

Screening CT Colonography Protocol (GE LightSpeed):

- **Pre-scan:** Make sure the patient has been prepped properly. Encourage use of restroom.
- **Patient Setup:** Place the patient on the CT table on their left side to insufflate the colon with CO₂ (left decubitus for ~ 1.5 liters, right decubitus to ~ 2.5 liters, and supine until equilibrium reached)

1. **Scan Description:** Scan is performed supine and prone.

- **Series 1 - AP & lat supine scouts** diaphragm through pubic symphysis (✓ colon distention)
- **Series 2** - Supine – Start above the highest flexure of the colon and scan through the rectum. Review images to check for proper colonic distention, pay special attention to sigmoid distention.
- **Series 3 - PA & lat prone scouts** diaphragm through pubic symphysis (✓ colon distention)
- **Series 4** - Prone – Start above the highest flexure of the colon and scan through the rectum. Review images to check for proper colonic distention.
- Consider right decubitus **Series 5** if areas of sigmoid collapse are present on both views.

2. **Scan Factors:** For supine & prone, a combination of static mA and modulated dose protocols may be employed (e.g., static mA on supine, Smart mA on prone)

Series 2 – Supine:

Do on Expiration

- A. Scan type: **Helical** – Rotation time: **.5 sec.**
- B. Thick/Speed: **1.25mm slice thickness; 27.5 speed; 1.375:1 pitch.**
- C. Interval: **1.0mm**
- D. Scan FOV: **Large**
- E. kV_p: **120** (for static mA and Smart mA w/ NI = 50); **140** (for Smart mA w/ NI = 70)
- F. Static mA : **100** (BMI<25); **300** (BMI>40) ; **100-300** (BMI=25-40 ; linear scale)
- G. Smart mA Range: **30 – 150**
- H. Noise Index: **50** (for 120 kV_p); **70** (for 140 kV_p)
- I. Display Card
 - DFOV: **Large**
 - Recon Type: **Standard**; Recon Mode: **Plus**; Width/Level: **324/15**
 - Show Recon 2 (Supine only): **Standard – Recon to 5mm thick/ 3mm interval**

Series 4 - (prone)– Same scan factors as above.

Series 5 - (Rt. decubitus) - Same scan factors as above.

3. **Networking:** The 5mm images (Recon 2) and supine scout are networked to PACS - **network the 1.25mm images from series 2 & 4 (& 6) to BOTH Viatronix V3D and PACS source.**

CT Colonography with IV Contrast (GE LightSpeed):

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- **Indications:** Occlusive CRC and/or cancer staging.
- **Pre-scan:** Make sure the patient has been prepped properly. Encourage use of restroom.
- **Patient Setup:** Place the patient on the CT table on their left side to insufflate the colon with CO₂ (left decubitus for ~ 1.5 l, right decubitus to ~ 2.5 l, and supine until equilibrium reached). *Place patient prone for initial noncontrast series.*
- **IV Contrast/Rate:** 100 ml with a 50 ml saline chase, 3 ml per second (supine series)

1. Scan Description: Scan is performed prone w/o IV contrast, then supine w/ IV contrast.

- **Series 1 - PA & lat prone scouts** diaphragm through pubic symphysis (✓colon distention)
- **Series 2 - Prone without IV contrast** – Start above the highest flexure of the colon and scan through the rectum. Review images to check for proper colonic distention, pay special attention to sigmoid distention.
- **Series 3 - AP & lat supine scouts** diaphragm through pubic symphysis (✓colon distention)
- **Series 4 - Smart Prep:** Center over the liver. Put 3 ROI's in the liver. Threshold 50 h.u. No longer than 80 second delay.
- **Series 5** - Supine with IV contrast – Start at the diaphragm scan through pubic symphysis. Review images to check for proper colonic distention.
- Consider right decubitus **Series 6** if areas of sigmoid collapse are present on both views.

2. Scan Factors:

Series 2 - Prone without IV Contrast

Do on Expiration

- A. Scan type: **Helical** – Rotation time: **.5 sec.**
- B. Thick/Speed: **1.25mm slice thickness; 27.5 speed; 1.375:1 pitch.**
- C. Interval: **1.0mm**
- D. Scan FOV: **Large**
- E. kV_p: **120** (for static mA and Smart mA w/ NI = 50); **140** (for Smart mA w/ NI = 70)
- F. Static mA : **100** (BMI<25); **300** (BMI>40) ; **100-300** (BMI=25-40 ; linear scale)
- G. Smart mA Range: **30 – 150**
- H. Noise Index: **50** (for 120 kV_p); **70** (for 140 kV_p)
- I. Display Card
 - DFOV: **Large**
 - Recon Type: **Standard**; Recon Mode: **Plus**; Width/Level: **324/15**

CT Colonography with IV Contrast:

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Series 5 - Supine with IV contrast

- A. Scan type: **Helical** – Rotation time: **.5 sec.**
- B. Thick/Speed: **1.25mm slice thickness; 27.5 speed; 1.375:1 pitch.** .
- C. Interval: **1.0mm**
- D. Scan FOV: **Large**
- E. kV: **120**
- F. Smart mA Range: **80 – 440 (80 – 660 on 64-detector row)**
- G. Noise Index: **12**
- H. Display Card
 - DFOV: **Large**
 - Recon Type: **Standard:** Recon Mode: **Plus;** Width/level: **324/15**
 - Show Recon 2 (Supine only): **Standard – Recon to 5mm thick/ 3mm interval**

Series 6 - Rt. Decubitus, if done, use the same scan factors as Series 3

3. **Networking:** The 5mm images (Recon 2) and supine scout are networked to PACS – **network the 1.25 mm images from series 2 & 5 (& 6) to BOTH Viatronix V3D and PACS Source.**