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Review Article

Building Natural Contacts and Contours while Restoring Teeth - A Narrative Review

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Abstract

Creating the proper anatomical form, proper proximal contacts are important to bring back the tooth to proper arch alignment. It prevents further problems of shift in the tooth position which reduces food impaction, interproximal caries and periodontal problems. The process of building proper contacts can be a great challenge to the clinician. Various techniques and materials are available to build the best contacts by retracting gingiva, gaining proper visibility and access to entire cavity, give proper contours, so that the ideal contacts are built using matrices, wedges, Teflon tapes etc. The present narrative review describes the various matrices and wedges available and the process of building contacts with them.

Keywords: *Building Natural Contacts; Contours while Restoring; Restoring Teeth*

Introduction

Correction of faulty contour and contacts is very important to maintain the best stomato-gnathic system and perfect functional occlusion [1]. Interproximal contact area has been defined as the area of a tooth that is in close association, connection, or contact with an adjacent tooth in the same arch [2]. The ideal proximal contacts in natural teeth and restorations are important factors for the health and longevity of the dentoalveolar complex [3]. Interproximal contact tightness is affected by several factors including, the location of the teeth in the jaws, diurnal variations, patient position, occlusion, caries, faulty and broken restorations, trauma, orthodontic treatment and parafunctional habits [4,5]. When contacts are disturbed due to caries, fracture due to trauma or iatrogenic factors, gingival hyperplasia etc. there will be various problems leading to periodontal disease. Creating the proper anatomical form, proper proximal contacts by properly restoring them and bringing the tooth to proper arch alignment to prevent shifting of tooth position, reduce food impaction, prevent interproximal decay, and maintain periodontal health can be challenging for the clinician [6]. Building contacts with indirect restorative materials may be better than direct ones such as amalgam or composite resins. Since amalgam will be weaning from market and because of mercury component and esthetic reasons, resins will be the choice of materials.

Unlike amalgam, composite resins are not condensable and moreover, there is no true distension of the matrix band and adaptation to the adjacent tooth with composite resins. Hence, for resins it is better to build contacts with a sectional matrix system [7]. In addition to the density of the contact, the anatomical form is also important. If any faulty contacts are produced it may lead to food impaction which irritate the periodontal tissues. Ultimately it may end up in increased gingival inflammation, attachment loss, and, caries below the contacts.

Apart from the existence of overhanging restorations, plaque accumulation has also been linked to loose proximal contacts. However, alveolar bone loss is largely related to the patient's total periodontal condition rather than open interproximal contacts. Because of these loose contacts there will be food impaction at open

contact areas creating infuriation and uneasiness to the patients [8]. In case contact points are too tight, there will be interproximal shredding and impaction of dental floss fibres creating more problems to periodontal tissues caused by excessive flossing force. With amalgam restorations, a close proximal anatomical contact can be built by condensing amalgam well by the condensers, pushing matrix towards the neighbouring tooth [9]. Because of the challenges in inserting a resin composite due to its viscoelastic qualities and polymerization shrinkage, the reconstruction of a correct proximal contact in Class II posterior restorations is difficult. Hence, various new matrix systems have been introduced in the market to build contacts perfectly with ease [1].

The matrix is a device that is used to contour a restoration to simulate tooth structure, which it is replacing. The word matrix is derived from the Latin word 'Mater' which means 'Mother'. It was introduced in the year 1871 by Dr. Louis Jack [10].

A dental matrix band can be defined as "a properly shaped piece of metal, or other material, inserted to support and to give form to the restoration during placement and hardening of the restorative material" with the re-construction [11].

The interproximal contacts of the tooth have the following characteristics:

- The contact has to be centered buccolingually below the marginal ridges
- The contact has to be highly convex in its middle and occlusal thirds
- The contact surface should be flat or concave in the cervical third
- If there is a gingival recession, there is a tendency for the cervical third to have a concave form [10].

Hence it becomes necessary to select a matrix system that reflects these characteristics in its design.

History

In the last three to four decades, there has been a continuous evolution of composite resin materials to improve their properties and clinical techniques to build good contacts. But, despite the invention of newer matrices and wedging systems, manipulation of composite resin to give proper form and contour is difficult. Moreover, the material is highly technique sensitive. Managing a dry field, placing matrix and wedges without gingival stimulation is a difficult task. To enhance the properties and aesthetics, the material should be protected from saliva and moisture well during operation. While there are many solutions for the problems associated with the clinical handling of composite resin, ideal contact and contour for restoration in clinical situations still remain a problem.

Hence, various manufacturers have developed various designed matrix systems to get the ideal contour for each clinical scenario [11]. This review describes the ideal requirements of a matrix, availability of various matrix systems for various designs of the cavity, various materials they are made of adjuncts available with various matrix systems to contour the restorations well and clinical steps to achieve good contacts in posterior class 2 composite restorations.

Ideal requisites of a matrix

- It should confine the restorative material to the prepared cavity and rebuild the contour and contacts
- It should withstand the condensation pressure required to insert the restorative material without getting crumpled and without overhang of restorative material at cervical cavosurface
- Protect the restorative material from insertion until the initial primarily set of material
- Create a smooth surface of restoration [12]
- It should rebuild the original/proper contact point
- It should be easy to insert and give a smooth ideal contour for the restoration, within the acceptable physiological limits without any overhang or ledge at the cavosurface
- There should be no adherence or no reaction of matrix with the restorative material
- It should show resistance to condensation pressure
- It should act as a temporary wall of resistance during the introduction and setting of the restorative material
- It should assist in isolating the teeth with a rubber dam during the introduction of the restorative material without hurting the gingiva
- It should help in achieving a proper seal and maintaining a dry operative field thereby preventing contamination [13].

Newer matrix systems

First generation rings

Reel matrix

It was developed by Garrison. It consists of a reel that pops into the handle. The reel is pressed into the handle and the grippers are retracted to lock the reel in place. They are pre-contoured in three dimensions and it has a retainer-less design. A ring can be added to prevent flash. It is available as clear and metal bands [14].

Palodent 360

Palodent 360 circumferential matrix system (Figure 1) is a new circumferential matrix system. It can be used without a retainer or applicator to establish tight contacts with anatomically natural curves. The integrated tightener/retainer eliminates the need for bulky retainers or auxiliary placement and tightening instruments, allowing for improved efficiency, ease of placement, better access, a clear view of the operative field, and higher patient comfort [15].

Pro matrix curve

Pro-Matrix employs a straight band that emerges from the side casing. To impart the requisite conical form on the band, a 'band Deflector' component is utilized; the deflector may be adjusted up and down to allow the device to be used in all four quadrants of the mouth [16].

Features

- While tightening it turns freely. It has a slim body, toggle, and that do not extend
- Circumferential band can be utilized for proximal and cuspal restorations
- It does not require any assembly or application tools
- It has a high-tension mechanism which improves compacting
- It can be easily customized to the shape of the tooth
- Front section of the matrix is narrow which improves visibility and patient comfort
- Helps in restoring cavities of all quadrants with any restorative material
- Wedges and rubber dams can be easily placed [17].

SuperMat

It is a Universal Matrix Tensioning System designed for large areas. It works well with both transparent and steel posterior matrices. It aims to be a quick, simple, and uniform application. Based on statistical data, its thin and distinctive Adapt Super Cap ring matrices have been specifically engineered to better adapt to the structure of the teeth. Super Cap is available in steel or transparent plastic, with two band heights and a single shape for molars and premolars. To adapt and use Kerr's matrices with the Super Mat system, Super Cap spool can be applied to a selection of them [18].

Second generation rings

V3 rings (Triodent)

Dr. Simon McDonald invented it in 2008. Rings for bicuspid and molar teeth come in two varieties. A combination of pre-contoured matrix bands and a unique wedge known as the "wave wedge" aids in the gingival adaptation of the matrix band. The ring is made of nickel-titanium, which is more springy and durable than stainless steel. Plastic tines assist in accommodating the wedge. The tines are wider, allowing the ring to contact more tooth structure buccally and lingually, resulting in a nice contour for the restoration (Figure 2). There are different types of matrices available in this system [19].

V3 super curve kits

These are Micro-thin, color-coded, and consist of a gingival apron that provides matrix coverage for deeper preparations [20].

Clear metal matrix

These are resin-laminated micro-window which allows light to pass through the matrix.

It has greater matrix curvature which hugs the tooth for stability during placement.

The wedges available are:

- Wave wedge with wedge guard
- V- wedge
- Adaptive wedges-Transparent [21].

Third generation rings

Composi-tight matrix

This design has two independent rings for premolar and molar teeth. For a better hold on the teeth, the rings have converging tines with retentive balls at the ends. They are omnidirectional. The main disadvantage is that the resulting connections are not as tight (0.27 kg/mm), and the huge diameter of the rings can cause them to collapse if utilized in big cavities. The thickness measures 0.03 inches.

Height: Periodontic - 4 mm, small - 4.5, regular - 6 mm, large - 8.5 mm [22].

The manufacturer is Garrison dental solutions and Danville materials.

Composi-tight 3D soft face ring XR or DXR

Two types of rings provide the necessary tooth separation. It also aids in band adaptation for a tighter, more natural touch. The ring's tines are silicone-coated to give strong support and shape for the band in wide proximal preparations. The soft face is intended to replicate the interproximal area between teeth, allowing the band to accurately conform to the tooth contour and eliminate flash. The slotted bottom is designed to fit directly over the wedge.

Disadvantages

- Ring collapse or displacement in case of wide proximal boxes

- Ring stacking that is, placing one ring over the other in case of MOD restoration is a problem
- As the contact rings are made of stainless steel, repeated usage and sterilization effects make them lose their springiness over time
- It is expensive [23].

Composi-tight 3D-fusion [24]

They have difference in the tine's curvature and the wide ring separators and they are provided with ultra-adaptive wedges.

Contents

- 1 - Short ring (blue)
- 1 - Tall ring (orange)
- 1 - Wide prep ring (green)
- 70 - Assorted matrix bands
- 80 - Assorted ultra-adaptive wedges
- 12 - Assorted fender wedges
- 1 - Ring placement forceps.

Composi-tight 3D clear matrix: (Third generation system)

Combined with transparent and translucent materials to allow for trans-enamel polymerization.

Advantages

- Can apply curing light from both the buccal and lingual surfaces without interference from metal matrix bands and opaque separator rings
- Easily allows for proper curing of deeper proximal boxes and bulk-filling Class II restorations.

Contents of the kit include:

- Compsitight3D XR ring (3DXR) (Figure 3)
- Compsitight3D clear ring (3D600)
- Clear bicuspid bands
- Clear molar bands
- Clear tall molar bands
- Assorted wedge wands clear
- Assorted fender wedge
- Ring placement forceps (Figure 4).

Indications

- For small to moderate Class II cavities involving one or both proximal surfaces in posterior teeth
- For both amalgam and composite restorations.

Advantages

- It is easy to use and provides good visibility
- The anatomic contour of the bands ensures optimal contact areas and embrasures
- It exerts very less tension on the teeth and hence provides greater comfort for the patient
- Prewedging is not required
- Contact dimensions are adequate and in the correct anatomic location
- It also helps in a good gingival adaptation of the restoration.

Special features

- Provides a ring with hugging silicone tips which helps in flash removal
- Matrix bands are provided with a blue tint thereby improving visualization
- Cure-through WedgeWands have a cure-through design allowing for curing light to penetrate directly to the critical gingival floor [25].

Dual force sectional matrix system

The DUAL-FORCE Sectional Matrix System provides ideal proximal contacts and reduces overall finishing time. Dual NiTi rings produce up to 37% more separating force while greatly reducing the hand strain required to expand the ring. Fracture resistance due to the even distribution of forces. The prongs engage deep into the embrasure, which prevents the ring from popping. It has a 20° placement angle to the occlusal plane which facilitates easy rubber dam placement and it is provided with active wedges of various sizes.

The matrix bands are available in sizes- of 4.5 mm, 5.5 mm, and 6.5 mm.

Advantages

- Predictable, tight, and broad proximal contacts
- Minimizes flash and eliminates composite overhang
- Accommodates wide class IIs, including full cusp loss
- No loss of separating force means no need for tension [26].

Unica anterior matrix by polydentia

The Unica anterior matrix is the optimum choice for direct cavity restorations in classes III, IV, and V, as well as aesthetic restorations such as direct stratification composite veneers and maxillary central incisor form alterations. Unica anterior matrix allows the proximal and cervical borders to be restored simultaneously, reducing the restoration duration even in the presence of a rubber dam or gingival retraction cords. Furthermore, once in place, the Unica anterior matrix allows you to visualize the final shape of the restoration even before the procedure begins [27].

KERR Hawe sectional matrix system

The Hawe Adapt TM Sectional Matrix System is utilized to treat posterior teeth with unilateral composite fillings. The sectionals have been meticulously pre-shaped to resemble natural teeth. Blue and translucent plastic are two thin matrices that are usually offered.

While having little effect on the composite conversion rate, the blue color was chosen to increase the contrast between the matrix

and tooth structure. This has many benefits, including superior visual control over the handling, application, and filling of the composite.

Compared to conventional transparent matrix systems, the blue line offers a better contrast to the tooth structure and aids with routine treatments. Sectionals in interdental spaces can be perfectly adapted and shaped thanks to the transparent approximate shaper [28].

Bioclear matrix system

The "Bioclear Matrix" was developed by Dr. David Clark. It is made of polyethylene terephthalate with fillers to improve the physical properties. It is available as separate kits for anteriors and posteriors (with rings, wedges, forceps, pliers, and true contacts).

Contents of the bioclear system

Twin ring

- It is designed to be used in class 2 matrix adaptation
- It can be used with any matrix
- It adapts and clings to a variety of tooth types and shapes
- It applies a strong even tension that assists in the separation of teeth and a strong seal with the matrix and does not allow the composite to flow past the gingival margin [29].

Biofit HD matrix

It helps in creating a rounded marginal ridge with ease, The HD matrices are more rigid than other mylar matrices which helps in easy placement, they are translucent to allow true injection moulding [30].

Biofit SS matrix

The three tabs in this matrix help in easy placement by giving a large area to push against, The side holes in the matrix help in easy removal after the composite is cured. Due to its composition of hardened stainless steel, it helps in easy placement without any distortion [31].

Biofit blue matrix (Figure 5)

The tabs help in easy placement and the matrices are transparent blue which helps in thorough light curing. It is thin and hence can be used in cases where a more flexible matrix is needed.

These can be used without a wedge. When placed into the sulcus the material is well sealed marginally by the papilla. It is made from a 50-micrometer film. It is flexible but strong and is available in different customizable contours [32]. They are available in two types.

1. **Anterior matrices (Figure 5):**
    - They have less cervical curvature
    - Best used for class 3 and class 4 restorations with small black triangles
    - These are available in 5 sizes.
2. **Diastema closure:**
    - They have more cervical curvature
    - Used for space closure with smaller black triangles
    - It is available in 4 sizes.

The bioclear anterior matrix system also comes with a Trucontact saws and sanders. Natural contacts are generally too tight and too rough to allow insertion of a mylar matrix system. The Trucontact saws and sanders help to lighten the contact which helps in easy placement of the matrix and also helps to remove biofilm from the contact.

Wedges

Wedges are integral part of contact and contour build up exercise for restorations. Currently, wedges with anatomical design and flexible material are available to eliminate the uncontrolled flow of excess composite material. Some wedges create a tight gingival seal without producing a black triangle hence the wedges adapt better to the tooth creating a better marginal seal. Some wedges collapse, as the wedge is placed into the embrasure and then reopens lowering the insertion force and maximizing the line angle matrix seal. Eg: diamond wedge (Figure 6). The flexible tines on the handle of the wedge help in easy adaptation to the hands of the twin ring. They are available are in various sizes such as small, medium, large, extra-large sizes [33].

Some wedges are less traumatic than solid wedges but provide adequate tooth separation. Other than various sizes they are available as mild fluting, abrupt fluting; anterior/bicuspid. E.g. Sabre wedges [34]. Sizes available are small, medium, large, extra-large.

The clinical steps in placing sectional matrices to achieve the best contacts even in difficult situations

The operatory field preparation

It is the most crucial step. The isolation has to be enough to gain good access and visibility for the operator. The rubber dam should be placed with a large metallic frame. To obtain a large operating field, the clamp has to be placed as far back as possible in the case of the molars, and in the case of premolars, it has to be placed at least two teeth distally to the tooth that is going to be restored. This prevents any interruption in the proper placement of the wedge, matrix, or ring. For additional isolation, a gingival or a liquid dam can also be used [35]. Authors of a Cochrane study by Wang Y., *et al.* concluded as implications for practice, to restore the tooth with resin composite, isolating the tooth under rubber dam may be essential. Although there was no robust evidence to favour rubber dam usage in improving the survival rate of restorations, this does not mean that rubber dam usage is not important during restorative treatments, Clinicians still need to practice rubber dam placement, and never using a rubber dam would not be an acceptable approach [36].

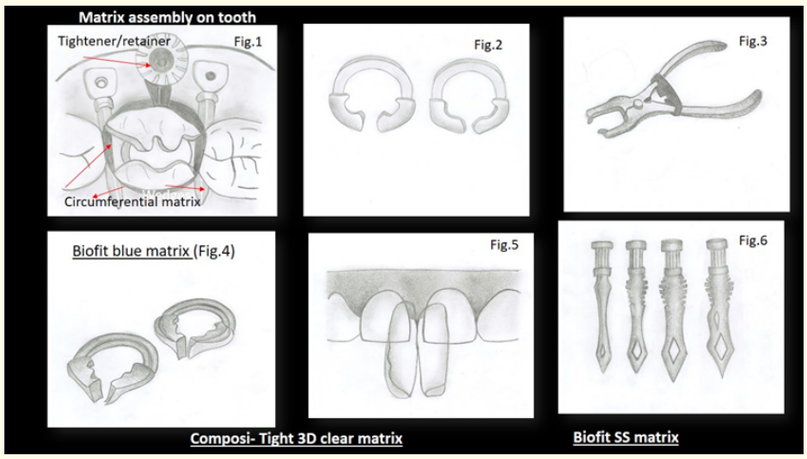

Figure 1-6: *Matrix assembly and Parts of matrix system.*
Figure 1: Palodent 360 circumferential matrix system, Figure 2: V3 rings (TRIODENT), Figure 3: Ring placement forceps, Figure 4: Compsitight3D XR ring (3DXR), Figure 5: Biofit blue matrix, Figure 6: Diamond wedges.

Pre wedging

Before removing the decayed tissue, the use of protective wedges or wedge guards with a metal fin is essential. This prevents the wall of the adjacent tooth from getting damaged. A separation higher than the matrix thickness has to be achieved, which enables its proper placement. Hence, it is better to use wide A+ Wedge and insert them with a curved mosquito hemostat to ensure firm pressure and control gingival bleeding [37]. Sectional matrices are very thin and hence get easily deformed. The insertion of the wedge can create a distance between the rubber dam and the tooth contour at that level. Another way to achieve a separation between the teeth is by placing an orthodontic separator a few days before. Anatomical hard wooden wedges are preferred as they produce the most pronounced separation effect. The wooden wedge absorbs water resulting in the expansion (swelling) of the wedge. A soft wooden wedge will become weaker and more flexible, causing the separation effect to decrease.

Space evaluation

Volumetric harmony of the interproximal area is important for a functional class-2 composite restoration, the available interproximal space has to be evaluated prior to placement of the matrix band. If the proximal surface of the adjacent tooth is overcontoured then it should be corrected, as this can create inverted anatomy and the formation of a deficient contact area. If required, the proximal contour of the adjacent tooth can be adjusted using abrasive disks in the middle and occlusal third. A reciprocating handpiece with diamond-coated files and/or abrasive strips can be used in the cervical third [37].

Purpose of wedges

The wedge has two purposes. First, it helps in separation of adjacent teeth to prepare the proximal circumferential tie, for compensating for the thickness of the matrix and enabling the development of robust interproximal contact. The matrix must be precisely adjusted by the wedge to fit the curve of the tooth around the cavity floor and prevent overhang of restorative material. Depending on the type of contact we want achieve, volume of embrasure space and the proximal and extension on buccal and lingual contours of the prepared tooth, different wedging techniques can be used.

Wooden wedges

Anatomical strong wooden wedges are recommended over soft wooden wedges because they provide a greater separation effect. The matrix will become convex toward the interior of the cavity if the upper portion of the wedge is higher than the cavity floor. The wedge in this case needs to be tailored. In cases where concavities exist in the proximal cervical region, such as the mesial side of the upper 1st premolar and lower 1st molar, as well as the distal side of the upper 1st molar, the wedge also needs to be customized. In case there are large embrasure spaces polytetrafluoroethylene (PTFE) tape can be packed between the sectional matrix and adjacent tooth to achieve an anatomical tooth contour [38].

Plastic and silicone wedges

Numerous manufacturers offer plastic V-shaped wedges and their unique segmented matrix technique. These wedges are open on the gingival side to prevent displacement of the rubber dam and interference with the interdental papilla. This makes it possible to press them deeper into the space between the teeth, which strengthens the matrix band's attachment. They can modify the matrix band due to their adaptability.

Separation clamp

In addition to using a wedge, a separation clamp will separate the teeth and keep the matrix band stable. The dentistry industry offers a wide range of separation clamps. The clamp's rings are constructed from stainless steel or nickel titanium. In comparison to Ni-titanium rings, stainless steel rings typically have a lesser separation effect and are more prone to losing their separation effect.

For MOD and multiple-tooth restorations, the majority of rings are inclined to allow stackability in any configuration. Stainless steel, Ni-titanium, glass fiber-reinforced plastic, or soft silicone can all be used to make the ring prongs [37]. The ends of the prongs might be straight or V-shaped. V-shaped ring prongs can be positioned in a more stable position, resulting in more equal tension, improved matrix band adaptation to the buccal and lingual surface of the tooth, and a reduction in proximal overhangs [38].

When two opposite class-2 cavities need to be recovered, stay away from utilizing a separation clamp while repairing the first box. The wedge will not stabilize the matrix band until it has reached its right contour after placement. Apply Teflon tape to the cavity on the opposing side to reposition or stabilize the matrix. To increase the stabilization of the matrix band, some flowable composite or block-out resin may be used.

There are two possibilities for the restoration of a single box in a quadrant and the usage of a sectional metal matrix. If the matrix band has an appropriate contour and comes into contact with the adjacent tooth after being placed and fastened with a wooden wedge, the separation clamp is placed.

Polytetrafluoroethylene (PTFE)/Teflon tape

It is made of plastic that is heat-resistant and non-sticky. The traditional plumber's Teflon tape has also been utilized in dentistry offices for the past ten years. When two class-2 cavities adjacent to each other need to be restored to properly position the matrix band, teflon tape can be used to move the matrix, eliminating subgingival cement lute stagnation, is packed between the sectional matrix and adjacent tooth to achieve an anatomical tooth contour, can be utilized to push the matrix towards the tooth while restoring the proximal box of a class-2 cavity to maximize the matrix's adherence to the cavity borders (buccal, lingual, and cervical). As a result, there is a small surplus of composite near the cavity [39].

Block-out or flowable resin

When a separation clamp is not utilized, block-out or flowable resin can be put between the matrix band and the adjacent tooth to help stabilize the matrix band.

Evaluation of interproximal clearance

Interproximal clearance means that the buccal and lingual margins of the box are accessible. Interproximal clearance helps in the passive positioning of the matrix. Forcing the matrix band in an interproximal space without clearance can lead to deformation and invagination of the matrix, and inversion of the emergence profile. The presence of accessible and visible margins helps in finishing, polishing, and re-polishing of the restoration margins [40].

Selection of the matrix band

Contoured sectional metal matrices are widely considered to be the most effective matrices. For the restoration of a single box, only one thickness of the metal material is encountered instead of two, making contact generation easier. Circumferentially contoured matrices, when used without a separation ring cannot create a good proximal contact point. In addition, circular matrix bands produce more capillarity thereby hindering optimal isolation. To create a correct emergence profile in a cervico-occlusal direction the sectional matrix should have a correct curved profile, A 50-µm hard steel matrix band is considered to be ideal for creating proximal contour more easily during placement of the wedge, separation clamp, and Teflon tape, compared to a dead metal or soft steel metal matrix [37]. The matrix bands are available in different heights, with or without subgingival extension. A 6.5-mm-high sectional matrix band has a maximum curvature of ± 0.5 mm. The proximal curvature (cervico-inicisally) of the matrix band depends on the distance between the cervical cavity margin and the adjacent tooth. BioFit Matrix bands (Bioclear Matrix Systems; Tacoma, WA, USA) have the highest maximum curvature (± 0.9 mm). They are available in two thicknesses (BioFit Blue Matrix: 50 µm and BioFit HD matrix: 76 µm) and 3 different heights (4.5, 5.5, and 6.5 mm). Transparent matrices help in better light transmission and more effective polymerization of the underlying resin composite [41].

Positioning of the matrix band: Control position in a cervico-occlusal and bucco-lingual direction

The matrix band must have the appropriate height and be placed into the interproximal gap with no resistance (with a free insertion axis). To give the proximal surface the proper contour in a cervicoocclusal direction, this is around 0.5 mm above the marginal ridge of the neighboring tooth. The marginal ridge and the occlusal surface run the risk of being over-modeled if the matrix band is set too high. As a result, grinding in the occlusion will take a lot of time. The marginal ridge of one tooth may cross over the marginal ridge of the neighboring tooth if the matrix band is too short. Stabilization of the Matrix Band, Interdental Separation, Evaluation of Contact Area, and Fit to the Cavity Margins [37]. Stabilization of the matrix band can be obtained using a wedge, a separation ring, Teflon tape, and a flowable Blockout resin (Figure 7A and 7B).

Composite layering

After the matrix band is properly positioned and stabilized, the adhesive is used, and composite layering is completed.

Polishing phase

After the restoration is completed, polishing is done using diamond-metal finishing strips in the interproximal regions because they can travel more readily through the contact area without breaking. Discs can be used to polish the embrasures and round off the marginal ridge by positioning the active surface toward the head of the contra-angle.

Methods to evaluate interproximal contacts

Passing dental floss between contact regions is the most common approach for evaluating interproximal contacts. The force re-

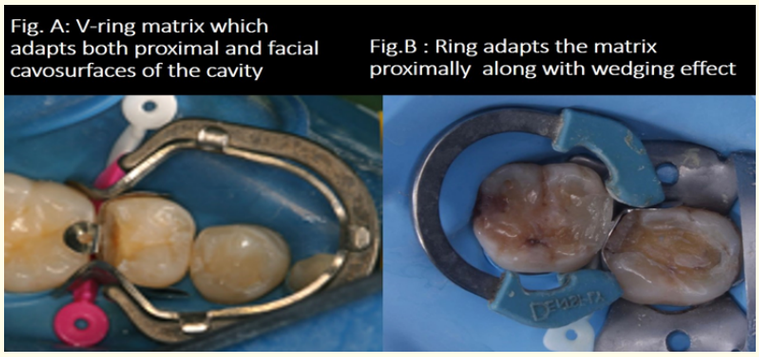

Figure 7: *A: V-Ring, B: Matrix adaptation.*

quired to pass the floss through the contact area is the metric used to assess the quality of contact between neighbouring teeth. G.V. Black mentioned this strategy. The optimal tightness of the proximal contact was defined as a "snap" as the floss went through the contact point [40]. Metal shim stock has been reported as an accurate approach to determine ideal interproximal contact [42]. But it is not a practical method to utilise in a dental office. The Tooth Pressure Meter, which offers an objective reading and records the force required to remove a metal strip from the proximal contact, is another approach cited in combination with clinical study. It should be emphasised, however, that there is no agreement on the appropriate thickness of the metal strip; researchers tested strips ranging in thickness from 0.03 mm to 0.05 mm.

Conclusion

Dentists try to design the perfect restorations so that the tooth may continue to operate properly while retaining its integrity and durability. The science of posterior, direct placement restorative technology has evolved at fast rate by development in materials and accessories, improvements in techniques, and improving skills of graduates by training. Anatomical landmarks must be restored properly to maintain occlusal harmony and to increase the longevity of restorations. A crucial stage in the placing of restorations is matricing. The matrix should be chosen based on their designs to ease of use and to build the best contacts and shapes. The dentist should choose the best approach based on each case's requirements. The use of pre-contoured sectional matrices and contact rings for composite restorations currently meets the majority of criteria for achieving optimum contacts and shapes. The universal matrix system is favored over other systems for amalgam restorations. Clinicians need to have a thorough understanding of the anatomical and functional characteristics of contacts and contours to accurately recreate them using the best restorative material, which will assist to keep the oral cavity healthy.

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