

CT Protocols Small Dog < 20 kg or Cat

| ROI | POSITIONING | SCAN MARGINS | SLICE THICKNESS | CONTRAST ALGORITHM | NOTES |
|--|---|--|---|--|---|
| Abdomen | Dorsal recumbency | Diaphragm → anus | 2 – 3 mm | Before soft tissue. After soft tissue. | Excretory urograms should be performed with patients placed in sternal recumbency. Pelvis may be elevated 15 degrees. |
| Thorax/mediastinum (for effusion, pneumothorax, and pulmonary pathology) | Ventral recumbency | Thoracic inlet → caudal aspect of lungs | 2 mm | Before soft tissue and lung. After soft tissue. | Hyperventilation and breath hold should be performed for evaluating the lung. |
| Thorax (for metastatic disease) | Ventral recumbency | Thoracic inlet → caudal aspect of lungs | 1 mm | Before lung. No post-contrast scan necessary. | Hyperventilation and breath hold should be performed for evaluating the lung. |
| Head (> 5 kg) | Ventral or dorsal recumbency | Nasal planum → C2 | 1 mm | Before soft tissue and bone. After soft tissue. | Pull legs caudally along the chest. |
| Spine | Dorsal recumbency | Cervical lesion: occiput → T2 T3 – L3 lesion: T2 → L4 L4 – S3 lesion: L3 → CD1 | 2 mm survey 1 mm slices through regions of interest with bone filter | Before soft tissue and bone. After soft tissue. | Getting thinner slices through the region of interest may be useful. Change the angle for each disc space (for parallel orientation), if needed. |
| Elbow/extremity | Ventral recumbency with limbs pulled cranially | Proximal olecranon → 3 cm distal to the radial head | ≤ 1 mm | Before bone. No post-contrast necessary. | |
| Pelvis | Dorsal recumbency | Cranial to iliac wings → anus | 2 mm | Before soft tissue and bone. After soft tissue. | |
| Dual-phase CT portography | Dorsal recumbency Large-bore catheter Pressure injector a 5mL/sec (or begin scan after rapid injection) | Cranial aspect of diaphragm → caudal L5 | 2 mm | Before soft tissue survey to identify porta hepatis. Arterial phase: Start scan at time of injection. Scan porta hepatis to cranial diaphragm. Portal phase: Begin as soon as arterial phase is complete | Hyperventilate prior to scan. Plan with load-and-go technique. Don't allow a break between the arterial and portal phases. Program the scanner to do immediate back-to-back studies. |

CT Protocols Dogs > 20 kg

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|--|--|--|--|--|--|
| Abdomen | Dorsal recumbency | Diaphragm → anus | 3 – 5 mm | Before soft tissue. After soft tissue. | Excretory urograms should be performed with patients placed in sternal recumbency. Pelvis may be elevated 15 degrees. |
| Thorax/ mediastinum (for effusion, pneumothorax, and pulmonary pathology) | Ventral recumbency | Thoracic inlet → caudal aspect of lungs | 3 mm | Before soft tissue and lung. After soft tissue. | Hyperventilation and breath hold should be performed for evaluating the lung. |
| Thorax (for metastatic disease) | Ventral recumbency | Thoracic inlet → caudal aspect of lungs | 1 or 2 mm | Before lung. No post-contrast scan necessary. | Hyperventilation and breath hold should be performed for evaluating the lung. |
| Head (> 5 kg) | Ventral or dorsal recumbency | Nasal planum → C2 | 2 – 3 mm | Before soft tissue and bone. After soft tissue. | Pull legs caudally along the chest. |
| Spine | Dorsal recumbency | Cervical lesion: occiput → T2 T3 – L3 lesion: T2 → L4 L4 – S3 lesion: L3 → CD1 | 2 – 3 mm survey 1 mm slices through regions of interest with bone filter | Before soft tissue and bone. After soft tissue. | Getting thinner slices through the region of interest may be useful. Change the angle for each disc space (for parallel orientation), if needed. |
| Elbow/extremity | Ventral recumbency with limbs pulled cranially | Proximal olecranon → 3 cm distal to the radial head | ≤ 1 mm | Before bone. No post-contrast necessary. | |
| Pelvis | Dorsal recumbency | Cranial to iliac wings → anus | 3 mm | Before soft tissue and bone. After soft tissue. | |
| Dual-phase CT portography | Dorsal recumbency Large-bore catheter Pressure injector a 5mL/sec (or begin scan after rapid injection) | Cranial aspect of diaphragm → caudal L5 | 2 – 3 mm | Before soft tissue survey to identify porta hepatis. Arterial phase: Start scan at time of injection. Scan porta hepatis to cranial diaphragm. Portal phase: Begin as soon as arterial phase is complete | Hyperventilate prior to scan. Plan with load- and-go technique. Don't allow a break between the arterial and protal phases. Program the scanner to do immediate back-to-back studies. |