

Format for Reporting in Pediatric Echocardiography: State of the Art, Legal and Economical Implications, and Future Directions. A critical review.

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Background: Various recommendations for reporting in pediatric echocardiography have been published, but a standardized format has not been established. Our aim is to evaluate strengths and limitations of published reporting formats in pediatric echocardiography.

Methods: A literature search was performed in October 2013 within the National Library of Medicine using the keywords "echocardiography", "pediatric", and "report". The research was then refined by adding the keywords "format" and "guidelines/recommendations".

Titles and abstracts of all articles identified by the search strategy were evaluated and rejected on initial screening if they did not consider reporting format (three works) or were written in languages other than English (two works).

Results: Twelve published studies that evaluated reporting for pediatric echocardiography were included in this review. Most studies agree on the basic structure of a report in terms of organization based on the segmental approach as well as utility of common terminology and classification for various congenital heart diseases (CHD). However, the studies did not address issues such as disease severity, particularly in terms of shunt and valvar disorders. In addition, some studies recommended a unique format for all diseases, whereas others recommended different formats for different diseases. Similarly, the specific quantification components that should be part of a standard report have not yet been established. Lastly, the limitations of digital reporting as it replaced analogic technology have not been evaluated.

Conclusions: Guidelines and recommendations for reporting in pediatric echocardiography are limited. An established format for reporting may help to promote standardized care and optimize resources.

Table 1. Principles of Structured, Balanced, and Practical Reporting

Consistency	Organized structure, fixed elements, and defined terminology
Flexibility	Ability to add new elements and free text
Completeness	Ability to include all potentially relevant information
Conciseness	Easily understood, quick read
Reproducibility	Independent of variable setting, disease, and operator skill
Practicality	Easily applied, pertinent to daily workflow
Ability to evolve over time	Ability to adapt to new knowledge and new techniques
Universality	Inter-operator compatibility despite variable electronic medical record systems