This document has been modified from the PIVOTALboost trial lymph node contouring instructions and atlas, with permission of the ICR-CTSU. This document consists of instructions and hints on how to create the lymph node and lymph node boost CTV as described in the PEARLS Radiotherapy Planning and Delivery Guidelines document. There is a brief section on technique for experienced outliners using a direct rollerball method taken from the PIVOTALboost trial lymph node contouring instructions and atlas. At the end of the document is an atlas with a number of axial CT slices to act as a reference.
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1. STRUCTURE DEFINITION and ORGANS AT RISK for delineation

**Pelvic lymph node radiotherapy**

<table>
<thead>
<tr>
<th>Volume</th>
<th>Structure</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTVp</td>
<td>Prostate</td>
<td>Prostate, plus proximal 1cm of seminal vesicles and any extraprostatic extension (periprostatic fat, seminal vesicle or base of bladder).</td>
</tr>
<tr>
<td>CTVpsv</td>
<td>Prostate and seminal vesicles</td>
<td>CTVp and any remaining seminal vesicle</td>
</tr>
<tr>
<td>VESSEL</td>
<td>Pelvic vessel</td>
<td>Common iliac, left- and right-sided external iliac, internal iliac and obturator vessels</td>
</tr>
<tr>
<td>CTVn</td>
<td>Pelvic lymph nodes</td>
<td>Pelvic nodal volume and CTVnb</td>
</tr>
<tr>
<td>GTVnb</td>
<td>Lymph node boost volume</td>
<td>Residual lymph node of diagnostic PSMA PET-CT defined pathological node</td>
</tr>
<tr>
<td>CTVnb</td>
<td>Lymph node boost volume</td>
<td>GTVnb + 3mm</td>
</tr>
</tbody>
</table>

Table 1: Structure definition for pelvic lymph node radiotherapy

<table>
<thead>
<tr>
<th>Volume</th>
<th>Naming convention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectum</td>
<td>Rectum</td>
</tr>
<tr>
<td>Bladder</td>
<td>Bladder</td>
</tr>
<tr>
<td>Urethra*</td>
<td>Urethra</td>
</tr>
<tr>
<td>Right femoral head</td>
<td>FemurHead_R</td>
</tr>
<tr>
<td>Left femoral head</td>
<td>FemurHead_L</td>
</tr>
<tr>
<td>Penile bulb</td>
<td>PenileBulb</td>
</tr>
<tr>
<td>Bowel</td>
<td>Bowel</td>
</tr>
<tr>
<td>Bowel + isotropic 3mm margin**</td>
<td>Bowel_03</td>
</tr>
</tbody>
</table>

Table 2: Organs at Risk for delineation for pelvic lymph node radiotherapy

*optional

** The purpose of this volume is to limit the volume of bowel included in ‘CTVn’ and ‘PTVn’ and is necessary to minimize the toxicity of high dose pelvic nodal IMRT.

Definition of Organs at risk are in the PEARLS Radiotherapy Planning and Delivery Guidelines document.
### Extended field radiotherapy

<table>
<thead>
<tr>
<th>Volume</th>
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<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTVp</td>
<td>Prostate</td>
<td>Prostate, plus proximal 1cm of seminal vesicles and any extraprostatic extension (periprostatic fat, seminal vesicle or base of bladder).</td>
</tr>
<tr>
<td>CTVpsv</td>
<td>Prostate and seminal vesicles</td>
<td>CTVp and any remaining seminal vesicle</td>
</tr>
<tr>
<td>VESSEL</td>
<td>Pelvic and retroperitoneal vessel</td>
<td>Aorta, inferior vena cava, common iliac, left- and right-sided external iliac, internal iliac and obturator vessels</td>
</tr>
<tr>
<td>CTVn</td>
<td>Pelvic and para-aortic lymph nodes</td>
<td>Pelvic and para-aortic nodal volume and CTVnb</td>
</tr>
<tr>
<td>GTVnb</td>
<td>Lymph node boost volume</td>
<td>Residual lymph node of diagnostic PSMA PET-CT defined pathological node</td>
</tr>
<tr>
<td>CTVnb</td>
<td>Lymph node boost volume</td>
<td>GTVnb + 3mm</td>
</tr>
</tbody>
</table>

Table 3: Structure definition for extended field radiotherapy

<table>
<thead>
<tr>
<th>Volume</th>
<th>Naming convention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectum</td>
<td>Rectum</td>
</tr>
<tr>
<td>Bladder</td>
<td>Bladder</td>
</tr>
<tr>
<td>Urethra*</td>
<td>Urethra</td>
</tr>
<tr>
<td>Right femoral head</td>
<td>FemurHead_R</td>
</tr>
<tr>
<td>Left femoral head</td>
<td>FemurHead_L</td>
</tr>
<tr>
<td>Penile bulb</td>
<td>PenileBulb</td>
</tr>
<tr>
<td>Bowel**</td>
<td>Bowel</td>
</tr>
<tr>
<td>Bowel + isotropic 3mm margin***</td>
<td>Bowel_03</td>
</tr>
<tr>
<td>For para-aortic irradiation in addition:</td>
<td></td>
</tr>
<tr>
<td>Duodenum**</td>
<td>Duodenum</td>
</tr>
<tr>
<td>Duodenum + isotropic 3mm margin</td>
<td>Duodenum_03</td>
</tr>
<tr>
<td>Right kidney</td>
<td>Kidney_R</td>
</tr>
<tr>
<td>Left kidney</td>
<td>Kidney_L</td>
</tr>
<tr>
<td>Right ureter*</td>
<td>Ureter_R</td>
</tr>
<tr>
<td>Left ureter*</td>
<td>Ureter_L</td>
</tr>
<tr>
<td>Spinal cord</td>
<td>SpinalCord</td>
</tr>
</tbody>
</table>

Table 4: Organs at Risk for delineation for extended field radiotherapy
*optional
** The superior extent of the duodenum / bowel outline to be contoured to at least 2cm beyond the superior extent of CTVn when outlined. The bowel contour should include the contour of the duodenum.
*** The purpose of this volume is to limit the volume of bowel included in ‘CTVn’ and ‘PTVn’ and is necessary to minimize the toxicity of high dose pelvic nodal IMRT.

Jabbour SK et al. Upper abdominal normal organ contouring guidelines and atlas: A Radiation Therapy Oncology Group consensus. Pract Radiat Oncol. 2014; 4(2): 82-89 (see Appendix A for detail from this guidance)
Kataria T et al. Simple diagrammatic approach to delineate duodenum on a radiotherapy planning CT scan. Br J Radiol. 2016; 89(1058)

Organs at risk outlining is defined in the PEARLS Radiotherapy Planning and Delivery Guidelines document.

**Colour code of contours for the screenshots**
CTVpsv_4700 – green
PTVpsv_4700 - red
CTVn - cyan
GTVnb - purple
CTVnb - pink
Vessel - red
Vessel + 7mm margin in anterior-posterior and left-right directions - yellow
Bowel - green
Bowel + 3mm margin in anterior-posterior and left-right directions – dark purple
Duodenum – light pink
Duodenum + 3mm margin anterior-posterior and left-right directions – dark pink
Bladder - blue
Rectum - orange
Penile bulb - yellow
Spinal cord - green
Left kidney – light purple
Right kidney - cyan
Pancreas - brown

2. ORGAN AT RISK OUTLINING

2.1. Pelvic lymph node radiotherapy

2.1.1. Contour rectum, bladder, femoral heads, penile bulb, bowel naming the as per protocol-defined nomenclature. The superior extent of the bowel outline should be at least 2cm beyond the superior extent of CTVn when outlined.
2.1.2. Create ‘Bowel_03’: Expand the ‘bowel’ structure by a 3D-isotropic 3mm margin. The purpose of this volume is to limit the volume of bowel included in ‘CTVn’ and ‘PTVn’ and is necessary to minimize the toxicity of high dose pelvic nodal IMRT.

So...  
Becomes...

2.2. Extended field radiotherapy

2.2.1. Contour rectum, bladder, femoral heads, penile bulb, bowel, duodenum, left and right kidney, spinal cord naming the as per protocol-defined nomenclature. The superior extent of the bowel and duodenum outline should be at least 2cm beyond the superior extent of CTVn when outlined. Spinal cord should be contoured from 2cm above the superior extent of the CTVn and inferiorly to L2/L3 vertebral interspace.

2.2.2. Create ‘Bowel_03’ and ‘Duodenum_03’: Expand the ‘bowel’ and ‘duodenum’ structures by a 3D-isotropic 3mm margin. The purpose of this volume is to limit the volume of bowel included in ‘CTVn’ and ‘PTVn’ and is necessary to minimize the toxicity of high dose pelvic nodal IMRT.

So...  
Becomes...
3. PELVIC LYMPH NODE CONTOURING

3.1. **Contour 'VESSEL':** Start at anterior aspect of the lower border of L4 vertebra space determined on sagittal CT slice, continuing inferiorly. At the level of the top of the femoral heads, the external iliac vessels leave the pelvis and should no longer be included (see section 3.6.1, 3.6.2). Outline ‘VESSEL’ to the top of the femoral heads (where the external iliac vessels leave the pelvis), as they do not need to be outlined below this level - see section 3.6 – as the obturator nodal region is outlined based on bony anatomy.

Of note: Most radiotherapy planning software will allow this to be outlined as a single structure, with more than one contour per slice. If not, then define the structures as ‘VESSEL_R’ and ‘VESSEL_L’. You may then need
to create ‘CTVn_R’ and ‘CTVn_L’ as you follow the instructions below. At the end of outlining, please use your system’s Boolean functions to create ‘CTVn’ by adding ‘CTVn_R’ and ‘CTVn_L’.

3.2. Sciatic notch: Include vessels up to sciatic notch and to a maximum of 5mm beyond. We are defining the notch as a line between the medial edge of the ilium and the anterior border of the sacrum (shown here as the orange dotted red line).

3.3. Create ‘CTVn’: Using radiotherapy planning software, expand ‘VESSEL’ by 7mm in anterior-posterior and left-right directions; NB there is a NO superior-inferior margin and exclude ‘Bowel_03’ and create ‘CTVn’. All of the ‘VESSEL’ volume should be in the ‘CTVn’, which will usually require some manual editing of ‘CTVn’ after the exclusion of ‘Bowel_03’.

Creation of Vessel + 7mm using RayStation TPS  Creation of CTVn using RayStation TPS
3.4. **Edit ‘CTVn’ to exclude muscle and bone**: This can be done manually or automatically if the radiotherapy planning software can create a bone structure.

*All of the ‘VESSEL’ volume should be in the ‘CTVn’, which will usually require some manual editing of ‘CTVn’ after the exclusion of ‘Bowel_03’ in the creation of ‘CTVn’*
3.5. **Internal / external iliac nodal strip**: Connect the internal and external iliac nodal volumes with a 18mm diameter (9mm radius) rollerball along the inner surface of bony pelvis (green arrows). This is edited to exclude muscle and bladder; bladder can be edited automatically but muscles need to be edited manually; this is easiest with the rollerball function.

3.6. **Extension of ‘CTVn’ to include the obturator nodes**: The aim of this section of outlining is to include some of the obturator nodes; it also functions to align the bottom of the ‘CTVn’ described above to the seminal vesicle within ’PTVpsv_4700’. This section starts at the level of the top of femoral heads, when the external iliac vessels leave the pelvis and are no longer included; it generally extends down to a maximum of 1cm above the pubic symphysis, but this can be adapted if the seminal vesicle within ‘CTVpsv’ lies very caudally or cranially. The volumes are created with an 18mm diameter (9mm radius) rollerball with muscle, bone, bowel and bladder edited out. The editing of ‘CTVn’ to exclude ‘Bladder’ and ‘Rectum’ may be done manually or automated editing. Automated editing is achieved differently with different systems, but often involves addition of a 0mm margin, with exclusion of specific structures.

3.6.1. For transition at around the level of the femoral heads to exclude the external iliac vessels, we recommend to initially outline the ‘VESSEL’ at the level of the femoral heads, as with the more cranial slices and add the 18mm diameter (9mm radius) rollerball along the medial pelvic side wall, editing out bone, muscle etc.
3.6.2. Then edit out the external iliac / femoral artery but still include the external iliac / femoral vein on this slice.

3.6.3. On the following inferior slices, outline based on bony anatomy only using an 18mm diameter (9mm radius) rollerball, but do not extend beyond the anterior or posterior extent of the pelvic side wall.

3.6.4. Edit out any muscle, ‘Bladder’ and ‘Bowel_03’.

3.6.5. As a minimum continue the contour inferiorly until ‘PTVpsv_4700’ is seen and at a maximum until 1cm above the top of the symphysis pubis. As a general rule, ‘CTVn’ should not follow the superior pubic ramus as it starts to move medially towards the symphysis, instead the anterior extent of ‘CTVn’ should be limited. Note that ‘CTVn’ will generally still include the obturator vessels at this stage.
3.7. **Presacral nodes**: Using 12mm diameter (6mm radius) ‘rollerball’ draw along the anterior surface of the bony sacrum to draw presacral nodal region between bottom of L5 (superiorly) and bottom of S3 segment (inferiorly). The volume should measure 12mm from anterior surface of bone to anterior border of ‘CTVn’. Edit to ensure width of sacrum included.
Note the volume does not include sacral foramina:

Exclude muscle with a rollerball. Note that in these CT slices the volumes are not continuous due to editing out of muscle.

3.8. **Retroperitoneal nodes at L5 level:** Use a 12mm diameter (6mm radius) ‘rollerball’ to join the contours of the left and right ‘Vessel’ + 7mm margin excluding Bowel_03 contour, as for the pre-sacral nodes. Extend the lateral aspect of CTVn to include para-vertebral space by extending the CTVn to the transverse process or muscle whichever is the most medial.
At the most inferior level of the L5, where there are bilateral neural foramina (small opening between the bones shown in the figures below with the orange asterisks), bring the CTVn posterior border off the transverse process. Here, the posterior border of CTVn is defined as either the posterior border of ‘Vessel’ + 7mm or the mid-point of the psoas major in the anterior-posterior position, whichever is the most posterior.

At mid – lower L5 vertebrae, the posterior border of CTV is either the posterior border of ‘Vessel’ + 7mm (yellow contour) or at the mid anterior-posterior level of the psoas major (indicated by the blue lines), whichever is the most posterior (illustrated by the green arrows).

By mid L5 vertebrae, the extent of the posterior contour of CTVn to be the same as the posterior point of VESSEL + 7mm contour.

Extend lateral border of CTVn to anterio-medial aspect of psoas muscle.
4. EXTENDED FIELD CONTOURING

Please refer to Section 3 for instructions on pelvic nodal contouring superiorly to the level of the L4/L5 vertebral interspace.

4.1. Contour ‘Vessel’ as in section 3.1 continuing superiorly to the L1/L2 vertebral interspace.
   Outline ‘Vessel’ in all one contour including aorta, inferior vena cava, common iliac, left- and right-sided external iliac, internal iliac and obturator vessels.

4.2. Create ‘CTVn’: Using the radiotherapy planning software, expand the vessel by 7mm in anterior-posterior and left-right directions NB there is a NO superior-inferior margin and exclude ‘Bowel_03’ and ‘Duodenum_03’ and create ‘CTVn’. All of the ‘VESSEL’ volume should be in the ‘CTVn’, which will usually require some manual editing of ‘CTVn’ after the exclusion of ‘Bowel_03’ and ‘Duodenum_03’. Also, at the superior aspect of the volume, manually exclude the pancreas from any overlap with ‘CTVn’.

4.3. Edit ‘CTVn’ to exclude muscle and bone: This can be done manually or automatically if the radiotherapy planning software can create a bone structure.

4.4. Retroperitoneal nodes - caudal aspect of L4 to cranial aspect of L2: Posterior-lateral border of ‘CTVn’ should be extended to the anterior-medial aspect of the psoas muscle using a 12mm diameter (6mm radius) ‘rollerball’. The lateral and posterior borders for ‘CTVn’ are extended from the ‘VESSEL’ + 7mm margin contour in laterally to the medial aspect of the psoas muscle and posteriorly to the anterior vertebral surface (green arrows in image below). When the most anterior medial aspect of the psoas muscle is adjoining the vertebrae (see image below at the superior L3 vertebral level), the extension of the ‘CTVn’ may only need to be in the posterior direction (red arrow). If there is a significant para-vertebral space between the vertebrae and psoas muscle, you do not need to extend the ‘CTVn’ posteriorly into this space.
Inferior L2 vertebral level

Superior L2 vertebral level

Most superior contour at L1/L2 vertebral level

Manually exclude the pancreas (avoidance structure) from ‘CTVn’
5. LYMPH NODE BOOST CONTOURING

5.1. Creation of GTVnb (residual remnant of PSMA-avid lymph node):

5.1.1. If no residual lymph node remnant identified, then no creation of GTVnb, however, ensure that the position of the PSMA-avid lymph node from the diagnostic imaging is within the CTVn.

5.1.2. If residual lymph node remnant identified and is:
   - <3mm, then contour of GTVnb is optional at clinician discretion
   - ≥3mm, contour as GTVnb

5.2. Creation of CTVnb:

5.2.1. Addition of an isotropic margin of 3mm to GTVnb and edit off muscle, bone and any OAR (such as rectum, bladder, bowel, duodenum).

5.3. Integration of CTVnb with CTVn:

5.3.1. If the CTVnb is located within the standard pelvic and/or para-aortic contouring region: review that the CTVnb is within CTVn, may require editing of CTVn to ensure this.

5.3.2. If the CTVnb is not located within the standard pelvic and/or para-aortic contouring region: create a separate CTVn to ensure it encompasses the PSMA avid lymph node seen on diagnostic imaging. You do not need to join this CTVn with that contoured for the elective pelvic +/- para-aortic CTVn.
6. POTENTIAL CHALLENGES and TIPS

Potential time-saving on editing
Contour vessels on slices at around 0.6cm intervals
Then create margin as above to create CTVn but do not interpolate at this point
Edit muscle and bone for CTVn contour on each slice at 0.6cm intervals and then interpolate

Mesorectal lymph node boost
If concerned about meeting rectal dose constraints, suggest editing CTVn / CTVnb to exclude rectum + 3mm

CTVn compromise
If CTVn is in close proximity to an OAR such as rectum or bowel, there may be a need to compromise the CTVn to ensure OAR tolerance, if feasible edit CTVn away from the CTVnb
**Number of lymph node boost volumes**  
If there are more than six separate CTVnb volumes, consider not boosting those areas where the GTVnb is <3mm.

**Contouring Seminal Vesicles if no evidence of T3b disease**  
The easiest way to contour the correct amount of seminal vesicle (SV) to include into the target volume if they are NOT involved with cancer is to contour the prostate first. The next step is to expand the prostate contour by 1 cm, and to use this 1 cm ring structure as a guide for SV contouring (or automatically ‘clip’ the SVs at this border using the planning system). Note: If the anatomy is unusual and this method does not capture the anatomy you wish to treat, then it is permitted to outline the proximal 1 cm of seminal vesicles for CTVp freehand using the anatomy on the planning images. This should still effectively cover the same ‘length’ of SV from the point of insertion of the SV into the prostate.

![Diagram of seminal vesicle contouring](image)

**Figure 1:** Schematic illustration (sagittal plane) of the 1cm proximal seminal vesicle CTV inclusion for CTVp (except for T3b patients when if the extent of involved seminal vesicle is greater than the proximal 1cm, the involved volume of the seminal vesicles will be included as CTVp) - from PACE protocol

**Outlining of the Ureter**  
May find this helpful to distinguish between a PSMA avid lymph node and ureter
7. DIRECT ADJUSTABLE ROLLERBALL METHOD
(please see PIVOTALboost trial lymph node contouring instructions and atlas for more detail and screenshots)

7.1 Introduction: Experienced outliners may find it more efficient to outline ‘CTVn’ using a rollerball following the outer wall of the vessels, without previously defining ‘VESSEL’. There are several different exact methods for doing this, depending on the rollerball function of your radiotherapy planning system. As with the previous method, care must be taken to ensure that exclusion of Bowel_3 does not remove any vessels out of CTVn. Muscle, bone, ‘Bowel_03’, ‘bladder’ and ‘rectum’ can be edited out manually or automatically. Remember that the outlined ‘CTVn’ should be identical with each system, but the rollerball approach allows each slice to be fully outlined on a single visit.

7.2 Approval and RTTQA: It is not so easy for central review of outlining as ‘VESSEL’ has not been pre-outlined, so any investigator wanting to use this system should contact the RTTQA team first.

7.3 Rollerball settings: Some systems allow you to set a 7mm diameter rollerball, which can then be rapidly adapted to connect internal/external iliac volumes (18mm diameter), include the presacral and retroperitoneal nodes (12mm diameter) and any vessels exiting through the sciatic notch. Some systems may only allow a whole number radius to be set – this therefore needs a different approach with the ‘CTVn’ outlined with a 14mm diameter (7mm radius) rollerball. This is centred on the edge of the vessels (effecting a 7mm radius rollerball). This can then be adjusted to 9mm radius (18mm diameter) and 6mm radius (12mm diameter) rollerballs as required.

7.4 Contouring: Contour with the centre of a 14mm (7mm radius) rollerball following the edge of the major vessels, editing out ‘Bowel_03’ as needed. Follow edge of vessel so that a 7mm radial margin is added directly. If this volume overlaps muscle or bone it can be immediately edited out OR can switch to following the medial border of the muscle, in a single step. Or CTVn can be created in a single step, as the rollerball follows the medial edge of the muscle rather than the lateral edge of the vessel….. the final ‘CTVn’ is the same.
Follow medial edge of bone, if necessary expanding to 9mm radius (18mm diameter) to connect internal and external iliac nodal regions.

**Sciatic notch**: Include contrasted vessels with a 7mm margin up to sciatic notch and to a maximum of 5mm beyond. We are defining the notch as a line between the medial edge of the ilium and the anterior border of the sacrum. Continue to edit out muscle as needed.

Continue to contour with the centre of the rollerball following edge of major vessels, editing out ‘Bowel_03’ as needed; this can also be done automatically.

Repeat on contralateral side and include the pre-sacral and retroperitoneal nodes with a 6mm radius (12mm diameter) rollerball as needed.
Complete outline on each slice can be done on a single ‘visit’, with ‘CTVn’ exactly matching volume created via the approach described in Section 3 and 4.

Example of direct adjustable rollerball method in the retroperitoneal region.
8. ATLAS showing final CTV lymph node CTV volumes

Slice levels in cm

The duodenum begins caudal to the pylorus and is retroperitoneal except for the first portion of the duodenum, which spans approximately 5 cm and is suspended by the hepatoduodenal ligament. The common bile duct, portal vein, and IVC are posterior to the first portion of the duodenum (Fig 3A). The second (descending) part of the duodenum is attached to the head of the pancreas, where the pancreatobiliary papilla enters medially through the ampulla of Vater. The second portion is located to the right of the L1 to L3 vertebral bodies, parallel to and right (lateral) of the IVC (Fig 3B;C), turning medially at L3, where it becomes the third (transverse) portion of the duodenum, crossing to the left, anterior to the aorta and IVC and posterior to the superior mesenteric artery and superior mesenteric vein, marking the end of the C-loop of the duodenum (Fig 3B;C). The fourth (ascending) duodenum travels superiorly, left of L3, to the inferior pancreatic body (Fig 3A). The ligament of Treitz suspends the duodenojejunal junction, marking the end of the duodenum and the start of the jejunum. Coronal views can aid in accurate contouring, specifically the third portion that may be under-distended (Fig 3D). An anatomic landmark that can help identify the transition from the duodenum to the jejunum is the inferior mesenteric vein (Fig 3E).
(A), (B), and (C) Axial images demonstrating 4 portions of the duodenum (shown in yellow). Splenic vein (SV), portal vein (PV), common bile duct (CBD), inferior vena cava (IVC), superior mesenteric artery (SMA), SMV, spinal canal (SC). (D) Coronal images illustrating the 4 portions of duodenum and liver segments. Liver segments I, II, IVA, V, VIII, and D1–D4: first to fourth portions of duodenum. IMV, inferior mesenteric vein, demarcates the duodenojejunal junction; RAPV, right anterior portal vein; MHV, middle hepatic vein; LPV, left portal vein; IVC (yellow) with adjacent left hepatic vein (blue, not labeled); H, heart; S, stomach; LB, large bowel; SB, small bowel; GB, gallbladder; P, pancreas; PV, portal vein, to the right of the PV is CBD (red), to the right and inferior of the PV is superior mesenteric vein (SMV, burgundy) (ie, SMV-PV confluence); CA, celiac artery, with splenic artery (orange) to the right and inferior of CA. (E) Axial image showing duodenojejunal junction demarcated by IMV.