Abstract:

Class II division 1 malocclusion is associated with aesthetic, functional and psychosocial problems along with an increased risk of dental trauma. Functional appliances are frequently used for the treatment of Class II division 1 malocclusion by harnessing the muscular forces to move the teeth and the jaws. The Clark Twinblock is one of several functional appliances that was invented by orthodontists for the treatment of Class II malocclusion. It was developed by William Clark in the 1980's as a two-piece functional appliance and is easier to wear than other single piece functional appliances. It is therefore now the most commonly used functional appliance in the UK. However, like all removable functional appliances, compliance with the Removable Twinblock appliance can be problematic. A Fixed design of the Twinblock appliance offers an opportunity to reduce treatment time with a functional appliance, using a simple and versatile device which is fixed, reducing the problems with compliance.

We aim to determine if the fixed twinblock accelerates overjet reduction compared to a removable twinblock by a multicentre randomised clinical trial. We also intend to compare the skeletal, dental and soft tissue effects, cost effectiveness and psychosocial aspects between the two appliances. The randomised clinical trial will be carried out in NHS orthodontic specialist practices and hospital units, with a total sample size of 120 patients aged 09 to 14 years and overjets greater than 6mm.

Photograph of the applicants

From L to R: Peter Mossey, Gautham Sivamurthy and Grant McIntyre