**Background & Definitions**

- Endoscopic mucosal resection (EMR)
- Endoscopic submucosal dissection (ESD)

Early stage malignant tumors = NO locoregional or distant spread/metastasis + confined to mucosa and submucosa only

**EMR vs ESD?**

**Indications for surgery?**

1. Early stage esophageal squamous cell carcinoma (ESCC)
2. Early stage esophageal adenocarcinoma (EAC)
3. Early stage gastric adenocarcinoma (GAC)

En bloc: Entire neoplastic, dysplastic, or cancerous tissue is removed in one piece during the resection

Curative resection = clinical success for this guideline

1. R0 resection (lateral and deep margins are microscopically clear of malignant cells)
2. Resected lesion is well or moderately differentiated
3. No lymphovascular invasion
4. No deep invasion beyond submucosa

Cancer recurrence: Malignancy recurrence at site of resection or surgery (seen on pathology), or evidence of lymph node metastasis

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### Early Stage Esophageal Squamous Cell Carcinoma

<table>
<thead>
<tr>
<th>Tumor Characteristics:</th>
<th>Size:</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dysplasia or early-stage ESCC that is → well differentiated, non-ulcerated, &amp; without submucosal invasion</td>
<td>&gt;15 mm</td>
<td>Suggest ESD &gt;&gt; EMR</td>
</tr>
<tr>
<td></td>
<td>≤15 mm</td>
<td>Cannot recommend for or against either ESD or EMR</td>
</tr>
</tbody>
</table>

**Surgery is not recommended for dysplasia or early stage ESCC (without ulceration or submucosal invasion)**

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### Early Stage Esophageal Adenocarcinoma

<table>
<thead>
<tr>
<th>Tumor Characteristics:</th>
<th>Size:</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrett’s nodular dysplasia or early stage EAC (T1) that is → well differentiated &amp; non-ulcerated</td>
<td>&gt;20 mm</td>
<td>Suggest ESD &gt;&gt; EMR</td>
</tr>
<tr>
<td></td>
<td>≤20 mm</td>
<td>Cannot recommend for or against either ESD or EMR</td>
</tr>
</tbody>
</table>

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### Early Stage Gastric Adenocarcinoma

<table>
<thead>
<tr>
<th>Tumor Characteristics:</th>
<th>Size:</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well/moderately differentiated early stage GAC that is → non-ulcerated &amp; intestinal type</td>
<td>20 – 30 mm</td>
<td>Suggest ESD &gt;&gt; EMR</td>
</tr>
<tr>
<td></td>
<td>&lt;20 mm</td>
<td>Cannot recommend for or against either ESD or EMR</td>
</tr>
</tbody>
</table>

**Surgical evaluation ✅ is recommended** over endoscopic approaches for poorly differentiated early stage GAC of any size

**Surgery is NOT recommended for well/moderately differentiated early stage GAC, intestinal type, that is <30 mm**

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All recommendations are conditional with low quality of evidence.

Figure 1. Recommended clinical care algorithm for patients presenting with early-stage ESCC. ESCC, Esophageal squamous cell carcinoma; ESD, endoscopic submucosal dissection; LNM, lymph node metastasis; HGD, high-grade dysplasia; CIS, carcinoma in situ; LGD, low-grade dysplasia.
Early Stage Esophageal Adenocarcinoma: Algorithm

Figure 2. Recommended clinical care algorithm for patients presenting with early-stage EAC. EAC, Esophageal adenocarcinoma; ESD, endoscopic submucosal dissection; HGD, high-grade dysplasia; LGD, low-grade dysplasia.
**Early Stage Gastric Adenocarcinoma: Algorithm**

**Gastric lesion suggestive of early adenocarcinoma (GAC):**
- Differentiation: well to moderately differentiated
- Type: intestinal
- Size: ≤ 2 cm
- Ulceration: None
  - EMR or ESD

**Gastric lesion suggestive of early adenocarcinoma (GAC):**
- Differentiation: well to moderately differentiated
- Type: intestinal
- Size: 2-3 cm
- Ulceration: any
  - ESD > EMR

**Gastric lesion suggestive of early adenocarcinoma (GAC):**
- Differentiation: poor
- Type: diffuse
- Size: any
- Ulceration: any
  - Surgical evaluation

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*500 μm is the limit for depth of invasion to be considered curative for gastric adenocarcinoma*

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**Figure 3.** Recommended clinical care algorithm for patients presenting with early-stage GAC. GAC, Gastric adenocarcinoma; ESD, endoscopic submucosal dissection; HGD, high-grade dysplasia.