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## DRIVING HANDS: AN INVESTIGATION OF FACTORS INFLUENCING THE RESUMPTION OF DRIVING FOLLOWING IMMOBILISATION IN A BELOW-ELBOW CAST

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Returning to driving after injury can be complicated by the presence of cast immobilisation and patients who seek advice from the doctors often receive conflicting advice (Nunez and Giddins, 2004; Von Arx et al, 2004; Hobman and Southern, 2004; Edwards et al, 2009). Advice based on a "just say no" or "ask someone else" approach does not enable the patient to make an informed choice. This is not in keeping with the National Health Service (NHS) Operating Framework that requires healthcare services to respond to patient concerns in order to improve the patient's healthcare experience (Department of Health, 2009). This study is run by Melissa Calcraft, Annette Swinkels and Pat Turton (Faculty of Health and Life Sciences) with Rebecca Fox (Frenchay Hospital) and Charles Musselwhite (CTS) and was sponsored by the British Association of Hand Therapists. It aims to clarify the reality of driving practice so that driving recommendations can be based on this thereby helping to guard against risk taking driving behaviours.

### Background

According to the Highway Code (DfT, 2009), individual drivers are responsible for "making sure that they are fit to drive". Having a limb in a cast may make a driver unfit, putting them at risk of prosecution (Crown Prosecution Service (CPS), 2009). There is evidence that patients do drive in their cast. The percentage in a given population of patients continuing to drive in forearm casts varies, ranging from 9% in Britain (Edwards et al, 2009) to 18% in Ireland (Kennedy et al, 2006) and 50% in Australia (Kalamaras et al, 2006).

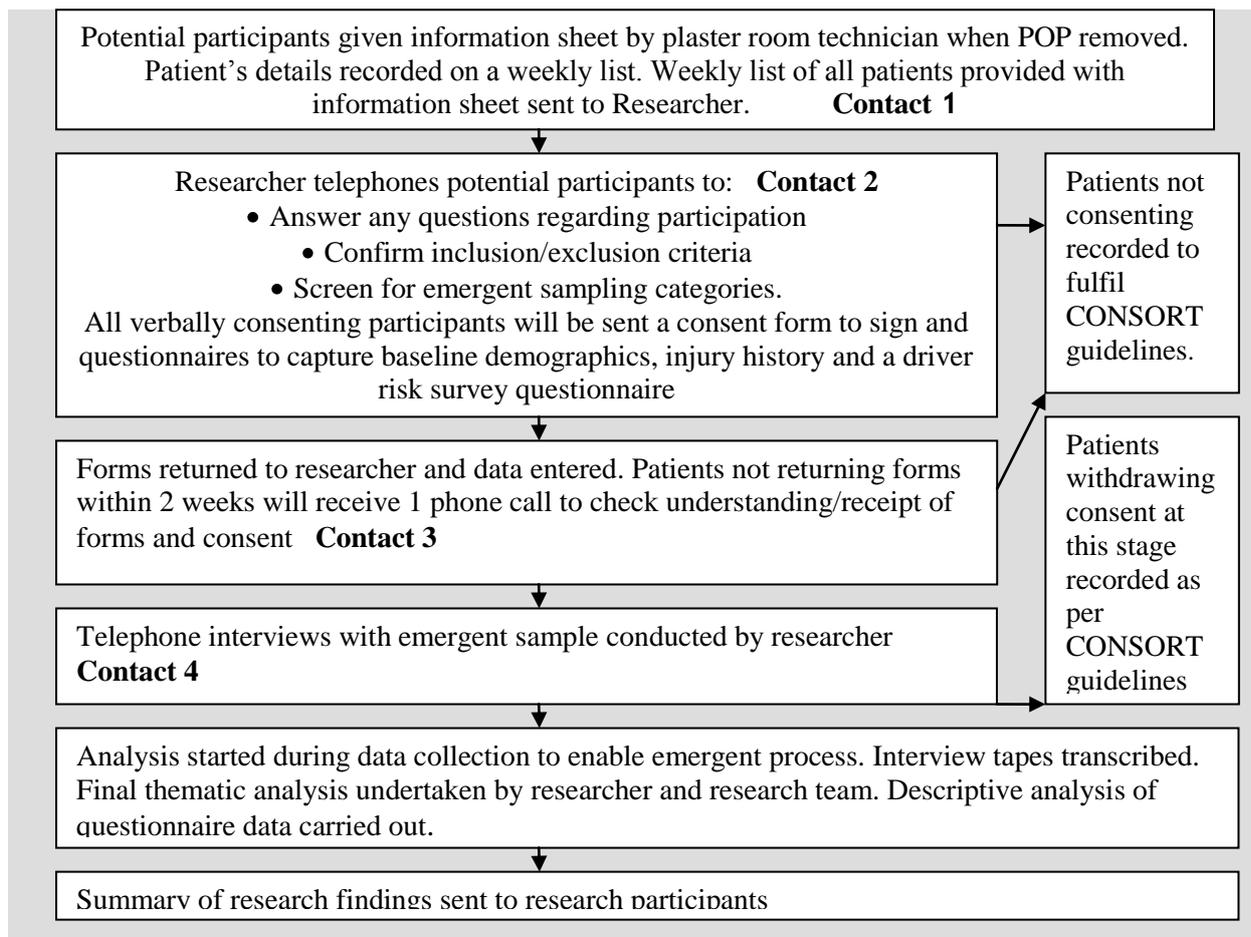
There is debate about whether an arm in a cast affects driver responses. Gregory et al (2009) found forearm immobilisation led to more cautious driving under normal

conditions, and to less effective driving when responding to hazards. Conversely Blair et al (2002) found that a "Colles" (below elbow) cast had no effect on driving but concluded that the Bennett's and Scaphoid casts had a significant effect on driving ability. In a more comprehensive study, Kalamaras et al (2006) investigated driver ability when driving with no casts, right or left short arm casts, right or left long arm casts, and automatic or manual transmission cars. Without a cast the driver passed all driving tests. With a short arm cast, irrespective of hand and vehicle transmission, the driver failed the driving test but passed the occupational therapy assessment. With a long arm cast the driver failed all tests.

### Proposed methodology

A mixed methodological design has been chosen, involving a quantitative approach for driving data and a qualitative emergent exploratory approach using aspects of grounded theory to elicit detailed information of driving influences on the target population.

This design has been chosen because the purpose of the research is to explore, with no preconceived hypothesis, the factors influencing patients to resume driving when in a below elbow cast, and, to gain an understanding of the scale of the problem.



Actual participant numbers for the qualitative sample will be determined by the ongoing emergent data analysis and the study will stop recruiting when category saturation is reached. However as a baseline figure a sample size of 30 has been proposed. Inclusion criteria: patients who were driving prior to fracture and patients with a distal radial fracture treated in a below elbow cast, ± surgery.

The study uses combined methods of data collection: questionnaires, telephone interviews and field notes.

Background Information will be obtained using a questionnaire designed to gather baseline descriptive information on demographics of the patient and their driving behaviour.

Telephone interviews will be used on two occasions; a brief interview (15 minutes) to explain the research, gain consent and book the longer interview; and a longer (60 minutes) semi-structured thematic interview to gather information about the actualities of the patients' resumption of driving.

### Contact Details

The study is planned to run from March 2010 for 18 months. For further details please contact the project lead:

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