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Skin Irritation Audit 2011

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Purpose

The aim of this audit was to determine the number of incidences of skin irritation amongst lower limb FES users from July 2008 to May 2011, identify factors associated with the skin reaction, management strategies employed and patient outcomes. Upper limb skin irritation is very rare in our clinical experience, possibly due to the limited duration of skin exposure, during most upper limb electrical stimulation exercise programmes and so was not included in the audit.

Background

We first looked at skin irritation in a questionnaire survey in 1999. (http://www.odstockmedical.com/knowledgebase/patients-perceptions-odstock-dropped-foot-stimulator-odfs) The survey, completed by168 ODFS users, identified that 22% had experienced some degree of skin irritation at some point. The ODFS users had on average 22 months experience each of using FES.

Following the survey we attempted to improve our clinical methods and improve our teaching of skin and electrode care. Around 2005 we changed our standard issue electrode from 38mm round Pals Plus electrodes to Platinum Blue Pals 50x50mm electrodes. This followed experience in the MS trial where we had used these electrodes as standard and had had no reports of skin irritation from the 31 participants who used the ODFS for 18 weeks. The slightly larger size also appeared to aid electrode placement. The clinical records were reviewed in 2006 and from 585 patients, 18 cases of irritation were recorded, an incidence of around 3%.http://www.odstockmedical.com/sites/default/files/skin_irritation_advice.pdf

Method

The clinic records all incidences of skin irritation that are seen in the clinic using a standard form. The information from the forms was collated and summarised.

Summary of Results

- During the period examined in the audit, 3858 patient appointments were conducted at which 94 incidences of skin irritation were recorded (2.4 %).
- Contributing factors to skin irritation, identified from the audit, include: overuse of electrodes (11.2%), shaving, (6.1%) hot/humid weather (10.2%) and medication changes (6.1%).

- Management strategies included:
    - Advice on skin and electrode care
    - Change of stimulation waveform from asymmetrical biphasic to symmetrical biphasic
    - Reduced stimulation frequency or/and current
    - Change in electrode position or alternating more than one position
    - Withdrawal of FES until the skin is healed,
    - Reduced FES / electrode use,
    - Steroid creams
    - Change in electrode type

Outcome of the Audit

Overall the clinical incidence of skin irritation remains low and is line with the previous audit. While it is our clinical experience that skin irritation is a problem that can, in most cases, be managed, the audit was not able to inform on the success of the interventions put in place to relieve the problems. It was therefore recommended that improved procedures be used to record follow up. This will be the focus of the next audit in about 18 months time.

To ensure consistency in the advice given to our patients a Patient Advice Sheet has been produced and will be issued after a patient has presented with skin irritation. A Clinician Advice Sheet has also been written to guide clinical management of skin irritation.

Click link for Patient advice sheet

Click Link for Clinician advice sheet

In summary the incidence of skin irritation remains low. We will continue to monitor skin irritation in order to ensure as many people as possible can have long term benefit from FES.