PRISMA 2020: Updated Guideline for Systematic Reviews

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> Systematic reviews are foundational to evidence-based medicine, synthesizing existing research to inform clinical practice and guidelines. The integrity and utility of these reviews depend critically on transparent and complete reporting. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement offers an updated guideline to address evolving methodologies and reporting needs in this domain.1

KEY TAKEAWAYS

- The Pivot: The PRISMA 2020 statement updates previous guidelines for reporting systematic reviews, reflecting advancements in review methodologies and reporting requirements.
- The Data: The guideline includes a 27-item checklist and an expanded flow diagram, aiming to improve the transparency and completeness of systematic review reporting.
- The Action: Authors conducting systematic reviews should adhere to the PRISMA 2020 statement to ensure their work meets current reporting standards, facilitating critical appraisal and synthesis by clinicians and researchers.

The PRISMA 2020 statement represents an evolution of reporting guidelines for systematic reviews, building upon the original PRISMA 2009 statement. This updated guideline aims to enhance the transparency, accuracy, and completeness of systematic review reporting, which is essential for clinicians and researchers to critically appraise and utilize synthesized evidence. Adherence to such guidelines is crucial for systematic reviews, which often inform diagnostic paradigms and clinical pathways, such as those seen in the management of giant cell arteritis (GCA).1

The PRISMA 2020 Statement

The PRISMA 2020 statement provides a comprehensive framework for authors reporting systematic reviews. It includes a 27-item checklist, expanded from the 27 items in the 2009 version, with specific recommendations for each item. The guideline also features an updated flow diagram for documenting the study selection process, which is particularly relevant for reviews incorporating diverse study types or complex search strategies. For instance, systematic reviews evaluating diagnostic accuracy, prognostic value, and implementation of clinical pathways, such as those in GCA, benefit from clear reporting of search strategies and study selection.1

The updated guideline addresses several areas, including the reporting of search strategies, study characteristics, risk of bias assessments, and synthesis methods. It emphasizes the importance of providing sufficient detail to allow readers to understand how the review was conducted and to replicate its findings. This level of detail is critical for assessing the validity of conclusions, such as the pooled sensitivity of color Doppler ultrasound (CDUS) for the halo sign in

GCA, reported as 88-93% in a recent systematic review.1 The guideline also encourages authors to report on the certainty of the evidence and to discuss the implications of their findings for practice and future research. For example, the 2022 American College of Rheumatology (ACR)/European Alliance of Associations for Rheumatology (EULAR) classification criteria for GCA assign CDUS findings a diagnostic weight equivalent to a positive temporal artery biopsy (TAB), a change likely informed by systematic reviews adhering to rigorous reporting standards.1

The PRISMA 2020 statement is applicable to all types of systematic reviews, including those focusing on interventions, diagnosis, prognosis, and etiology. It is designed to be adaptable for reviews that include meta-analyses, as well as those that do not. The guideline acknowledges the increasing complexity of systematic reviews, particularly those incorporating multimodal imaging data, such as high-resolution magnetic resonance imaging (MRI), 18F-fluorodeoxyglucose positron emission tomography/computed tomography (18F-FDG PET/CT), and CT angiography (CTA) in GCA.1 These imaging modalities offer distinct insights into GCA, from cranial arterial wall thickening to systemic inflammatory burden and structural vascular damage.1 Accurate reporting ensures that the nuances of these findings, and their contribution to personalized management strategies, are clearly communicated.1

The implementation of fast-track clinic (FTC) pathways, which reduce diagnostic latency to 24-72 hours and lower the risk of permanent visual loss by 60-80% in GCA, also relies on evidence synthesized through systematic reviews.1 The PRISMA 2020 statement supports the transparent reporting of such evidence, enabling healthcare providers to make informed decisions about adopting new clinical models.1

Limitations and Next Steps

While the PRISMA 2020 statement provides a robust framework, its effectiveness depends on widespread adoption by authors, journal editors, and peer reviewers. Ongoing efforts are needed to promote its use and to develop tools that facilitate adherence. Future directions in systematic review methodology and reporting may also need to consider advancements in artificial intelligence-assisted analysis and standardized acquisition protocols, particularly in imaging, to further reduce operator dependence and enhance early detection in conditions like GCA.1

CLINICAL IMPLICATIONS

The updated PRISMA 2020 statement is not merely an academic exercise; it is a critical tool for improving the quality of evidence available to clinicians. When systematic reviews are reported transparently and completely, GPs and specialists can more confidently assess the validity of the conclusions and integrate them into their practice. The previous PRISMA 2009 statement was widely adopted, and this updated version addresses the evolving landscape of systematic review methodology, including the integration of diverse data sources and complex analyses.

For clinicians, this means that systematic reviews published in journals adhering to PRISMA 2020 should offer a clearer picture of the evidence base. For example, when evaluating new diagnostic criteria, such as the 2022 ACR/EULAR classification criteria for GCA, which now assign equivalent diagnostic weight to CDUS findings and TAB, the underlying systematic reviews must be meticulously reported. This transparency allows practitioners to understand the strengths and limitations of the evidence supporting such significant shifts in diagnostic paradigms. Without clear reporting, the adoption of imaging-first clinical pathways, which have been shown to reduce diagnostic latency and the risk of permanent visual loss, could be undermined by uncertainty

> regarding the evidence quality.
> The industry, including developers of diagnostic imaging technologies and pharmaceutical companies, also benefits from improved reporting standards. Clear, reproducible systematic reviews facilitate the evaluation of new technologies and therapies, ensuring that clinical guidelines are based on the most robust evidence. As systematic reviews continue to evolve, particularly with the incorporation of artificial intelligence in data analysis, adherence to comprehensive reporting guidelines like PRISMA 2020 will be essential to maintain trust and accelerate the translation of research into meaningful patient benefits.

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REFERENCES

1. 1. Song J, Jiang H, Wang X. Evolution of the Diagnostic Paradigm for Giant Cell Arteritis: From Histopathology to Multimodal Imaging Integration. J Rheumatol 2026;41922001. doi:10.3899/jrheum.2025-1205

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