THE REPLACEMENT OF MISSING TOOTH/TEETH AND BRIDGE DESIGN

Dr Tom Bereznicki BDS (Edin), MDTFEd, MFGDP(UK)
REPEATABILITY IS PREDICABILITY
ENGLISH

Temp-Bond™ - Zinc Oxide/Eugenol Cement
Temp-Bond™ NE - Zinc Oxide/Non-Eugenol Cement
Temp-Bond™ Clear with Triclosan - Dual Curable Transparent Resin Cement with Triclosan
Temporary Cements

DESCRIPTION
Temp-Bond temporary cement product series consists of Temp-Bond, Temp-Bond NE and Temp-Bond Clear with Triclosan. Each is designed to be suitable for various applications such as cementing temporary crowns, bridges, inlays, onlays and splints. It has excellent flow to permit the restoration to be easily and completely seated. It is strong enough to withstand the stresses of mastication, yet permits easy removal of the restoration when this is desired. Temp-Bond and Temp-Bond NE are available in traditional tubes, Unidose™ single-use foil pouches, and automix dual barrel syringes. Temp-Bond Clear with Triclosan is available in an automix dual barrel syringe.

DIRECTIONS FOR USE
Work Time and Set Time:
At the ideal mixing conditions of ambient temperature, the following work time and setting time from start of mixing are obtained:

Mixing:
Tube: Extrude equal lengths of Base and Accelerator onto the mixing pad provided. The length to be extruded will depend on the size and type of restoration to be cemented. Replace caps tightly on tubes after use. Thoroughly mix the pastes for approximately 30 seconds.

Unidose: For single patient use only. Unidose is for convenience and is the appropriate amount of base/catalyst for a restoration. Cut along dotted line with scissors, dispense contents of pouch onto mixing pad. Thoroughly mix the pastes for approximately 30 seconds.

Syringe: Remove cap from syringe. Always bleed syringe upon the initial use. Place automix tip onto syringe. Turn automix tip 90 degree to lock in place. The material is now ready to be dispersed directly onto the temporary or the tooth prep. No hand mixing is necessary.

Preparation and application
Dry the prepared teeth and the surface of the restoration. Apply a thin layer of the mixed cement to the internal surfaces of the temporary restoration. Firmly seat the restoration in the mouth. After the material has set remove excess material with a scaler or other instrument.
Prepare impression trays
Any impression trays generally used for precision impressions are suitable.
► For sufficient adhesion, apply a thin layer of Polyether Adhesive to the tray and allow to dry completely (at least 30–60 sec – 15 min drying time are optimal).

Dosing and Mixing
► Dosing and mixing are performed automatically in the Pentamix.

<table>
<thead>
<tr>
<th>Times</th>
<th>Working Time from start of mixing*</th>
<th>Setting Time from start of mixing*</th>
<th>Introral Setting Time</th>
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<td>Symbols on product</td>
<td>02:45 min:sec</td>
<td>06:00 min:sec</td>
<td>03:15 min:sec</td>
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<tr>
<td>Impregum Penta Soft</td>
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The working times shown are in conformity with ISO 4823:2000. Higher temperatures will shorten the working time, while lower temperatures will prolong it. We recommend a working time of 01:45 min:sec and compliance with the indicated setting time from the start of mixing to assure an ideal impression result at all times under clinical conditions.
A QUICK GUIDE TO TREATMENT PLANNING MISSING TEETH

• Do nothing
• Dentures
• Bridgework
• Implants
WHAT ARE THE IMPLICATIONS OF DOING NOTHING:

• Aesthetics
• Probable unwanted tooth movement – tilting, overeruption, occlusal derangement and anterior tooth wear
• TMJ problems if the posterior teeth are lost
• Increased periodontal problems
DENTURES – ACRYLIC OR METAL BASED
ACRYLIC

Cheap, quick, restore aesthetics relatively well, less so function unless rest seats are incorporated. Without rest seats of some sort they become ‘gumstrippers’ and can accelerate adjacent tooth loss through caries and/or periodontal problems if OH is not perfect. If the occlusion is heavy, and no tooth borne element is included, bone loss is accelerated in the saddle area – think of a flabby ridge under a full denture opposite lower existing anterior teeth – this is a particular issue if implants are to be a future option. They are great as an immediate denture in the anterior area if you need a quick solution to an extraction. Do you need immediate dentures posteriorly? – Probably not. Useful prosthesis in a deteriorating dentition as teeth can easily be added. Good as overdentures for ridge preservation.
METAL BASE DENTURES

Expensive. Can only rarely be provided as an immediate denture. Excellent if the design is as hygienic as possible and the patient’s OH good. Very good long-term option for missing teeth – particularly if the patient might be saving up for implants, as it maintains the bone and the dentition where it is. It may be the only option to implants if the edentulous saddle is longer than two teeth – a conventional bridge of this size would be too long. Must be tooth-borne otherwise it is no different to a gum-stripper acrylic. You need a good lab for accuracy and never take imps with alginate, always rubber base. Generally prepare rest seats. Make use of natural undercuts and guide planes to help retention. Plan the design in such a way as to be able to add teeth to the denture at some point in the future if necessary.
PLANNED REST SEATS
PLAN REST SEATS
IMPLANTS

• Require:
  1. Bone quality
  2. Bone width
  3. Bone height

• Cost as they are not available on the NHS as a general rule
• Need very regular maintenance
• Be careful not to use the term ‘teeth for life’ as they do fail
These 5 requirements of occlusal stability are:

1. Stable contacts on all teeth of equal intensity in centric relation
2. Anterior guidance in harmony with the envelope of function

The goal: lines in front, dots in back.
3. All posterior teeth disclude during mandibular protrusive movement
4. All posterior teeth disclude on the non-working side during mandibular lateral movement
5. All posterior teeth disclude on the working side during mandibular lateral movement
VIRTUAL ARTICULATORS

The future is coming!!
paleodontist
BASIC PRINCIPLES

• Posterior teeth are designed by nature to take vertical loading, anterior teeth to take horizontal forces. The canine, which is regarded as the cornerstone of the dentition, is capable of absorbing both vertical and horizontal forces!
• In bridge design, in an ideal world, it would be preferable for the canine, if part of a bridge, to be allowed to function independently.
• If part of a posterior bridge, it would be semi-fixed at the distal of the canine
• If part of an anterior bridge, it would carry the pontic and be semi-fixed at the distal of the other anterior abutment
• A bridge from canine to canine should preferably be fixed-fixed
• BEWARE the bucket-handle effect with anterior bridgework
FACTORS AFFECTING BRIDGE DESIGN

• Which teeth are going to be the abutments
• Are the teeth parallel or not?
• Abutment height/retention
• Pontic span length
• Bucket handle arches
• Occlusion
BRIDGE DESIGN OPTIONS

- Adhesive – Rochette & Maryland
- Fixed-fixed
- Semi-fixed
- Cantilever
- Gold coping supported
- Spring cantilever
- Inlay bridges
FIXED-FIXED BRIDGEGEAR
SCENARIO 1

3 UNIT BRIDGE POSTERIOR BRIDGE – AS LONG AS THE BRIDGE IS NOT LOADED IN WORKING OR NON-WORKING SIDE WHEN A LOAD IS APPLIED ON THE PONTIC, TEETH INTRUDE A FRACTION AND THE FRAMEWORK FLEXES A LITTLE. GENERALLY THIS IS A VERY STABLE LONG-LASTING BRIDGE DESIGN. IF THE CANINE IS INVOLVED LOOK AT SCENARIO 1A
SCENARIO 1A

THE ANTERIOR RETAINER INVOLVES A CANINE. IF THE PATIENT DOES NOT HAVE GROUP FUNCTION, THERE IS A HIGH CHANCE THAT THE PRESSURE PLACED ON THE CANINE IN EXCURSIVE MOVEMENTS WILL LEAD TO ITS SLIGHT INTRUSION. THIS IN TURN PLACES DISLODGING FORCE ON THE DISTAL RETAINER – EITHER THE TOOTH MARGINALLY EXTRUDES WHICH IS FINE, OR THE CEMENT SEAL IS COMPROMISED AND FAILS LEADING TO RECURRENT CARIES. IN THESE CLINICAL CASES, A SEMI-FIXED DESIGN WOULD BE PREFERABLE
WITH THE CANINE IN GROUP FUNCTION A FIXED-FIXED DESIGN CAN BE USED PREDICTABLY AS LONG AS THE OCCLUSAL FORM IS COPIED. A SAFER DESIGN WOULD STILL BE SEMI-FIXED
SCENARIO 2 – CENTRAL APPLICATION OF MASTICATORY FORCES

FOUR UNIT POSTERIOR BRIDGE – THE PONTIC SPAN IS NOW LONGER AND THE UNDERLYING FRAMEWORK WILL FLEX MORE UNDER LOADING UNLESS THE ACTUAL METAL THICKNESS IS INCREASED. FLEXION CAN LEAD TO PORCELAIN FRACTURE OF THE PONTICS, CEMENTATION FAILURE ON THE RETAINER WITH THE POOREST RETENTION FORM OR, EVEN WORSE, FRACTURE OF THE ABUTMENT AT GUM LEVEL.
ALTHOUGH EXTRA RETENTION HAS BEEN ADDED ON THE CANINE AND A FIXED-FIXED DESIGN USED, A SAFER OPTION WITH TWO PONTICS AND A SINGLE RETAINER EITHER SIDE WOULD BE A SEMI-FIXED DESIGN
SCENARIO 3 - CENTRAL APPLICATION OF MASTICATORY FORCES

5 OR 6 UNIT POSTERIOR BRIDGE SUPPORTED BY 3 OR 4 TEETH – ALTHOUGH THE PONTICS WILL FLEX, THERE IS GREATER RESISTANCE TO THIS BY THE ADDITIONAL ABUTMENT TEETH – DE-CEMENTATION OR ABUTMENT FRACTURE IS LESS LIKELY
SCENARIO 4 – NON-CENTRAL APPLICATION OF MASTICATORY FORCES

In all the previous examples of 2 pontic unit bridgework, it was assumed that the loading was in the middle of the two pontics. If the loading is off centre, there is a tilting force applied. The tooth where the load is applied can intrude, in turn applying a displacement force to the retainer on the other abutment. For this reason, retention form is crucial on the smaller retainer and a semi-fixed design would be preferable. This scenario rarely affects a 3 unit bridge the same way.
SCENARIO 5 – NON-CENTRAL APPLICATION OF MASTICATORY FORCES

If more abutments are used these displacement forces are smaller as it is more difficult to intrude two teeth at the same time, especially if one is a molar – a semi-fixed design is still preferable.

Diagram:
- Load
- Extrusion or de-cementation
- Displacement force
- Intrusion
- No flexion
- 2 or more pontics
12 YEAR OLD 5 UNIT SEMI-FIXED BRIDGE – ESSENTIAL AS THE CANINE IS ROOT TREATED AND RESTORED WITH A CAST POST
UPPER RIGHT SEMI-FIXED DESIGN AND FITTED 2000, LOWER RIGHT FIXED- FIXED AND FITTED 2001
A CONVENTIONAL SEMI-FIXED DESIGN – 2 PONTICS AND 3 RETAINERS – USED AS A TEMPORARY BRIDGE FOR HEALING POST-EXTRACTION AND DURING IMPLANT INTEGRATION. **YOU WOULD NEVER EVER USE A ROOT-TREATED TOOTH AS A SINGLE ABUTMENT FOR A DEFINITIVE LONG SPAN BRIDGE SUCH AS THIS!**
IF EITHER A SINGLE ANTERIOR OR POSTERIOR ABUTMENT IS ROOT TREATED, A FIXED-FIXED DESIGN SHOULD BE AVOIDED IF AT ALL POSSIBLE. CONVENTIONAL TEACHING DICTATES THAT IT IS THE ANTERIOR ABUTMENT THAT HAS THE FEMALE INCORPORATED. IF THE FEMALE IS INCORPORATED IN THE POSTERIOR ABUTMENT THERE IS A CHANCE THAT THIS TOOTH COULD INTRUDE
BEWARE OF THE “BUCKET HANDLE” CURVE IN ANTERIOR BRIDGEWORK
TODAY THIS CASE WOULD MORE THAN LIKELY BE RESTORED WITH IMPLANTS. THE TERM “BUCKET HANDLE” REFERS TO THE CURVE INVOLVED IN PLACING THE PONTIC TEETH IN THEIR NATURAL POSITION, i.e., THE BRIDGE IS NOT A STRAIGHT LINE, AND THEN TILTING FORCES ON THE ABUTMENTS ARE CORRESPONDINGLY GREATER.
AS ANY PRESSURE ON THE MID-LINE PONTICS LEADS TO A LEVERAGE FORCE ON THE ABUTMENTS, RETENTION NEEDS TO BE IMPROVED WITH GROOVES – WITH GOOD RETENTION DE-CEMENTATION IS RARE BUT ABUTMENT FRACTURE AT GUM LEVEL FREQUENT
ADDITIONAL TEETH INCLUDED AS ABUTMENTS IN THE BRIDGE IN ORDER TO HELP RESIST THE LEVERAGE AND DECEMENTATION AND ABUTMENT FRACTURE LESS LIKELY
PRE-IMPLANT DAYS – RTA LEFT THE PATIENT WITH TOOTH AND BONE LOSS AS WELL AS A DOUBLE FRACTURE OF THE MANDIBLE. THE PATIENT DID NOT WANT A DENTURE
THE DEGREE OF “BUCKET HANDLE” IS OBVIOUS. GOLD COPINGS WERE USED AS THE TILTING FORCES WERE CERTAIN TO DISLODGE THE BRIDGE AT THE DISTAL END AND TO PREVENT CARIES SHOULD THIS HAPPEN. THE FLEXION LEAD TO PORCELAIN FRACTURE – THE BRIDGE WAS REPLACED BUT SEVERAL YEARS LATER FRACTURED AGAIN. FORTUNATELY IMPLANTS HAD ‘ARRIVED’ AS A TREATMENT OPTION BY THEN
THESE DAYS IMPLANTS ARE ALTOGETHER A MORE SATISFACTORY SOLUTION
THE “BUCKET HANDLE” – USE AS MANY RETAINERS AS POSSIBLE AND POSTERIOR OCCLUSAL SUPPORT IS ESSENTIAL
CASE COURTESY OF DRS ANDREW DAWOOD & SUSAN TANNER
YOU SHOULD ALWAYS TRY TO IMPROVE THE OCCLUSAL LINE IN CONVENTIONAL BRIDGEWORK IF YOU WANT PREDICATABLE LONG LASTING RESTORATIONS
SEMI-FIXED BRIDGE DESIGN
EVEN A SIMPLE OCCLUSAL REST CAN BE SUFFICIENT FOR A SEMI-FIXED DESIGN, AS IT ELIMINATES A CANTILEVER
THE SEMI-FIXED DESIGN IS THE ONLY OPTION IF THE PROSPECTIVE ABUTMENT TEETH ARE NOT PARALLEL
CANTILEVERS
With conventional bridgework two teeth would be used as abutments to support the bridge – one either side of the space.

The exception would be a lateral incisor suspended off the adjacent canine - but beware of the occlusion with conical roots.

Ideally a single retainer should be avoided – but think of including a small occlusal rest on the tooth anterior to the pontic to convert it to a simple semi-fixed.

Abutment height should be high to prevent dislodging forces and stresses on the luting cement – if necessary use buccal and lingual grooves posteriorly and mesio-distal grooves anteriorly to resist these forces.

Never ever use a single root treated tooth to act as a single abutment as fracture at gum level or, worse still if a post is present, root fracture is inevitable with time.

Beware of using a single root treated tooth with a post as the anterior of the two abutments in a cantilever design as it acts as a pivot and can result in root fracture – see later for explanation.
SINGLE ABUTMENT CANTILEVER

ANY LOAD ON THE PONTIC WILL CREATE A DISLODGING FORCE ON THE ABUTMENT WITH A HIGH CHANCE OF DECEMENTATION UNLESS THE RETENTION FORM IS IDEAL – MOBILITY OR ‘ORTHODONTIC’ STYLE MESIAL TILTING MAY ALSO BE POSSIBLE SEQUELAE. A SIMPLE EXTENSION OF THE PONTIC TO THE TOOTH ADJACENT TO THE PONTIC WILL TURN THIS BRIDGE INTO A SEMI-FIXED DESIGN.
IN THIS CASE THE PATIENT HAS BOTH LOWER LATERAL INCISORS MISSING. ORTHODONTICS HAS CREATED AS MUCH SPACE AS POSSIBLE TO ALLOW REPLACEMENT OF THE MISSING TEETH. UNFORTUNATELY, THIS IS NOT WIDE ENOUGH FOR IMPLANT PLACEMENT LEAVING THE PROVISION OF A MARYLAND BRIDGE AS THE ONLY LONG-TERM ALTERNATIVE TO A DENTURE.
THE DESIGN IS A SINGLE FLANGE OFF EACH CANINE WITH MINIMAL PREPARATION AND GROOVES TO ENSURE LONGEVITY. OVATE PONTIC DESIGN ENSURES AN EXCELLENT AESTHETIC RESULT.
THE MARYLAND BRIDGE 10 YEARS ON
DOUBLE RETAINER CANTILEVER

THE LONGER THE CANTILEVER THE GREATER THE FLEXION UNLESS THE METAL FRAMEWORK IS THICKENED - THE LEVERAGE ACROSS THE FULCHRUM TOOTH ALSO BECOMES GREATER. DISLODGETMENT FORCES ARE APPLIED TO THE DISTAL RETAINER AND THERE IS A HIGH CHANCE OF DECEMENTATION UNLESS THE RETENTION FORM OF THE ABUTMENT IS IDEAL. DOUBLE CANTILEVER PONITCS ARE NOT TO BE RECOMMENDED
40 YEAR OLD CANTILEVER BRIDGE – SUCCEEDED AS BASIC PRINCIPLES WERE FOLLOWED – TWO TEETH ACTING AS ABUTMENTS. THE CANINE MUST BE ‘OUT’ OF OCCLUSION IN WORKING-SIDE
IF THE PREMOLAR HAD BEEN ROOT-TREATED, IT WOULD BE INADVISABLE TO USE IT AS AN ABUTMENT IN A CANTILEVER DESIGN AS IT ACTS AS A PIVOT OF ROTATION. WITHOUT A POST IT IS LIKELY TO FRACTURE AT GUM LEVEL, WITH A POST, ROOT FRACTURE WOULD BE HIGHLY LIKELY.
¾ CROWNS BEING USED AS CANTILEVER ABUTMENTS, PARTICULARLY IN THE POSTERIOR QUADRANTS, SHOULD HAVE A ‘REINFORCING’ THICKENING OF THE FRAMEWORK ACROSS THE BUCCAL MARGIN TO PREVENT ‘SPLAYING’ OF THE FRAMEWORK UNDER LOAD AND PROBABLE CEMENTATION FAILURE.
IF THE PONTIC OF A CANTILEVER BRIDGE IS IN THE MOLAR REGION, TREMENDOUS FORCES WILL BE PLACED ON IT DURING FUNCTION. IN MY OPINION, DESPITE HAVING TWO RETAINING ABUTMENTS, THIS IS A CANDIDATE FOR ABUTMENT FRACTURE OR DE-CEMENTATION
FORTUNATELY IN THIS CASE THE POST ITSELF FRACTURED RATHER THAN THE ROOT
IN THIS CASE THE ABUTMENT HAS FRACTURED ACROSS AT GUM LEVEL
AN ARTICLE FROM A LEARNED JOURNAL ON RE-ROOT TREATMENTS
EVEN INCLUDING A SIMPLE OCCLUSAL REST CAN BE SUFFICIENT TO CONVERT A CANTILEVER TO A SEMI-FIXED DESIGN – WHICH IN TURN, WILL HAVE A MORE PREDICTABLE OUTCOME
CANTILEVER BRIDGES AFTER 24 YEARS SERVICE – BOTH BRIDGES HAD MESIAL RESTS PLACED ON THE DISTAL MARGINS OF BOTH SECOND PREMOLARS TO GIVE AN ELEMENT OF SEMI-FIXED DESIGN TO REDUCE STRESSES ON THE MOLARS AND PREVENT POSSIBLE ‘ORTHODONTIC TIPPING. INTERESTINGLY, THE REST LR5 FRACURED OFF AFTER 20 YEARS, PERHAPS DUE TO BEING TOO CONSERVATIVE IN THICKNESS (SEE THE OTHER SIDE) AND/OR STRESSES PLACED DURING FUNCTION. IN THIS CASE, THE JUSTIFICATION FOR BOTH CANTILEVERS WAS THE CARIES-FREE CONDITION OF THE SECOND PREMOLARS AND THE SUFFICIENTLY HIGH CROWN HEIGHT OF BOTH MOLAR RETAINERS. MINIMAL REDUCTION REST SEATS WERE CUT ON BOTH TEETH. OF NOTE, THERE IS NO CARIES PRESENT AROUND EITHER REST SEAT OVER THE YEARS
INLAY BRIDGES
INLAY RETAINED BRIDGES

IF THE LOADING IS OFF CENTRE THERE IS A TILTING FORCE APPLIED. THE TOOTH WHERE THE LOAD IS APPLIED CAN INTRUDE APPLYING A DISPLACEMENT FORCE TO THE INLAY RETAINER ON THE OTHER ABUTMENT. DE-CEMENTATION IS FREQUENTLY SEEN. FOR THIS REASON A SEMI-FIXED DESIGN IS PREFERABLE.
BEWARE!

UNLESS A DOUBLE ENDED INLAY BRIDGE IS DESIGNED AS A SEMI-FIXED BRIDGE RAPID DECIMENTATION OF ONE OF THE RETAINERS IS INEVITABLE
BEWARE OF THE NEW ALL ZIRCONIA MILLED INLAY SUPPORTED BRIDGE DESIGNS. THE LUTING CEMENTS WE NOW USE MAY BE STRONGER BUT THE PRINCIPLES OF OCCLUSAL FORCES AND DE-CEMENTATION STILL APPLY
MARYLAND BRIDGES
THEY ARE USED IN SITUATIONS WHERE THE ADJACENT TEETH ARE FREE OF TOOTH DECAY OR WITH MINIMAL RESTORATIONS AND PREPARATION FOR CONVENTIONAL BRIDGEWORK COULD COMPROMISE THE FUTURE VITALITY OF THE TEETH. THEY ARE ALSO USED IN SITUATIONS WHERE IMPLANTS CANNOT BE PLACED e.g. BELOW THE AGE OF 21. THEY ARE NOT REGARDED AS LONG-TERM RESTORATIONS, BUT THEY DO SEEM TO GENERALLY LAST 8 YEARS OR SO – BUT SIGNIFICANTLY LONGER IF SOME PREPARATION IS INCLUDED. IF THEY DE-BOND, THEY CAN USUALLY BE RECEMENTED, ALTHOUGH THIS BOND NEVER SEEMS TO AS STRONG THE SECOND TIME ROUND. THE BRIDGE AND ABUTMENT TEETH MUST BE THOUROUGHLY CLEANED OF OLD COMPOSITE, IDEALLY WITH AN INTRAORAL SANDBLASTER.
ROCHETTE ORTHODONTIC RETAINER 31 YEARS AFTER CEMENTATION WITH ORDINARY COMPOSITE – PANAVIA DID NOT EXIST
WHERE DID ONE WING COME FROM WHEN WE ORIGINALLY REGULARLY INCORPORATED TWO?

IT IS RELATED TO THE MOVEMENTS OF THE INDIVIDUAL TEETH UNDER LOADING. IT IS MORE OF AN ISSUE ANTERIORLY RATHER THAN POSTERIORLY
WHY ONLY ONE FLANGE?

The anterior teeth simply cannot move in unison very easily unless they initially are mobile. Depending on which tooth the force of working side/protrusive is applied to, the direction of tooth movement will be different. As the force is applied to the incisal edge and not the framework debonding occurs – the tooth wants to move outwards, the framework wants to stay where it is.
NO PREP V MINIMAL PREP???
CONTROVERSIAL!!
The decision may depend on the anticipated timespan of the bridge to be provided
IN POSTERIOR MARYLAND BRIDGES WITH DOUBLE WINGS DE-BONDING CAN OCCUR ON ONE OF THE RETAINERS IN SIMILAR FASHION TO THE DOUBLE INLAY BRIDGE FLAWED PRINCIPLE

THIS IS OVER-PREPARED BY TODAY'S PROTOCOLS. IT DID LAST 24 YEARS UNTIL IT DE-BONDED
25 YEAR OLD MARYLAND – NOTE TWO WINGS AND THE ANTERIOR WING HAS NOT DE-BONDED IN ALL THAT TIME. MESIAL/DISTAL GROOVES WERE CUT WITHIN ENAMEL IN THE CANINE TO MAKE THE RESTORATION MORE RETENTIVE. THE PRESENCE OF A RESTORATION DOES NOT PRECLUDE USING THE TOOTH AS AN ABUTMENT. REMOVE THE FILLING PRESENT, FILL WITH GI AND THEN CUT AN INLAY PREPARATION – EFFECTIVELY A CLOSED SANDWICH TECHNIQUE WITH THE BRIDGE INLAY PROVIDING BOTH A RESTORATION AND DRAMATICALLY IMPROVING RETENTION
THIS PATIENT IS THE PERFECT CANDIDATE FOR A MARYLAND BRIDGE. THE PATIENT IS 13 YEARS OLD AND HAS A CONGENITALLY MISSING LATERAL INCISOR. THE BRIDGE WILL RESTORE AESTHETICS AND MAINTAIN THE SPACE AND UNDERLYING CRESTAL BONE UNTIL AN IMPLANT CAN BE PLACED.
IN ORDER TO PROVIDE A STABLE PLATFORM FOR THE RETAINING METAL WING A THIN REST SEAT CAN BE CUT INTO THE PALATAL SURFACE OF THE TOOTH AND NARROW VERTICAL GROOVES INCORPORATED TO HELP RESIST DISLODGEMENT FORCES. NO LONG-TERM DAMAGE IS CREATED BY THIS GROOVE – IT IS SIMPLY FILLED WITH COMPOSITE RESIN WHEN THE BRIDGE REMOVED.
TO ENSURE STABILITY DURING THE BONDING PHASE, TWO METAL PLATES ARE INCORPORATED AND ONE CUT OFF IMMEDIATELY AFTER CEMENTATION. IN THE ANTERIOR REGION THESE BRIDGES SEEM TO BE MORE SUCCESSFUL WHEN ONLY ONE RETAINING WING IS USED.