TITLE: Computer-Assisted Interpretation of Electrocardiograms: Diagnostic Accuracy and Guidelines

DATE: 14 July 2014

RESEARCH QUESTIONS

1. What is the diagnostic accuracy of computer-assisted interpretation of electrocardiograms that are “normal” when assessing adults?

2. What are the evidence-based guidelines associated with the use of computer-assisted interpretation of electrocardiograms for asymptomatic adults undergoing medical assessment?

KEY MESSAGE

No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, or evidence-based guidelines were identified regarding computer-assisted interpretation of electrocardiograms in asymptomatic adults.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 5), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and June 27, 2014. Methodological filters were applied to identify the past 10 years of guidelines. Internet links were provided, where available.

RESULTS

No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, or evidence-based guidelines were identified regarding computer-assisted interpretation of electrocardiograms in asymptomatic adults.

Disclaimer: The Rapid Response Service is an information service for those involved in planning and providing health care in Canada. Rapid responses are based on a limited literature search and are not comprehensive, systematic reviews. The intent is to provide a list of sources of the best evidence on the topic that CADTH could identify using all reasonable efforts within the time allowed. Rapid responses should be considered along with other types of information and health care considerations. The information included in this response is not intended to replace professional medical advice, nor should it be construed as a recommendation for or against the use of a particular health technology. Readers are also cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness particularly in the case of new and emerging health technologies, for which little information can be found, but which may in future prove to be effective. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up to date, CADTH does not make any guarantee to that effect. CADTH is not liable for any loss or damages resulting from use of the information in the report.

Copyright: This report contains CADTH copyright material and may contain material in which a third party owns copyright. This report may be used for the purposes of research or private study only. It may not be copied, posted on a web site, redistributed by email or stored on an electronic system without the prior written permission of CADTH or applicable copyright owner.

Links: This report may contain links to other information available on the websites of third parties on the Internet. CADTH does not have control over the content of such sites. Use of third party sites is governed by the owners’ own terms and conditions.
Additional references of potential interest are provided in the appendix.

**OVERALL SUMMARY OF FINDINGS**

No relevant literature was identified regarding the diagnostic accuracy of computer-assisted interpretation (CAI) of electrocardiograms that are “normal” when assessing adults. Additionally, no evidence-based guidelines were identified regarding the use of CAI for asymptomatic adults undergoing medical assessment; therefore, no summary can be provided.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies
No literature identified.

Guidelines and Recommendations
No literature identified.

PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies

Assessment of Non-Expert Readers


Manual versus CAI of QT Interval in Healthy Volunteers


Guidelines and Recommendations – Methodology Uncertain


Additional References


