

Purpose

The purpose of this study was to compare a removable brace to plaster cast for people with a broken ankle bone, to see which has the better outcome. It is important to carry out a study in which the two methods are compared so in the future people with similar injuries will receive the best possible treatment. A large group of 669 people who experienced an broken ankle bone, helped researchers find out if there were any differences in the two methods.

This summary is to help you understand what the results showed.

Why was the research needed?

Traditionally broken ankle bones are placed in a plaster cast to keep the bones still whilst they heal. However keeping the ankle still can sometimes cause problems such as joint stiffness and muscle weakness. An alternative way to treat this injury is to use a removable brace, which is a type of support that allows the ankle to move more and when it is taken off you can perform exercises. However, it does not provide the same level of support for the healing bones. Both the plaster cast and removable brace are currently successfully used in hospitals throughout the UK for people with a broken ankle bone. However, there is little evidence to say if one is better than the other.

What kind of study was this?

This was a trial that took place at 20 NHS sites. In each site patients who consented to take part were allocated, by chance, to receive a removable boot or plaster cast to treat their broken ankle bones.

What happened during the study?

Once the removable brace or plaster cast was fitted, participants were asked to fill out the first questionnaire. The questions asked about how well the person was able to perform certain day-to-day activities and how they were feeling before the injury occurred.

What happened next in the study?

We then asked participants to complete similar questionnaires, which were sent out in the post. We sent them out at 6 weeks, 10 weeks and 4 months, which was the time point we evaluated if one treatment was better than the other. We are continuing to collect some longer term data at 6 months, 12 months, 18 months and 24 months following entry into the study. Once we received the completed questionnaires, they had been checked by a member of the team for any safety concerns, the information was entered onto a secure database ready to be analysed by our research team.

The Results!

669 participants were allocated by chance to plaster cast (334) or functional brace (335). Of the 669 participants, 502 completed the questionnaires at the final four month time point.

We found there was no difference between the two methods at the final time point of four months or at any of the other earlier time points, on any of the questions we asked.

We also asked questions to find out if there were any differences in the cost between the two treatments.

Overall, taking into account lots of different costs to the NHS and wider society, the removable boot was likely to be more cost effective than plaster cast.

So taking into everything into consideration the research team have concluded that the removable boot has the same outcome as plaster cast for people with a broken ankle and is likely to be better value to the NHS and wider society in terms of cost.

Where can I learn more about this trial?

The study results are available for all to read and can found here: [Use of cast immobilisation versus removable brace in adults with an ankle fracture: multicentre randomised controlled trial | The BMJ](#)

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