

1. Could you show some cephalometric post treatment evidence of lower anterior torque control? We will be showing more examples and techniques in subsequent webinars. Below is an example of a patient treated using the Forsus™ Appliance.



2. Any tips on midline? We will discuss techniques for correction of maxillary and mandibular midlines in subsequent webinars. The arch wire set up for maxillary midline correction is different than the set up for a mandibular correction. For maxillary midline correction the maxillary arch set up is similar to when the Forsus appliances is used as a distalization appliance. For mandibular midline correction both maxillary and mandibular arch wires are cinched and the appliance activated unilaterally to a slightly over corrected position.

3. Can the Forsus appliances be used for a Class III malocclusion? Have you some experience with it? I do not have experience with the Forsus appliance in Class III malocclusions as of yet.

4. Mostly in cases with class 2 corrector we are dealing with a dynamic teeth conditions so changes with class 2 is somewhat predictions or definite sure movement? Question written as received. I assume question is in regard to predictability of Class II correction. Treatment results seen with a Forsus appliance are dependent on many factors including the age of the patient and their growth potential and appliance set up in that patient. For example what wires are used, was the maxillary arch wire cinched or secured. The Forsus appliance has a treatment effect on both the maxillary and mandibular complex. Therefore a case requiring manipulation of both arches may receive the largest benefit from the appliance

5. Can you make summary for course slides due to I late for webinar please thanks? This webinar and others can be viewed on 3MUnitek's website <http://3munitektraining.com/training.asp>

6. Is it better to fix the Forsus appliance behind lower cuspids or first bicuspids? The cuspid location was the original design of the appliance. However, in our clinic we prefer the bicuspid location in most cases. The bicuspid location allows increased control of the mandibular incisor position. The bicuspid location also places the appliance in a more comfortable and esthetic location for the patient. However, in some cases placing the push rod behind the 1st bicuspid directs the Forsus appliance in too much of a vertical position to create the needed horizontal force to correct the malocclusion. In these situations the rod is placed behind the cuspid initially and moved behind the bicuspid as treatment progresses. Another situation requiring the cuspid location of the push rod is if locating it behind the 1st bicuspid causes the appliance to be over activated even when using the smallest rod.

7. **So if 4 mm seen on rod when compressed when you want to begin the passive phase you can consider it passive and leave it like that for 6-8 weeks?** If the spring is compressed and at least 4 mm of the rod behind the stop is visible, your Forsus appliance can be considered inactive or passive. Our clinical protocol leaves the Forsus appliance for 6-8 weeks in an inactive state once the desired correction is accomplished.

8. **Will we get some skeletal (skeletal) correction with the Forsus appliance?** The answer to your question is up for debate. However, I suggest; when wanting to encourage skeletal change, treatment timing is very important. Also, controlling the dental movement with the Forsus appliance in place is important to encourage skeletal change. Make sure both the maxillary and mandibular arch wires are cinched distal to the molars to minimize dental movement.

9. **Retention what type of retention do you use?** We routinely use a bonded mandibular lingual 3-3 retainer. In the maxilla we use either a clear vacutain full coverage retainer or a standard Hawley retainer with a bow 3-3.

10. **Do you routinely use RPE in conjunction with the Forsus appliance or do you typically get enough expansion with the Forsus appliances?** You do get some expansion of the maxillary arch with the Forsus appliance. This may be enough in a case of slight maxillary deficiency. We will use an RPE when we need to develop the maxillary arch to coordinate the arches when the maxilla and mandible are in a Class I relationship. An RPE is used at the beginning of treatment but is removed before the Forsus appliance is placed.

11. **What is the treatment sequence for Class II with the Forsus appliance in a four first bicuspid extraction case?** We will discuss this in future webinars but briefly here. We use our extraction spaces to eliminate crowding and align the dentition. We close extraction space after the Forsus appliance is in place by using Niti coil springs in all four quadrants. The distal force in the maxillary arch acts as anchorage for the maxillary molars. The mesial push of the rod in the mandibular arch maintains lower incisor position.

12. **Thx for this lecture please what kind of retention do you use????** See answer 9

13. **Can you give examples of how you utilize the Forsus Spring for Phase I or Early Class II correction?** We will be covering this topic in a future webinar but here is a picture of our current clinical protocol.



14. **What is the largest overjet in millimeters that can be reduced with a Forsus appliance?** It depends on the origin of the overjet. I believe there are four factors to consider. Overjets can be the result of maxillary protrusion or mandibular retrusion. It also can arise from the position of the maxillary and mandibular incisors. When a combination of these four factors is the origin of the malocclusion the most

significant changes can be made. If you are attempting to manipulate one factor only the treatment effect is reduced. Below is an example of a typical overjet reduction with the Forsus appliance.



16. How does the appliance affect 2nd and 3rd molar eruption? Unerupted 2nd molars will distalize when the 1st molars distalize. The 2nd molars still erupt but they may erupt in a slight buccal version. To date we have not created any impactions. In our general population most individuals do not have space for 3rd molars and removal is common. The same holds true for Forsus appliance patients as well.

17. Is it necessary that molars contact when you insert the Forsus appliance for the first time? Posterior segment will contact when the patient closes. If the patient is unable to occlude on their back teeth one of two things may be happening. The appliance is over activated and generating too much force. Or the patient is posturing forward. I suggest first checking the activation.

18. What kind of retention after removing the Forsus appliance? If a solid Class I relationship does not exist in the buccal segments I will place a flexible wire (17x25 SE Niti) and request the patient wear a box elastic at night time only. Pictured below



19. How do you manage the athletic mouthguard issue with a Forsus appliance? The Totalgard Company makes a mouth guard that fits with Class II appliances. For more information their website is www.totalgard.com.

20. Dear Dr. Alvetro I am from Indonesia and I am an orthodontic resident. I have some questions.
1. Is there any contraindication for this Forsus appliance? Yes, you need to consider mandibular

incisor proclination. If the incisors are too proclined, extractions may be needed to upright the incisors prior to Forsus placement.

2. **Forsus appliance removal how to maintain the new position of the mandible:** refer to question 18

3. **Before installing a Forsus appliance do we have to correct the positive curve of spee first?** No the curve of spee can be leveled with the Forsus appliance in place. When placing the mandibular wire place a reverse curve into the wire. Also the vertical force exerted by the rod in the mandibular arch will assist in incisor intrusion and further level the mandibular occlusal plane.

4. **Do we need TPA at the maxilla and the lingual arch at the mandibular while wearing the Forsus appliance??** I do not use a transpalatal arch or mandibular lingual arch when placing a Forsus appliance

21. **Do you have any tricks to opening the loop on the rod for repositioning of the rod?** Use an old pin and ligature cutter, disengage spring and rod, place cutter at opening and squeeze to open. Pictured below.



22. **Can we use the Forsus appliance for height divergent patient (skeletal open bite) ??** Yes, but I recommend a slight modification of the installation. I prefer to attach the Forsus spring in a maxillary gingival tube and place the mandibular push rod behind the 1st bicuspid. This places the spring in a more vertical position and helps control lower face height.



23. **Do you over-correct AP correction??** My usual goal looks like picture A. Slight over correction knowing the lower incisors will rebound about 4 degrees after the appliance is removed.

A.



In cases where I am concerned about relapse or a larger amount of correction was achieved, I will distalize the molars for over correction just prior to removing the Forsus appliance . As seen in picture B and C.

Picture

B



Picture



24. **Thank you so much what if u make some trainings during 3M symposium it needs time to be familiar with?** This webinar and others can be viewed on 3MUnitek's website

<http://3munitektraining.com/training.asp>

25. **Are patients resistant to the Forsus appliance? How do you get patient buy in for using the system? We never refer to the appliance in terms of non compliance treatment or as a punishment. When the appliance is presented at the initial consultation as a predictable and efficient way to correct over bites we seldom get resistance. Often I phrase it as "we used make kids wear headgears for years or we had to have their teeth pulled but you are in luck we no longer have to do that. Instead you can wear springs for 6 months". I also tend to avoid the name "Forsus" but refer to them as springs.**

26. **How often do you use the Forsus appliance?** We use it on all our moderate to severe Class II cases and inn all asymmetry cases. We place maxillary headgear tubes in slight Class II cases where cooperation is questionable in case we decide to use a Forsus appliance instead of a limited time with Class II elastics

26. **Does cinching the mandibular wire prevent spacing between canine and bicuspid??** When cinched securely in most cases it does prevent spacing. If we do see a space we plan on closing it after Forsus appliance removal by chaining the arch molar to molar. In these cases consider slight overcorrection to make up for the new mandibular incisor position that will occur as the space is closed post Forsus.

27. So you don't recommend lacing molar to canine on mandibular under the wire?? We do not recommend lacing molar to molar or molar to canine under the wire. When we used this technique we often found that the wire broke or stretched providing no value in preserving arch integrity. We now securely cinch the mandibular arch wire.

28. Are there added concerns regarding patients under TMJ therapy on the Forsus appliance as opposed to elastics? Clinically, I find that the Forsus appliance is more comfortable for patients with TMJ symptoms than Class II elastics. This is especially true in cases that may require asymmetrical elastics to correct the midline. On occasion I have used a Forsus appliance to relieve acute onset TMJ symptoms. These clinical situations were ones in which I previously would have used an anterior repositioning splint.

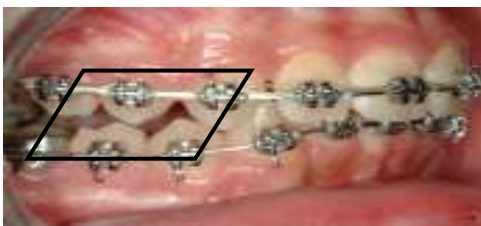
29. How do you make the springs passive? See question 7 for reference on a passive/ inactive spring. There are several options. Often when a growing patient has had the appliance in for 6-8 weeks it may already be passive. If not, you can remove any split crimps used for activation or move rod to the cuspid location instead of the bicuspid. If you use the technique shown in answer 21 the rod is reusable.

30. Can I apply a Forsus appliance at lower splint in mixed dentition? A suggestion is shown in answer 13.

31. Hello is necessary to use stainless steel ligatures in lower jaw to prevent proclination of the lower incisors / or elastic chain. You need a stiff wire in the mandibular arch. A stainless steel or beta titanium can be used. I do not recommend the use of Niti wires. Cinching the arch wire distal to the molar is more effective than chaining molar to molar. The rod moving along the mandibular arch wire tears the chain in the bicuspid area.

32. What about using power chain instead of cinching?? Cinching the arch wire distal to the molar is more effective than chaining molar to molar. The rod moving along the mandibular arch wire tears the chain in the bicuspid area.

33. What is your way of closing the open bite in the buccal segment following Forsus appliance removal? I will place a flexible wire (17x25 SE Niti) and request the patient wear a box elastic.



BOX ELASTICS



RETURN VISIT

34. In the lower at initial placement how do you tie in all of the teeth? Power chain steel ties?? In the mandibular arch we tie the tooth that will be contacted by the rod, either the bicuspid or cuspid with steel. The anterior teeth we chain together. We do not chain molar to molar because the chain will interfere with the rod being able to slide.

36. After the Forsus appliance do you have your patients wearing elastics?? If a solid Class I relationship does not exist in the buccal segments I will place a flexible wire (17x25 SFE Niti) and request the patient wear a box elastic at night time only. Pictured below



37. How we will measure the distance in case of asymmetry? Measure the Class II side that requires correction first. That measurement gives you the size rod that would activate the appliance. Often that same size rod on the Class I side that does require correction will be inactive. This is true because on the Class I side the distance between the maxillary 1st molar and bicuspid or cuspid is greater due to the existing Class I relationship .

38. I found scissor bite at second molar upper n lower after protracted the mandibular jaw as a consequences. How to prevent it?? You may need a stiffer arch wire in the maxillary arch. The Forsus appliance also has a horizontal component of force that can increase maxillary arch width. In a case that you want to avoid any increase in maxillary arch width use a rigid wire such as stainless steel. Also, watch that your molars are not rolling buccally resulting in a posterior crossbite. Excessive molar rolling may result from over activation.

39. How do you make passive for 8 weeks? Removing the activation lugs? Yes, that works along with the suggestions in question #29.

40. How it work n the open bite cases? Won't it increase the open bite?? ?? I recommend a slight modification of the installation. I prefer to attach the Forsus spring in a maxillary gingival tube and place the mandibular push rod behind the 1st bicuspid. Use a smaller more flexible wire in the maxillary arch such as Niti and a full size rigid arch wire such as stainless steel or Beta titanium in the mandibular arch. The rod behind the bicuspid places the spring in a more vertical position and can intrude posterior teeth to help with open bite closure. Posterior molar intrusion can result in a counter clockwise rotation of the mandible and aid in open bite closure. The bicuspid rod location can also help reduce the incisor intrusion by placing the intrusive force more in the bicuspid location. The rigid mandibular wire can also control the intrusion in the anterior region. Also

consider placing an accentuated curve in the mandibular arch wire to counter act the force of the push rod.
This will help maintain the vertical position on the mandibular incisors.