



## Review Article

# Level of evidence of knee surgery in national journal<sup>☆,☆☆</sup>

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## ABSTRACT

Select the studies related to knee surgery in the orthopedic literature published by Acta Ortopédica Brasileira (AOB) and the Revista Brasileira de Ortopedia (RBO) and classify them according to the levels of evidence. We selected all studies published from 2000 to 2011 related to knee surgery in AOB and RBO. The following categorization was adopted: level 1: systematic review; level 2: clinical trial; level 3: cohort studies and case-control; level 4: number of cases; level 5: narrative review and others. We found in the national literature selected 255 studies related to knee surgery. In the Southeast were developed 212 articles (83.1%), 30 publications in the South (11.7%), Northeast 5 (2%), North and Central West 2 jobs each (0.8%). Four work performed in other country (1.6%). The most common issue was the anterior cruciate ligament in 58 studies (22.7%) and arthroplasty in 55 studies (21.5%). Most studies presented evidence level IV (27.8%) and V (50.2%). The national scientific production related to knee surgery presents itself expanding with predominant expression in the Southeast. Most studies related to knee surgery published in national journals have low level evidence and focuses on the approach of the anterior cruciate ligament and arthroplasty.

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## Níveis de evidência da cirurgia de joelho em periódicos nacionais

## RESUMO

Selecionar os estudos relacionados à cirurgia do joelho publicados na literatura ortopédica nacional por meio da Acta Ortopédica Brasileira (AOB) e da Revista Brasileira de Ortopedia (RBO) e classificá-los de acordo com os níveis de evidência. Foram selecionados todos os estudos publicados de 2000 a 2011. A seguinte categorização foi adotada: nível 1 - revisão sistemática; nível 2 - ensaio clínico; nível 3 - estudos de coorte e caso-controle; nível 4 - série de casos; nível 5 - revisão narrativa e outros. Foram encontrados 255. Na região Sudeste foram 212 artigos (83,1%), na Sul 30 (11,7%), na Nordeste cinco (2%), na Norte e na Centro-Oeste dois cada (0,8%). Quatro trabalhos foram desenvolvidos no exterior (1,6%). O tema mais

### Palavras-chave:

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comum foi ligamento cruzado anterior, em 58 estudos (22,7%), e artroplastias, em 55 estudos (21,5%). A maior parte dos estudos apresentou nível de evidência IV (27,8%) e V (50,2%). A produção científica nacional relacionada à cirurgia do joelho apresenta-se em expansão, com predomínio de expressão na região Sudeste. A maioria dos estudos tem baixo nível de evidência e concentra-se na abordagem do ligamento cruzado anterior e das artroplastias.

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## Introduction

The concept of evidence-based medicine (EBM) was introduced in 2001 and since then has raised the interest of the scientific community.<sup>1</sup> These concepts began to appear in major conferences and symposia from 2003.<sup>2,3</sup>

Unlike traditional medicine, this new branch is not grounded in intuition, in unsystematic clinical experience nor in pathophysiological rationale as sufficient reasons for the process of clinical decision-making. Evidence-based medicine requires new skills of the physician, including knowledge of research in the literature, their tools and the evaluation of clinical evidence. There was an increase in the production of articles that instruct the physician on how to access, evaluate and interpret medical literature.<sup>3,4</sup> This critical sense becomes mandatory, considering the large number of publications and frequent methodological pitfalls which may lead the reader to misleading and potentially dangerous conclusions for his or her clinical and surgical practice.<sup>5,6</sup>

The orthopedic literature followed the line of international publications in the search of better levels of evidence in the publications, and the methodological quality of the articles began to be analyzed under more rigorous criteria.<sup>4</sup> However, to date, the national literature lacks critical studies of levels of evidence in orthopedics and traumatology.

In the present study, we carried out a review with the aim of selecting articles related to knee surgery and published from 2000 to 2011 in the national orthopedic literature by *Acta Ortopédica Brasileira* (AOB) and *Revista Brasileira de Ortopedia* (RBO), and classify them according to levels of evidence. These two journals were chosen because of their insertion into the national scenario and also for being indexed, via SciELO, as an international bibliographic database.

Secondary variables to be observed: the number of studies published per year, the region in which they were developed, and the main issue addressed in the study.

## Materials and methods

For evaluation, this review has taken into consideration studies published in the national orthopedic literature: *Acta Ortopédica Brasileira* (AOB) and *Revista Brasileira de Ortopedia* (RBO). All published studies from 2000 to 2011 related to knee surgery were selected.

The inclusion criteria were: knee surgery-related studies, selected manually in the published editions containing in the title: knee, distal femoral and proximal tibial fracture, knee arthroscopy, meniscus, anterior cruciate ligament, posterior cruciate ligament, patella, posterolateral complex or corner,

knee arthroplasty, and knee biomechanics. Exclusion criteria were articles with topics not related to knee surgery. This study was approved by the research ethics committee (number: 120,790).

The identification of the studies was electronically done, edition by edition, by identifying those items which fit in the inclusion criteria. A new selection was made based on the summary and on the full text. Doubts in the selection of articles were resolved by consensus between two researchers, David Rosario Veiga and Guilherme Araújo Conforto Gracitelli (DAVR and GCG). Having persistence of doubt, a third reviewer was consulted: Carlos Eduardo da Silveira Franciozi (CESF). After the identification of the studies, two reviewers (DAVR and GCG) independently collected the qualitative characteristics of the studies: journal (AOB and RBO), year of publication (before 2005 and before 2011) and region of the country where they were conducted.

After selection, the items were categorized by two raters according to level of evidence and type of study. The categorization was made after the reading of the entire article. The following categorization was adopted: level 1 – systematic review, level 2 – clinical trial; level 3 – cohort and case-control studies, level 4 – number of cases; level 5 – narrative review and others (example: a biomechanical, anatomical, of accuracy, or of basic science study). The possible doubts on the categorization of articles were resolved by consensus between two of the researchers (DAVR and GCG). Having persistence of doubt, a third reviewer was consulted (CESF).

The descriptions of the articles were made with the use of absolute and relative frequencies for presentation of data by year of publication, region of the country, main theme of the article, and type of study. The results are illustrated graphically for presentation. The descriptive statistical analysis was done using the Excel 2007 program.

## Results

The evidence-based medicine requires concern, by part of researchers, regarding the quality of the studies. From 2000 to 2011 255 studies related to knee surgery were found in the national literature evaluated.

Over the years, we observed an increasing number of publications in national journals (Fig. 1). In 2000, only 11 papers related to knee surgery in the national literature were presented to the scientific community; this number reached 26 in 2005 and 50 in 2011.

In the analysis of the region of generation of these articles (Fig. 2), the Southeast region takes clear advantage, with 212 (83.1%). The South region had 30 (11.7%), the Northeast region five (2%) and the North and Midwest regions two articles

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