



"We respect Dentistry, Dental Technology and Science which makes us stand out from our competition"  
Kash Qureshi, Managing Director

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## Tissue Surface Design for Full-Arch Implant Restorations

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When restoring an edentulous arch with a fixed implant prosthesis, the tissue, or intaglio, surface is an important but often overlooked aspect of prosthetic design. The contours of this surface can affect patient comfort, ease of cleaning, support for the facial structures, and the esthetics of the restoration. By understanding the characteristics of each surface type and their clinical applications, along with the overall advantages of a convex intaglio surface, clinicians can treatment plan and restore full-arch implant cases in a manner that will produce the best result possible. Although every case is unique and should be treated accordingly, here are some general concepts of intaglio surface design.

The intaglio surface of a prosthesis is based on the individual patient's anatomy and can have areas described as convex or concave. These design characteristics are not mutually exclusive, as many generally convex surfaces will contain concavities and vice versa. Clinical circumstances such as the shape of the edentulous ridge, the positioning of the implants, and the esthetic demands of the case must be considered when determining the optimal intaglio surface design of the full-arch restoration. In order to achieve the best contours possible, the clinician should also consider altering the patient's soft-tissue anatomy.

### Convex Intaglio Surface

A convex intaglio surface design is ideal, as it minimizes recesses where plaque, food, calculus and debris can accumulate, simplifying the patient's hygiene (Fig. 1). Further, a convex interior structure facilitates a narrow facial-lingual width for the full-arch restoration, which offers esthetic advantages while creating space for oral structures. This also allows for a smaller contact area between the intaglio surface and the soft tissue, and results in a prosthetic design that minimizes flanges. Intaglio surfaces with convex and ovate designs create a naturally cleansing prosthesis and minimize plaque and debris retention.

Her: He is probably thinking about other women...

Him: If I name my son Dentistry, then I will be the father of Dentistry...



### Dental Fact:

Nearly three in four (74%) of British adults have had a tooth removed. This equates to more than 60 million people.



Fig 1



## Concave Intaglio Surface

While a convex intaglio surface has many advantages, practitioners will encounter situations in which patient anatomy requires a concave structure. In some cases, flanges must be incorporated into the prosthesis design in order to establish proper lip support or replace lost bone and soft tissue. This can at times be avoided by depending on the prosthetic teeth for lip support; but when the patient is missing a substantial amount of bone, it can be difficult or impossible to avoid extending the flanges, resulting in a concave design. In these situations, it is still important to minimize the occurrence of food traps by ensuring the intaglio surface abuts the soft tissue properly. With this design, it should also be noted that the patient's awareness of oral hygiene must be at a high level and the dentist's responsibility for follow-up treatment is considerable.

## Clinical Considerations and Fabrication Techniques

The contours of the edentulous arch must be evaluated to determine the proper intaglio surface design. When the ridge and tissue surface are relatively flat, a convex design can be established with relative ease (Figs. 2a–2d). When the ridge structure is more rounded, it can be difficult to achieve a convex intaglio surface. In some situations, the shape of the arch allows for a convex interior intaglio surface, but with a concave design at the outer edges in order to create a proper transition between the prosthesis and soft tissue.

To optimize intaglio surface design, it should be included as part of the restorative-driven treatment plan. For cases in which an immediate fixed denture is being delivered, ovate pontics can be added to the intaglio surface of the temporary appliance, which contours the soft tissue in preparation for the final implant prosthesis. This helps create concavities in the soft tissue during the healing phase, making it easier to establish a convex intaglio surface in the final restoration. When converting a complete denture into a fixed provisional restoration, self-curing acrylic or composite can be added to the intaglio surface of the immediate fixed denture, checked for a proper fit, and adjusted as needed (Fig. 4).

Whether the implants are being immediately loaded or a delayed protocol is being followed, the intaglio surface should be considered when the restorative phase of treatment begins. For example, when completing the prescription for the full-arch implant restoration, instructions can be provided to apically extend the intaglio surface 0.5 mm into the soft-tissue surface represented on the master cast. This design slightly compresses the soft tissue and creates a seal, preventing gaps where bacteria, food particles and debris can be trapped under the restoration.

The intaglio surface should be closely evaluated during the wax setup try-in. This provides the opportunity to build out the intaglio surface at the try-in appointment. The intaglio surface design is then verified with the milled provisional prosthesis, which is worn for a trial period, allowing the patient to confirm comfort, esthetics and ease of cleaning.

Fig 2a - 2d



Fig 4

The entire intaglio surface should be inspected to determine whether it is touching the soft tissue. In order to create a seal and avoid food traps, there should be contact between the gingival and intaglio surfaces. Mild tissue blanching is acceptable at the discretion of the clinician. Material should be added to any gaps between the intaglio surface and soft tissue, and removed from areas that impinge on the soft tissue. The clinician and the patient should be able to thread and pass floss underneath the prosthesis and clean between the intaglio surface and the soft tissue.

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[www.glidewell dental.com](http://www.glidewell dental.com), Accessed  
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# Laboratory Dockets & Communication with Bremadent

The General Dental Council (GDC) states that members of the dental team have to 'communicate clearly and effectively with other team members and colleagues in the interest of patients'. A number of studies from different parts of the world have highlighted problems and confirmed the need for improved communication methods and production techniques between dentists and dental technicians.

**Aim:** The aim of this study was to identify the communication methods and production techniques used by dentists and dental technicians for the fabrication of fixed prostheses within the UK from the dental technicians' perspective. The current publication reports on the communication methods.

**Materials and methods:** Seven hundred and eighty-two online questionnaires were distributed to the Dental Laboratories Association membership and included a broad range of topics. Statistical analysis was undertaken to test the influence of various demographic variables.

**Results:** The number of completed responses totalled 248 (32% response rate). The laboratory prescription and the telephone were the main communication tools used. Statistical analysis of the results showed that a greater number of communication methods were used by large laboratories. Frequently missing items from the laboratory prescription were the shade and the date required. The majority of respondents (73%) stated that a single shade was selected in over half of cases. Sixty-eight percent replied that the dentist allowed sufficient laboratory time. Twenty-six percent of laboratories felt either rarely involved or not involved at all as part of the dental team.

View the full article <https://www.nature.com/articles/sj.bdj.2014.643>

## Main issues Bremadent have with lab dockets we receive:

- No Dentist or Patient name
- No shade or notations
- Wrong notations placed in the wrong boxes, e.g tooth notation placed in the XLA notation box
- No return date or quick return dates

We need all of the above to identify the case, produce an invoice, patient statement and to carry out the restoration or appliance to the patient and clinician requirements to the required date within our working times. Without the above we would phone or email, which then relies on a response back which will delay the case or the case being put on hold until the RX has been confirmed.

Our laboratory dockets come in triplicate form and provides one working copy, a laboratory office copy and a practice copy with the prescribing dentist name and dental practice address pre-printed onto it. You can also go to [www.bremadent.co.uk/downloads](http://www.bremadent.co.uk/downloads) and print a laboratory docket until the printed dockets arrive.

## How Tempaplant® 3 in 1 Works:

*Clinical work: Dr. Ric Dedi, Herts Dental Advanced Implant Clinic*

Implant assessment,  
impressions and  
RX instructions



Extraction, Tempaplant® in-situ.  
Implant planning, placement,  
positioning and abutment pickup for  
immediate implant loading



Remove location wings.  
Check x-ray, aesthetics  
and function



Tempaplant® made within  
the parameters of RX instructions,  
bone and adjacent teeth

Define soft tissue profile,  
modify temporary crown &  
close screw access hole



[www.bremadent.co.uk](http://www.bremadent.co.uk)



[office@bremadent.co.uk](mailto:office@bremadent.co.uk)



0208 520 8528





### Whitening Trays

'Whitening trays' are made from a 1.5 mm Ethylene Vinyl Acetate (EVA) based material and is used for professional and home tooth whitening. The material is comfortable, flexible with enough rigidity to allow for many sessions of tooth whitening. Buccal reservoirs are commonly needed when the the gingival areas are scalloped which can provide a tight seal ginigvally to limit the amount of saliva ingress and gel activation. Studies have shown, utilising buccal reservoirs and scalloped gingival areas can give a better overall shade reduction from incisal edge to the necks of the teeth.

### Night Guards

'Night Guards' (Mouth guards) are made from a 3mm Ethylene vinyl acetate (EVA) based material and is a commonly used appliance to help with bruxists from grinding their teeth during the night and also is used to prevent breakages to crowns, bridges or teeth. The material is comfortable, flexible with a degree of rigidity and displays excellent energy absorbing properties which makes it ideal for night time wear.

### Gumshields / Sports Guards

'Gumsheilds / Sports Guards' are used to protect the teeth and surround areas whilst contact sport activity is taken place and comes in a variety of colours, designs, patterns and personal customization of names and logos. All gum shields are at a 5mm thickness and is safely locked into the bite to aid mandibular stabilisation whilst the patients activity is taken place with our high impact absorbing polymer. The comfort is obtained via our polished and rolled peripheral edge with precise gingival, fissure and tooth adaptation that is retentive and functional.

### Essix Retainers

'Essix Retainers' is a polypropylene pressure formed material that is used in conjunction with orthodontic treatment for patients who have received fixed treatment. By utilising a retainer the patient may be able to prevent teeth from shifting and reforming back to its original position, the effectiveness of an essix retainer is reliant on patient compliance. They range in thickness sizes of 0.75mm, 1mm and 1.5mm and are designed to sit above the undercut of the gum, in severe undercut cases this will be blocked out prior to vacuum forming.

All of our 'Pressure Formed Appliances' are formed under 4.6 psi bars of pressure to make sure every appliance is fitting accurately with precise gingival, fissure and tooth adaptation that is retentive and functional .

[www.bremadent.co.uk/pressure-formed](http://www.bremadent.co.uk/pressure-formed)

