The benefits of VPS

VPS – a versatile and clinically highly satisfactory medium for implant-assisted overdentures and three-dimensional clinical modelling:

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he most usual way of treating patients with missing teeth is by their place-ment of dentures or with multiple implants to offer support and stabil-

ity of the prosthesis. Unfortunately, when many patients express satis-

faction with their mandibular complete dentures, it is usually because of their satisfaction with the denture impression technique.1

The implant-supported restora-

tions must be as accurate as possible to bring patients maxi-

mum satisfaction. A vital part of ensuring accuracy is to make im-

pressions of the oral structures and implants, this need arises early in the prosthodontic treatment.

Without accurate and pre-

cise impression procedures and cast-forming processes, making accurate restorations is nearly impossible. Moreover, to date there has been only limited research in this area of treatment, and the available re-
sults is consequently limited by inadequate measurement technology, conceptually limited protocols, and mixed results. Getting accurate impres-
sions from the outset is espe-

cially important if the dental treatment is to have the maxi-

mum chance of a successful outcome.

A vital task

Vinyl polysiloxane (VPS) im-

pression materials are well suited for this vital task of ob-

taining an accurate registration of denture-bearing tissue and peripheral anatomy and for the accurate three-dimensional recording of dental implant position and individual implant trajectories. Among the key ele-

ments of the VPS implant over-

denture impression technique are:

- tray stops: to make the best im-

pression of the area under treat-

ment, it is usually necessary to place the impression tray in the patient’s mouth several times. Tray stops allow consistent and repeatable tray placements to be achieved.
- border molding: this is accom-

plished by dispensing a ‘ropes’ of medium-viscosity VPS along the peripheral tray bor-

ders.
- the definitive impres-

sion: before making this, it is par-

ticularly important to ex-

amine the soft-tissue condi-

tions across the denture-bear-

ing tissue of the mandible, while keeping in mind the lo-

cation of primary denture-bearing areas. It is also impor-

tant, when making the im-

pression, to use VPS of differ-

ent levels of viscosity to cor-

respond with relative tis-

sue conditions. For example, low-viscosity VPS should be used along ridge areas that have firmly attached tissue, and extra-low viscosity em-

ployed in areas of flabby or mobile tissue. Low-viscosity VPS should also be used around the implant attach-

ment impression coping.

It is also important to be aware of the use of VPS as a three-dimensional disclosing material.

Replacing missing dentition

The dentures need to be de-

sign to replace the function of primary dentition and also associated supporting structures. Inaccurate denture tooth positioning and also associated supporting structures. Inaccurate denture tooth positioning and also associated supporting structures.

In practice, VPS performs well as an external impression material and also as a three-di-

mensional disclosing material that allows denture tooth posi-

tioning and denture base con-

tour and/or volume to furnish the patient with the physiolo-

gically optimised result.

Communication issues

In one particular case, a new patient came to a dental prac-

tice having worn his complete new dentures for three weeks. He enjoyed the function with his new prostheses, but he complained of a small but an-

noying raised ridge of his mandibular denture when he was talk-

ing. The patient reported that this lifting of the mandibular denture also took place during chewing and had led to an accumu-

lation of food debris under the denture. An examination of the patient revealed a clinically acceptable level of occlusion and no denture-associated soft-

tissue ulcerations.

Further examination, how-

ever, revealed the over-exten-

sion of the lingual flanges into the retromolarpocket spaces, and that this was a possible etiologic factor. To investigate the matter further, diagnostic external im-

pressions were made of the lingual flanges of the mandibular denture. The disclosing materi-

als used for this procedure were low-viscosity and extra-low- viscosity VPS impression mate-

rials.

Overall, VPS performs well during the fabrication of im-

plant overdentures and for the diagnostic evaluation and ad-

justment of all removable den-

tal prostheses. The main rea-

sons why VPS is such a satisfac-

tory material for these applica-

tions are:

- the breath of the viscosities it offers
- the convenience of the work-

ing times that apply to it
- the convenience of the deliv-

er system
- VPS’s sequential layering abil-

ity
- its elasticity
- its tear strength
- its acceptable level of hy-

drophilicity
- its bioocompatibility
- its reasonable taste and smell.

The use of VPS, and the suc-

cessfully tried and tested meth-

ods of using in the applications described here, mean that its use can be successfully incorpo-

rated into any dental practice that involves the management of patients with removable prostheses.

A complete list of references is available upon request.

The preferred treatment

In practice, implant-assisted overdentures are gener-

ally the preferred treatment when a patient is missing sev-

eral teeth adjacent to one an-

other and seeks a solution that offers maximum comfort, con-

venience and functionality. Usually the only cases where this solution would not be recom-

mended would be if there were surgical or other clinical concerns, or if there were a question of affordability; im-

plant-assisted overdentures being more expensive than mandibular complete den-

tures.

After conducting a thor-

ough, evidence-based review of existing information, a recent symposium held at McGill’s University found that the restoration of the edentu-

lous mandible with conven-

tional dentures was no longer