



## PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastrointestinal Endoscopy

**Manuscript NO:** 62032

**Title:** CT colonography and radiation risk: how low can we go?

**Reviewer's code:** 05136436

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** United States

**Author's Country/Territory:** Croatia

**Manuscript submission date:** 2021-01-08

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-01-08 20:08

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<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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## **SPECIFIC COMMENTS TO AUTHORS**

Overall, the manuscript is well written, concise and well-structured. I have provided some minor suggestions regarding phraseology and grammar (detailed after my general comments). While, I believe the quality to be excellent overall, it's my hope that these minor edits will improve the manuscript even further. The authors discuss the current role of CT colonography for CRC. It would enhance the manuscript to expand upon the role of CTC following incomplete optical colonoscopy. The examination is of great benefit to patients who have undergone bowel preparation and could have a CTC the same day or following day. In the introduction, for balance, I would also include the specific drawbacks of CTC (does not obtain tissue, flat lesions can be missed, pitfalls of interpretation e.g. incomplete luminal distension etc.). A table comparing and contrasting benefits of OC and CTC would be a nice addition. While the authors provide a thorough explanation behind why CTC can be a low dose study, it should be discussed that there are factors which increase the dose of CTC e.g. if intravenous contrast is administered or if additional views are obtained (for example in patients who are unable to lie prone, two lateral decubitus studies can be performed); while these may not be uniformly performed at all institutions, for the sake of providing a balanced argument these should be discussed. Furthermore, practice regarding ancillary imaging before a CTC and after incomplete OC should be discussed as this can also increase radiation dose; for example, some centers perform a scout/topogram or non-contrast CT abdomen following incomplete OC, in order to exclude a perforation; although there is evidence to suggest this is unnecessary. In addition, it may be of benefit to discuss the role of 3D volume rendering and computer aided diagnosis in CTC; these tools have been shown to enhance detection of polyps i.e. an adjunct to increase diagnostic sensitivity without increasing dose. A table of the different mSv doses for examinations mentioned as comparisons would be nice. Imaging examples



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illustrating the contrast between fecal tagging material, air and a polyp would be nice. Specific comments: - Abbreviated title; "CT colonography and radiation " CT colonography is misspelled, please edit - Abstract: "...important examination in imagining polyps and colorectal carcinoma (CRC)" replace imagining with imaging - I would consider replacing conventional colonoscopy with optical colonoscopy (OC) and revise throughout the text - Core tip " CT colonography is an important imagining technique" replace with imaging technique - First paragraph, introduction replace imagining with "imaging and" in patients whom it" with " in patients for whom" - I would caution against describing CTC as ... [a] method more suitable for the CRC screening"; consider rephrasing to " a suitable alternative to optical colonoscopy for CRC screening - "The participation rate, positivity rate, and CTC detection rate were homogeneous among the studies." Do the authors mean the rates were similar amongst the studies? - "Thus, new strategies for lowering the radiation dose are considered, maintaining or improving image quality." Suggest rephrasing to "Thus, when new strategies for lowering radiation dose are considered, they must also maintain or improve image quality" - "During the last few decades, medical producers, physicists, radiologists, and technologists worked with CT equipment to find ways" I am unsure of what the role of a medical producer is and would suggest omitting. - "There are many modalities on how to adjust scanning parameters to lower the dose." I would rephrase to say "there are many ways to adjust scanning parameters in order to lower the dose" - Please provide references for the following statements: "the tube current or the voltage depending on the tissue density and contrast, scanning region, and the patients' body shape and size" - "The image quality has to be satisfactory for the delineation of pathology structures from the normal ones." Consider changing to "pathologic structures" or "abnormal structures" - " If there is an option of iterative reconstruction (IR), we can lower the voltage and turn on IT", do the authors mean turn on IR? - "In



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2016, the Health Physics society published that radiation lower than 100mSv impacted the human body, which statistically equals zero” requires a reference and I believe should be rephrased to say “.... Radiation lower than 100mSV did not impact the human body” although I am unclear; please consider rephrasing.



## PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastrointestinal Endoscopy

**Manuscript NO:** 62032

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**Reviewer's code:** 02829825

**Position:** Peer Reviewer

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<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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#### **SPECIFIC COMMENTS TO AUTHORS**

Dear Authors, Your opinion review of CT colonography and radiation risk is a good discussion of the topic with an excellent overview of the low dose technologies aimed to minimize radiation in current CTC. Your discussion of radiation dose and cancer risk is also good. Your paper brings to light the safety of CTC in patients above 50 and can increase its utilization by educating others on its safety profile. The main criticism I have is not about the quality of the paper or its organization as both are good. It is simply some errors of syntax, grammar, fragmented sentences, all of which are easy to repair. These are minor language based errors. I am attaching a list of changes that you can make to improve the grammar and readability of the paper. Thank you for your review. With these changes, the language quality will be very acceptable. I would like to read the paper after your revisions. The edit suggestions are listed after your bibliography. Thank you.



### PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastrointestinal Endoscopy

**Manuscript NO:** 62032

**Title:** CT colonography and radiation risk: how low can we go?

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**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Croatia

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<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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#### **SPECIFIC COMMENTS TO AUTHORS**

This manuscript mainly addresses the radiation risk in CTC and optimization tools for this risk. The conclusion is convincing. Could you please state the innovativeness of your research?