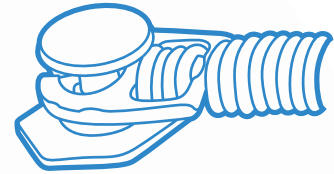


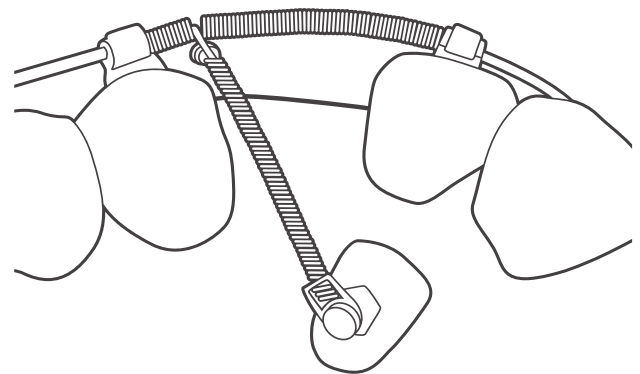


aligning

Effective Alignment Of Impacted Incisors, Canines, and Premolars



EASY-WAY-COIL SYSTEM® |



EASY-WAY-COIL[®] SYSTEM for lingual and buccal treatment

Clinically reliable, efficient, easy to use and economical system for the alignment of impacted and ectopic teeth.



Many different traction appliance options are available for the task of aligning the ectopic or impacted tooth. The forces in some of these appliances use elastics. The quality of the material of elastics, elastic chains or an elastic rubber thread makes frequent replacement necessary for the purpose of re-activation. Lever designs are highly elastic and supply effective force for a relatively long period of time, but they are easily damaged, rather uncomfortable for patients, and make oral hygiene more difficult.

The EASY-WAY-COIL SYSTEM consists of a stainless steel tension spring which is pivot-mounted to a lingual button with a bonding base. The appliance is activated by systematically shortening the spring. It is reliable and demonstrates a constant application of force throughout the treatment procedure, including stable maximum anchorage.

- Pivot-mounted button

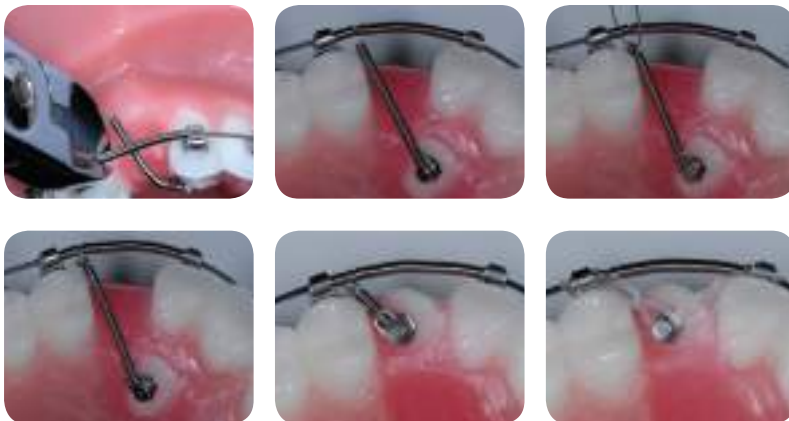


- Bonding base



- Space maintaining
Stainless steel spring

Buccal treatment steps using the Frasaco model



“Choosing the right force minimizes root damages and reduces treatment time.”

Dr. Schubert, Germany



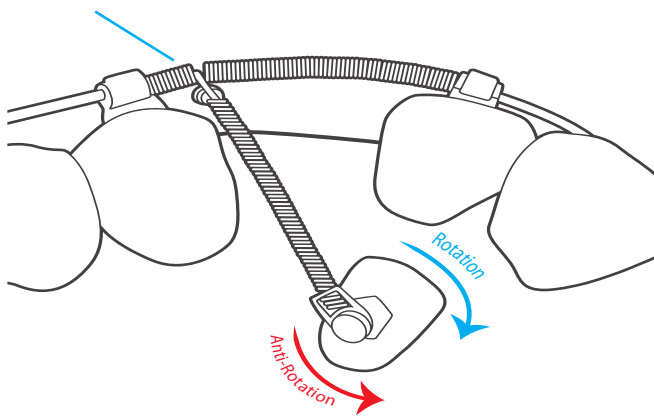
Inventor Dr. Michael Schubert

Lingual treatment please call for more details



MULTI DIRECTIONAL

With the EWC® you can choose which direction to move the tooth



Activation Distance = 2mm - Optimum Force = 32cN

- Variable direction of traction
- Simple re-activation
- Precisely quantified amount of force
- High degree of comfort for patients
- Clinically reliable & economical
- Constant application of force
- Unilaterally or bilaterally
- No undesirable side effects
- Can be used with lingual and buccal brackets
- Long acting activation
- Can treat both lingual and buccally impacted teeth

Easy to use → **Finish quickly** → **Clinically reliable** → **Predictable**



“New traction appliance with no undesirable effects.” JCO 2008 Vol 42: Number 03

The advantages of using a stainless spring vs. a Niti spring can be seen clearly throughout all our clinical testing. Couple this high functioning spring with a custom designed button and you have the perfect traction appliance.

Sturdy and stable

Stainless steel springs permit accurate and sturdy formation of the eyelet, with no introduction of torque and allows simple and easy re-activation later in treatment.

Eliminates undesired rotation of spring

An experimental study confirmed that the steel spring's rigidity has an anti-rotation effect and therefore avoids undesired torque and rotation on the ectopic tooth.

Repels Mucosa and scar tissue

Mucosa or scar tissue can grow in between the separated spiral winding of a NiTi spring and elastics, increasing the probability of inflammation and the loss of the

appliance. Activation with the steel spring is low, the “tube form” is retained and mucosa or scar tissue is easily repelled. This allows the spring to contract and slide easily with little friction.

Eliminates inflammatory reactions

Over the past 10 years with the EWC® system, no patient has suffered inflammatory reactions in the oral mucosa adjacent to the traction spring during treatment.

Intermittent forces

The EWC® is activated in small steps in 4 week intervals. As the tooth reaches the position needed for re-activation, this in turn creates an interval of tooth movement and allows recovery of the tissue in between activation steps. These intermittent forces allow permanent blood supply to all surrounding structures, allowing the optimum physiological stimulus for the desired alteration processes.

Predictable treatment results

Activations are performed at 4-week intervals, with 32cN force resulting in 2mm movement.

Constant precise force during activation

The outer diameter of the spring is 1.2mm and the inner diameter 0.75mm, this generates an average force of 32cN over an active length of 2 mm. This constant value of force can be seen throughout treatment, including stable maximum anchorage.

Simple re-activation and variable direction

Re-activation is fast and easy

1. Cutting of the eyelet
2. Shorten spring
3. Bend new eyelet
4. Ligate eyelet to archwire/space maintainer spring

As needed the direction can be modified easily by simply ligating the eyelet to the desired angle.

EASY-WAY-COIL[®] SYSTEM

Instructions for ORTHODONTISTS

The system of the tension spring consists of a stainless steel tension spring which is pivot-mounted to a lingual button with a bonding base. An activation of 1 mm triggers an average force of 0.158 N. A piece of tension spring is added, which you can pull over the bracing arch wire to maintain the gap for the tooth you want to pull into the right position.

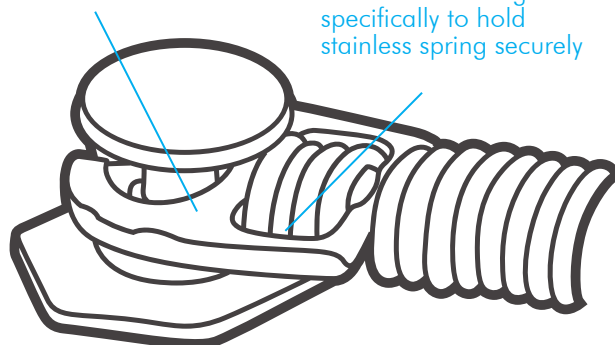
Before using the tension spring, it's important to ensure that there is enough space for the tooth you want to position. In the .018" method for the bracket slot, a stainless steel arch wire of .016 x .022" suffices for anchorage, corresponding to a .020 x .020" arch wire of the same quality in the .022" method.

In the area of the prepared gap, an exact-fitting piece of the spring is pulled over the arch wire as a placeholder.

The first activation takes place seven days after the operation in six steps.

Custom latch designed specifically to unlatch easily for final stage (step 6) of treatment, when only the button is required for the attaching of a chain.

attachment can be unlatched easily for final chain step custom latch designed specifically to hold stainless spring securely



Step 1

Depending on the force direction for the alignment of the ectopic/retained tooth the anchorage point has to be chosen. Carefully place a ligature cutter on the auxiliary wire spring and close is slightly in order to create a small gap within the spring coil, in which the ligature wire will be fixed. Thus, the ligature wire cannot shift.



Step 2

The end of the EWC[®] extension spring needs to point into the direction of the anchorage point on the auxiliary wire spring. Then, cut the EWC[®] spring until the distance between the anchorage point and the tip of the EWC[®] spring is approx. 2 mm. This distance of 2 mm allows a force of approx. 0.32cN.



Step 3

Place a ligature cutter approx. 3-4 mm (3-4 loops) of the end of the EWC[®] spring and close is slightly without cutting the wire in order to isolate 3-4 mm of the spring, then turn this part 45° in order to create a loop. Insert a ligature wire into the loop.



Step 4

Ligate the ligature wire onto the anchorage point on the auxiliary/wire spring. All four weeks the EWC[®] spring should be cut by 2 mm in order to re-activate the spring. **Therefore, please follow step 1- 4 every 4 weeks.** Repeat it until the tooth is broken through.



Step 5

After the ectopic tooth has clearly broken through and the button of the EWC[®] spring is clearly visible, the clip of the EWC[®] spring should be carefully pulled of with a How or a Weingart plier. In case the lingual button unintentionally de-bonds, a new lingual button should be bonded at exactly the same palatal position.



Step 6

With a u-shaped chain the tooth will be moved buccally and de-rotated. Now a bracket or a button can be bonded buccally in order to continue extrusion.



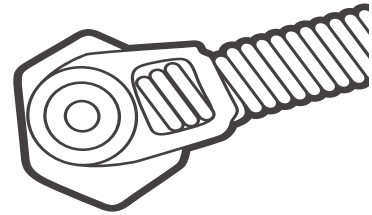
EASY-WAY-COIL® SYSTEM

Instructions for ORAL SURGEONS

After creating a mucoperiosteum lobe, the crown of the retained or dislocated tooth has to be uncovered up to the supposed enamel-cement borderline.

After etching, the attachment with the spring gets fixed to the tooth by light-curing composite material (with palatinal dislocation → at the palatinal surface, with buccal dislocation → at the buccal surface). If the tooth is located palatinally, it's important to bond the spring system palatinally, to get a long enough activation way of the spring.

If there is too much bonding, the surplus has to be removed, to ensure that the spring can turn around the button.



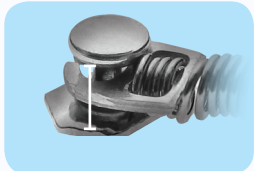
Buccal

With a tooth dislocated buccally, the spring system has to be fixed at the buccal surface and orientated to the required tension direction to caudal.



Palatinal

With a tooth dislocated palatinally, the spring system has to be fixed at the palatinal surface and orientated to the required tension direction to disto-buccal.



Removal of excess bonding material

After the EWC® button is bonded check carefully for excessive bonding material between the button and latch of the EWC®. Excessive bonding material will obstruct the rotational movement needed later in treatment.



Test bond strength

After bonding and before sealing the wound, the bond strength should be tested. Pull spring with approx 100 - 150cN of force, the spring should open a little once pull force is applied, this will be adequate to test the bond strength.



Sealing the wound

Before sealing the wound, the spring system should be orientated to the direction where the first activation will occur. The mucoperiosteum lobe is placed over the tension system and fixed with a suture. The end of the tension spring is fixed temporarily and tensionless to the arch wire by using suture material.



Fixation

Tensionless fixation of the tension spring using suture material.

Palatal impacted teeth upper left and right cuspids, retention of lower left and right cuspids.



Beginning of treatment **Male 17.6 years**



Surgical Exposure



1.5 months after surgical exposure

5.9 months after surgical exposure



8.5 months after surgical exposure - upper
2.6 months after surgical exposure - lower

10.8 months after surgical exposure



13.9 months after surgical exposure -
change of force direction to buccal

15.3 months after surgical exposure

15.9 months after surgical exposure



19.8 months after surgical exposure

22.8 months after surgical exposure



Clinical study continued -



Surgical Exposure - lower



7 days after surgical exposure

4.9 months after surgical exposure



5.8 months after surgical exposure

6.9 months after surgical exposure



9.4 months after surgical exposure

11 months after surgical exposure

13.9 months after surgical exposure



appliance removal upper after 25.2
appliance removal lower after 19.2



1.5 months after surgical exposure

8.5 months after surgical exposure

13.9 months after surgical exposure

25.2 months after surgical exposure

Treatment time:
25.2 months

Clinical Cases

Both sides palatinal impacted upper left and right cuspids

Male 14 years

Treatment time: 20 months



7 days after surgical exposure

9.4 months after surgical exposure

10.5 months after surgical exposure



March 2009

April 2010

October 2010

11.3 months after surgical exposure

12.2 months after surgical exposure



12.2 months after surgical exposure

13.4 months after surgical exposure

14.5 months after surgical exposure



16.7 months after surgical exposure

19.4 months after surgical exposure



Time between surgical exposure and appliance removal 20 months