

OHP Sheet Cephalogram: An Alternative Method to Radiographic Film During COVID-19 Pandemic

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ABSTRACT

Background: Cephalometry is of great importance in clinical diagnosis, treatment planning and in postgraduate curriculum as the shortage of these films can hamper the current diagnostic and treatment practice that requires cephalometric analysis in a great way. An alternative to radiographic films therefore holds the emergency. The use of OHP sheet and the colour printer can therefore serve the purpose for a temporary replacement of radiographic films.

Keywords: Lateral cephalograms, OHP sheet, Colour printer.

INTRODUCTION

Cephalograms⁴ are the epitome of orthodontic diagnosis and treatment planning; and over the time a myriad of methods has been invented and adapted to utilise cephalometric radiographs in our clinical practice.

The inadequacy of X-ray films has affected the diagnosis and treatment planning which is of great importance in orthodontic practice and it has therefore affected the orthodontic practitioners and budding postgraduates of orthodontics, as they require this for structural analysis and cephalometric tracing procedures.

In the absence of a conventional cephalogram³ printer and standardised X-ray film, a new method to get a print of lateral cephalogram was introduced on an overhead projector (OHP) sheet using a Xerox Work Centre colour printer. A technique is presented that allows complete assessment of

Landmarks², planes and angles, which are very well defined and the technique is outlined in its utmost precision. The print out allows detailed architectural and structural analysis required for orthodontic diagnosis, treatment planning and progress.

Methodology:

The lateral cephalometric⁴ machine in use is set according to the natural head position

Procedure:

1. The patient's lateral cephalogram is taken in NHP (2-4).
2. The digital radiographic image is taken and is included with the patient's credentials and the institute name; the contrast is adjusted as per the requirements.

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3. The digital radiographic image is then transferred and the colour print of which is obtained by the Xerox Work Centre 5019 colour printer using laser digital printing.

4. It can be used as an alternative to conventional radiograph in the absence of the radiographic film.



Fig 1: Cephalogram taken on OHP sheet.



Fig 2: Cephalogram on Conventional X-ray Film.

Advantages:

1. Ease of availability and access to a normal colour printer, OHP sheet.
2. Ease of duplication of the radiograph.
3. Minimal expense.
4. Easy tracing and structural analysis.
5. No requirement of special radiographic films which are comparatively expensive.

6. Health hazards due to processing of the X-ray film are avoided.
7. Landmark accuracy is better in a colour print of OHP sheet as compared to black and white print of the cephalogram on an OHP sheet.

Disadvantages:

1. The bony landmarks are not very distinguishable on the OHP sheet cephalogram due to a short scale contrast.
2. The print taken on OHP sheet cephalogram is more susceptible to scratch marks as compared to the conventional cephalogram.
3. Enough samples were not collected to calculate the inter and intra observer differences, landmark accuracy and the superimpositions, which can be carried out in further studies.

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CONFLICTS OF INTEREST

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REFERENCES

1. Broadbent, B. H. (1931) A new X-ray technique and its application to orthodontics, Angle Orthodontist, 1, 45-66.
2. Björk, A. (1954) Cephalometric X-ray investigation in dentistry, International Dental Journal, 4, 718-44
3. Mills, J. R. E. (1970) (and personal communication, 1976) The application and importance of cephalometry in orthodontic treatment, The Orthodontist, 2, 32-47.
4. Steiner, C. (1953) Cephalometric for you and me, American Journal of Orthodontics, 39, 729-755.