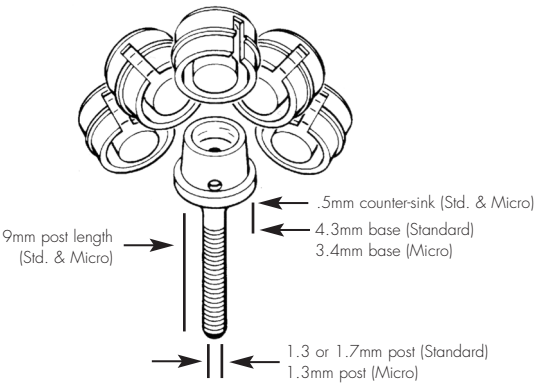
STERN ERA® DIRECT OVERDENTURE



Summary

- Resilient precision attachment.
- Radicular snap.
- Universal hinge with vertical movement.
- Nylon male
- Stainless steel female with titanium nitride coating.
- Black fabrication male with built-in spacer
- Six color-coded males for six levels of retention. Lightest to strongest: white, orange, blue, grey, yellow, and red.
- Optional ERA Overdenture Metal Jacket holds the attachment male in the denture base and is sold pre-loaded with a black fabrication male.
- Four post angles: 0° (straight), 5°, 11° and 17°.
- Choice of two post diameters: 1.3mm for micro, 9.0mm long; 1.3mm or 1.7mm for Standard, 9.0mm long.
- Males changed without use of autopolymerizing acrylic.

Fixation-. Male - retained directly in processed denture acrylic or an ERA Metal Jacket.
Female - post cemented in prepared root.

Minimum Space Required:

	Height+	FC width	Prep depth	RC width
Standard	4.0mm	4.3mm	5.0mm	6.3mm
Micro	3.0mm	3.4mm	5.0mm	5.4mm

+Add l.0mm for patients with habitually strong bites. ERA Metal Jacket thickness: 0.2mm

Indications

- Overdentures or removable partial dentures.
- Appropriate for use where remaining non-vital roots are to be utilized as abutments.
- Designed for direct placement into the root without a cast coping.

Contraindications

- Not appropriate where a non-resilient connection is required.

ATTACHMENT DESCRIPTION

	Attachment Height	Female Base Diameter	Female Post Length	Female Post Diameter
Standard	3.0mm	4.3mm	9.0mm	1.3mm or 1.7mm
Micro	2.0mm	3.4mm	9.0mm	1.3mm

The 1.7mm diameter post female is indicated by the attachment's gold colored titanium nitride coating, extending partially onto the post.

Male Color Code
Black - fabrication male
White - final male with light retention
Orange - final male with moderate retention
Blue - oversize male with heavy retention
Grey - oversize male with very heavy retention
Yellow - extra oversize, more retention than the grey
Red - extra oversize, most retention

Order Numbers

Item	Std. #	Micro #
ERA Direct Overdenture complete attachment;		
1 female, 2 black males, 2 white males, 1 orange male:		
Small diameter post females, straight	811420	811424
Large diameter post females, straight	811470	n/a
Small diameter post females, 5°	811425	811429
Large diameter post females, 5°	811475	n/a
Small diameter post females, 11°	811430	811434
Large diameter post females, 11°	811480	n/a
Small diameter post females, 17°	811435	811439
Large diameter post females, 17°	811485	n/a
ERA Direct Overdenture female only:		
Small diameter post females, straight	811421	811422
Large diameter post females, straight	811471	n/a
Small diameter post females, 5°	811426	811427
Large diameter post females, 5°	811476	n/a
Small diameter post females, 11°	811431	811432
Large diameter post females, 11°	811481	n/a
Small diameter post females, 17°	811436	811437
Large diameter post females, 17°	811486	n/a

Order Numbers

Item	Std. #	Micro #
ERA Overdenture black fabrication males, *5*	811320	811035
ERA Overdenture white males, *5*	811330	811036
ERA Overdenture orange males, *5*	811340	811037
ERA Overdenture blue males, *5*	811350	811038
ERA Overdenture grey males, *5*	811360	811039
ERA Overdenture yellow males, *5*	811370	811040
ERA Overdenture red males, *5*	811375	811041
Assorted ERA Overdenture males 1 each: black, white, orange, blue, grey, yellow, red, *7*	811365	811029
ERA Overdenture Metal Jacket with black male	811380	811043

Kits

Item	Std. #	Micro #
ERA Direct Overdenture Master Kit:		
• Females, two 0° plus one each with post at 5°, 11° and 17°.		
• Males, 5 sets of 5 assorted males: 2 black, 2 white, 1 orange.		
• Extra fabrication males, 1 set of 4.		
• Processing jigs, 2.		
• Alignment handles, 2.		
• Gutta percha drill, pilot drill, countersink bur core cutter bur and seating tool, 1 of each.		
Small diameter post females	811400	811403
Large diameter post females	811402	n/a
ERA Direct Overdenture Master Kit without core cutter bur and seating tool:		
Small diameter post females	811405	811404
Large diameter post females	811407	n/a
ERA Direct Overdenture Basic Kit:		
• Females, two 0° plus 1 with post at 11°		
• Males, 3 sets of 5 assorted males: 2 black, 2 white, 1 orange.		
• Alignment handles, 2.		
• Pilot drill, countersink bur core cutter bur and seating tool, 1 of each		
Small diameter post females	811410	811413
Large diameter post females	811412	n/a

Kits

Item	Std. #	Micro #
ERA Direct Overdenture Mixed Kit	811398	n/a

- Small diam. post females, two 0°plus one each with post at 5°, 11°and 17°.
- Large diam. post females, two 0°plus one each with post at 5°, 11°, and 17°.
- Males, 10 sets of 5 assorted males: 2 black, 2 white, 1 orange.
- Extra fabrication males, 2 sets of 4.
- Processing jigs, 4.
- Alignment handles, 4.
- Pilot drills, 1 small diameter and 1 large diameter.
- Countersink burs, 1 small diameter and 1 large diameter
- Gutta percha drill, core cutter bur and seating tool,- 1 of each.

TOOLS LIST

Item	Std. #	Micro #
Dentist tool kit Core cutter bur and seating tool.	811240	811026
ERA core cutter bur	811220	811023
ERA seating tool	811230	811022
Gutta percha drill	811440	811440
Alignment handles, 2	811455	811456
ERA overdenture processing jig	811395	811042
Pilot drill:		
For small diameter post female	811445	811445
For large diameter post female	811448	n/a
Countersink bur:		
For small diameter post female	811450	811453
For large diameter post female	811452	n/a
ERA Lock cement		
0.5 grams	811900	811900

FABRICATION INSTRUCTIONS

Placement of the Direct ERA Females

1. Select the teeth to receive the Direct ERA female and amputate the clinical crowns.

2. Complete the endodontic treatment.

3. Finish contouring of the roots. The final reduction should place the root surface supragingivally within 1mm of the gingiva. When divergent roots are selected, the occlusal root surfaces should be dressed approximately along the same plane, perpendicular to the intended path of insertion.

4. Use the special Spade Drill (Fig. 1), supplied with the Master Starter Kit, to remove the desired depth of gutta percha.

5. Set the plastic depth reference ring on the Pilot Drill to a depth slightly exceeding the length of the female post (Fig. 2). Keep in mind that the post can be shortened if necessary.

6. Size the canal with the Pilot Drill. The alignment of this initial preparation will generally follow the direction of the canal. On non-parallel roots the resulting divergence of the female attachments will be rectified by using the angled female components.

7. Countersink the root surface with the Countersink Bur to a depth equal the thickness of the collar of the Countersink Bur (Fig. 3). On roots where the root surface plane is not approximately 90° to the axis of the canal preparation, the depth of the countersink will vary. The countersink depth should be minimal at the high point, just imprinting the full circumference of the Countersink Bur's collar (Fig. 4).

NOTE: The top surface of the female base must always remain above the root surface, so that the nylon male can snap in without interference (Fig. 5).

8. Some depth of the original Pilot Drill canal preparation will be lost due to countersinking. Reestablish the full depth of the canal preparation to the original Depth Reference Ring setting on the Pilot Drill.

9. Snap the plastic handle into the 0° females. Place the females with handles into the completed preparations and visually approve the approximate parallel alignment of the female eyelets. If the alignment can be improved upon, select the most suitable one out of the 5°, 11 °, and 17° angled females and rotate it in the preparation to find the placement rendering the best visual parallelism between the females (Fig. 6).

NOTE: Once you have established the desired position of an angled female, you may wish to make a small index mark on the female base and the root surface, so that you can readily return the female to the same position during cementation. No index mark is necessary with the 0° females, as rotating the female will not change the angulation of the eyelet.

Fig. 1

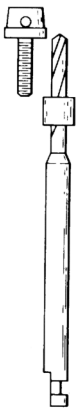


Fig. 2

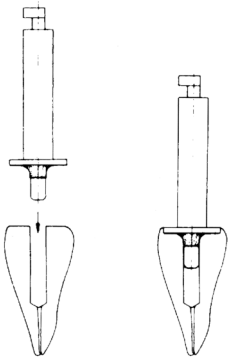


Fig. 3

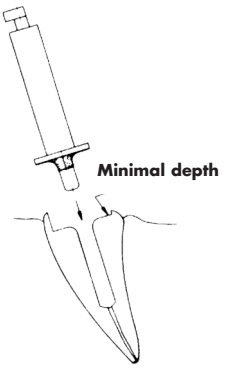


Fig. 4

10. Cement the Direct ERA females in place with composite cement, ERA Lock Cement (811900), or other suitable material.

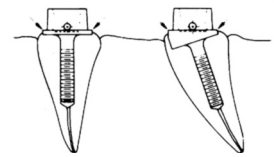


Fig. 5

NOTE: If treatment plan requirements necessitate leaving the cemented females exposed in the mouth between appointments, the black male may be used as a protective cap.

11. Incorporate the nylon males into the appliance following the procedures for operatory or laboratory placement of the males as described below.

Procedure for Operatory Placement of the Males

To provide the space in the acrylic saddle for the pickup of the black fabrication males, you can always grind away the acrylic in the operatory after the completed appliance has been delivered. However, it is possible to have the needed space created in the saddle during processing of the denture in the laboratory.

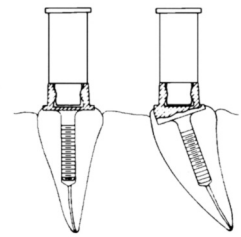


Fig. 6

1. With females cemented in the roots:
    a. Snap the black fabrication males, or ERA Overdenture metal jackets, into the cemented females and take an impression for the processing model.
    b. Remove the fabrication males from the impression and pour the processing model.
    c. In the laboratory, cover the duplicated attachments and roots with several layers of foil or Rubber Sep (order no. 812045) to create additional space around the duplicated males (Fig. 7).
    d. Set up and wax the prosthesis. The wax-up will have recesses over each abutment. After approval, process the prosthesis as usual.

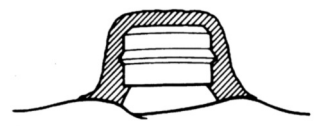


Fig. 7

2. Without females cemented in the roots (immediate overdenture):
    a. Take an impression of the existing dentition and pour the processing model.
    b. In the laboratory, reduce the teeth and contour the model as required.
    c. Cement processing jigs in the roots to receive the Direct ERA females. You must first drill a hole in the stone for the jig's post, approximately in the same location as the future placement of the actual females. Snap extra black fabrication males, or ERA Overdenture metal jackets, into the metal jigs and cover this assembly with foil or Rubber Sep as described above.
    d. Set up and wax the prosthesis. The wax-up will have recesses over each abutment. After approval, process the prosthesis as usual.

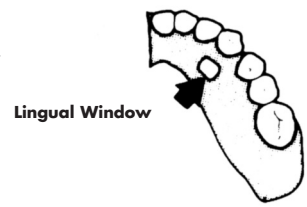


Fig. 8

In the operatory:

1. Optional; using a round bur, prepare a lingual window into the recess over each coping (Fig. 8).

2. Snap a black fabrication male, or metal jacket, into each female. Block out the remaining exposed surfaces of the root, so when the self-curing acrylic is added and cured, it will not be in contact with the root (Fig. 9). This small space between the root and the acrylic will allow the resilient function of the ERA attachments.

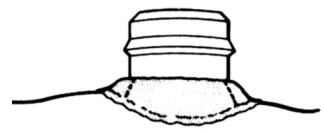


Fig. 9

3. Seat the overdenture to check it does not touch either the roots or the black fabrication males. (If it does touch, use a round bur to remove additional acrylic).

4. Carefully paint EZ PickUp® (220237) or denture repair acrylic over the top and sides of the black fabrication males (Fig. 10). Make sure that the external retention ridge on the outside of the cylindrical housing of each male is fully covered with the resin. Place additional resin in the recesses in the overdenture and seat the prosthesis in the mouth. Allow the acrylic to cure with the overdenture in a passive position. Prevent the patient from applying enough biting pressure to the prosthesis to compress the soft tissue.

5. Remove the prosthesis, fill in any defects in the acrylic and finish the prosthesis.

6. After making any necessary occlusal adjustment, replace the black fabrication males with the white final males (see "How to Change the ERA Males").

Fig 10

Procedure for Laboratory Placement of the Males

1. Snap a black fabrication male into each female and make the impression. Use a light body impression material. The impression must record the soft tissue in a passive state or the attachment male will not seat properly in the female.

2. Remove the black fabrication males from the females and snap them onto the processing jigs. Reposition this assembly in the imprint of the fabrication males in the impression (Fig. 11). Pour the processing model.

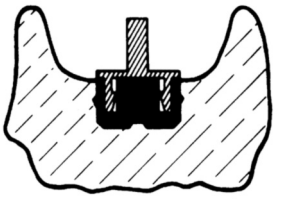


Fig 11

3. Set the teeth and wax the appliance.

4. Proceed with the processing technique of your choice through the boil-out step.

5. After the boil-out, check that the black fabrication males are properly seated. If the ERA Overdenture Metal Jacket is to be used, substitute it for the black fabrication males at this time. The Metal Jacket comes with a black fabrication male already in it.

Block-out the remaining exposed surfaces of the roots so the processed acrylic will not touch them. (Fig. 12). This small space between the roots and the acrylic will allow the resilient function of the ERA attachments.

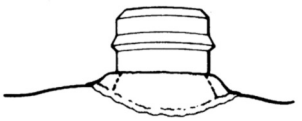


Fig 12

6. Process, finish the acrylic, and deliver the case.

7. After any necessary occlusal adjustments, remove the black fabrication males and replace them with the white final males. (See "How to Change the ERA Males").

If the prosthesis does not demonstrate adequate retention in the mouth, the dentist can easily remove the white males and replace them with other more retentive males. Different color males may be used in the same appliance without compromising function.

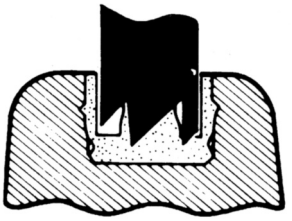


Fig 13

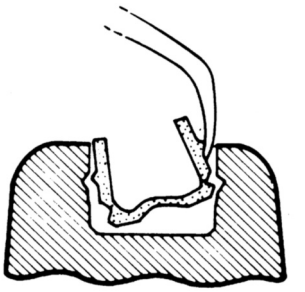
How to Change the ERA Males

1. Place the core cutter into a straight handpiece.

2. Cut out the core of the male at slow RPM, using a short cutting cycle and an in-and-out motion. Push in for about one second at a time, checking to see if the core has been removed (Fig. 13). The core will remain in the Core Cutter and should be ejected by sliding a thin blade along the cutter's side slot.

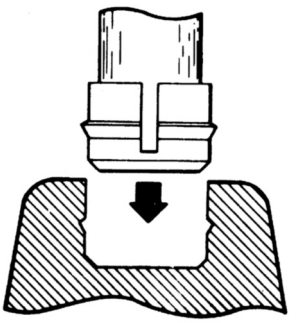
3. Using a blade or explorer-like instrument, or Attachment Removal tool (811027) collapse the remaining ring into the open space created by removal of the core and lift it out (Fig. 14).

4. Put a new male on the seating tool. Place the tool with the new male into the recess in the acrylic, or ERA metal jacket, and firmly push it in until it snaps securely into position (Fig. 15).



Using attachment removal tool collapse and remove male shell

Fig 14



Snap new male in place with seating tool

Fig 15

SERVICING

Reline and Rebase

1. Remove the existing males as outlined above and replace them with the black fabrication males. The built-in spacer of the fabrication male will hold the partial in the upper limit of its 0.4mm vertical resiliency.

2. Lubricate the attachment (male and female) with petroleum jelly.

3. Take a wash impression.

4. Snap processing jigs on the fabrication males in the impression and pour a stone model.

5. After processing, replace the black fabrication males with the final males utilizing the core cutter and seating tool as described above.

Patient Care

Over twenty years of history with other attachments used without a root coping has shown that exposed dentin is not prone to decalcification or secondary decay-provided the patient follows a prescribed dental hygiene program involving a daily application of fluoride.

Some experts recommend that overdenture abutments should be brushed once a day with toothpaste to remove plaque and to stimulate gingival tissues, followed by brushing with 0.4% stannous fluoride gel. Patients can expectorate the excess fluoride ,but should not rinse or drink for at least 30 minutes. Also, each morning a drop of 0.4% SnF should be applied by the patient into the clean overdenture, in the acrylic root impression around the male.

"While sodium fluoride reduces the incidence of caries in overdenture teeth, stannous fluoride reduces both caries and bacterial colonization in the dental plaque. Gel of 0.4% SnF is effective in reducing gingivitis around the overdenture abutments and the incidence of caries." - Jaggers, J. H.,Turner, G.E. and Alderson, TJ. Essential criteria for treatment planning overdentures with attachments. General Dentistry p37 Jan/Feb 1989.