Systematic review and meta-analysis has become an important method for generating evidence-based systematic summaries of diagnostic test accuracy (DTA) studies. Recently, this method appears to have become more frequently used. For instance, most articles reporting systematic reviews and meta-analyses of DTA studies published in the *Korean Journal of Radiology (KJR)* were published in the last five years [1-5]. However, as exemplified by the study by Park et al. [6] published in this month’s issue of *KJR*, systematic reviews and meta-analyses of DTA studies with suboptimal methodological or reporting quality remain commonly reported.

The *KJR* has been paying attention to the adequacy of study methods and reporting when reviewing the manuscripts of systematic reviews and meta-analyses of DTA studies. Consequently, the *KJR* published articles to provide the corresponding guidance [7-9] and also recommends that authors refer to the Equator Network’s reporting guidelines (https://www.equator-network.org). Congruently, this editorial intends to provide up-to-date practical guides for the successful conduct and reporting of systematic reviews and meta-analyses of DTA studies by augmenting the preceding version [9] with recent updates using the step-wise format listed below.

**Step 1: Defining the research questions and developing inclusion/exclusion criteria.** The research questions should be specified clearly before beginning the systematic review, and the inclusion/exclusion criteria for the literature search should be identified accordingly. The structured Patient/Population, Intervention, Comparator, and Outcome (PICO) framework is recommended, although it may not apply seamlessly to some DTA studies due to their differences in design from those of therapeutic/interventional studies.

**Step 2: Systematic search and selection of the literature.** The literature search should include multiple resources extensively and should at least include the MEDLINE and EMBASE databases. Presenting the specific search queries improves the transparency of the literature search. Specific reasons for the inclusion and exclusion of articles and the corresponding article numbers should be clearly recorded. The literature search should also include recent literature, as far as possible.

**Step 3: Assessing the quality of studies.** The Quality Assessment of Diagnostic Accuracy Studies-2 (QUADAS-2) [10] is recommended for the general quality assessment of articles included in a systematic review of DTA studies (Table 1). As artificial intelligence (AI) is currently an area of active research, numerous studies assessing the performance of various AI algorithms have been published, and reports of their systematic reviews and meta-analyses are emerging. Although such AI studies belong to the larger category of DTA studies, they have some methodological uniqueness. Therefore, several guides designed specifically for assessing the quality of studies of AI in medicine are published or are currently under development, including the...
radiomics quality score (RQS) for the quality evaluation of radiomics studies [11], the Prediction model Risk Of Bias ASsessment Tool (PROBAST)-AI for quality evaluation of studies undertaking development (or update) or testing of a diagnostic or prognostic model using machine learning techniques [12], and QUADAS-AI for quality evaluation of AI-centered DTA studies (Table 1) [13]. These specific guides should be referred to appropriately. Examples elucidating RQS use can be found elsewhere [14,15].

**Step 4: Data extraction and management.** Data should be extracted from individual articles using a standardized form to ensure that all relevant data are collected, to minimize any errors, and permit the assessment of the data’s accuracy.

**Step 5: Analysis and data synthesis.** The recommended methods are summarized in Table 1, as proposed by Park et al. [6].

**Step 6: Presentation of results for publication.** Reporting a systematic review and meta-analysis of DTA studies should follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. An updated version of the PRISMA statement was published in 2020 to replace the 2009 statement [16,17]. The PRISMA statement comprises generic guidelines and focuses on therapeutic/interventional studies. Although DTA studies share multiple common elements with therapeutic/interventional studies, DTA studies also have distinctive features. The PRISMA-DTA statement was developed to address these differences as an extension of the generic PRISMA statement specifically for systematic reviews and meta-analyses of DTA studies [18-20]. Therefore, authors who conduct systematic reviews and meta-analyses of DTA studies should follow the PRISMA 2020 in general and PRISMA-DTA for DTA-specific requirements.

Following these steps will substantially facilitate the successful conduct and reporting of systematic reviews and meta-analyses of DTA studies.

**Conflicts of Interest**
The author has no potential conflicts of interest to disclose.

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