

Validation of an Inguinal Pain Questionnaire for assessment of chronic pain after groin hernia repair

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Background: Long-term pain is an important outcome after inguinal hernia repair. The aim of this study was to test the validity and reliability of a specific Inguinal Pain Questionnaire (IPQ).

Methods: The study recruited patients aged between 15 and 85 years who had undergone primary inguinal or femoral hernia repair. To test the validity of the questionnaire, 100 patients received the IPQ and the Brief Pain Inventory (BPI) 1 and 4 weeks after surgery (group 1). To test reliability and internal consistency, 100 patients received the IPQ on two occasions 1 month apart, 3 years after surgery (group 2). Non-surgery-related pain was analysed in group 3 (2853 patients).

Results: A significant decrease in IPQ-rated pain intensity was observed in the first 4 weeks after surgery ($P < 0.001$). Significant correlations with corresponding BPI pain intensity items corroborated the criterion validity ($P < 0.050$). Logical incoherence did not exceed 5.5 per cent for any item. Values for κ in the test-retest in group 2 were higher than 0.5 for all but three items. Cronbach's α was 0.83 for questions on pain intensity and 0.74 for interference with daily activities.

Conclusion: This study found good validity and reliability for the IPQ, making it a useful instrument for assessing pain following groin hernia repair.

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Introduction

Quality assurance of groin hernia repair has previously focused mainly on recurrence. Improvements of quality in hernia repair and the introduction of mesh repair techniques have markedly reduced the recurrence rate¹. As a result, other important adverse outcomes have become evident. Recent studies have pointed to long-term pain as one of the major adverse outcomes after hernia repair^{2,3}. The lack of a uniform definition of long-term postoperative pain, however, has led to diverging figures of its prevalence, ranging from 1 to 32 per cent⁴⁻⁷. A standardized and valid instrument for assessing the occurrence and severity of postoperative inguinal pain is therefore urgently needed, not only for obtaining comparable measures of results

across centres, but also as a tool in the quality assurance efforts of each surgical department. With this in mind, the Inguinal Pain Questionnaire (IPQ) was developed. The full questionnaire can be found in *Appendix 1* (available as supplementary material online at <http://www.bjs.co.uk>). The aim of the present study was to evaluate its reliability and validity.

Methods

Inguinal Pain Questionnaire

The IPQ was developed as a modification of the questionnaire proposed by Kehlet and colleagues⁸. The earlier questionnaire treated pain intensity as a dichotomous variable; however, the IPQ uses a seven-step fixed-point rating scale to assess pain, with steps linked to pain behaviour rather than to numbers or verbal pain descriptions, with additional monitoring of

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