



No Fasting Before Intravascular Iodine Contrast Administration: Korean and International Guidelines

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Take-home points

- Korean Society of Radiology (KSR), European Society of Urogenital Radiology (ESUR), and the American College of Radiology (ACR) have already stated that there's scant evidence necessitating fasting before administering intravascular iodine contrast media.
- A newly published meta-analysis study provides quantitative evidence that there is no significant difference in emetic complication rates between the fasting and non-fasting groups.
- The additional evidence from the new meta-analysis may pave the way for future guideline revisions, allowing for a more unambiguous recommendation against the fasting.

Keywords: Guideline; Fasting; Intravascular iodine; Contrast media

See the corresponding article "Effects of Fasting versus Non-Fasting on Emetic Complications in Radiological Examinations Using Intravascular Non-ionic Iodinated Contrast Media: A Systematic Review and Meta-analysis" by Choi et al., in volume 24(10) on page 996 to 1005, <https://doi.org/10.3348/kjr.2023.0399>.

In medical imaging using intravascular iodinated contrast (ICM), the necessity of pre-examination fasting to prevent complications, such as nausea and aspiration pneumonia, has long been a tradition among clinicians. However, leading organizations, such as the European Society of Urogenital Radiology (ESUR) and the American College of Radiology (ACR), found little evidence supporting pre-examination fasting [1,2]. Recent guidelines of the Korean Society of Radiology (KSR) align with the views of these organizations [3]. The findings in the newly published study by Dr. Choi et al. [4] urges rethinking global and domestic fasting practices.

This comprehensive meta-analysis showed intriguing findings, encompassing 10 studies and 308013 patients (of which 158442 were non-fasting). Notably, no cases of aspiration pneumonia have been reported. Furthermore, the pooled incidence rates of nausea remained the same between the fasting (4.6%; 95% confidence interval [CI], 1.4%–7.8%) and non-fasting (4.6%; 95% CI, 1.1%–8.1%) cohorts. Although a minor elevation in the vomiting rate slightly increased in the non-fasting group (2.5%; 95% CI, 0.7%–4.2%), compared to that of the fasting group (2.1%; 95% CI, 0.0%–4.2%), the risk difference was statistically insignificant. This investigation integrated newer studies from 2018 to 2023 that were previously unincorporated into earlier guidelines [5-7]. This meta-analysis strongly indicated no increased risk of emetic complications if patients were allowed to consume food or drinks freely before receiving

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intravascular non-ionic ICM for radiological evaluations.

The Korean Clinical Practice Guidelines (2022 Third Edition) [3] has been updated based on expert consensus and literature reviews and primarily addresses infection control with autoinjectors, acute reactions, and renal toxicity related to iodized contrast media. Moreover, the critical summary states, "There is limited robust evidence supporting the need for fasting before administering CT or MRI contrast agents." This stance was based on two clinical guidelines released in 2011 and 2012 [8,9] and individual studies from 1990 to 2015 [10-15]. The 2018 ESUR guidelines recommended fasting by high-osmolar iodine-based contrast media. However, they do not advise fasting for low- or iso-osmolar non-ionic ICM (Table 1). The 2023 ACR guidelines also adopt a similar stance (Table 1).

The long-standing tradition of pre-examination fasting remains in practice at many institutions, often requiring patients to fast for periods significantly exceeding the current recommended guidelines. This continued practice pattern was because of the remaining requirement for comprehensive evidence assessing the effects of fasting on the complications of vomiting, including nausea, vomiting, and aspiration pneumonia, which is why domestic and international guidelines have been unable to make more straightforward and robust recommendations.

A meta-analysis by Choi et al. [4] provided robust quantitative evidence addressing significant concerns and filling a crucial knowledge gap. As evidence accumulates, the need to reconsider fasting has become more evident. The study findings determine potential guideline revisions, promoting a more unambiguous stance that recommends non-fasting. With the publication of this study, a shift towards a more patient-centered, evidence-driven practices is imperative.

Conflicts of Interest

Chi-Hoon Choi, the editor board member of the *Korean Journal of Radiology*, was not involved in the editorial evaluation or decision to publish this article. The author has no potential conflicts of interest to disclose.

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Table 1. Comparative summary of the recommendations on fasting between KSR, ESUR, and ACR

Guidelines	Title	Chapter	Summary recommendations	Original language	Update year
Korean Society of Radiology (KSR) [3]	Korean clinical practice guidelines for adverse reactions to intravenous iodinate and MRI-gadolinium contrast agents: revised clinical consensus and recommendations (3rd edition, 2022).	I.3	There is no evidence that fasting is necessary to prevent aspiration pneumonia prior to examinations using CT or MRI contrast agents. Unlike solid or liquid food (including milk), it is recommended that clear fluids such as water be consumed without restriction. For abdominal examinations, fasting may be required depending on the specific type of test in order to obtain appropriate images.	Korean	2022
European Society of Urogenital Radiology (ESUR) [1]	ESUR guidelines on contrast agents (10th version)	A.1.5	Fasting before intravenous administration of contrast agents dates from the time when high-osmolar iodine-based contrast media were used and many patients vomited. Fasting is not recommended before administration of low- or iso-osmolar non-ionic iodine-based contrast media or of gadolinium-based agents.	English, Estonian, French, German, Italian, Latvian, Lithuanian, Russian, Slovakian, Spanish, Chinese, Japanese, Vietnamese	2018
American College of Radiology (ACR) [2]	ACR manual on contrast media (version 2023)	Chapter 5	Current data suggests fasting does not reduce nausea, vomiting, or aspiration risks for modern contrast media.	English	2023

MRI = magnetic resonance imaging, CT = computed tomography

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