspicion</strong></td>
<td>3</td>
<td>3</td>
<td>Discrete nodule or mass at the primary site with intense focal FDG uptake if PET available</td>
<td>Image guided or clinical biopsy if clinically indicated</td>
</tr>
<tr>
<td><strong>Definitive recurrence</strong></td>
<td>4</td>
<td>4</td>
<td>Pathologically proven or definite radiologic and clinical progression</td>
<td>Clinical management</td>
</tr>
</tbody>
</table>

- New baseline study without any prior imaging available AND knowledge that prior imaging exists and will become available as comparison
- Expected post treatment changes
- Non-mass-like distortion of soft tissues
- Low-density post-treatment mucosal edema
- Diffuse linear mucosal enhancement or FDG
- If residual nodal tissue, no FDG uptake
- Mild/ mod FDG in residual nodal tissue
- Enlarging or new lymph node without definitive abnormal morphologic features *
- Any discordance between PET & CECT: enlarging lymph node or discrete neck mass but little to no FDG uptake or focal FDG uptake with no CT correlate**
- Discrete nodule or mass at the primary site with intense focal FDG uptake if PET available
- Residual nodal tissue with intense FDG
- New enlarged lymph node or enlarging lymph node with abnormal morphologic features*** on CECT only or focal intense FDG uptake if PET available
- Pathologically proven or definite radiologic and clinical progression

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