



Introducing “Recommendation and Guideline” of the *Korean Journal of Radiology*

Seong Ho Park, Editor-in-Chief

Department of Radiology and Research Institute of Radiology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea

The *Korean Journal of Radiology* (KJR) has recently added “**Recommendation and Guideline**” to the list of article types published by the journal. A guideline document on the ultrasonographic diagnosis and management of thyroid nodules from the Korean Society of Thyroid Radiology [1] was published in the December issue of the journal as the first article under this new category.

Under the **Recommendation and Guideline** category, the journal seeks to publish documents providing evidence-based recommendations/guidance for clinical practice created or endorsed by academic organizations or groups, colloquially referred to as “practice guidelines.” Many organizations have historically categorized them rather inappropriately into *guidelines* and *consensus statements*, primarily according to the quality of evidence or methodological rigor [2,3]. According to the historical categorization, *guidelines* are regarded as developed with a greater methodological rigor, supported by a higher level of evidence, and thus more binding than *consensus statements* [2,3]. However, the historical categorization might lead to misinterpretation.

Both *guidelines* and *consensus statements* should be evidence-based, even if the evidence is of very low quality [4]. Their development process should include a systematic review of the literature and a rigorous assessment of the

quality of evidence [2]. Furthermore, proper evaluation of evidence requires careful interpretation (whether from randomized trials or case reports), and a consensus process must determine that interpretation [2]. Therefore, these steps universally apply to *guidelines* and *consensus statements*. Compared with *guidelines*, *consensus statements* may address topics with a less extensive evidence base; however, the development of *consensus statements* should still be methodologically rigorous and transparent [5]. The methodology for developing practice guidelines has been established [6]. It generally includes a systematic review of the literature (with meta-analysis, if applicable); grading of evidence, such as by using the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach [7]; and consensus processes, such as the modified Delphi method.

KJR has published multiple practice guidelines across various radiology subspecialties (Table 1). Some of these were developed using the established methodology carefully, whereas the others were developed using a less thorough process or even lacked the methodology. KJR published all these documents essentially under the **Review** category, which, admittedly, is not an entirely adequate categorization. Practice guidelines are different from the usual review articles, as the latter are generally written by a few experts, often without a systematic literature summary. Unlike ordinary review articles, a typical peer review by a few individual experts is most likely inappropriate for practice guidelines because the peer review might inadvertently let individual reviewers’ judgments override a consensus carefully made by a group of experts through methodological rigor.

With the introduction of **Recommendation and Guideline**, we intend to distinguish practice guidelines created or endorsed by academic organizations or groups

Received: October 10, 2021 **Accepted:** October 10, 2021

Corresponding author: Seong Ho Park, MD, PhD, Department of Radiology and Research Institute of Radiology, University of Ulsan College of Medicine, Asan Medical Center, 88 Olympic-ro 43-gil, Songpa-gu, Seoul 05505, Korea.

• E-mail: parksh.radiology@gmail.com

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Table 1. Practice Guidelines Developed or Endorsed by Academic Societies that Korean Journal of Radiology Published

Subspecialty*	Publication Year	Title	Academic Society (Developed or Endorsed by)
Cardiovascular	2019	Guidelines for Cardiovascular Magnetic Resonance Imaging from the Korean Society of Cardiovascular Imaging-Part 3: Perfusion, Delayed Enhancement, and T1- and T2 Mapping [8]	Korean Society of Cardiovascular Imaging
	2019	Guidelines for Cardiovascular Magnetic Resonance Imaging from the Korean Society of Cardiovascular Imaging-Part 2: Interpretation of Cine, Flow, and Angiography Data [9]	Korean Society of Cardiovascular Imaging
	2019	Guideline for Cardiovascular Magnetic Resonance Imaging from the Korean Society of Cardiovascular Imaging-Part 1: Standardized Protocol [10]	Korean Society of Cardiovascular Imaging
	2017	2017 Multimodality Appropriate Use Criteria for Noninvasive Cardiac Imaging: Expert Consensus of the Asian Society of Cardiovascular Imaging [11]	Asian Society of Cardiovascular Imaging
	2015	Korean Guidelines for the Appropriate Use of Cardiac CT [12]	Korean Society of Radiology and Korean Society of Cardiology
	2014	2014 Korean Guidelines for Appropriate Utilization of Cardiovascular Magnetic Resonance Imaging: A Joint Report of the Korean Society of Cardiology and the Korean Society of Radiology [13]	Korean Society of Radiology and Korean Society of Cardiology
	2021	Pediatric Cardiothoracic CT Guideline Provided by the Asian Society of Cardiovascular Imaging Congenital Heart Disease Study Group: Part 2. Contemporary Clinical Applications [14]	Asian Society of Cardiovascular Imaging
	2019	User-Friendly Vendor-Specific Guideline for Pediatric Cardiothoracic Computed Tomography Provided by the Asian Society of Cardiovascular Imaging Congenital Heart Disease Study Group: Part 1. Imaging Techniques [15]	Asian Society of Cardiovascular Imaging
	2020	MRI Assessment of Complete Response to Preoperative Chemoradiation Therapy for Rectal Cancer: 2020 Guide for Practice from the Korean Society of Abdominal Radiology [16]	Korean Society of Abdominal Radiology
	2021	Radiologic Evaluation and Structured Reporting Form for Extrahepatic Bile Duct Cancer: 2019 Consensus Recommendations from the Korean Society of Abdominal Radiology [17]	Korean Society of Abdominal Radiology
Gastrointestinal	2019	Diagnosis and Surveillance of Incidental Pancreatic Cystic Lesions: 2017 Consensus Recommendations of the Korean Society of Abdominal Radiology [18]	Korean Society of Abdominal Radiology
	2017	Diagnosis of Hepatocellular Carcinoma with Gadoteric Acid-Enhanced MRI: 2016 Consensus Recommendations of the Korean Society of Abdominal Radiology [19]	Korean Society of Abdominal Radiology
	2017	Essential Items for Structured Reporting of Rectal Cancer MRI: 2016 Consensus Recommendation from the Korean Society of Abdominal Radiology [20]	Korean Society of Abdominal Radiology
	2018	2018 Korean Liver Cancer Association-National Cancer Center Korea Practice Guidelines for the Management of Hepatocellular Carcinoma [21 ^t]	Korean Liver Cancer Association and National Cancer Center
Genitourinary	2019	Guidelines for Transtrectal Ultrasound-Guided Prostate Biopsy: Korean Society of Urogenital Biopsy-Related Pain Management [22]	Korean Society of Urogenital Radiology
	2020	Radiology Consensus Statement for Patient Preparation, Standard Technique, and	
Intervention	2015	Korean Guidelines for Interventional Recanalization of Lower Extremity Arteries [23]	
	2019	Primary Imaging Test for Suspected Traumatic Thoracolumbar Spine Injury: 2017 Guidelines by the Korean Society of Radiology and National Evidence-Based Healthcare Collaborating Agency [24]	Korean Society of Radiology
Musculoskeletal	2019	Consensus Statements by Korean Society of Interventional Neuroradiology and Korean Stroke Society: Hyperacute Endovascular Treatment Workflow to Reduce Door-to-Reperfusion Time [25]	Korean Society of Interventional Neuroradiology and Korean Stroke Society
	2018		

Table 1. Practice Guidelines Developed or Endorsed by Academic Societies that *Korean Journal of Radiology* Published (Continued)

Subspecialty*	Publication Year	Title	Academic Society (Developed or Endorsed by)
Thorax	2021	2020 Clinical Practice Guideline for Percutaneous Transthoracic Needle Biopsy of Pulmonary Lesions: A Consensus Statement and Recommendations of the Korean Society of Thoracic Radiology [26]	Korean Society of Thoracic Radiology
	2018	2018 Korean Clinical Imaging Guideline for Hemoptysis [27]	Korean Society of Thoracic Radiology
	2021	2021 Korean Thyroid Imaging Reporting and Data System and Imaging-Based Management of Thyroid Nodules: Korean Society of Thyroid Radiology Consensus Statement and Recommendations [1] [†]	Korean Society of Thyroid Radiology
	2021	2020 Imaging Guidelines for Thyroid Nodules and Differentiated Thyroid Cancer: Korean Society of Thyroid Radiology [28]	Korean Society of Thyroid Radiology
	2019	Ethanol Ablation of the Thyroid Nodules: 2018 Consensus Statement by the Korean Society of Thyroid Radiology [29]	Korean Society of Thyroid Radiology
	2018	Primary Imaging Test and Appropriate Biopsy Methods for Thyroid Nodules: Guidelines by Korean Society of Radiology and National Evidence-Based Healthcare Collaborating Agency [30]	Korean Society of Radiology
	2018	2017 Thyroid Radiofrequency Ablation Guideline: Korean Society of Thyroid Radiology [31] [†]	Korean Society of Thyroid Radiology
	2017	Core Needle Biopsy of the Thyroid: 2016 Consensus Statement and Recommendations from Korean Society of Thyroid Radiology [32]	Korean Society of Thyroid Radiology
	2015	Ultrasound-Guided Fine Needle Aspiration of Thyroid Nodules: A Consensus Statement by the Korean Society of Thyroid Radiology [33]	Korean Society of Thyroid Radiology

*According to alphabetical order. [†]These are most updated versions. Past versions were also published in the journal.

from ordinary reviews. We look forward to seeing authors submitting their article under the **Recommendation and Guideline** category paying attention to the thorough conduct and reporting of the systematic literature review and specification of the consensus process. Additionally, the authors should clarify how their submission represents academic organizations or groups; further, we expect them to specify the year or version of their document. Articles with the mere use of terms such as “guideline,” “guide,” “consensus,” or “recommendation” in the title without the above-stated methodological elements would not be eligible for the **Recommendation and Guideline** category [34,35]. Documents that represent academic organizations or groups but do not require or do not sufficiently follow the methodology for developing practice guidelines, such as position statements, summaries of symposia/conferences, and white papers, can be published more appropriately under the umbrella category of **Editorial** [36].

In summary, *KJR* has recently added **Recommendation and Guideline** to the list of its article types to publish *guidelines* and *consensus statements* created or endorsed by academic organizations or groups. Both *guidelines* and *consensus statements* provide evidence-based recommendations/guidance for clinical practice, although *consensus statements* may address topics with a less extensive evidence base. Therefore, both should be developed using methodological rigor and transparency, including a thorough conduct and reporting of systematic literature review and specification of the consensus process.

ORCID iD

Seong Ho Park

<https://orcid.org/0000-0002-1257-8315>

Funding Statement

None

REFERENCES

1. Ha EJ, Chung SR, Na DG, Ahn HS, Chung J, Lee JY, et al. 2021 Korean thyroid imaging reporting and data system and imaging-based management of thyroid nodules: Korean Society of Thyroid Radiology consensus statement and recommendations. *Korean J Radiol* 2021;22:2094-2123
2. Djulbegovic B, Guyatt G. Evidence vs consensus in clinical practice guidelines. *JAMA* 2019;322:725-726
3. D'Arcy Y. Practice guidelines, standards, consensus statements, position papers: what they are, how they differ.

- Myamericannurse Web site. <https://www.myamericannurse.com/practice-guidelines-standards-consensus-statements-position-papers-what-they-are-how-they-differ/>. Accessed October 8, 2021
4. Djulbegovic B, Guyatt GH. Progress in evidence-based medicine: a quarter century on. *Lancet* 2017;390:415-423
 5. Jacobs C, Graham ID, Makarski J, Chassé M, Fergusson D, Hutton B, et al. Clinical practice guidelines and consensus statements in oncology--an assessment of their methodological quality. *PLoS One* 2014;9:e110469
 6. Choi SJ, Jeong WK, Jo AJ, Choi JA, Kim MJ, Lee M, et al. Methodology for developing evidence-based clinical imaging guidelines: joint recommendations by Korean Society of Radiology and National Evidence-Based Healthcare Collaborating Agency. *Korean J Radiol* 2017;18:208-216
 7. BMJ. What is GRADE? Bestpractice.bmj Web site. <https://bestpractice.bmj.com/info/toolkit/learn-ebm/what-is-grade/>. Accessed October 9, 2021
 8. Im DJ, Hong SJ, Park EA, Kim EY, Jo Y, Kim J, et al. Guidelines for cardiovascular magnetic resonance imaging from the Korean Society of Cardiovascular Imaging-part 3: perfusion, delayed enhancement, and T1- and T2 mapping. *Korean J Radiol* 2019;20:1562-1582
 9. Lee JW, Hur JH, Yang DH, Lee BY, Im DJ, Hong SJ, et al. Guidelines for cardiovascular magnetic resonance imaging from the Korean Society of Cardiovascular Imaging-part 2: interpretation of cine, flow, and angiography data. *Korean J Radiol* 2019;20:1477-1490
 10. Jo Y, Kim J, Park CH, Lee JW, Hur JH, Yang DH, et al. Guideline for cardiovascular magnetic resonance imaging from the Korean Society of Cardiovascular Imaging-part 1: standardized protocol. *Korean J Radiol* 2019;20:1313-1333
 11. Beck KS, Kim JA, Choe YH, Hian SK, Hoe J, Hong YJ, et al. 2017 multimodality appropriate use criteria for noninvasive cardiac imaging: expert consensus of the Asian Society of Cardiovascular Imaging. *Korean J Radiol* 2017;18:871-880
 12. Kim YJ, Yong HS, Kim SM, Kim JA, Yang DH, Hong YJ. Korean guidelines for the appropriate use of cardiac CT. *Korean J Radiol* 2015;16:251-285
 13. Yoon YE, Hong YJ, Kim HK, Kim JA, Na JO, Yang DH, et al. 2014 Korean guidelines for appropriate utilization of cardiovascular magnetic resonance imaging: a joint report of the Korean Society of Cardiology and the Korean Society of Radiology. *Korean J Radiol* 2014;15:659-688
 14. Goo HW, Siripornpitak S, Chen SJ, Lilyasari O, Zhong YM, Latiff HA, et al. Pediatric cardiothoracic CT guideline provided by the Asian Society of Cardiovascular Imaging Congenital Heart Disease Study Group: part 2. Contemporary clinical applications. *Korean J Radiol* 2021;22:1397-1415
 15. Hong SH, Goo HW, Maeda E, Choo KS, Tsai IC. User-friendly vendor-specific guideline for pediatric cardiothoracic computed tomography provided by the Asian Society of Cardiovascular Imaging Congenital Heart Disease Study Group: part 1. Imaging techniques. *Korean J Radiol* 2019;20:190-204
 16. Park SH, Cho SH, Choi SH, Jang JK, Kim MJ, Kim SH, et al. MRI assessment of complete response to preoperative chemoradiation therapy for rectal cancer: 2020 guide for practice from the Korean Society of Abdominal Radiology. *Korean J Radiol* 2020;21:812-828
 17. Lee DH, Kim B, Lee ES, Kim HJ, Min JH, Lee JM, et al. Radiologic evaluation and structured reporting form for extrahepatic bile duct cancer: 2019 consensus recommendations from the Korean Society of Abdominal Radiology. *Korean J Radiol* 2021;22:41-62
 18. Lee ES, Kim JH, Yu MH, Choi SY, Kang HJ, Park HJ, et al. Diagnosis and surveillance of incidental pancreatic cystic lesions: 2017 consensus recommendations of the Korean Society of Abdominal Radiology. *Korean J Radiol* 2019;20:542-557
 19. Korean Society of Abdominal Radiology. Diagnosis of hepatocellular carcinoma with gadoxetic acid-enhanced MRI: 2016 consensus recommendations of the Korean Society of Abdominal Radiology. *Korean J Radiol* 2017;18:427-443
 20. KSAR Study Group for Rectal Cancer. Essential items for structured reporting of rectal cancer MRI: 2016 consensus recommendation from the Korean Society of Abdominal Radiology. *Korean J Radiol* 2017;18:132-151
 21. Korean Liver Cancer Association, National Cancer Center. 2018 Korean Liver Cancer Association-National Cancer Center Korea practice guidelines for the management of hepatocellular carcinoma. *Korean J Radiol* 2019;20:1042-1113
 22. Lee MS, Moon MH, Kim CK, Park SY, Choi MH, Jung SI. Guidelines for transrectal ultrasonography-guided prostate biopsy: Korean Society of Urogenital Radiology consensus statement for patient preparation, standard technique, and biopsy-related pain management. *Korean J Radiol* 2020;21:422-430
 23. Kim YH, Bae JI, Jeon YS, Kim CW, Jae HJ, Park KB, et al. Korean guidelines for interventional recanalization of lower extremity arteries. *Korean J Radiol* 2015;16:696-722
 24. Lee GY, Hwang JY, Kim NR, Kang Y, Choi M, Kim J, et al. Primary imaging test for suspected traumatic thoracolumbar spine injury: 2017 guidelines by the Korean Society of Radiology and National Evidence-Based Healthcare Collaborating Agency. *Korean J Radiol* 2019;20:909-915
 25. Kim DH, Kim B, Jung C, Nam HS, Lee JS, Kim JW, et al. Consensus statements by Korean Society of Interventional Neuroradiology and Korean Stroke Society: hyperacute endovascular treatment workflow to reduce door-to-reperfusion time. *Korean J Radiol* 2018;19:838-848
 26. Yoon SH, Lee SM, Park CH, Lee JH, Kim H, Chae KJ, et al. 2020 clinical practice guideline for percutaneous transthoracic needle biopsy of pulmonary lesions: a consensus statement and recommendations of the Korean Society of Thoracic Radiology. *Korean J Radiol* 2021;22:263-280
 27. Kang MJ, Kim JH, Kim YK, Lee HJ, Shin KM, Kim JI, et al. 2018 Korean clinical imaging guideline for hemoptysis. *Korean J Radiol* 2018;19:866-871

28. Lee JY, Baek JH, Ha EJ, Sung JY, Shin JH, Kim JH, et al. 2020 imaging guidelines for thyroid nodules and differentiated thyroid cancer: Korean Society of Thyroid Radiology. *Korean J Radiol* 2021;22:840-860
29. Hahn SY, Shin JH, Na DG, Ha EJ, Ahn HS, Lim HK, et al. Ethanol ablation of the thyroid nodules: 2018 consensus statement by the Korean Society of Thyroid Radiology. *Korean J Radiol* 2019;20:609-620
30. Ha EJ, Lim HK, Yoon JH, Baek JH, Do KH, Choi M, et al. Primary imaging test and appropriate biopsy methods for thyroid nodules: guidelines by Korean Society of Radiology and National Evidence-Based Healthcare Collaborating Agency. *Korean J Radiol* 2018;19:623-631
31. Kim JH, Baek JH, Lim HK, Ahn HS, Baek SM, Choi YJ, et al. 2017 thyroid radiofrequency ablation guideline: Korean Society of Thyroid Radiology. *Korean J Radiol* 2018;19:632-655
32. Na DG, Baek JH, Jung SL, Kim JH, Sung JY, Kim KS, et al. Core needle biopsy of the thyroid: 2016 consensus statement and recommendations from Korean Society of Thyroid Radiology. *Korean J Radiol* 2017;18:217-237
33. Lee YH, Baek JH, Jung SL, Kwak JY, Kim JH, Shin JH. Ultrasound-guided fine needle aspiration of thyroid nodules: a consensus statement by the Korean Society of Thyroid Radiology. *Korean J Radiol* 2015;16:391-401
34. Park BK, Shen SH, Fujimori M, Wang Y. Thermal ablation for renal cell carcinoma: expert consensus from the Asian Conference on Tumor Ablation. *Korean J Radiol* 2021;22:1490-1496
35. Do S, Song KD, Chung JW. Basics of deep learning: a radiologist's guide to understanding published radiology articles on deep learning. *Korean J Radiol* 2020;21:33-41
36. Hwang EJ, Goo JM, Yoon SH, Beck KS, Seo JB, Choi BW, et al. Use of artificial intelligence-based software as medical devices for chest radiography: a position paper from the Korean Society of Thoracic Radiology. *Korean J Radiol* 2021;22:1743-1748