Modification of Fluid Level Device for Easier Use
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ABSTRACT
The recording of natural head position lateral skull radiography has received much attention for many years and different methods have been presented for clinical purposes, most common being the use of fluid level device, it was decided to modify the way it is attached to make the use simpler.

Keywords: Natural head position, Fluid level device, Cephalometrics, Orthodontics.

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INTRODUCTION
The concept of natural head posture is not new. Leonardo da Vinci (1452-1519) and Albrecht Durer (1471-1528) used scaffoldings of horizontal and vertical lines on drawings of models positioned in ‘natural pose’ in order to permit more accurate artistic and scientific replication of the human head.1,2 As early as the 1860s, cranioanatologists realized that, for cephalometric studies, skulls had to be oriented in a manner approximating the natural head position in the living. Broca (1862) defined this position as follows: ‘when a man is standing and when his visual axis is horizontal, he (his head) is in the natural position’. The concept of natural head position (NHP) was introduced to orthodontics in the 1950s. It was found that the sella-nasion line and the Frankfort horizontal varied considerably in relation to a horizontal or vertical line when the head was held in a natural position.

Several researchers have argued that NHP is the logical reference and orientation position for the evaluation of craniofacial morphology and publication of illustrations. The recording of NHP lateral skull radiography has received much attention for many years, and different methods have been presented for clinical purposes.

Moorrees and Kean3 recorded NHP with subjects seated at ease, head supported and the eye looking into their own image in a mirror.

Solow and Tallgren4 studied natural head position in standing subjects on cephalometric profile radiographs of 120 Danish male students aged 22 to 30 years. Two head positions were recorded, one determined by the subjects own feeling of natural head balance (in self balance position) and the other by subject looking straight into the mirror (the mirror position).

Showfety et al5 introduced a simple method of recording NHP and reproducing it, with a use of a fluid level device, which according to them obviated the need for multiple radiographs to determine the clinical reliability of the method. According to the authors, the sella-nasion to vertical angulation, which is reflected, of natural head posture can be reliably determined and recorded with cephalometric radiography using this fluid level device and a standardized technique. The fluid level device introduced by them is attached to the temple region with double-sided tape (Fig. 1).

While taking radiographs with this devices, it was realized that it was time consuming to attach double-sided tape every time and also sticking with tape was not very efficient due to sweat and moisture, it was also disturbing to the patient as the tape while being removed used to peel off some hair.

So it was decided to modify the way it is attached, the device was fixed to the left arm of molded plastic spectacle with Fevikwik (cyanoacrylate adhesive) such that the fluid level device occupied the area between the eyebrow and the hairline behind the prominent temporal crest of the frontal
bone. This places the radiopaque image of the device on an area of the head film that does not obscure any diagnostically crucial structures.

This way it was faster and patient-friendly, and even it can be delegated to the technician (Figs 2 to 4).

REFERENCES


