What is virtual colonoscopy?

Virtual Colonoscopy is a safe non-invasive procedure to identify growths (polyps) in the colon. Polyps have been shown to be the precursor of many cancers in the colon and rectum (colorectal cancer), and the goal of Virtual Colonoscopy is to find these potentially dangerous polyps before they can cause a serious problem.

Virtual colonoscopy is a rapidly evolving technique in which data from computed tomography (CT) is used to generate both two-dimensional and three-dimensional displays of the colon and rectum. This minimally invasive method for the examination of the whole colon, also called CT colonography, provides an attractive alternative for use in widespread screening, since it requires no intravenous administration of sedatives, analgesia or recovery time. The test requires the same bowel-cleansing preparation as conventional colonoscopy, as well as the insertion of a rectal tube and the insufflation of air to distend the colon. Sedation is not required and the time required for the procedure is approximately 15 to 20 minutes, for reporting usually takes 25 to 45 minutes for the interpretation of the study. Typically, two-dimensional CT images are examined and can be further processed with the use of commercially available software programs to render a three-dimensional display of the colonic lumen.

A CT Colonography is a study of the large bowel.

In order to obtain good diagnostic images, the large bowel needs to be clear. To achieve this you will need to take a laxative dose the day before the examination. The laxative Tab: Dulcolax will be supplied by the CT department.

Please follow the instructions:

What can I expect before, during and after my Virtual Colonoscopy?

In order to obtain the best images, a bowel preparation is required. Currently the preparation is similar to that required for conventional colonoscopy. You will be given an instruction sheet at the time you schedule your appointment, or for preparation instructions. In addition, it is necessary to distend the colon for the best images. After you enter the examination room and are placed on the CT examination table, the nurse or technologist will insert a small plastic tip into the rectum and slowly, inflate the colon with air. Two scans are performed, one while lying on your back, the other while lying on your stomach (prone). The actual time of each of the two scans is 20 seconds. There is a three-minute pause between the two scans to allow the computer to process the many images acquired. After the second scan your examination is complete. Total examination time, from the moment you enter the scan room until completion, is approximately 15-20 minutes.
The day before the examination

- Light breakfast according to provided diet sheet
- Lunch is low residual diet according to diet sheet
- 6:00 PM: Take laxatives tablets with water
- The patient has to come in the evening for a plain water enema; afterwards the patient has to restrict himself/herself to a clear liquid diet until the end of the procedure.

The day of the examination

- Report to Radiology reception at the time of your appointment where you will have to register with one of the reception staff.
- Immediately before the examination you will be asked to change into a gown
- Once on the scanning table you will be asked to lie on your side. The radiologist/technologist will then place a tube into the back passage (rectum) and then air will be inserted into the bowel during this you may feel slight discomfort.
- A muscle relaxant called INJ: BUSCOPAN may be given before the scan commences. This is to relax the involuntary muscle in wall of the bowel.
- One scan will be done with you lying on your back (supine) and another done with you lying on your front (prone).

After the examination

- You will have access to a toilet immediately following your examination
- Eat and drink as normal
- You may experience mild abdominal discomfort for a few hours.

Things we need to know

Please inform the CT department in advance if:

- You are or might be pregnant
- You have a condition affecting the eyes called Glaucoma?
- You have a prosthetic heart valve (You may require antibiotic cover prior to the procedure).

Advantages of CT colonography

It is a non invasive screening procedure. It can spot extra colonic abnormalities as well. Polyps may not found on a physical colonoscopy are sometimes identified with a CT colonography, as polyps situated behind a colonic folds are more likely to be spotted. In case of incomplete colonoscopy it is very useful tool to look at the rest of colon. No need for sedation, making it better tolerated than conventional colonoscopy.

Disadvantages of a CT colonography

Patients with suspicious polyps must still have a conventional colonoscopy to have biopsy them or being removed. Some patients will want to have just one test and be done with it. According to current literature sensitivity of CT colonography is poor for polyps less then 5mm and flat lesions.
Complications

With this particular examination there is a very small chance of perforation of the bowel as the tube is inserted or removed. Every effort is made to insure that this process is carried out safely and painlessly.

Contraindications

There known but slight risks to the fetus if exposed to ionizing radiation, therefore if there is any chance that you could be pregnant, you will not be scanned. Recent surgery for colon. Inability to take medication to good bowel preparation e.g. colostomy.

Contact

If you have any questions about your examination or there is something you think we should be aware of prior to your procedure, please contact us at CT section suite:

CT Scan Suite Radiology Department
Aga Khan University Hospital, Karachi
P.O. Box 3500, Stadium Road, Karachi-74800 Pakistan
Tel: 486 2082, 486 2083
Fax: 493 4294, 493 2095
Email: radiology@aku.edu
www.aku.edu