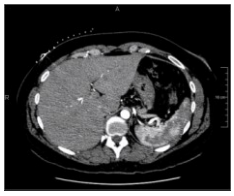
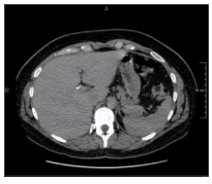
# MDS Liver Surgery MSCT Protocol

| General | |
|---|---|
| **Scan Range / Display FOV** | • DFOV and scan range to include entire liver<br>• Reconstruction interval ≤ slice thickness<br>• Contiguous slices at 30% overlap |
| **Gantry tilt** | • Gantry tilt is not allowed |
| **Image/pixel size** | • Must remain the **same** during the scan. |
| **Image saving** | • DICOM format |
| **Scan technique** | • Supine position<br>• No breathing or motion artifacts<br>• Minimal beam hardening artifacts<br>• Tolerable Image noise: Standard deviation of ROI in liver parenchyma ≤ 20HU |
| **Matrix size** | • 512 x 512 |
| **Phase Specific** | |
| **Early Arterial Phase for Hepatic Artery Analysis (HAP)**  | • Slice thickness: 0.8 - 1.5 mm<br>• ROI of Mean density of Hepatic arteries ≥ 30 HU liver parenchyma<br>• Ideally no contrast in portal vein and bile ducts.<br>  ▪ Recommended: 120-150ml IV contrast 3 – 6 ml/sec power injection<br>  ▪ 15-20 sec scan delay |
| **Portal Venous Inflow Phase Analysis**  | • Slice thickness: 0.8 - 1.5 mm<br>• ROI of Mean density of Main Portal Veins ≥ 30 HU liver parenchyma<br>• Scan delay after contrast injection: 25–35 sec |
| **Hepatic Venous Phase Analysis**  | • Slice thickness:0.8 - 1.5 mm<br>• ROI of Mean density of Hepatic Veins ≥ 30 HU liver parenchyma<br>• Scan delay after contrast injection: 60-70 sec |
| **Biliary Phase for Bile Duct Analysis**  | • Use IV cholegraphic agent<br>• Slice thickness: 1.0 - 1.25mm<br>• ROI of Mean density of Common Bile Duct ≥ 30 HU liver parenchyma<br>• Scan shall be completed *after* the venous phase |