ARROContour
Borderline Resectable Pancreatic Cancer

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Simulation

- Supine with arms up in alpha cradle or other immobilization. PO and IV contrast if available.
- Consider 4D-CT to evaluate motion. Superior/inferior displacement may be >1.5 cm
Contouring

- **CTV includes**
  - Primary mass
  - SMA origin with ~ 7mm margin
  - SMA and SMV vessels adjacent to the pancreatic head
  - Enlarged lymph nodes
  - +/- Celiac axis depending on tumor location
- **Alternative** → primary tumor + margin
- **PTV**
  - $\text{PTV} = \text{CTV} + 1\text{cm expansion}$
  - 4D-CT obtained for all patients
  - Respiratory gating used if motion > 1.0 cm (40-60% phase)
  - ITV of primary mass created if if motion < 1.0 cm.
- **OAR:**
  - Small bowel, large bowel, duodenum, stomach, liver, kidneys (preferentially spared if renal perfusion scan reveals dominance), cord
Representative Target Volumes

- Duodenum
- GTV
- Celiac CTV
- PTV
Representative Target Volumes

- Duodenum
- GTV
- SMV
- PTV
- Celiac CTV
Representative Target Volumes

- GTV
- SMA
- CTV
- SMV
- Celiac CTV
- Duodenum
- PTV
Representative Target Volumes

- GTV
- SMV
- SMA CTV
- Duodenum
- PTV
Representative Target Volumes

GTV
SMA
Duodenum
PTV
Representative Target Volumes

- Duodenum
- PTV
- GTV
- Celiac CTV
- SMA CTV
<table>
<thead>
<tr>
<th>Structure</th>
<th>Constraints</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTV</td>
<td>5040 cGy (1.8 Gy/Fx)</td>
<td>&gt; 95%</td>
</tr>
<tr>
<td>Liver</td>
<td>Volume at 3000 cGy</td>
<td>&lt; 30%</td>
</tr>
<tr>
<td>Liver mean dose</td>
<td>&lt;2800 cGy</td>
<td>-</td>
</tr>
<tr>
<td>L Kidney and R Kidney</td>
<td>1500 cGy</td>
<td>&lt;25%</td>
</tr>
<tr>
<td>Stomach</td>
<td>4500 cGy</td>
<td>&lt;25%</td>
</tr>
<tr>
<td>Stomach Max Dose</td>
<td>5300 cGy</td>
<td>-</td>
</tr>
<tr>
<td>Duodenum Max Dose</td>
<td>5300 cGy</td>
<td>-</td>
</tr>
<tr>
<td>Small Bowel</td>
<td>4500 cGy</td>
<td>&lt;25%</td>
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Dose Volume Histogram