

CT COLONOGRAPHY

Summary

In 2004 when presenting the NCI Executive Committee the ACRIN proposal to conduct the National CT Colonography Trial (6664), a case was made that publicly accessible image data sharing would offer a valuable research asset to a wide image processing research community. Adding to the many merits of that proposal, the data-sharing component was strongly endorsed. ACRIN completed the trial expeditiously and its results were published in NEJM in fall 2008 to wide interest. ACRIN has graciously allowed the wider research community access to a portion of the data from that trial here on TCIA, including spreadsheets identifying positive and negative polyp cases. The complete ACRIN 6664 protocol description can be found at <http://www.acrin.org/TabID/151/Default.aspx>.

[Data Access](#) [Detailed Description](#) [Citations & Data Usage Policy](#) [Versions](#)

Data Access

Choosing the Download option will provide you with a file to launch the TCIA Download Manager to download the entire collection. If you want to browse or filter the data to select only specific scans/studies please use the [Search By Collection](#) option.

Data Type	Download all or Query/Filter
Images (DICOM, 462.6GB)	  (Requires TCIA Downloader App)
DICOM Metadata Digest (CSV)	
Polyp Descriptions - Large 10mm (XLS)	
Polyp Descriptions - 6 to 9mm (XLS)	
Polyp Descriptions - No polyp found (XLS)	

Click the Versions tab for more info about data releases.

Detailed Description

Collection Statistics	
Modalities	CT
Number of Patients	825
Number of Studies	836
Number of Series	3,451
Number of Images	941,771
Image Size (GB)	462.6

There are presently 825 cases in this collection with XLS sheets that provide polyp descriptions and their location within the colon segments. To link the XLS polyp tables with the DICOM image studies in TCIA you should understand that some cases in the TCIA are identified by long numbers with the last 4 digits after the last decimal point (e.g.: NCI study number "1.3.6.1.4.1.9328.50.4.0040" referred to as case "40"). In addition there are a fewer number of additional positive cases that begin their identification number with 'CTC' (e.g.: CTC-5401799343)

Three related XLS spreadsheets are in this release.

1. [TCIA CTC large 10 mm polyps.xls](#) - Contains the case numbers for 35 cases (out of the 825 total TCIA cases) where at least one 10mm or larger size polyp was found. Individual cases may have several (up to 20) polyps of different sizes listed on a particular XLS row as "LESION 1.x, 2.x,3.x etc. – see "feature key" below).
2. [TCIA CTC 6 to 9 mm polyps.xls](#) - Contains 69 cases with smaller size polyps.
3. [TCIA CTC no polyp found.xls](#) - Contains 243 cases that were recorded as free of polyps by both CTC and optical techniques.

Thus in this CT Colonography collection you will be able to download the prone and supine DICOM images from OC same-day validated 243 negative cases, 69 cases with 6 to 9 mm polyps, and 35 cases which have at least one > 10 mm polyp and their histological type. Below is the key for deciphering the features in the spreadsheet.

Key to CT Colon XL Lesion Feature Spreadsheet

e.g: 1.1; 1.2; 1.3..., then 2.1, 2.2, 2.3.... and so on to 20.1..

LESION FEATURE x.1 - SEGMENT

1 Rectum; 2 Sigmoid; 3 Descending; 4 Transverse; 5 Ascending; 6 Cecum

LESION FEATURE x.2 - SIZE (MM)

LESION FEATURE x.3 – SIZE SOURCE

1 Colonoscopy; 2 Pathology

LESION FEATURE x.4 – SPECIMEN REMOVED IN PIECES

1 No; 2 Yes

LESION FEATURE x.5 – HISTOLOGY

1 Adenocarcinoma; 2 Medullary carcinoma; 3 Mucinous carcinoma (colloid type) - {greater than 50% mucinous carcinoma}; 4 Signet ring cell carcinoma {greater than 50% signet ring cell}; 5 Squamous cell (epidermoid) carcinoma; 6 Adenosquamous carcinoma; 7 Small cell carcinoma; 8 Undifferentiated carcinoma; 9 Carcinoma, NOS; 10 Hyperplastic; 11 Lipomatous; 12 Adenomatous; 13 Tubular adenoma; 14 Tubulovillous adenoma; 15 Villous adenoma; 16 Tubulovillous adenoma with dysplasia; 17 Normal mucosa; 88 Other, specify; 98 Not applicable

WARNING: NCI cannot assure archive users of error-free validity of the XL polyp location data since NCI did not itself perform the clinical study or its analysis.

You will note that two XLS files with positive findings have multiple columns descriptors of individual polyp lesions listed as in the table below. The meaning of the colored columns labeled "LESION 1.1...1.2...1.3...1.4, etc" is explained in the attached key-code ".tiff" file entitled "Polyp description key table.tiff"). Some CT scan slice numbers where the polyps were found are provided, but unfortunately the table may not have complete slice number information – you'll just have to do the best you can with the data NCI was given.

	A	B	C	D	E	F	G	H
1	TCIA Number	Slice# polyp Supine	Slice# polyp Prone	LESION 1.1	1.2	1.3	1.4	1.5
2	1.3.6.1.4.1.9328.50.4.0007			1	6	2	1	10
3	1.3.6.1.4.1.9328.50.4.0011	144	173	3	9	1	1	88
4	1.3.6.1.4.1.9328.50.4.0019	277		2	9	2	1	13
5	1.3.6.1.4.1.9328.50.4.0043			4	6	2	1	17
6	1.3.6.1.4.1.9328.50.4.0080	353/432	365/417	3	5	2	1	10
7	1.3.6.1.4.1.9328.50.4.0132			6	8	1	2	16
8	1.3.6.1.4.1.9328.50.4.0152	425	435/112	2	5	1	2	13
9	1.3.6.1.4.1.9328.50.4.0154	118	144	2	7	1	2	10

Citations & Data Usage Policy

This collection is freely available to browse, download, and use for commercial, scientific and educational purposes as outlined in the [Creative Commons Attribution 3.0 Unported License](#). See TCIA's [Data Usage Policies and Restrictions](#) for additional details. Questions may be directed to help@cancerimagingarchive.net.

Please be sure to include the following citations in your work if you use this data set:

Data Citation

Smith K, Clark K, Bennett W, Nolan T, Kirby J, Wolfsberger M, Moulton J, Vendt B, Freymann J. (2015). Data From CT_COLONOGRAPHY. The Cancer Imaging Archive. <http://doi.org/10.7937/K9/TCIA.2015.NWTESAY1>

Publication Citation

Johnson, C. D., Chen, M.-H., Toledano, A. Y., Heiken, J. P., Dachman, A., Kuo, M. D., ... Limburg, P. J. (2008, September 18). Accuracy of CT Colonography for Detection of Large Adenomas and Cancers. *New England Journal of Medicine*. *New England Journal of Medicine (NEJM/MMS)*. <http://doi.org/10.1056/nejmoa0800996> (paper)

TCIA Citation

Clark K, Vendt B, Smith K, Freymann J, Kirby J, Koppel P, Moore S, Phillips S, Maffitt D, Pringle M, Tarbox L, Prior F. **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**, *Journal of Digital Imaging*, Volume 26, Number 6, December, 2013, pp 1045-1057. (paper)

Other Publications Using This Data

See the [CT Colonography section on our Publications page](#) for other work leveraging this collection. If you have a publication you'd like to add please [contact the TCIA Helpdesk](#).

Version 1 (Current): Updated 2013/11/15

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