INTRODUCTION

For those who believe in beginning with the end in mind, a diagnostic set-up is a handy tool in depicting the outcome of the case. The earlier attempts\(^1\)\(^-\)\(^3\) at preparing a diagnostic set-up required an elaborate set-up and laboratory support. The detailed procedure simplify the technique, making the diagnostic set-up accurate, while giving a precise three-dimensional overview of the end result. The procedure does not require any laboratory support. It can be done by the clinician in his/her office with ease and cases with gross irregularities, especially those in need of orthognathic surgery in conjunction with orthodontic treatment are best assessed using a diagnostic set-up.

Conventional methods of trimming of individual teeth, to separate them, results in loss of mesiodistal dimension. Placing fine wax sheets to segregate the individual teeth, compromises the mesiodistal integrity of the tooth dimensionally.

The methodology described in the article negates the use of saw, wax sheets and delivers full-sized teeth giving an accurate set-up with minimal effort.

MATERIALS AND METHODS

For the procedure, the materials needed are always available in an orthodontic office—alginate impression trays, alginate impression material, stone plaster, separating medium, plaster cutting plier, air or micro-motor handpiece with a stone cutting bur and wax sheet.

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**Step 1:** Impressions are made (Fig. 1).

Two sets of impression are preferably made. One set is used to reproduce the study models for the record (Fig. 2) while the other set of impression can be used to prepare the working models for the diagnostic set-up.

Alternatively the same set of impression be used to prepare the study model and working model.

**Step 2:** Impression used as the working model is poured till the cervical lines of the teeth are covered (Fig 3).

If the same impression is used to prepare both, the study and the working models, care should be taken to keep the exposed impression material sufficiently hydrated by covering it with wet cotton all around, while the stone plaster sets to avoid the impression material becoming brittle resulting in breakages.

**Step 3:** Separating medium is applied over the set stone plaster (Fig. 4).

**Step 4:** The remainder of the impression is poured (Fig. 5).

**Step 5:** The working model is taken out after it is set (Fig. 6).

The tooth part of the model comes out, joined together or individually, depending on how much stone plaster was used.
(Fig. 7). The lesser the amount of plaster apical to the cervical line it is more likely that the individual teeth can be obtained from the model and the teeth can be separated with ease at the interproximal contact areas. In case a few teeth come out and joined together, a plaster cutting plier (Fig. 8) may be used to separate them.

Step 6: Mark the teeth individually and trim them to the cervical line and shape them by removing the overhanging stone plaster (Fig. 9).

Step 7: Apply modeling wax on the working model base (seen in Fig. 6) and the teeth can be set on it, as per the diagnosis and treatment plan (Fig. 10).
Fig. 5: The remainder of the impression is poured with stone plaster

Fig. 6: The working model prepared

Fig. 7: Stone plaster model of the teeth

Fig. 8: Plaster cutting plier

Fig. 9: Teeth marked and trimmed to shape individually

Fig. 10: Teeth set on working model base as per the treatment plan
SUMMARY AND CONCLUSION

A predictable, reproducible and a simple method to prepare a diagnostic set-up, gives the clinician an accurate picture of the expected results (Fig. 11); while the patient also gets a picture of the outcome, and comparison to the existing malocclusion is also possible (Fig. 12).

REFERENCES