



## Virtual Colonoscopy

### **Q: What is a Virtual Colonoscopy?**

A: Virtual Colonoscopy, also called CT colonoscopy, is one of the newest most advanced non-invasive methods for colon cancer screening. Spiral CT (Computed Tomographic) images of the abdomen and pelvis are acquired after introducing air into the colon via a small rectal tube. The entire exam lasts only a few minutes. Expert radiologists using sophisticated computers with three-dimensional imaging capabilities interpret the images.

### **Q: Is it Safe?**

A: Virtual Colonoscopy is extremely safe. Patients find the exam more comfortable than other screening exams including barium enemas and conventional colonoscopy. Bowel preparation is required, but there is no recovery time necessary after the procedure and one can immediately resume normal activities. As with all examinations requiring x-rays, there is a small amount of radiation exposure similar to a standard barium enema.

### **Q: How Accurate is the Exam?**

A: Initial reports are promising to show that Virtual CT Colonoscopy has similar sensitivity to conventional colonoscopy in the detection of clinically important polyps (i.e. those that exceed 10 mm in diameter). Conventional colonoscopy usually has the advantage of being able to remove polyps and perform biopsies at the same time of the diagnostic study. Conventional colonoscopy, however, is more invasive, costly and cannot be completed in a small percentage of patients.

### **Q: Should I have a Virtual Colonoscopy?**

A: You should have a Virtual Colonoscopy as a method of cancer screening if your doctor recommends it after a discussion of alternatives. Colorectal cancer is the third most commonly diagnosed cancer and the second leading cause of cancer deaths in the United States. Deductions in colon cancer deaths can be achieved through early detection and treatment.

In general, any patient over 50 should be screened for colon cancer. If you have a family history of colon cancer, screening should be performed earlier. It is best to discuss the various options with your doctor so the most appropriate exam can be performed based on your history, physical examination and other potential risk factor.

### **Q: How much does the examination cost?**

A: At Santa Fe Imaging we use the most advanced technology available. Our goal is to provide the highest quality, most affordable examination to all of our patients. We have therefore aggressively priced this examination at \$1971.00. In addition to being non-invasive, CT may show abnormalities other than in the colon. On CT images produced at Santa Fe Imaging. The entire abdomen and pelvis is scanned, not only is the colon evaluated in detail, but all other abdominal and pelvic organs are imaged as well. In evaluating these surrounding organs, the radiologists may find other, unsuspected disease that would not have been seen on conventional colonoscopy.



**Q: What is Colon Cancer?**

A: Colon cancer is disease that affects the large bowel (also known as the colon), which is part of the digestive system. Cancer can be defined as the uncontrolled growth of the abnormal cells. These abnormal cells are often grouped together as tumors. These cells can destroy normal, healthy tissues and can affect the way an organ functions.

Colon cancer is the second leading cause of cancer deaths in the United States. It is widely accepted that virtually all cases of colon cancer begin with small growths-called polyps on the wall of the large bowel. Polyps may contain malignant cancer cells. Over the course of several years, such cancerous polyps may grow in size and invade the wall of the large bowel, forming an invasive tumor. Once the tumor invades the normal barriers between the tissue of the wall and other tissues, it can shed cells into blood or lymphatic vessels. These cells can be carried to other parts of the body in the blood stream or lymph system, and a new tumor may begin to grow elsewhere. By the time new tumors present in another location, the cancer is generally in an advanced stage and usually cannot be cured by surgery alone.

**Q: Am I at Risk of getting Colon Cancer?**

A: For a long time, patients were told that a high-fat, high-protein, low fiber diet was the main risk factor for developing colon cancer. However, recent research has provided some more specific information. It is now known that men are slightly more likely to develop colon cancer than women. Colon cancer is also more common in people over the age of 50 years of age. That is why it is recommended that men and women over the age of 50 be screened regularly for colon cancer. People who have relatives with colon cancer are at a higher risk for developing colon cancer themselves.

**Q: What should I do to Prevent Colon Cancer?**

A: Although, it is not entirely clear how a person's diet may contribute to the development of colon cancer, a balanced diet rich in fibers, is recommended. Studies have shown that people who eat a balanced diet are less likely to develop colon cancer as well as other diseases, such as heart disease.



## Patient Preparation

In preparation for your CT Colonoscopy, you are asked to follow a bowel cleansing preparation. This is necessary for us to perform the best possible study for you. If you are having difficulties with the preparation, please let us know. Occasionally, the bowel prep is suboptimal, necessitating a delay in the examination.

### I. What may I eat and drink?

1. Beginning the **morning of the day before** the day of your examination (for example, if you are scheduled for a Tuesday, begin the prep on Monday morning) **please avoid the following foods:**
  - a. All dairy products (milk, cheese, etc.)
  - b. Vegetables
  - c. Nuts
  - d. Fats/Butter
  - e. Fried Foods
  - f. Meat/Poultry/Fish
  - g. Whole grain cereals

#### **You may have:**

- a. Clear Juices
- b. Clear broth (fat free)
- c. Clear Gelatin
- d. Soft Drinks
- e. Coffee/Tea
- f. Ice Popsicles
- g. Sugar
- h. Plenty of water

### II. How do I take the preparation?

1. You will be provided with a Lo-So Prep when you schedule your exam. **Please follow the directions for the 24-hour prep included in the kit.**
2. At 5:30 p.m. on the evening before the examination day, follow the directions and drink the Magnesium Citrate solution. It is important to drink at least 8 oz. of water hourly while awake from now until you go to sleep.
3. At 7:30-8:00 p.m. on the evening before the examination day, take the four bisacodyl (Dulcolax) pills with an 8 oz. glass of water.
4. One hour before your scheduled examination time, use the fleet bisacodyl enema as directed in the patient instructions.
5. You may drink more water, but not less, as directed in the patient instructions.

(See Reverse Side)



III. What should I expect during the examination:

1. We understand the sensitivities involved with total colonic evaluation and will have a separate waiting area for you. Prior to bringing you into the exam room, the technologist will encourage you to use the restroom one last time.
2. While on the CT scanner table a small, lubricated rectal probe will be inserted. We will use this to help distend the inside of your colon. Most patients do experience some mild discomfort. While you are on your back, the technologist will perform an initial *scout* view, and then the CT scan will begin. It typically takes about 20 seconds, during which we encourage you to hold your breath.
3. Then, you will turn onto your stomach, and the CT scan will be repeated for about another 20 seconds.
4. The probe will then be removed and you are done with the exam.
5. The computer processing and interpretation can often be completed within an hour. We will mail you and your physician the results. We will try to accommodate special requests to contact you with a verbal report.



## Consent for Performing Screening CT Scanning for Coronary Artery

### Disease, Lung Cancer and/or Colon Cancer

**Patient Name:** \_\_\_\_\_ **Examination Date:** \_\_\_\_\_

#### Explanation of Procedures

You have asked us to perform a screening CT examination on you. This document explains the tests, their risks and possible benefits to you. We also have other material describing the scans we are doing and the diseases we are testing for. If you have not already seen these materials, please ask us.

CT scanning is a routine x-ray examination that has been used for many years. However, it has been used as a screening test for coronary artery disease, lung cancer and colon cancer for only the past few years.

The following is information about each of these scans:

#### For the Coronary Artery Calcium Scoring CT scan:

1. No preparation is required.
2. You will have EKG wires taped to your chest that will help the scanner time the x-rays with the heart beat to obtain the best images. You then must lie on your back or stomach on a CT scanner table and go through the CT “gantry” or ring. You must hold your breath for a few seconds while the x-ray scan is taken.
3. The entire examination usually takes less than 15 minutes.

#### For the Chest CT scan for lung cancer:

1. No preparation is required.
2. You must lie on your back for a few minutes while the scan is set up and then you must hold your breath during the scan itself. The scanning itself lasts for only a few seconds.
3. The entire examination usually takes less than 15 minutes.

#### For the CT scan of the abdomen and pelvis for colon cancer:

1. You will need to clean out your colon before the test, meaning a change in diet and using laxatives and medications that cause frequent, liquid bowel movements.
2. A small tube will be inserted into your rectum and used to inflate your colon with air until you feel full.
3. Scans will be taken with you on your back and on your stomach. You must hold your breath for several seconds at times while scans are being taken. Your colon will feel full during the few minutes of the examination.
4. When the test is done, you expel the air.
5. The entire examination usually takes less than 15 minutes.



## Qualifying for the CT Screening Scans

You should only have these tests if you qualify for them because of your age and other risks you may have. Specifically, you will be allowed to have this scan if the following is true:

### For the Coronary Artery Calcium Scoring CT scan:

1. If you have not yet been diagnosed with coronary artery disease, AND
2. You are a man from 40-75 or a woman from 45-75.
3. If you have a strong family history of heart disease, you may receive these scans as early as the age of 30 for a man or 35 for a woman.
4. You cannot have the scan if you are pregnant.

### For the Chest CT scan for lung cancer:

1. You have not already been diagnosed with lung cancer (unless it has been treated for cure and there is no known recurrence), AND
2. You are a current smoker or have stopped smoking within the past 10 years, AND
3. You have at least one of the following risk factors:
  - ◆ At least a 10 pack-year exposure to cigarettes (A pack-year is the number of packs you smoke per day times the number the number of years you have smoked.
  - ◆ You have a strong occupational exposure to cancer-causing chemicals,
  - ◆ You have a strong exposure to second-hand smoke,
  - ◆ A previous non-small cell lung cancer that *has* been treated for a cure and there is no known recurrence, AND
4. You are between 50 and 80 years of age.

### For the CT scan of the abdomen and pelvis for colon cancer:

1. If you have not been diagnosed with colon cancer, AND
2. You are age 50 or over, AND
3. You have not had *complete* colon screening test (a barium enema or colonoscopy) for at least three years.
4. You may have the scan at the age of 40 or older if you have a strong family history of colon cancer.

## Risks and Disadvantages

### Detecting a disease early may not mean it is curable or treatable:

The disease may only be found after it is too late to successfully treat. In this case, you may suffer from knowing that you have a serious disease for a longer time.



### **Earlier detection can also lead to more aggressive treatment:**

Aggressive treatment (such as with chemotherapy or surgery) may be done for earlier disease in the hope that it is curable. In this case, you could have more side-effects from these treatments than if you waited until the disease caused symptoms.

### **A positive screening test may lead to needless operations or medical procedures that cause side-effects or even death:**

There is a risk that the CT scan may show findings that look like serious disease, even when no serious problem exists. It is often possible to tell serious from harmless findings on a scan. This is a very common problem. Sometimes, the question can be answered by repeating the test several times over a period of three months to one year.

Your doctor may order more tests or even surgery to diagnose or treat the possible disease. You could be injured from these tests or surgery. Also, these procedures may cost you money.

### **Screening tests may miss diseases that are too small or hidden:**

An examination that does not find a real problem is called a "false negative" test. This happens in every type of screening test. Sometimes, when looking back at the scan after the disease is discovered later, the disease can be seen on the first scan. However, this does not always mean that the radiologist was negligent in missing this disease, because the radiologist may have thought that the "shadow" or "nodule" would be better for the patient to leave alone rather than have more test, or because the finding looked like a normal structure.

If a real disease was missed, you may not get the benefit of early treatment and the disease could get worse to a point where it is not curable.

### **Having a screening test may cause anxiety:**

Most positive findings on screening tests (like nodules in the lung) are actually completely harmless. However, follow-up tests may have to be done for over one year to prove that. During this time, you may become upset about the uncertainty.

### **The screening scan is not the same quality as a "diagnostic" CT scan:**

The screening scan is designed only to look for colon cancer, lung cancer or coronary artery calcium and is NOT 100% accurate for these. Also, other types of diseases may not be seen or other tests may be needed to clarify confusing findings from the screening scan. Diagnostic scans are usually done with an injection of contrast material, with higher x-ray doses and different scanning methods to enhance the images.

### **Follow-up tests and treatment can be expensive:**

While insurance is more likely to cover additional tests done after a positive screening scan, there is no guarantee that such tests or other procedures will be completely paid for by insurance.



**For the CT examination of the colon, there is a small risk of perforation of the colon:**

The risk of perforation of the colon is extremely small because only a small tube is placed in the rectum and only air is used to fill the colon. The risk is substantially less than a colonoscopy.

**If the CT of the colon shows polyp, a colonoscopy will probably be needed:**

If the CT screening test of the colon finds polyp, depending on its size, a colonoscopy will probably be recommended to biopsy or remove the polyp. If this cannot be done on the same day, you will need to clean out your colon again. Some recommend the colonoscopy as a single screening test for the colon because it can both detect and treat small polyp at the same sitting. However, colonoscopy may be more uncomfortable, requires sedation and has a somewhat higher risk of colon perforation.

**The screening CT scan uses radiation:**

There is only a small risk from the relatively small dose of x-ray used. This is about the same or less radiation than is used for other types of CT scans. The small chance of dying from cancer from radiation happened in about 1-3 people for every 10,000. This risk starts several years after having the CT scan.

**Benefits**

The purpose of these tests is to provide you information about your health that you may use to prevent or treat disease. However, only a small percentage of people have abnormal scans. You may not personally benefit from your receiving this scan.

**Alternative Tests**

There are many types of tests to detect heart disease, lung cancer, and colon cancer. Some physicians don't believe that you should use CT scanning for screening for these disease because it may lead to unnecessary tests or surgery in some people and because it may be costly. You are free to discuss these other options with one of the radiologists doing the CT scans or with your personal physician.

**Questions**

If you have any questions about the examination, Dr. Lehman will be glad to answer them. Dr. Lehman's number is 505-983-9350.

**Signatures**

My signature below indicates that I HAVE READ AND UNDERSTAND THE TERMS AND WORDS WITHIN THE ABOVE CONSENT, AND HAVE HAD ALL OF MY QUESTIONS REGARDING THE CT SCAN ANSWERED TO MY SATISFACTION. I agree to have the CT scan. I will receive a copy of this consent form.

---

Signature of Participant

Date





**Section 1:**

Date: \_\_\_\_\_

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Date Of Birth: \_\_\_\_\_

Address: \_\_\_\_\_

Primary Physician: \_\_\_\_\_ Physicians Phone # \_\_\_\_\_

Address: \_\_\_\_\_

Are you pregnant?     Yes     No

**Section 2:**

**Please complete the below only if you would like to have the CT examination of the COLON. Otherwise, skip to Section 3.**

**Patient History:**

**Has a doctor ever told you that you have the following conditions:**

- Cancer:  Yes     No  
If yes, what type? \_\_\_\_\_
- Colon polyp (Adenomatous type)  Yes     No
- Familial adenomatous polyposis  Yes     No
- Inflammatory bowel disease (Ulcerative colitis/Crohn's disease )  Yes     No
- Other major disease  Yes     No

If yes, please specify \_\_\_\_\_

**Family History:**

**Has anyone in your immediate family (parents, children, grandparents, siblings) ever had any of the following conditions?**

- Cancer:  Yes     No  
If yes, what type? \_\_\_\_\_
- Colon polyp (Adenomatous type)  Yes     No
- Familial adenomatous polyposis  Yes     No
- Other major disease  Yes     No

If yes, please specify \_\_\_\_\_



**Section 3:**

Please complete Section 3 below **ONLY** if you would like to have the screening CT examination of the HEART. Otherwise, skip to Section 4.

**Patient History:**

**Has a doctor ever told you that you have the following conditions:**

- Heart attack (myocardial infarction, coronary occlusion, coronary thrombosis)  Yes  No
- Angina  Yes  No
- Heart failure (congestive heart failure)  Yes  No
- High blood pressure  Yes  No
- High cholesterol (elevated LDL)  Yes  No
- Low HDL cholesterol  Yes  No
- Do you know your cholesterol level?  Yes  No
- If so what is it? \_\_\_\_\_
- Stroke  Yes  No
- Pulmonary embolism (blood clot in lung)  Yes  No
- Diabetes  Yes  No

**Have you ever had any of the following:**

- Coronary artery bypass surgery (CABG)  Yes  No
- Coronary angioplasty or balloon angioplasty  Yes  No
- Coronary artery stenting  Yes  No
- Surgery for peripheral vascular disease  Yes  No
- Any other heart or lung surgery  Yes  No

If yes, please specify: \_\_\_\_\_

**Are you currently taking any medications for the following:**

- Heart  Yes  No
- Lung  Yes  No
- Blood pressure  Yes  No
- Diabetes  Yes  No
- Do you NOW smoke tobacco (one or more cigarettes, cigars, pipes per week)?  Yes  No

IF YES, about how many packs of cigarettes (cigars or pipes) do you smoke a day? \_\_\_\_\_

- How many years have you smoked? \_\_\_\_\_
- IF NO, have you smoked in the past?  Yes  No
- IF YES, about how many packs per day? \_\_\_\_\_
- How many years did you smoke? \_\_\_\_\_
- How many years did you smoke? \_\_\_\_\_
- When did you stop? \_\_\_\_\_



Do you know your blood pressure?  Yes  No

If Yes, what is it? \_\_\_\_\_

Do you have an irregular heart beat?  Yes  No

#### Family History:

Has anyone in your immediate family (parents, children, grandparents, siblings) ever had any of the following conditions?

- Heart attack  Yes  No  
If yes, what sex: M \_\_\_ F \_\_\_ and at what age? \_\_\_\_\_
- Angina  Yes  No
- Heart failure (congestive heart failure or congestive heart disease)  Yes  No
- Stroke  Yes  No
- Pulmonary embolism (blood clot in lung)  Yes  No

#### Section 4:

Please complete Section 4 below ONLY if you would like to have the screening CT examination of the LUNGS.

Has a doctor ever told you that you have the following conditions:

- Lung Cancer  Yes  No  
If yes, please describe treatment: \_\_\_\_\_
- Other types of cancer?  Yes  No  
If yes, what type? \_\_\_\_\_
- Asthma  Yes  No
- Emphysema  Yes  No
- COPD  Yes  No

Have you ever had any heart or lung surgery?  Yes  No

If yes, please specify: \_\_\_\_\_

Are you currently taking any medication for the lungs?  Yes  No

If yes, please specify: \_\_\_\_\_

Do you NOW smoke tobacco (one or more cigarettes, cigars, pipes per week)?  Yes  No

If yes, how many packs do you smoke a day? \_\_\_\_\_

How many years? \_\_\_\_\_

If NO, have you ever smoked in the past? \_\_\_\_\_

If YES, about how many packs per day? \_\_\_\_\_

How many years did you smoke? \_\_\_\_\_

When did you stop? \_\_\_\_\_

(See Reverse Side)



## Family History

Has anyone in your immediate family (parents, children, grandparents, siblings) ever had any of the following conditions?

- Lung Cancer  Yes  No
- Other types of cancer  Yes  No  
If yes, what type? \_\_\_\_\_