Clinical Question: “For adult patients in the acute care hospital setting, what is the quantity, quality, and consistency of the evidence supporting the practice of documenting cardiac rhythms (a) every 4 to 8 hours and (b) for every cardiac rhythm change?”

Conclusions: There is a lack of current scientific evidence (e.g., randomized clinical trials) supporting the routine practice of documenting cardiac rhythms beyond expert consensus and possibly tradition.1-5

Results: Little evidence beyond expert opinion was found concerning routine practices for documenting cardiac rhythms and dysrhythmias.1-5 The database search was expanded to include multiple search terms of “cardiac strip”, dysrhythmia strip”, “dysrhythmia recording”, “telemetry monitoring”, “chart”, “document”, as well as “cardiac monitoring documentation standards”, either alone or in combination. A search of various databases and a final review of articles yielded 3 articles and 2 text references relevant to this clinical question (See Electronic Database Search Methodology, Page 2). The following key summary of the literature in determining the routine practices for cardiac rhythm documentation is offered to provide some guidance.

Evidence Discussion: Concerns about accountability and quality patient care have yielded more reporting and documentation requirements, both from a digital and paper-driven process.1,3 The limited literature yielded much discussion of “how,” “what,” and “how long” elements in cardiac documentation in terms of monitoring various cardiac conditions, procedures, and dysrhythmias.1,3 However, there was little to no discussion of routine cardiac rhythm strip documentation nor the specific timing of obtaining rhythm strips beyond generic statements articulating the need for accurate and appropriate rhythm documentation per unit protocol or hospital standards.1,2,4,5 One seminal reference that does offer several specific recommendations for cardiac monitoring documentation is Drew et al.’s 2004 American Heart Association scientific statement for electrocardiographic monitoring practice standards in the hospital environment.3 To date, this reference remains the best evidence for determining the documentation of cardiac monitoring for both adult and pediatric hospitalized patients.3

Key Summary of the Literature: Based on the current state of the evidence, the following should be documented in the patient’s permanent record:

- A rhythm strip at least every 8 hours.2
- Extreme changes1,3, including extremes of rapid or slow heart rate.3
- All symptomatic tachy- or bradyarrhythmias.3
- Onset and offset of tachycardias.3
- All rhythms that require immediate treatment.3
- Atrial overdrive pacing bursts1, before/during/after atrial electrogram1, episodes of chest pain1, any change in cardiac rate/rhythm1,2,3, change in lead placement1, evaluation of antidysrhythmic agent effects1, and ST segment changes1,3
- Immediately after thrombolytic therapy for ST elevation acute MI.3
- Monitoring for drug-induced prolonged QT before the drug is initiated and thereafter at least every 8 hours, as well as before and after increases in drug dosage.3

Limitations: Due to a lack of scientific research studies, the quality of the evidence is limited to expert consensus1-3, best practice guidelines2, and procedures manuals1, and “how to” articles1,4 (See Leveling of the Evidence, Page 3).

Clinical Options: Based on the literature, the following options are offered for consideration:

- Gather expert clinicians to review the existing evidence and champion the development and implementation of cardiac monitoring guidelines, protocols, and policies.3
- Establish and implement cardiac monitoring guidelines, protocols, and policies that outline staff roles and responsibilities regarding cardiac monitoring and documentation of cardiac changes.3
- Do not fold or wind rhythm strips into a paper chart, as data are lost when the chart is copied or scanned.3
- Design computerized medical records to preserve and display the original waveforms at a resolution consistent with published guidelines for data quality.3
Cardiac Monitoring Documentation

*A Literature Review of the Evidence*

June 2013

Electronic Database Search Methodology

Literature search topic: “For adult patients in the acute care hospital setting, what is the quantity, quality, and consistency of the evidence supporting the practice of documenting cardiac rhythm strips (a) every 4 to 8 hours and (b) for every cardiac rhythm change?”

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<th>Database</th>
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<th>Total References Identified (hits)</th>
<th>No. of Relevant References</th>
<th>No. of Total Duplicate Articles</th>
<th>No. of Articles Selected for Review</th>
<th>No. of Articles Excluded</th>
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*Controlled vocabulary (subject terms, MESH terms, tagged terms specific to database)
*Use the first database as the main comparison for subsequent database searches and identifying duplicate articles

*Reference/Contextual Links #1 (*Additional articles/information found in references lists and/or article review)*


*Reference/Contextual Links #2 (*Additional articles/information found in references lists and/or article review)*


**Total Articles Included in Literature Review: Database (3) + Contextual Links (2) = 5**

Inclusion Criteria: Cardiac monitoring, telemetry monitoring, acute care hospital environment, documentation of cardiac rhythm/arrhythmia/dysrhythmia

Exclusion Criteria: Monitoring/documentation other than cardiac, remote home telemetry monitoring, clinical practice settings other than the acute care hospital

Created by Cecelia L. Crawford, RN, DNP; ©Kaiser Permanente, SCAL Regional Nursing Research Program, June 2013
# Leveling of the Evidence

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>DESCRIPTION</th>
<th>RELEVANT ARTICLES</th>
<th>ARTICLE NUMBER</th>
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<td>A</td>
<td>Meta-analysis of multiple large sample or small sample* randomized controlled studies, or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment</td>
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<td>B</td>
<td>Well-designed controlled studies, both randomized and nonrandomized, prospective or retrospective studies, and integrative reviews with results that consistently support a specific action, intervention, or treatment</td>
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<td>C</td>
<td>Qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results</td>
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<tr>
<td>D</td>
<td>Peer-reviewed professional organizational standards, with clinical studies to support recommendations</td>
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<td>#3</td>
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<tr>
<td>E</td>
<td>Theory-based evidence from expert opinion or multiple case reports, case studies, consensus of experts, and literature reviews</td>
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<td>#1, #2, #4, #5</td>
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<td>MA</td>
<td>Manufacturer’s recommendation; Anecdotes</td>
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</table>

* A large sample has adequate power to detect the observed effect with confidence (as seen in significant Confidence Intervals). A small sample may lack confidence in the power of the desired effect (Polit & Beck, 2008)
Reference List


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