

smart prep

What is smart prep?

Smart prep is a feature that allows real time monitoring of IV contrast enhancement in one particular section of anatomy that is in the area of interest.

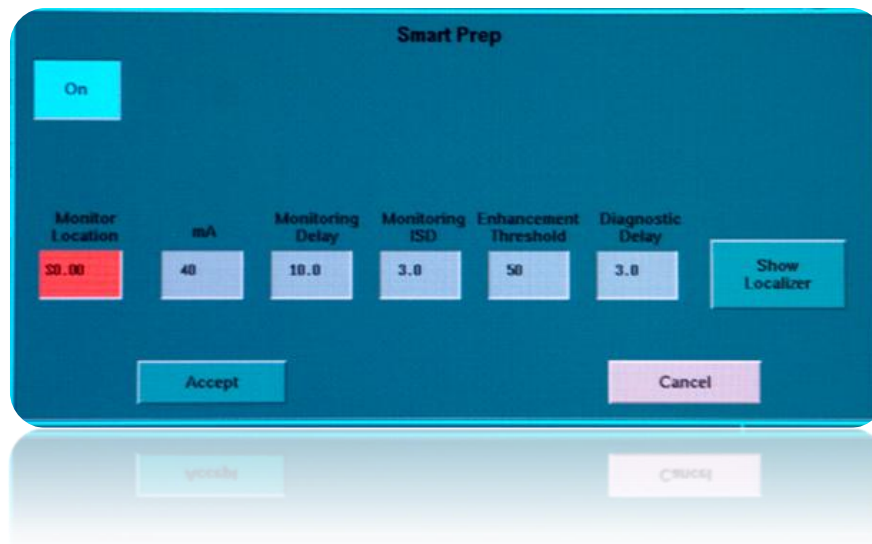
The smart prep has three important phases:

Baseline phase: in this phase a single un-enhanced image is acquired in the anatomy where the monitoring will occur and the ROI will be established.

Monitoring phase: up to 20 low dose scans can be taken in this phase during the injection of IV contrast

Scan phase: in this phase the operator will ask the patient to stop breathing, when the IV enhancement determined by visual or preset Hounsfield unit is achieved.

Smart prep parameters:



The image shows a control panel for the Smart Prep feature. It has a dark blue background with white text and buttons. At the top, it says "Smart Prep". Below that is a red "On" button. The main area contains several parameter fields: "Monitor Location" (30.00), "mA" (40), "Monitoring Delay" (10.0), "Monitoring ISD" (3.0), "Enhancement Threshold" (50), and "Diagnostic Delay" (3.0). To the right of these fields is a "Show Localizer" button. At the bottom, there are "Accept" and "Cancel" buttons.

Parameter	Value
Monitor Location	30.00
mA	40
Monitoring Delay	10.0
Monitoring ISD	3.0
Enhancement Threshold	50
Diagnostic Delay	3.0

Monitor location: is the location in which the baseline image is taken and by clicking and dragging the red X on the line in the scout image to the desired location.

MA: the system defaults to a low (MA) value 40-60

The Monitoring Delay: this value determines how long the delivery of IV contrast will be allowed to take place prior to the monitoring images being acquired.

10 – 15 seconds for Arterial phase

30 – 45 seconds for Venous phase

Monitoring ISD:

This will set the time between monitor images being acquired.

3 seconds for Arterial phase.

5 seconds for Venous phase.

Enhancement threshold: measured in Hounsfield unit. This is the difference between the desired threshold value and the pre monitoring threshold. This value is kept to 50 HF in most cases.

The Diagnostic Delay: This value allows time for the table to move into the scan phase.

3 seconds for Arterial phase.

5 seconds for Venous.

How to perform smart prep?

From the main screen choose new patient, position the patient for CT chest.



Perform AP & Lat pilot or scout for chest

Scout Num	Scan Type	Start Loc.	End Loc.	kV	mA	Scout Plane	Voice Lights Timer
1	Scout	320.00	1450.00	120	10	0	7.1
2	Scout	320.00	1450.00	120	30	90	7.1

Click on next series and localizes your area.

Do all the necessary adjustments.



Click in the smart prep key to turn it on



Take the localizer and set it to the area where main pulmonary can be seen



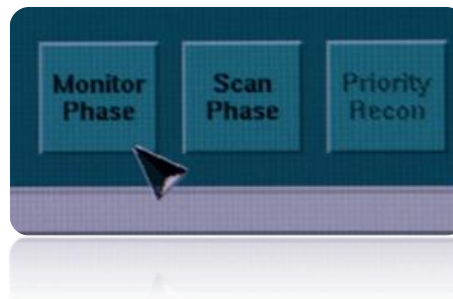
Set the monitoring delay to 15 sec ISD of 2.5 and threshold 50 HF for angio



Click on accept and do the first phase of smart prep.

Perform an image and put a region of interest on the main pulmonary artery, you may add more region of interest and place it in the aorta.

Click monitor phase and when ready start injection at the same time.



Look at the graft and when reaches to peak, click on scan, and ask the patient to stop breathing.

