

Creation of a universal language for surgical procedures using the step-by-step framework

May facilitate surgical education and communication on a team level including scrub nurses to enhance overall surgical quality.

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Background

Learning surgical procedures is traditionally based on a master–apprentice model. Segmenting procedures into steps is commonly used to achieve an efficient manner of learning. Existing methods of segmenting procedures into steps, however, are procedure-specific and not standardized, hampering their application across different specialties and thus worldwide uptake. The aim of this study was to establish consensus on the step-by-step framework for standardizing the segmentation of surgical procedures into steps.

Methods

An international expert panel consisting of general, gastrointestinal and oncological surgeons was approached to establish consensus on the preciseness, novelty, usefulness and applicability of the proposed step-by-step framework through a Delphi technique. All statements were rated on a five-point Likert scale. A statement was accepted when the lower confidence limit was 3·00 or more. Qualitative comments were requested when a score of 3 or less was given.

Results

In round one, 20 of 49 experts participated. Eighteen of 19 statements were accepted; the 'novelty' statement needed further exploration (mean 3·05, 95 per cent c.i. 2·45 to 3·65). Based on the qualitative comments of round one, five clarifying statements were formulated for more specific statements in round two. Twenty-two experts participated and accepted all statements.

Conclusion

The international expert panel consisting of surgeons supported the preciseness, usefulness and applicability of the step-by-step framework. This framework creates a universal language by standardizing the segmentation of surgical procedures into step-by-step descriptions based on anatomical structures, and may facilitate surgical education and communication on a team level including scrub nurses to enhance overall surgical quality.

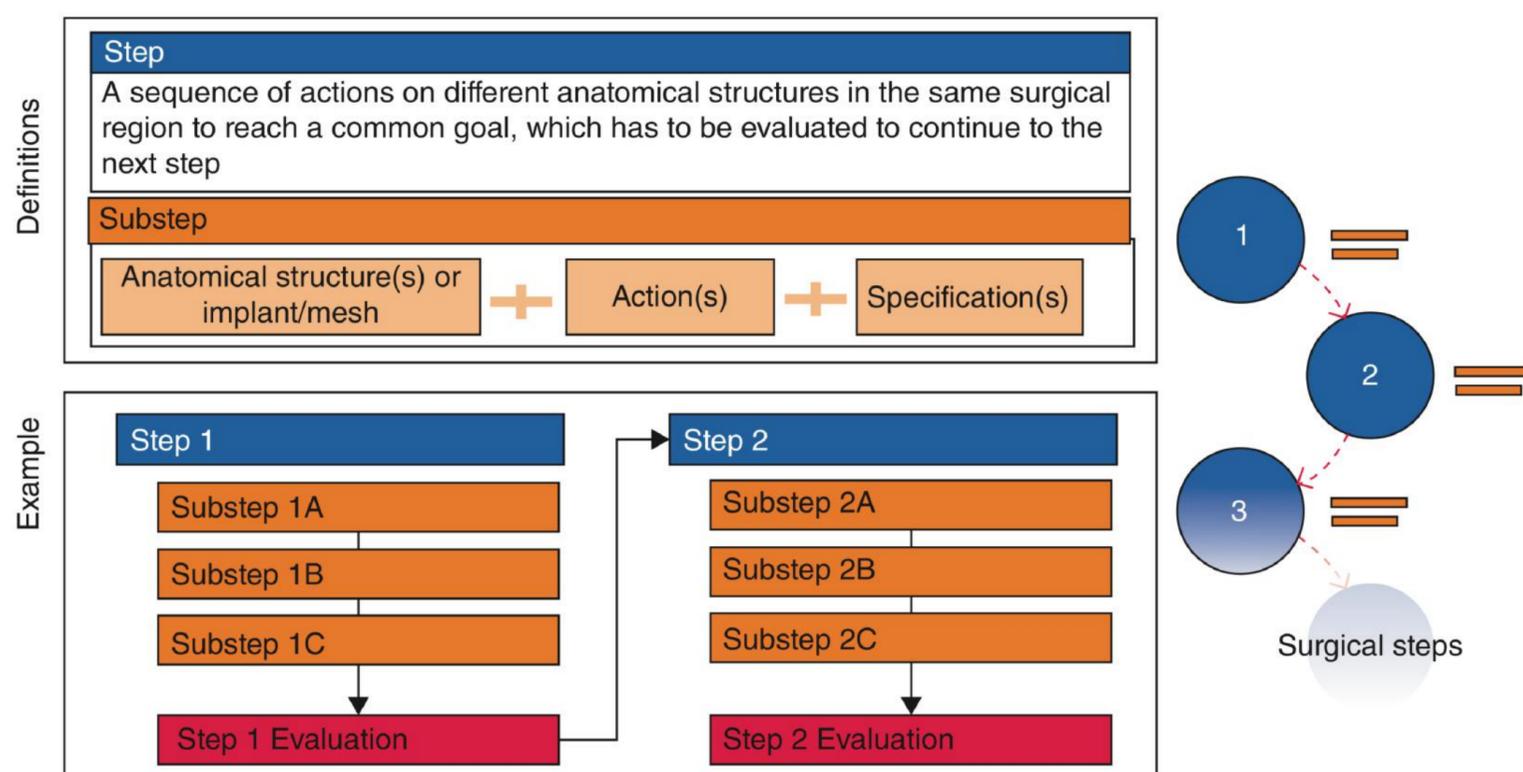


Fig. 1 The step-by-step framework. Each step consists of one or more substeps and must be evaluated before continuing to the next step. A substep is a combination of an anatomical structure or implant with an action and specification