

Healthcare Quality Indicators of Peripheral Artery Disease Based on Systematic Reviews

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WHAT THIS PAPER ADDS

Six quality indicators of peripheral artery disease based on strong recommendations and high methodological evidence have been defined. These indicators could play a key role in assessing the appropriateness of healthcare provided to patients with this disease, with respect to pharmacological and lifestyle issues.

Objectives: Peripheral artery disease (PAD) is a major health problem whose clinical management includes multiple options regarding risk factor control, diagnosis, and medical and surgical treatment. The aim was to generate indicators based on systematic reviews to evaluate the quality of healthcare provided in PAD.

Methods: Electronic searches were run for systematic reviews in The Cochrane Library (Issue 6, 2011), MEDLINE, EMBASE, and other databases (up to June 2011). Conclusive systematic reviews of high methodological quality were selected to formulate clinical recommendations. Indicators were derived from clinical recommendations with moderate to very high strength of evidence as assessed by the GRADE system.

Results: From 1,804 reviews initially identified, 29 conclusive and high-quality systematic reviews were selected and nine clinical recommendations were formulated with a moderate to very high strength of recommendation. Six indicators were finally generated: four on pharmacological interventions, antiplatelet agents, naftidrofuryl, cilostazol, and statins; and two lifestyle interventions, exercise and tobacco cessation. No indicators were derived for diagnostic tests or surgical techniques. Most indicators targeted patients with intermittent claudication.

Conclusions: These quality indicators will help clinicians to assess the appropriateness of healthcare provided in PAD. The development of evidence-based indicators in PAD is limited by the lack of methodological quality of the research in this disease, the inconclusiveness of the evidence on diagnostic and surgical techniques, and the dynamic nature of the vascular diseases field.

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INTRODUCTION

The Institute of Medicine (IOM) defines quality of healthcare as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”.¹ Quality of care can be measured by deriving indicators for each of its main components: structure, processes and outcomes.² The indicators of processes are more clinically specific, easier to interpret, and more sensitive to differences than indicators of structure and outcomes.^{3,4} Process indicators are direct measures of the quality of care provided when there is a link between a

given process and outcome of interest. If there is no evidence that a given process is closely related to an outcome, there is no justification for the use of a process indicator.³ Evidence about any possible linking between process and outcome comes from the analysis and synthesis of the literature. Process indicators commonly aim to measure adherence to clinical practice guidelines (CPGs) in clinical practice.^{5,6} The American College of Cardiology and the American Heart Association developed a structured methodology to create performance measures through a sequence of tasks.⁶ This process considers critical issues such as the strength of evidence, the clinical relevance of the outcome, and the magnitude of the relationship between performance and outcome. This methodology uses clinical recommendations of CPGs as a source of evidence to generate performance measures to assess the quality of care in acute coronary syndrome,⁷ cardiac failure,⁸ and atrial fibrillation and atrial flutter.⁹

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Table 1. General structure of a quality indicator.

Item	Description	Source of information
a. Title	Brief statement of what is to be assessed	Research team
b. Type of indicator	<ul style="list-style-type: none"> • Process indicator • Indicator of desirable or undesirable events • Indicator based on proportions or means 	Clinical recommendation based on SR
c. Definitions	<p>Clinical recommendation (PICO format): Clinical situation, population, intervention, comparison and main outcomes.</p> <ul style="list-style-type: none"> • Definition of contraindications to treatment (if necessary) • Description of the diagnostic and procedure codes ICD-9-CM for the identification of the population. 	Clinical recommendation based on SR, ICD-9-CM
d. Target population	Definition of the target population	Clinical recommendation based on SR
e. Rationale	<ul style="list-style-type: none"> • Impact of the clinical condition of interest • Brief description of the selected systematic review • Summary of the main benefits and/or harms associated with the intervention 	SR, CPG
f. Supporting literature	Main bibliography that supports the indicator (SR ± CPG)	SR, CPG
g. Description of indicator population	<p>Operational definition of the indicator (formula).</p> <ul style="list-style-type: none"> • Numerator/denominator • Exclusion criteria 	Clinical recommendation based on SR, clinical experts
h. Sources of information	<p>Description of the sources of information to compute the indicator:</p> <ul style="list-style-type: none"> • Administrative databases (mainly from inpatient and surgical area) • Clinical documentation (medical history) • Other (e.g. survey) 	Clinical experts
i. Standard	<p>Definition of the standard:</p> <ul style="list-style-type: none"> • Desirable event (↑) • Undesirable event (↓) 	Clinical recommendation based on SR
j. Underlying factors	<ul style="list-style-type: none"> • Factors related to the target population • Factors related to professionals • Factors related to the hospital 	SR, CPG, Clinical experts
k. Notes	Other aspects that complement the information summarized by the indicator	Clinical experts
l. Desired characteristics of a hospital to ensure the viability of the indicator	<ul style="list-style-type: none"> • Essential features (associated with the identification of the denominator and the numerator) • Desirable features (associated with an acceptable time investment to measure it) 	Clinical experts

Note. SR = systematic review; ICD-9-CM = International Classification of Diseases, Ninth Revision, Clinical Modification; CPG = clinical practice guideline.

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