Visible Patient S.A.S.
8 rue Gustave Adolphe HIRN
67000 Strasbourg, FRANCE
info@visiblepatient.com
www.visiblepatient.com

VISIBLE PATIENT

IMAGE PROTOCOL RECOMMENDATIONS

Ed. 062022

SOFT TISSUES

NOTE: the quality of products provided by Visible Patient greatly depends on the quality of CT and MRI images you send us. In order to optimize the accuracy of the 3D model, we request thin slices, ideally millimetric and as often as possible ≤ 2mm.

CT-SCAN PROTOCOL

ALL ANATOMICAL AREAS	**Data Format**	• DICOM image series **(mandatory to have native images)**
	Scan Range	• Targeted organ must be entirely covered
	Image resolution **Pixel size**	• Slice spacing ≤ slice thickness (contiguous slices) • Slice thickness, image size and location of **DFOV constant** within each series Matrix size: 512 x 512
	Further Recommendations	• Avoid breathing or motion artifacts • Avoid unnecessary metal artifacts • Good signal/noise ratio • Targeted organ and neighboring vessels should be well contrasted (use bolus tracking) • Patient should have identical breathing phase and position throughout all scans

Additional information per specialty

LUNG	**Image resolution - Filters**	• Field limits: entire lung • 0,5 to 1,5mm slice thickness • **Mandatory** to have **soft and hard filter**
	Injection time	• Arterial time: use bolus tracking on the pulmonary trunk ***Mandatory to differentiate arteries and veins***

LIVER	**Image resolution – Size**	• **0,5 to 2 mm** slice thickness • Field limits: from hepatic dome to below the kidneys
	Injection time	• **Arterial phase**: use bolus tracking from the beginning of the abdominal aorta. No contrast in the veins. ***Mandatory to model arteries of the target organ*** • **Portal-venous phase: 50-60 sec** after injection start ***Mandatory to model liver segments*** ***In case of portal embolization, please send us an MRI or CT scan before embolization.***
COLON	**Image resolution – Size**	• **0,5 to 2 mm** slice thickness • Field limits: entire abdomen and pelvis
	Injection time	• **Arterio-portal phase**: 45 sec after injection start ***Mandatory to differentiate arteries and veins*** Veins cannot be modeled if injection time is too early. Arteries cannot be modeled if injection time is too late.
PANCREAS	**Image resolution – Size**	• **0,5 to 2 mm** slice thickness • Field limits: from hepatic dome to below the kidneys
	Injection time	• **Arterial phase:** use bolus tracking from the beginning of the abdominal aorta. No contrast in the veins. • **Venous phase:** 70 sec after injection start ***Both injection times are mandatory***
ABDOMEN	**Image resolution – Size**	• **0,5 to 2 mm** slice thickness • Field limits: from hepatic dome to below the kidneys
	Injection time	• **Arterial phase**: use bolus tracking from the beginning of the abdominal aorta. No contrast in the veins. ***Mandatory to model arteries of the target organ*** • **Venous phase**: 70 sec after injection start
UROLOGY	**Image resolution – Size**	• **0,5 to 1,5 mm** slice thickness • Field limits: the entire urinary system and kidneys down to the bladder
	Injection time	• **Arterial phase: 35 sec** (or use bolus tracking placed at the beginning of the abdominal aorta) ***Mandatory to model arteries of the target organ*** • **Venous phase: 90 sec** • **Excretory phase: 5 min** (use a diuretic), in case of pathology of excretory ducts

Visible Patient S.A.S.
8 rue Gustave Adolphe HIRN
67000 Strasbourg, FRANCE
info@visiblepatient.com
www.visiblepatient.com

VISIBLE PATIENT

IMAGE PROTOCOL RECOMMENDATIONS

Ed. 062022

SOFT TISSUES

NOTE: the quality of products provided by Visible Patient greatly depends on the quality of CT and MRI images you send us. In order to optimize the accuracy of the 3D model, we request thin slices, ideally millimetric and as often as possible ≤ 2mm.

MRI PROTOCOL

ALL ANATOMICAL AREAS	**Data Format**	• DICOM image series **(only native images)**
	Scan Range	• Targeted organ must be entirely covered
	Spatial resolution	• High spatial resolution, favour 3D sequences • Slice thickness **as thin as possible (ideally ≤ 2mm)**
	Further Recommendations	• Phased array surface coils (torso) • **Good signal/noise ratio** • Avoid breathing or motion artifacts • Avoid unnecessary metal artifacts • Patient should have identical position throughout all scans

Additional information per specialty

ABDOMEN	**Sequence required to make a 3D model**	• **3D dynamic injected sequences EG T1 GADO fat sat** (LAVA), **2 mm** slice thickness, with 3 or 4 acquisition phases (without injection, arterial, venous and late injection)
LIVER* **KIDNEYS**	**Sequences required to analyze images**	• **T2 sequence** • EPI sequence (diffusion) • T2 weighting SSFSE for biliary tract • IP-OP according to the indication ***In case of portal embolization, please send us an MRI or CT scan before embolization.***