

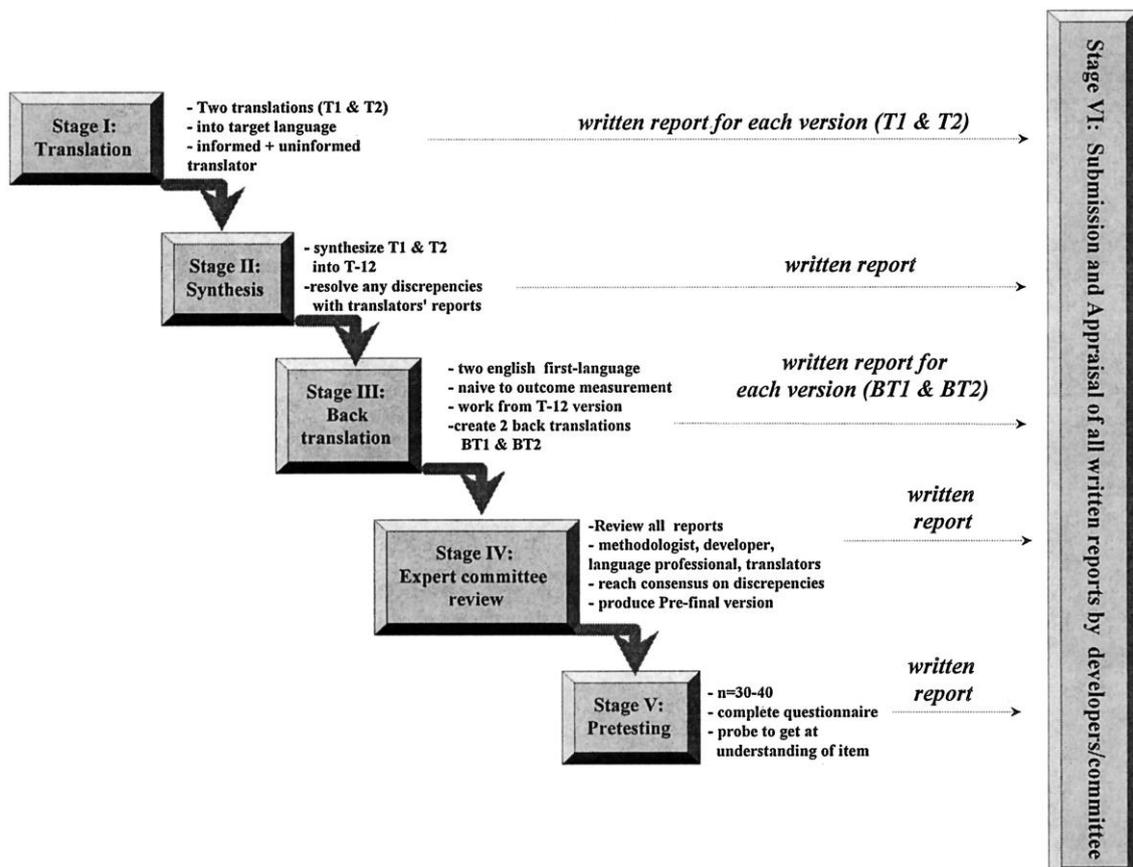
SUMMARY OF METHODOLOGY

Translation and cross-cultural adaptation

In order to maintain quality of the process of cross-cultural adaptation, the questionnaire shall be translated and adapted culturally according to an internationally accepted methodology^{1,2}.

This methodology is currently used by American Association of Orthopaedic Surgeons (AAOS) Outcomes Committee and is reproduced in Table 1.

Table 1



1. FORWARD TRANSLATION

This step consists of two translations (T1 and T2) from the original language of the instrument to the target language. These translations shall be performed by two bilingual translators whose native language is _____.

One of the translators must have a background in healthcare and be aware of the issues examined by the questionnaire. The other should not belong to the area of health, should not understand or be informed regarding the concepts contained in the questionnaire. This will produce independent translations.

2. SUMMARY OF TRANSLATIONS

From comparisons and analyses of the disagreements between these translations, the two translators, together with the researcher, shall summarise the results from logbook records, achieving a consensus that produces a single translation (T-12)².

3. Back-translation

In this step, the (T-12) translation shall be translated back to the original language of the questionnaire, i.e. English, by two translators.

The two translators cannot participate in the first step and should not be from the healthcare area. They must have English as their native language and must be informed of the concepts explored by instrument. These two translations (BT1 and BT2) must be made independently and without knowledge of the original version of the questionnaire.

4. Meeting of experts or expert Committee

A Committee will be organized involving at least six people fluent in the English language composed of healthcare professionals, experts in methodology and the translators who participated in the translation and re-translation processes.

The function of the Committee is to consolidate all versions and components of the questionnaire, including the original instrument, instructions, documentation of punctuation and all translated versions (T1, T2, T-12, BT1 and BT2), and develop the pre-final version of the questionnaire. The Committee will review all the translations to achieve consensus regarding any discrepancies identified. Reports with explanations concerning the logic of each decision in the previous steps of the process should also be available.

Decisions on any of the components of the instrument translated (instrument, instructions or punctuation) shall be taken by the Committee to achieve equivalence between the original version and the translated version in four areas¹:

Semantic equivalence regarding the meaning of words, such as vocabulary and grammar;

Idiomatic equivalence considers idioms and colloquial phrases, which should exist in both languages;

Experimental equivalence, also known as cultural equivalence, in which the situations portrayed in the items in the original version must match those experienced in the target culture;

Conceptual equivalence encompasses the validity of the concept explored and the events experienced by the subject responding in the target culture questionnaire².

5. Pre-test

The pre-test is conducted on a sample of 30 subjects, as advocated by Beaton et al.². After applying the adapted questionnaire, the subject will be interviewed individually with respect to the understanding of items and words and to complete their responses. According to Ciconelli et al.⁴ questions for which more than 15% of respondents analyzed did not understand the significance of the statement, should be reviewed by the Committee of experts and reapplied in other respondents.

6. Evaluation of psychometric properties of the questionnaire

After the pre-test and reorganization of the issues that presented doubts, the researcher will apply the scale adapted on a larger sample and assess the psychometric properties of the scale (reliability and validity) during this phase.

References

1. BEATON D, BOMBARDIER C, GUILLEMIN F, FERRAZ MB. Recommendations for the cross-cultural adaptation of health status measures. *Am Acad Orthop Surg* 2002; p. 1-9.
2. BEATON DE, BOMBARDIER C, GUILLEMIN F, FERRAZ MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine* 2000; 25:3186-91.