

# Defining the Key Parts of a Procedure: Implications for Overlapping Surgery

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## Abstract

**Introduction:** The American College of Surgeons' *Statements on Principles* requires attending surgeons to be present for the "key parts" of surgical procedures, but the term is not defined. The research question addressed in this study is whether a functional definition of the critical or key steps of common orthopaedic surgical procedures can be reliably constructed. We used the examples of hip and knee arthroplasty because these procedures are highly structured and divisible into distinct subroutines.

**Methods:** We surveyed 100 experienced orthopaedic surgeons regarding whether particular steps in knee and hip arthroplasty procedures were considered "key." The patterns of individual surgeons' responses were compared among surgeons for overall reliability. The steps frequently cited as key were also identified.

**Results:** The agreement rates among surgeons for the definitions of the key parts of hip and knee arthroplasty were 3.2% and 8.6%, respectively. For both procedures, five steps were identified as key by >90% of the respondents.

**Discussion:** The agreement rate on what constitutes the key parts of hip and knee replacement was poor, despite the fact that these are highly structured procedures. Accordingly, defining the key parts for a given procedure must rely on either the operating surgeon's discretion or a consensus definition. Imposing a single surgeon's standard on others is not the optimal approach because such a standard is likely to be idiosyncratic.

**Conclusion:** A consensus standard articulated by the orthopaedic surgery community may be the best means for identifying the key parts of orthopaedic surgical operations. The data presented here suggest a foundation upon which a consensus definition for the key parts of arthroplasty procedures may be built.

In October 2015, the *Boston Globe* published an investigation of the practice of concurrent surgery.<sup>1</sup> The newspaper reported allegations that orthopaedic surgeons at Massachusetts General Hospital were routinely operating on more than one patient concurrently and implied that this practice compromised

patient care. On the heels of this report, the American College of Surgeons (ACS) revised its *Statements on Principles* to declare that the coinciding occurrence of the "critical or key components of the procedures for which the primary attending surgeon is responsible"<sup>2</sup> on two different patients in two