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ICEROSS - a consensus view: a questionnaire survey of the use of ICEROSS in the United Kingdom

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Abstract

The management of the individual with a trans-tibial amputation has been strongly influenced by the increasing use of the ICEROSS socket system over recent years. Despite this growth in clinical experience, there has been very little research into its place in current prosthetic practice, and prescribing activity is largely determined by personal experience. In order to formulate the current consensus view on the use of ICEROSS, questionnaires were sent to 42 doctors and 43 senior prosthetists around the UK. The influence of 38 different factors on prescribing activity was assessed using a grading system (ranging from "primary indication" to "absolute contraindication"). An 85% response rate was achieved and no significant differences in response between the two professional groups were identified. Those factors considered by most to be positive indications for using ICEROSS were "pistoning", "shear-sensitive skin / split-skin grafts", "patient unsuccessful with supracondylar (s/c) or cuff suspension" and "insufficient suspension due to change in type or level of activity". Those considered by most to be absolute contra-indications were "ulceration / unhealed scars", "poor patient hygiene" and "poor patient commitment to prosthetic rehabilitation". This consensus of opinion is in keeping with the results of the few published audits of ICEROSS usage. There was a lack of consensus, however, about the use of ICEROSS in some situations, including skin complications.

Whilst some consensus does exist about the use of ICEROSS, the results of this survey indicate significant variations in clinical practice which serve to illustrate the urgent need for data from prospective clinical trials.

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Introduction

The Icelandic Roll-on-Silicone Socket (ICEROSS) was first developed in 1985 by Ossur Kristinsson as a system which relies on the unique properties of silicone and claims to considerably improve the weight-bearing capability of the prosthesis and the interface between prosthesis and user (Kristinsson, 1993). The system has been used increasingly in the United Kingdom over the past five years, but despite this, there has been very little research into its place in current prosthetic practice. The only published works have been retrospective audits of clinical practice (Cluitmans *et al.*, 1994; Panagamuwa *et al.*, 1995) which both identified a significant incidence of troublesome side effects, as well as certain advantages over a conventional socket system. Panagamuwa *et al.* (1996) concluded that careful patient selection was necessary to improve the effectiveness and minimise the complications of the ICEROSS system.

Prescribing activity is usually determined by a combination of several factors. These include