

3M Position Tray and Penta Quick Preliminary Impression Material

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THIS article describes the evaluation of the handling of two products:

Position Tray, a single-use self-retentive impression tray system, which has a novel mesh insert that obviates the use of tray adhesive (**Figs 1 and 2**); and Position Penta Quick, an alginate alternative preliminary VPS impression material for the Pentamix 2 automatic mixing machine.

Both are manufactured and sold by 3M Espe Dental Products, 3M House, Morley Street, Loughborough, Leics. LE11 1EP (telephone 01509 613121, e-mail 3MESPEUK@mmm.com).

Methods

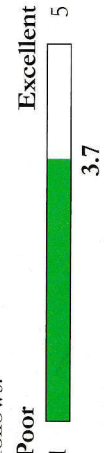
Members of the PREP (Product Research and Evaluation) Panel were contacted and asked if they would like to participate in this investigation.

Explanatory letters, questionnaires and packs of the Position Trays and Position Penta Quick impression material were sent to the evaluators in September 2004. The practitioners were asked to use the materials and return the questionnaire.

Results

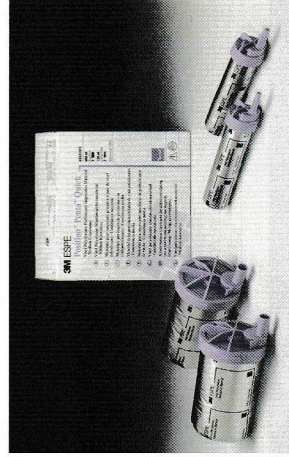
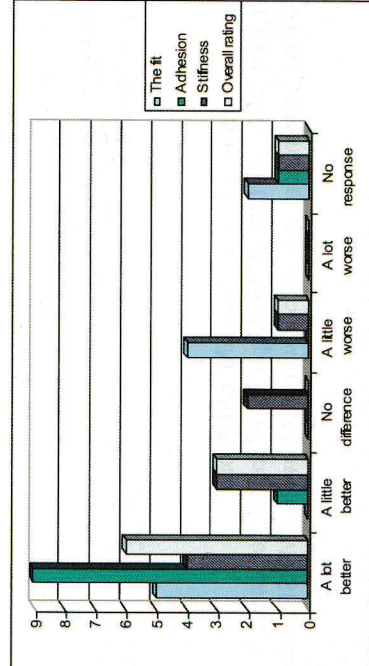
Background information

Position Trays
Prior to the evaluation, all the evaluators used plastic stock trays, with two using only full arch trays for their impressions. Four used metal trays, but none used dual-arch trays. Nine of the evaluators used single-use trays. Of these, seven used disposable trays for all impressions and the remaining evaluators used them for an average of 74 per cent of impressions. When the evaluators were asked to rate the ease of use of their current tray set, the result was as follows:



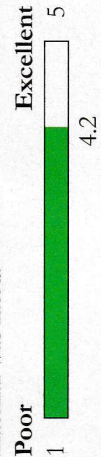
When the evaluators were asked if a tray adhesive was currently used when taking preliminary impressions, the result was: yes – seven; no – one; and occasionally – three.

TABLE 1



Preliminary impression material

Alginate was the favoured impression material for taking preliminary impressions by 10 users, with just one evaluator using a polyether material. The ease of use of the currently used preliminary impression material was rated:



All the evaluators stated that the

instructions were well-written, clear and contained sufficient detail. Regarding the indications for which the evaluators used the products in combination, the most frequent uses were for all types of preliminary impressions, opposing jaw impressions, impressions for temporary restorations and impressions for splints.

Complete denture impressioning was the principal clinical treatment for which evaluators considered Position Trays to be inappropriate.

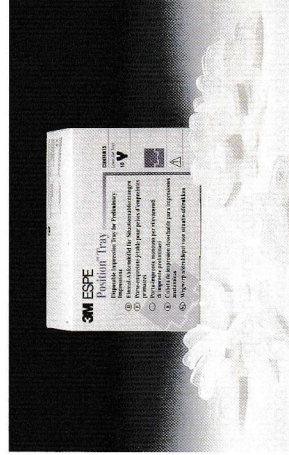
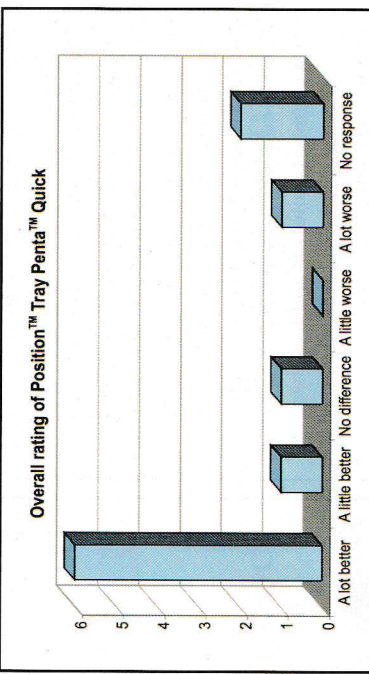
A total of 204 impressions were taken using this system, comprised as shown:

Size	Maxillary	Mandibular
S	17	17
M	71	72
L	16	11
Total	104	100

Unlike other plastic trays, it is possible to “individualise” Position Trays with an acrylic trimming bur or scissors: nine of the evaluators stated that they did not individualise the Position Tray, with the remaining evaluators sometimes doing so. Only one evaluator experienced difficulties in finding the right tray size with the Position Tray set.

Eight of the evaluators stated that the

TABLE 2



tight fit of the Position Trays was an advantage because: “better soft tissue detail” (three); “thickness of impression material reduced”; “better models produced”; and “more stable when seated”.

Disadvantages mentioned included: “could dig into mucosa, especially in lower jaw”; “took longer to find right tray – less margin of error”; and “not so versatile for all arches” on various tray sizes. When asked to rate the Position Tray set in comparison with the currently used tray set for preliminary impressions, the results were as shown in **Table 1**.

Comments made included: “no adhesive – brilliant” (four); “100 per cent reliable”; “simplified technique”; “laboratory gave it thumbs-up – can do duplicate casts. More dimensionally stable”; “better fit” (two); “no loose handles”; “disposable and less voids”; and “great stiffness and extension into sulcus”.

When the evaluators were asked to rate the quality/precision of the preliminary impressions in comparison with the current tray/material system the results were as shown in **Table 2**.

Comments made included: “already use it” (two); consistent mix, setting time and fewer voids” (three); “better fitting trays”; “more accurate”; “Position Penta Quick is less accurate, more variable in consistency of casts, and tends to ‘bag’ away from tooth surface”. The evaluators rated the two products for “ease of use” as follows:

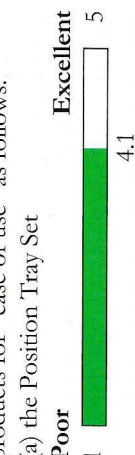


TABLE 2

