TECHNIQUE MANUAL

ZEST® ANCHORS ATTACHMENT SYSTEM

IMPORTANT: This document contains the most current instructions. Please, read and retain.

DESCRIPTION: Attachment; Intra-Radicular (sub gingival). Universal Hinge; Resilient.

PARTS IDENTIFICATION:

Zest Standard Female
(Stainless Steel)

Zest Mini Female
(Stainless Steel)

Zest Denture Cap Male --- ST
(with Stainless Steel Cap and Red Centering Sleeve, nylon male)

Zest Standard Blue Transfer Male
(Nylon with Blue Centering Sleeve)

Zest Mini/Cast-To Blue Transfer Male
(Nylon with Red Centering Sleeve)

Zest Cast-To Female
(Stainless Steel with red plastic post, mini only)

Zest Replacement Male --- Short & Tough (ST)

Zest Red Substitute Female

Zest One-Step Drill --- Standard
(latch type only)

Zest Diamond Sizing Bur --- Standard
(specify friction grip or latch)
Zest One-Step Drill - Mini (latch type only)  

Zest Diamond Sizing Bur - Mini (specify friction grip or latch)  

Zest Diamond Bur- Cast-To (latch type only)  

Zest Denture Cap Male - ST Oversize  
(Silver Cap with Yellow Sleeve, nylon male)  

Zest Denture Cap Male - ST Extra Oversize  
(Silver Cap with Orange Sleeve, nylon male)  

Male Coring Tool  

Seating Tool  

ATTACHMENT KITS  
ZEST attachment kits are available with your choice of Standard or Mini ZEST females. The Denture Cap Tool Kit (Zest order #9201) contains the Male Coring Tool and Seating Tool necessary for quick change of a ZEST male. Call Zest Anchors, for assistance in placing your order.  

INDICATIONS  
Overdentures or Partial Dentures, Appropriate for use with all appliances where remaining non-vital roots are to be utilized as abutments. Designed for direct placement into the root without a cast coping. May also be cast-to with precious or semiprecious crown and bridge alloys where a cast coping is desirable.  

CONTRAINDICATIONS  
Not appropriate where a totally rigid connection is required.  

STERILIZATION  
All components and instruments are supplied NON-Sterile. Drills and metal instruments may be sterilized following standard clinical procedures, prior to use.  
CAUTION: Federal (U.S.A.) law restricts this device to sale by or on the order of a licensed dentist.  

FEATURES  
• Simple Preparation and Procedures  
• Very Low Application of Lateral Forces  
• Positive Support and Retention  
• Inexpensive to Fabricate and Service  
• Most Procedures Done in Dental Office  
• Moment of Force Where Root is Supported by Bone  
• Best Crown-Root Ratio (minus 10%)  
• Nylon Male Minimizes Damaging Side Torque  
• Minimum Time and Cost Allows Preservation of Questionable Teeth  
• Prefabricated Machined Female Eliminates Time and Cost of Cast Coping  
• Can Be Used with Gold Coping in Caries Prone Patient
A. SEATING ZEST STANDARD FEMALES

Fabrication Technique Using the Standard Diamond Sizing Bur

1. Prepare and measure study casts to determine the space available in the root for the Standard Zest Female. Width of root surface must equal or exceed 4.7mm.

2. Complete endodontic procedure. Partial reduction of vital teeth selected for Zest Anchor insertion simplifies the endodontic technique, allowing better access to the canal.

3. Complete reduction of non-vital teeth to the level of the gingiva. The great advantage of the Zest Anchor attachment is its ability to reduce leverage on the root. To achieve this, each tooth should be reduced in vertical height as much as possible (to 1mm or less above the surrounding tissue).

4. Drill a pilot hole with a #700 Carbide Bur (Zest order #9522) to a depth of 7mm. Alignment of the drill should follow the path of insertion of the denture. If several roots are being used, create pilot holes as parallel to each other as possible. The pilot hole need not follow root canal. (Fig. 1)

5. Enlarge the pilot hole with a #6 Round Carbide Bur (Zest order #9525) to a depth of 4mm. (Fig. 2)

6. Complete the preparation for the Standard Zest Female with the Zest Standard Diamond Sizing Bur. (Fig. 3) The diamond sizing bur should be used to a depth where a full 360° recessed seat is created on the occlusal surface of the root. This will assure firm seating of the Zest female and a proper seal. Keep the diamond bur rotating throughout this entire procedure, including insertion and removal of the instrument, to prevent breakage of the tip. Use plenty of water as coolant during the sizing process.

7. Try in the standard female using a Zest Denture Cap Male with a Red Centering Sleeve, as a handle. The female should fit like an inlay, and its shoulder sit firmly against the complete 360° recess. If the female does not seat down to the proper level, reprepare with the diamond sizing bur. Alternately, if the preparation or canal is oversized, fill with composite and repeat the preparation. (Fig. 4)

8. Cement the stainless steel female into the prepared recess in the root. The Zest male again serves as a handle. Be sure the male is fully snapped into place with the Red Centering Sleeve covering the female opening. The centering sleeve will keep cement out of the female.

9. After cementing the female, round off the entire rim of the root from the anchor to 1mm below the gingival crest. The procedure is completed by polishing the area to a high gloss finish. (Fig. 5)

Fabrication Technique Using the Zest Standard One-Step Drill

1. Complete reduction of the non-vital teeth to the gingival level.
2. The Zest Standard One-Step Drill (Zest order #3913) is self-starting and a pilot hole is not necessary.

3. At a slow speed (750 RPM) drill a hole with the Zest Standard One-Step Drill to a depth where a full 360° recessed seat is created on the occlusal surface of the dental root. This will assure firm seating of the Zest female and facilitate a proper seal. Water should be used generously when cutting with the Zest Standard One-Step Drill. (Fig. 6)

**B. ZEST MALE PLACEMENT BY THE DENTIST.**

1. Prepare and measure study casts to determine the space available for the Zest 5T Denture Cap Male (Zest order #3334). Spacing must be equal to or exceed 3.5 mm.

<table>
<thead>
<tr>
<th>Distance from root surface</th>
<th>ST CAP MALE</th>
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<tr>
<td>to opposing dentition</td>
<td>3.5mm</td>
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2. Installation of the Zest Standard, Mini or Cast-To Female is complete.

3. Snap a ST Denture Cap Male into each Zest Female (Fig. 7) Double check the retention of each male by removing it and inserting it back into the female.

4. Prepare a recess in the denture to accommodate the ST Denture Cap Male. There must be no contact between the appliance and the denture cap component. (Fig. 8)

5. An autopolymerizing or light cure acrylic resin may be used to pick up the caps. Dry the Denture Caps. Apply a small amount of acrylic around the circumference of each cap. Place acrylic into the relief areas of the denture and seat it over the caps and onto the tissue. Have the patient close into occlusion and hold while the acrylic sets.

6. Insert the denture into position in the oral cavity. Guide the patient into occlusion, maintaining a proper relationship with the opposing arch. **Maintain the denture in a passive condition, without compression of the soft tissue, while the acrylic sets.** Excessive occlusal pressure during the setting time may cause tissue recoil against the denture base and could contribute to dislodging and wear of the nylon male.

7. Remove the centering sleeve from the ST Denture Cap Male. Relieve the acrylic over the remaining root surface. There should be no contact between the root and the acrylic saddle. (Fig. 9)

   **Note:** Use a Black Polishing Cap (Zest order #9001) to fit over and protect the Zest nylon male from damage when polishing the denture or using a bur to remove excess acrylic around the male.

8. Instruct the patient to the path of insertion. Have the patient insert and remove the appliance several times. **The snap into retention should be accomplished by finger pressure without the aid of the opposing teeth.**

   **Note:** Many dentists have their patients wear the overdentures without the Denture Cap Male to allow for mucosal changes following delivery of a new prosthesis. The advantage of this technique is a more stable relationship between the tissue and the appliance at the time of male placement, and the positive psychological effect of an immediate increase in retention and stability provided by the Zest Anchor attachment.
C. ZEST MALE PLACEMENT BY THE LABORATORY

1. Cementation of the metal females and final root contouring is completed.

2. In the dental office, place the Blue Transfer Male (with Blue Centering Sleeve for Zest Standard Female, or Red Centering Sleeve for Zest Mini and Cast-To Females) into the Zest female in the oral cavity. Make sure you feel a positive snap, indicating the transfer males are fully seated. The centering sleeve should fit firmly against the female attachment. (Fig. 10)

3. Take the impression exercising caution not to compress the soft tissue. The Zest Blue Transfer Males are designed with minimum retention to be picked up with the impression material of your choice. (Fig. 11)

4. Snap a Zest Red Substitute Female onto each Blue Transfer Male in the impression. Make sure you feel the transfer ball pop into retention. The Substitute Female must not fall off when turned upside-down with vibration. (Fig. 12)

5. Pour the master model. Upon separation, the Red Substitute Females are a part of the master model in the exact position the stainless steel female attachments are in the mouth.

6. Before processing, place the final ST Denture Cap Male into the Red Substitute Females. Make sure the males are fully seated. The centering sleeve eliminates movement of the male during processing.

7. Processing is completed.

8. Remove the centering sleeve from the male and relieve the acrylic over the remaining root surface. There should be no contact between the root and the acrylic saddle.

Note: Use a Black Polishing Cap (Zest order #9001) to fit over and protect the Zest nylon male from damage when polishing the denture or using a bur to remove excess acrylic around the male.

IMPORTANT: Do not over-extend Zest overdentures. The labial flange of the denture should extend no more than 1mm into a labial undercut. The excellent retention of the Zest Anchor attachments eliminates the need of labial undercut for retention. An over-extended labial flange engaging an undercut will cause an incorrect alignment of Zest male anchors leading to bending and breakage. Use a short anterior flange or butt the anterior teeth to the ridge whenever possible.

D. INSERTING AN OVERSIZE ZEST MALE

If a Zest overdenture fits properly, it will not experience enough wear during a lifetime of normal use to require an oversize male. The excessive wear the patient is experiencing is probably caused by the male's snapping in and out as the patient chews. The oversize male (color-coded yellow centering sleeve) is designed to provide retention in the worn female. However, the underlying cause of the excessive wear should be corrected.

There are four possible causes of this wear:

1. A Fulcrum - hard and soft spots in the tissue or resorption may cause the overdenture to be unstable during mastication using a root as a fulcrum this movement may cause the anchor on the opposite side to snap in and out.
2. Tissue Compression - if the soft tissue was compressed when the impression was originally taken with the Blue Transfer Males, or when the males were picked up in the mouth, the subsequent force of the tissue will tend to dislodge the males.

3. Over-Extension - because the Zest Anchors provide the retention, flange extensions in the muscle attachment area are not necessary. In fact, over-extensions may combine with the tissue compression forces to dislodge the males.

4. Abrasives - in rare cases, particularly abrasive toothpaste will cause wear.

A laboratory reline to correct poor fit should accompany the placing of an oversize male. All males should be removed. Follow conventional Zest reline procedure with one exception: Instead of using the Blue Transfer Male in the impression, use a ST Denture Cap Male. Then during the reline, replace that male with an Oversize Denture Cap Male for final processing.

**E. SEATING ZEST MINI FEMALES**

The Mini Zest Female utilizes the same nylon male as the standard female. The outside dimensions are smaller. *(Fig. 13)* A Mini Zest Female should be utilized only when the small size of a root does not allow use of the Standard Zest Female. In cases where roots selected to receive the Zest Anchor attachment are greatly divergent to the path of insertion, the use of the Mini Female will reduce the possibility of root perforation.

**Fabrication Technique Using the Zest Mini Diamond Sizing Bur**

1. Prepare and measure study casts to determine the space available in the root for the Mini Zest Female. **Width of root surface must equal or exceed 3.5mm.**

2. Complete endodontic procedures. Partial reduction of vital teeth selected for Zest Anchor insertion simplifies the endodontic technique. Allowing better access to the canal.

3. Complete reduction of non-vital teeth to the level of the gingiva.

4. Drill a pilot hole with a #700 Carbide Bur (Zest order #9522) to a depth of 4mm. *(Fig. 14)*

5. Enlarge the pilot hole with a #6 Round Carbide Bur (Zest order #9525) to a depth of 3mm. *(Fig. 15)*

6. Complete the preparation for the Mini Zest Female with the Mini Zest Diamond Sizing Bur. *(Fig. 16)* The diamond sizing bur should be used to a depth where a full 360° recessed seat is created on the occlusal surface of the root. This will assure firm seating of the Zest female and a proper seal. Use plenty of water as coolant during the sizing process.

Note: For increased cement retention to the dentin, an inverted cone type bur can be used to create an undercut in the preparation. *(Fig. 17)*

7. Try in the mini female using a Zest Denture Cap Male with a Red Centering Sleeve as a handle. The female should fit like an inlay, and its shoulder seat firmly against the 360° recess. *(Fig. 18)*
8. Cement the stainless steel female into the prepared recess in the root. The Zest male again serves as a handle. Be sure the male is fully snapped into place with the Red Centering Sleeve covering the female opening. The centering sleeve will keep cement out of the female.

9. After cementing the female, round off the entire rim of the root from the anchor to 1mm below the gingival crest. The procedure is completed by polishing the area to a high gloss finish. (Fig. 19)

Fabrication Technique Using the Zest Mini One-Step Drill

1. Complete reduction of non-vital teeth to the gingival level.

2. The Zest Mini One-Step Drill (Zest order #3923) is self-starting and a pilot hole is not necessary.

3. At a slow speed (750 RPM) drill a hole with the Zest Mini One-Step Drill to a depth where a full 360° recessed seat is created on the occlusal surface of the dental root. This will assure firm seating of the Zest female and facilitate a proper seal. Water should be used generously when cutting with the Zest One-Step Drill. (Fig. 20)

F. ZEST ANCHOR CAST COPING

A special Zest Cast-To Female is used for cases where a gold cast coping is desired. The following procedure is recommended.

1. The endodontic treatment is completed and the remaining tooth structure is reduced to the level of the gingiva. It is advisable that the root be prepared with a beveled shoulder or a chamfer margin.

2. The Zest Cast-To Diamond Bur (Zest order #9517) is used after creating a pilot hole by following steps 4 and 5, Section E.

3. At a slow speed (750 RPM) complete the preparation with the Cast-To Diamond Bur. The diamond sizing bur should be used to a depth where a full 360° recessed seat is created on the occlusal surface of the root. This will provide an adequate preparation for the wax up with the Cast-To Female. Water should be used generously when using the Diamond Bur. (Fig. 25)

4. An impression is taken, (Fig. 26) being sure to include other attachments or enough anatomy to show the line of insertion of the denture. The model and dies are prepared.

5. Using a surveyor, place the plastic paralleling post with attached Cast-To Female parallel with other Zest attachments. If multiple attachments are planned, the prosthetic path of insertion as directed by the flanges should not be divergent in excess of 10 degrees for any of the Zest attachments.
6. Wax the Cast-To Female directly into the die. The stainless steel should be completely encased with a layer of wax up to, but not over the junction of the plastic parallel post. (Fig. 27) NOTE: Use a hard wax so the female will be held securely when removing the parallel post.

7. Remove the plastic parallel post, leaving the stainless steel attachment cavity open for investment material to flow into. (Fig. 28)

8. Spruing. Run the sprue at a 45 degree angle to the Cast-To Female so the molten gold will flow down along one side of the female, around and up other side. The sprue should not be directed at the female which could possibly dislodge it when casting.

9. It is recommended to use debublizer to reduce tension during investing procedures.

10. Investing. The most successful castings have been accomplished by using Ceramigold Investment by Whip Mix Corp. or an equivalent High Heat Investment. Use a casting ring at all times. (Do not use the ringless technique of investing and casting for the Cast-To Female.)

11. Mix a liquid/powder ratio of Ceramigold of 12ml to 60 grams of powder for each packet of mix needed. Hand mix for 15 seconds and vacuum mix for 90 seconds at (350-450 RPM.) The investment material should be carefully painted into each attachment cavity to avoid trapping bubbles and to prevent gold from going inside the female. The reminder of the investment poured into the ring will stabilize the female during burnout. Place the ring in a water bath for one hour then bench set for a half hour.

12. Burn out. Place ring in cold furnace (sprue hole down) and raise temperature to 1500°F, maximum. Use a rate of climb of 0°F to 1500°F maximum over a time period of one hour. Hold at 1500°F maximum until burn out is complete. (Refer to investment manufacturer's instructions for suggested burnout duration).

13. Casting. Use only precious or semi-precious alloys for casting root copings. Base metal alloys should not be used. Cast the coping using the recommended temperatures of the alloy manufacturer. The stainless steel female will withstand a temperature up to 2,000°F without any dimensional change.

14. Divesting. After casting, allow all castings to bench cool for 20 minutes. Be careful to push out casting and investment with proper tools. It is not recommended to hammer or bang on rings which may distort castings. To remove the investment material from the Cast-To Female without damage to the stainless steel, use an acid-free investment and porcelain remover solution ("Kleen-it" American Dental Supply) in an ultrasonic unit for a period of 30 - 45 minutes. (Do not use a bur to remove the investment, or sand blasting with aluminum oxide or an acid pickling solution, all of which can damage the internal socket of the female attachment) . Clean the coping containing the ZEST Cast-To attachments in an ultrasonic cleaner solution.

15. Finishing and Polishing. When polishing with a rubber wheel, use caution not to damage the Cast-To Female attachment. Polish the surface of the coping to make a smooth mating surface for the male attachment. The Parallel Post can be placed in the female to protect the attachment while polishing. (If additional polishing of the female socket is needed, it is recommended to use only glass beads at a low pressure (40 PSI), or a fiberglass or bristle polishing brush.)
16. After polishing the coping, place a male attachment into each Cast-To Female and check for proper fit. Clean again in ultrasonic solution and deliver to the dental office to be cemented in place intra-orally on the prepared tooth root.

17. The finished copings containing the ZEST Cast-To Female are cemented in place intra-orally on the prepared tooth root. *(Fig. 29a)*

18. Snap a Zest Denture Cap Male into each cemented coping for chairside pick-up into the denture *(Fig. 29b)* If processing of the denture component by the laboratory is desired, follow steps 2 - 8 in "MALE PLACEMENT BY THE LABORATORY".

**G. RELINE AND REBASE**

The life expectancy of the Zest nylon male is approximately one year, and may exceed the interval between routine relines. However, when a reline is indicated, it is necessary to replace all existing male anchors. This will assure the desired new relationship between the overdenture and the anatomy of the patient’s ridge.

1. Using a Trephine Bur, (Zest order #9502) remove the entire Denture Cap Male component, including metal cap and nylon male, from the overdenture, taking care not to damage the metal housing.

2. Trim as much acrylic from the stainless steel denture cap as possible using a coarse sandpaper disk. It is not necessary to removed all acrylic from the metal housing.

3. Place a Blue Transfer Male (with Blue Centering Sleeve for Zest Standard Female, or Red Centering Sleeve for Zest Mini and Cast-To Females) into each cemented female attachment in the oral cavity. Secure the centering sleeve firmly against the beveled opening of the female. *(Fig. 30)*

4. Take a reline impression with impression materials of your choice. Maintain the denture in a passive (no compression of the soft tissue) condition while the impression material sets. The Blue Transfer Male has very little retention and will be picked up easily by the reline impression. *(Fig. 31)*

5. Snap a Zest Red Substitute Female onto each Blue Transfer Male in the impression. Make sure you feel the transfer ball pop into retention. The Substitute Female must not fall off when turned upside down with vibration. *(Fig. 32)*

6. Pour the master model. Upon separation, the Red Substitute Females are a part of the master model in the exact position that the stainless steel female attachments are in the mouth.

7. Before processing, place the final Zest Denture Cap Males into the Red Substitute Females. Make sure the males are fully seated. The centering sleeve eliminates movement of the males during processing.

8. Processing is completed.
9. Remove the centering sleeve from the males and relieve the acrylic over the remaining root surface. There should be no contact between the root and the acrylic saddle. The retention ball on the tip of the Zest male should be the only connection with the Zest female attachment in the root. If the acrylic saddle itself touches the root or the Zest female, the ability of the Zest Anchor attachment to stress-break and reduce side torque will be lost. (Fig.33)

H. ZEST ANCHOR ADD-ON TECHNIQUE FOR CLASPLESS PARTIAL DENTURES.

Saving A Periodontally Involved Abutment Tooth

Retaining partial dentures is another excellent use for the Zest Anchor attachment. A mobile tooth under a clasp can be further utilized as a partial denture retainer, easily and inexpensively. At the first sign of mobility of an abutment tooth, endodontic surgery should be considered, and a lowering of the crown-root ratio. If the tooth is cut down in the early stages of mobility, its root will retain the function of partial denture abutment for an extended period of time. In fact, more often than not, a mobile abutment tooth treated in this manner will actually become immobile in a matter of weeks.

Procedure

1. Reduce the crown of the periodontally involved tooth. The endodontic therapy is easily performed at this time. Further reduce the tooth to the level of the surrounding gingiva. (Fig. 34)

2. Prepare a recess for the Zest Anchor stainless steel female (Standard or Mini) using the appropriate sizing drill. When cementing the Zest female, it helps to snap in a Zest nylon male for use as a handle.

3. Insert a Blue Transfer Male into the cemented Zest female attachment in the mouth. (Fig. 35)

4. Position the partial and take a bite registration.

5. Use conventional partial reline impression procedures, picking up the Blue Transfer Male with the reline impression material. (Fig. 36)

6. Take an overall impression with the existing partial in place. The partial and Zest Blue Transfer Male should be withdrawn in the impression. An impression of the opposing arch is also taken for an opposing model. (Fig.37)
7. Place the Red Substitute Female on the Blue Transfer Male in the impression. You must feel the transfer ball pop into retention, and the Substitute Female must not fall off when the impression is turned upside-down with vibration. (Fig. 38)

8. Pour the model, making sure the partial is well seated in the impression. The master model is now complete.

9. Using the correct bite relationship, mount the models on an articulator.

10. Replace the tooth that has been cut off with a plastic tooth. Grind a hollow area within the tooth, large enough to encircle the Zest Denture Cap Male. Wax the tooth into place. OPTION: An esthetic crown can be hollowed out and used in its original relationship to the partial. This solves the problem of the loose tooth without altering the overall esthetics of the teeth.

11. Before processing, place the final ST Denture Cap Male into the Red Substitute Female and reline the partial using customary procedures.

12. After deflasking, remove the centering sleeve from the cap male.

1. HOW TO CHANGE THE MALE

1. Use the Denture Cap Tool Kit (Zest order #9201) containing a Coring Tool and Seating Tool to remove the nylon male from the metal denture cap and replace it with a Zest Replacement Male.

2. Using a lab handpiece, guide the Male Coring Tool over the nylon male and core out the center post of the male at medium RPM. (Fig. 39)

Note: If too much heat is generated, the metal cap may melt the surrounding denture resin and dislodge. A small amount of cold water will help keep the metal cool while coring out the nylon male.

3. The Seating Tool utilizes a threaded plastic insert with two (2) working ends. Use the end without a slot, inserting the metal pin provided, to eject the cored male post out of the Male Coring Tool. (Fig. 40)

4. Using a blade or explorer-like instrument, collapse the remaining plastic ring into the open space created by removal of the center post and lift it out. (Fig. 41)
5. The Zest Replacement Male fits into the slotted end of the threaded Seating Tool insert. **CAUTION:** Make sure the white reinforcing sleeve is in place to avoid breaking the slotted end of the tool. (Fig. 42)

6. Use the Seating Tool to firmly push the new male into the metal denture cap. (Fig. 43) The replacement male must seat securely into place beneath the rim of the cap. (Fig. 44)

**IMPORTANT POINTS**

**Reduce Teeth To Level of Gingiva**

The great advantage of the Zest Anchor attachment is its ability to reduce leverage on the root. To achieve this, each tooth must be reduced in vertical height as much as possible. The top of the cemented Zest female should be no higher than the surrounding tissue.

**No Contact Between Root And Denture Saddle**

There must be no contact between the root and the acrylic saddle of the denture. The retention ball on the tip of the Zest male should be the only connection with the female attachment in the root. If the acrylic saddle itself touches the root or the Zest female, the ability of the Zest Anchor attachment to stress-break and reduce side torque will be lost.

**Male Breakage**

Bending and breakage of the Zest male anchor is most often caused by an incorrect alignment upon insertion of the denture due to an over-extended labial flange engaging an undercut. The labial flange of a Zest overdenture should extend no more than 1mm into a labial undercut.

Excessive divergency between Zest females or to the path of insertion will also cause an incorrect alignment of the male anchor at the time of insertion of the prosthesis by the patient. The denture should be snapped into retention with finger pressure only, not by biting into place.
Excessive Male Wear

The 2.5 pounds of hold of the Zest Anchor is a predictable release, because the retention built into the ball and socket configuration cannot be increased beyond this safe limit. Wear in a male and eventually a female in an unusually short period of time, can be attributed to an increase in the number of ins and outs of the male anchor, from the normal three times a day, to hundreds of times a day. We must assume that this drastic increase is due to an overriding of the 2.5 pound of hold, during the chewing cycle.

Occlusion itself, can cause a lot of rolling movement in dentures that are not properly balanced. Zest Anchors will try to stabilize this movement, but will release if it is beyond the unseating force of 2.5 pounds. If the unseating force cannot be rectified, we must be thankful that the predictable release has saved the root from destruction. Wear of the Zest male can be compared to a fuse on a home appliance. Similarly, as the fuse protects the appliance from ruin, wear of the Zest male indicates an unstable denture and the need of a reline. This warning sign accomplishes protection of the loss of a priceless root. The males can be easily replaced with oversized males, and eventually the female can be replaced with a new one.

Female Wear

Independent testing has indicated that the Zest female will not wear during a lifetime at a rate of four insertions a day. However, if Zest male anchors in an unstable appliance are frequently being replaced without correcting the underlying cause of wear, eventually the Zest female could show some wear and loss of retention.

Zest oversize male anchors are available to provide satisfactory retention, compensating for the wear in the female part. A laboratory reline and removal of all the existing male anchors should accompany the placing of oversize males.

Removal of a worn Zest female can be accomplished by splitting the female with a carbide fissure bur, compressing the female with a suitable instrument and removing it from the canal. Alternatively, if the level of the surrounding tissue has dropped, cut the root to the new level under the existing female and remove it. The recess is filled with composite material and a new preparation is completed for cementation of another female component. It is also possible to remove a Zest Cast-To Female from a gold coping without removing the coping itself.

Follow the drilling procedures for the Zest Mini Female using the #700 Carbide, #6 Round Carbide, and the Mini Diamond Sizing Bur. Make the preparation for the new female directly through the middle of the worn Cast-To Female in the coping. After removing the last traces of the Cast-To Female, prepare to seat a Mini Zest Female. The mini component is cemented directly into the gold coping on the root.

Resilience of the Zest Nylon Male

The resiliency of the Zest Anchor nylon male is unique among dental attachments. The nylon material will yield when lateral forces are applied to the engaged attachment. This measurable movement acts as a shock absorber to dampen occlusal forces on the root. The resiliency of the Zest male combined with its ball-and-socket hinging action create very little stress on roots, even on an unstable abutment root.

Hygiene and Maintenance

Experts recommend that overdenture abutments should be brushed at least once a day with a gel toothpaste to remove plaque and to stimulate gingival tissues, followed by applying a 0.4% Stannous Fluoride gel.

The patient should be instructed to periodically visit their dentist for professional cleanings and attachment evaluation. Use plastic instruments for scaling the attachments. Do not use metal instruments which may create scratches.
RETURN POLICY

Authorization for returns must be received from Zest Anchors, LLC prior to the return of any product. Shipping charges must be prepaid by the customer for Zest Anchors, LLC to accept any return shipment. Returned products may be subject to a restocking fee. Only merchandise returned in resalable condition will be accepted for credit if returned within 90 days of purchase. Returns will not be accepted after 90 days of purchase. Non-returnable items include: merchandise retained beyond any expiration date noted on the packaging, products with broken seals or missing parts, used, damaged or obsolete products and custom made implant abutments.

WARRANTY

ZEST Anchors, LLC provides a limited warranty for its products, to the original purchaser, to be free from defects in workmanship and materials under normal use for a period of one year from the date of purchase. ZEST Anchors, LLC will, at its option, substitute the returned product that proves defective with a similar product, free of charge.

ZEST Anchors, LLC continually strives to improve its products, therefore, reserves the right to improve, modify or discontinue products at any time without notice or incurring obligation. Purchaser assumes all risks and liability resulting from the use of ZEST Anchors, LLC products whether used separately or in combination with other products not of ZEST Anchors, LLC manufacture.