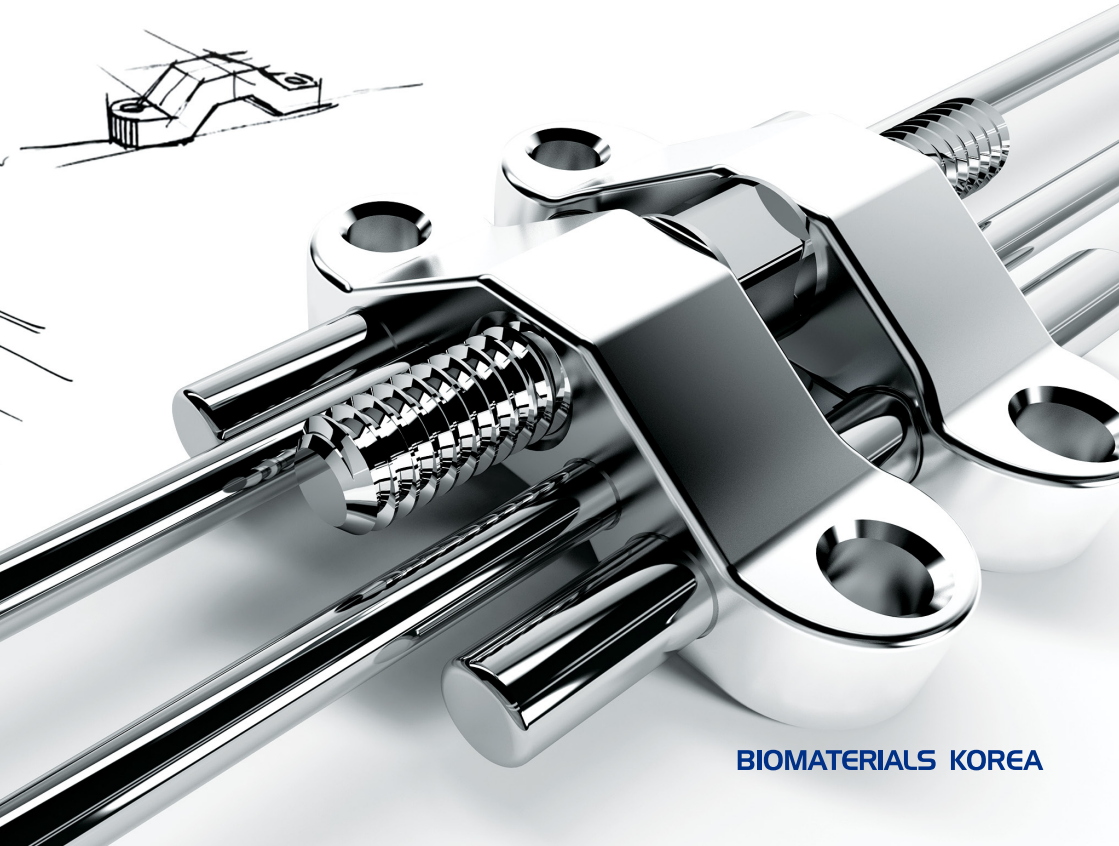


MSE

Maxillary Skeletal Expander

Invented by Prof. Won Moon
UCLA School of Dentistry





Prof. **Won Moon** D.M.D. M.S.

from UCLA School of Dentistry

UCLA School of Dentistry, Certificate in Orthodontics, 1991
UCLA School of Dentistry, MS in Oral Biology, 1991
Harvard School of Dental Medicine, D.M.D., 1989
University of California, Irvine, BS in Mathematics, 1984

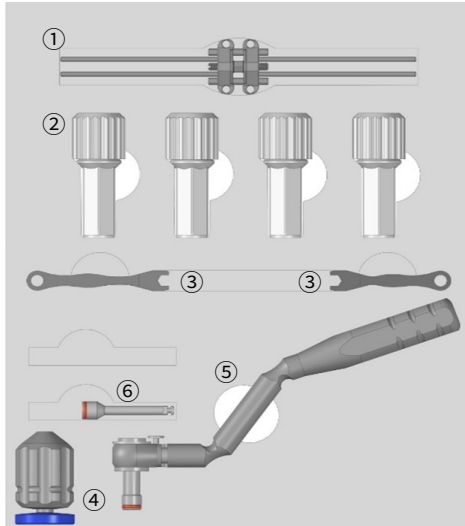
Dr. Won Moon is the Thomas R. Bales Endowed Chair in Orthodontics and serving as the program director for an orthodontic residency program, UCLA School of Dentistry. He has been a Diplomate of the American Board of Orthodontics since 2002. He completed his dental education at Harvard and orthodontic education at UCLA. He studied mathematics prior to dentistry, and his research topics include 3D image analysis utilizing surface mapping functions and Elliptical Fourier's Descriptors, Genomewide Association Study of Craniofacial Phenotypes, Finite Element Model Development and Simulation, Applications of 3D Printing in Orthodontics, Orthopedic Correction, Airway Changes with Orthopedic Corrections, Accelerated Tooth Movement, and Micro-implant (MI) Design study. His work has been published in various journals, not necessarily limited to orthodontics because of his background, and he is a co-author of two textbooks. He is currently working on a textbook, "Midfacial Expansion". He has presented these findings in 17 countries, totaling over 150 presentations. His current focus has been establishing protocols for orthopedic corrections with MI, improving the airway for patients with nasal obstruction, and creating virtual patients utilizing image analysis.

His interest in mid-facial expansion began in 2005 as micro-implant became available in USA, and he is responsible for developing Maxillary Skeletal Expander (MSE), a unique micro-implant assisted rapid palatal expander (MARPE). He has been active in advocating non-surgical skeletal expansion in both children and adult patients, especially for those who may suffer from airway restrictions. His presentation in MSE has been widely accepted internationally, and numerous peer-reviewed publications are available.

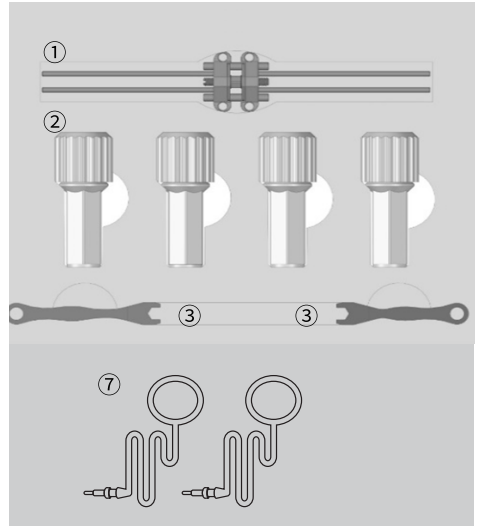
Article



Starter kit



Refill kit



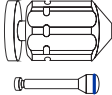
Components

- ① **MSE Expander** (Available expansion sizes : 8mm, 10mm & 12mm)
Choose an expander size according to a width of patient's palatal vault
- ② **Micro Implant(M.I)** (Ø 1.8mm X 11mm & 13mm Lengths are available)
Choose M.I length according to the thickness of patient's palatal bone
*For MSE type 1, M.I is Ø 1.5mm and for MSE type 2, M.I is Ø 1.8mm
- ③ **2 Activation Keys (1 Short & 1 Long)**
- ④ **Mini Hand Driver**
Use with initial insertion of M.I placement
The best way is to use Mini Hand Driver for initial
- ⑤ **Ratchet Wrench Driver**
Inserting and Removing M.I
- ⑥ **Short Engine Blade (Shaft)**
Attach to Mini Hand Driver
- ⑦ **Safety Leashes**
With ③ activation key

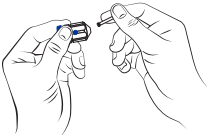
HOW TO USE COMPONENTS

Mini Hand Driver + Short Engine Blade

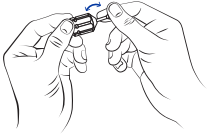
- 1




MHD and SEB
- 2



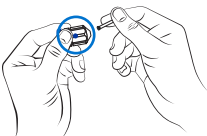
Insert a blade into the mini hand driver hole
- 3



Rotate the Blade until going through the MHD
- 4



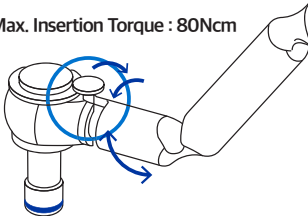
Place M.I same as a picture
- 5



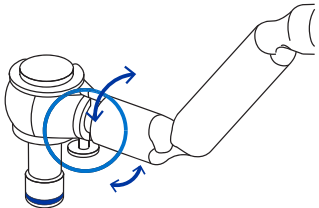
To separate the SEB and MHD, Press the blue button on the MHD

Ratchet Wrenches

Max. Insertion Torque : 80Ncm



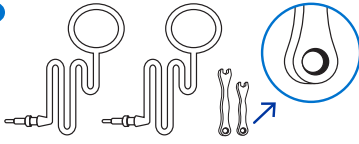
The button on the Top :
Locking direction



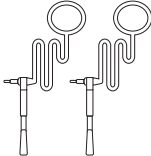
The button on the bottom :
Releasing direction

Safety Leash + Activation Key

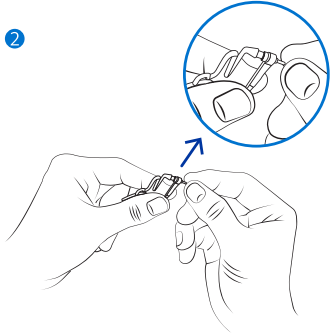
- 1



Activation Key & Safety Leashes
- 3



2



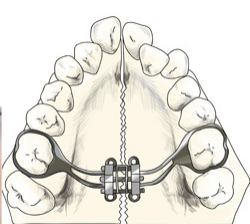
Pass through the key hole

OVERVIEW PROCESS



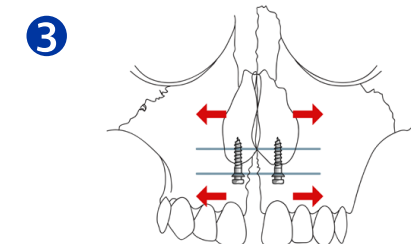
Take 1:1 Cephalo

To measure thickness of palatal bone and determine the proper length of M.I



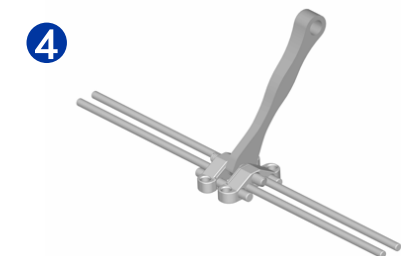
Lab work

Posterior position
Weld to 6th teeth molar band



Insertion M.I

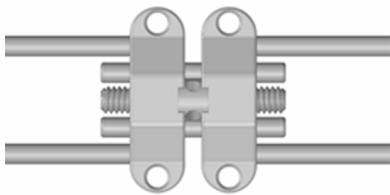
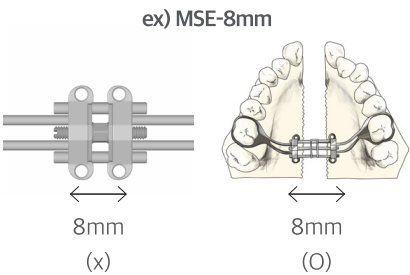
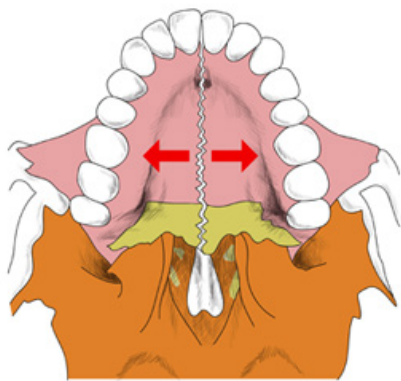
Bi-cortical Engagement
Vertical insertion
Use RW Driver and Mini driver



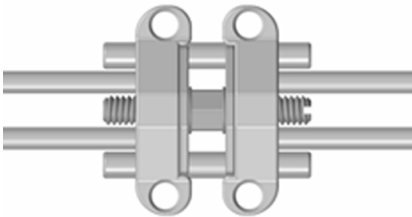
Activation protocol

6 Turns \approx 0.8mm (1 revolution)
ex) MSE II - 12 means to expand 12mm, Max. 90 turns

1. Deciding an expander size of MSE
by the width of maxillary arch



*MSE 1



*MSE 2

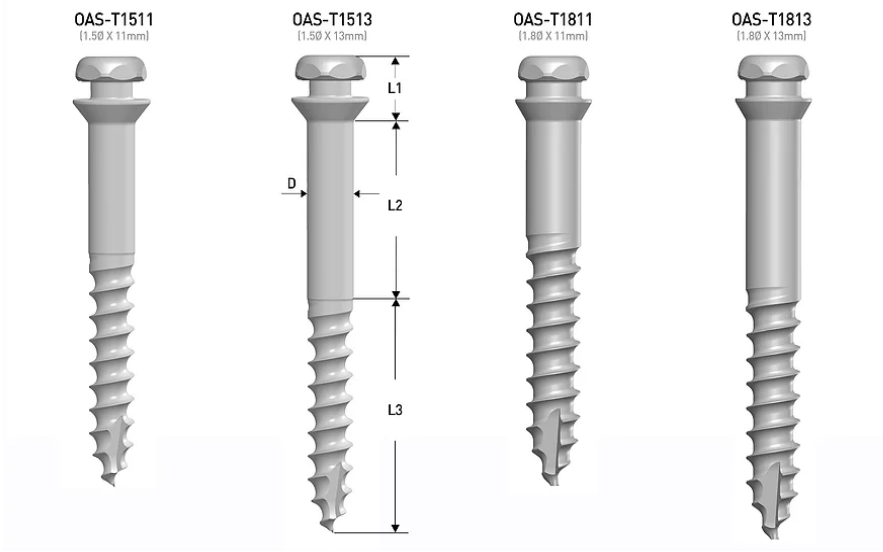
MSE	8mm	10mm	12mm
Type1	13.4mm	15.4mm	17.4mm
Type2	14.1mm	16.1mm	18.1mm

*The expansion size does not mean the width of the MSE (Please see the dimension above)

2. To measure thickness of palatal bone and determine the proper length of M.I

*To be bi-cortical, The Inventor recommends to 11mm Length M.I, but if a mid palatal is narrow, 13mm M.I can be used.

MSE Mini Implant



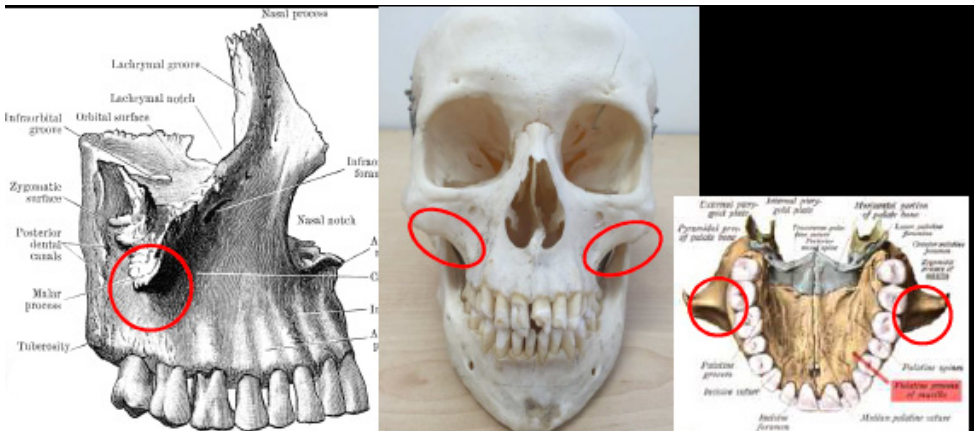
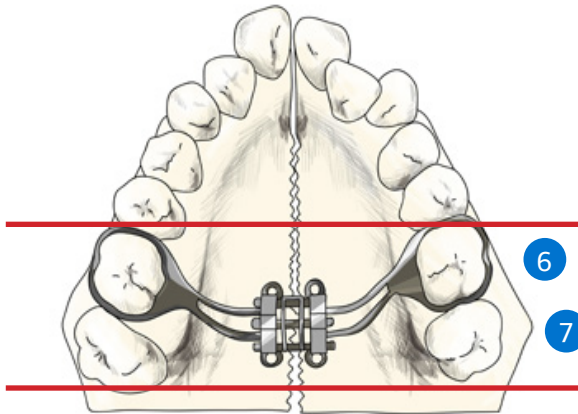
(Unit: mm)

Model	D(Diameter)	L1(Head part)	L2(Non-thread part)	L3(Thread part)
OAS-T1511	1.50	2.10	4.00	7.00
OAS-T1513	1.50	2.10	6.00	7.00
OAS-T1811	1.80	2.10	4.00	7.00
OAS-T1813	1.80	2.10	6.00	7.00

Fabrication 1

Posterior Palatal Vault Between 6th and 7th teeth.

In order to direct the expansion force against the buttress bones.

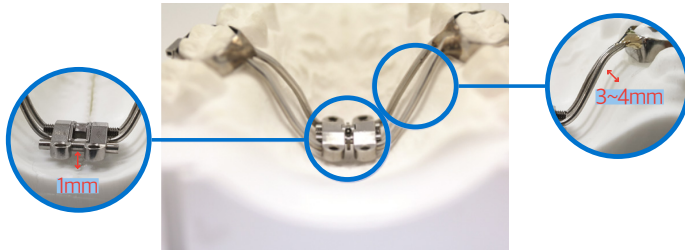


Zygomatic Buttress Bone

Fabrication 2

This process is one of the most important procedures to be success incorporate Bi- Cortical engagement & splitting of the suture

Proper MSE lab fabrication required : (Refer FAQ)



Less than 1mm space between palatal vault and the expander

Keep at least 3mm space between supporting arms and soft tissue in order to prevent tissue impingement

Soldered arms to the molar bands are intended as a guide for proper MSE placement

Even if the Mid-Palatal suture line is not in the middle, MSE must be placed vertically from the Mid-Line of the maxilla

Fabrication 3

Posterior position

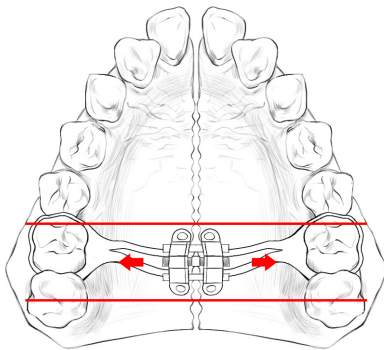


LAB WORK

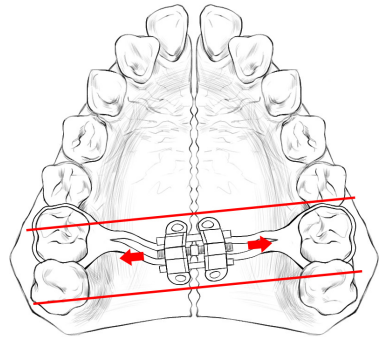
Fabrication 4

Place for suture line

1) MSE be placed as suture line

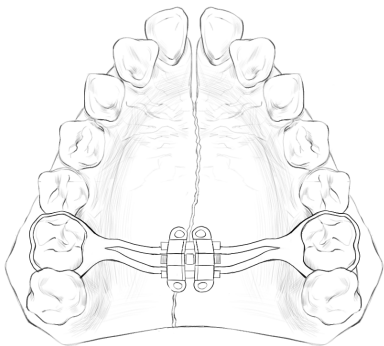


(o)

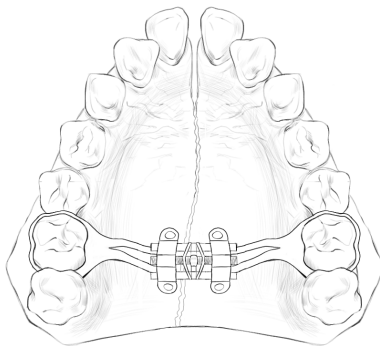


(x)

2) If suture is not vertical line, MSE needed to be additional expansion should place with suture line.



(x)



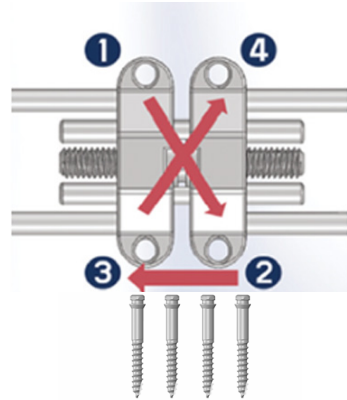
(o)

MINI IMPLANT INSERTION

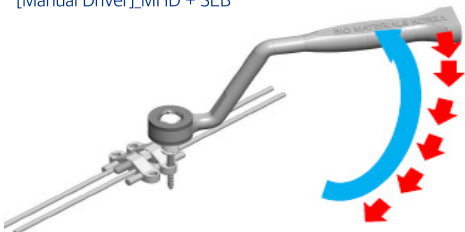
1. Vertical Insertion

After an expander placement, Insert M.I

When inserting M.I, make sure they are placed vertically with proper insertion guidelines. (1-2-3-4)



* [Manual Driver]_MHD + SEB



* [Manual Driver]_RW

It is important to insert M.I by applying force immeritently

2. Can I use a Motor Driver?

The inventor recommends to use the manual driver for placing M.I Because You can feel insertion torque and Bi-Cortical engagement as well

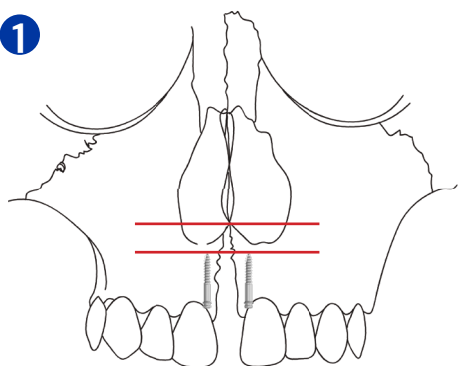
If you use motor driver, You can't feel insertion torque and bi-cortical engagement

Increasing high TQ level

Please don't insert the TAD too tightly because MSE body will be bent by strong pressures or forces

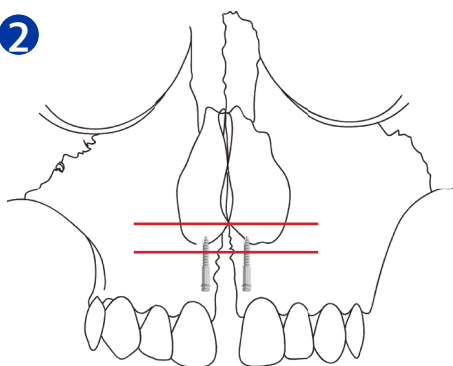
Bi cortical process

1



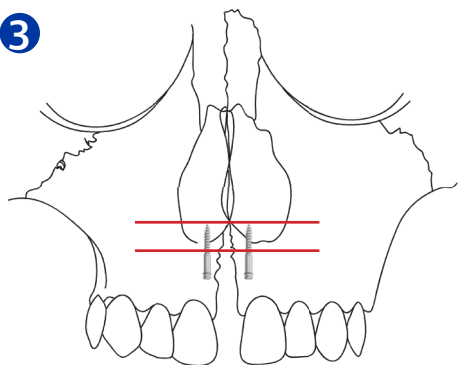
Initial penetration with force

2



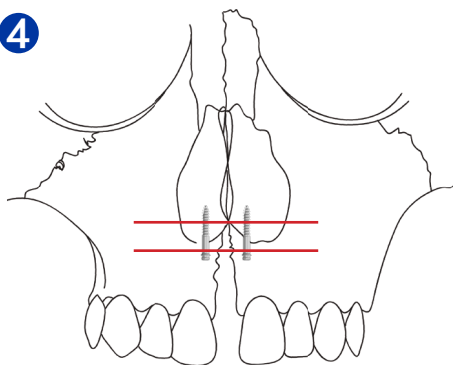
Relatively easier insertion after the first layer of cortical bone

3



Tighter insertion when the second layer of cortical bone is being penetrated

4

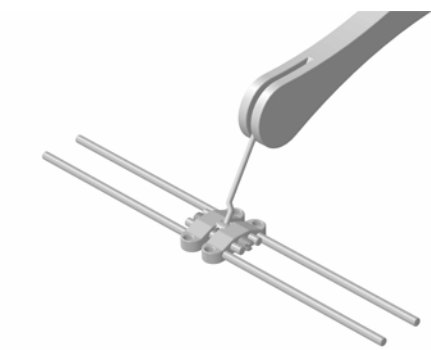


Slight release of tightness and tickling sensation in the nose.

Activation Protocol

Caution : There could be situation when the hexagonal nut is not able to turn by the activation key
In this case, stop activation for max 3 weeks for bone regeneration

MSE I



4 Turns = 0.8mm (1 revolution)
ex) MSE - 8 means to expand 8mm, Max. 40 turns

Early teens	3X / week (0.60mm / week)
Late teens	1 X / day (0.20mm / day)
Early to Mid-20's	2~3X / day (0.40~0.60mm / day)
Older	Min. 2~3X / day, assistance PRN
After Diastema	1X / day (0.20mm / day)

MSE II



6 Turns \approx 0.8mm (1 revolution)
ex) MSE II - 12 means to expand 12mm, Max. 90 turns

Early teens	6X / week (0.80mm / week)
Late teens	2X / day (0.27mm / day)
Early to Mid-20's	4~6X / day (0.53~0.80mm / day)
Older	Min. 4~6X / day
After Diastema	2X / day (0.27mm / day)

2019 MOON PRINCIPLES

SEP. 13
am 11:30 - 11:45
World Class Business Educa

SEP. 14
All Day
Austin MSE Seminar with

"The Evolution of Micro-Implant (MI) Assisted Maxillary Skeletal Expander (MSE) with Special Emphasis on Obstructive Nasal Airway"

Contact : https://op2018.com/2019_registration/
<https://opsu2019.com/>

colliac@wimberlydentalcenter.com

SEP. 21
All Day

OCT. 18 ~ 19
All Day

OCT. 21 ~ 22
Two Full Days

OCT. 23 ~ 26
OCT 24, 11:30 AM

Italian Society of Dental Sleep Medicine (SImSO) National Congress

"The Evolution of Micro-Implant (MI) Assisted Maxillary Skeletal Expander (MSE) with Special Emphasis on Obstructive Nasal Airway and Obstructive Sleep Apnea Syndrome (OSAS)"

Location : Doria Grand Hotel Viale Andrea Doria 22, Milan, Italy

**"#1 of 4 Module Course, Edition 3 (2019-2020)
in Madrid"**

Contact : <https://cursoiniciomolantes.dentalgramformacion.com/>

Location : University of Salamanca, Salamanca, Spain
Contact : info@mmdu.com

Location : Mahogany-Willbrook Platinum
Contact : <https://www.wmcg2019.com/contact/>

Contact : <https://secure.congress.gov/secure/form.aspx?GJID=576931818739842242493505>

Copyright © 2007 by John Wiley & Sons, Inc.

OCT. 26
OCT 24, 11:30 AM

OCT. 27
OCT 24, 11:30 AM

NOV. 1 ~ 2
All Day (Two Full Days)

NOV. 23
One Full Day

MSE seminar in Poland

"The Moon Principles by Won: Advanced Maxillary Skeletal Expander (MSE) Seminar with Retrospective Overview, the Latest Developments, and Prospective Advanced Applications"

Location : Marriott Hotel (Warsaw), KOMETA room
Contact : A&T Dental Solutions Katarzyna Kurdziel

szkolonia@algarner.pl
www.algarner.pl

Detroit Motor City Study Club

"The Moon Principles by Won: Non-Surgical Maxillary Expansion with Micro-Implant (NI) Assisted Maxillary Skeletal Expander (MSE), and Non-Surgical Orthopedic Correction with Micro-Implants:..Breaking the Rules and Expanding the Boundaries!" and "The Moon Principles by Won: Maxillary Skeletal Expander (MSE) Hand-On Workshop"

Location : The Henry in Dearborn, MI
Contact : Amy Saunders Marketing Director

army@pristineperiodimplants.com

MSE Seminar in Paris

"The Moon Principles by Won: Advanced Maxillary Skeletal Expander (MSE) Seminar with Retrospective Overview, the Latest Developments, and Prospective Advanced Applications"

Location : TBA, Paris

Contact : Dr Didier FILLON (srm@dfillon.com)

Dr Didier FILLON (smile@dfillon.com)
Orthodontie Inguise exclusivement
www.inguisliberty.com
www.dfillon.com

Austin MSE Seminar with Hands-on Workshops

The Moon Principle by Won

Schedule 2020



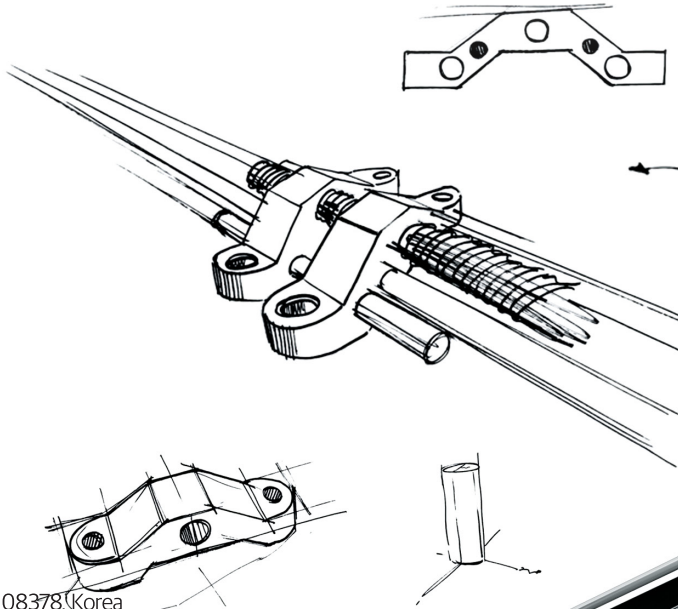
www.moonmse.com

For more information, Please visit above website

DATE	TOPIC	VENUE	CONTACT
 FEB.29 - MAR.1	The 47th Annual Moyers Symposium, The University of Michigan	Rackham Auditorium, Horace H. Rackham School of Graduate Studies, The University of Michigan	 Dr. Nan Hatch nhatch@umich.edu
 MAR.5	The 53rd International Congress of the Mexican Association of Orthodontics 2020	Cede Centro Expositor, Puebla, Puebla, Mexico	 presidente @amo.org.mx
 MAR.9	MSE Seminar in Puebla, Mexico	TBA (Puebla, Mexico)	Jorge Sierra
 MAR.13	MSE Seminar for the Partnership Study Club	1150 Civic Dr Suite 101, Walnut Creek CA 94596	 Elaina Wharton Elaina@dralljan.com  Dr. Ali Aljani Ali@dralljan.com
 APR.19	MSE Seminar for EODO (Excellence in Orthodontics and Dentofacial Orthopaedics) in Australia	TBA (Sidney, Australia)	 courses@eodo.com
 APR.29	Charles J. Burstone Lecture for University of Connecticut	TBA	 Shelly Gole-Morell golemorell@uconn.edu
 MAY.1	Pre-AAO UCLA CE Course with Hands-on Workshop	TBA (Atlanta, Georgia) near the AAO Convention)	 https://www.dentistry.ucla.edu
 MAY.5	Advanced Implant Orthodontics Course in Madrid/UCLA	UCLA School of Dental Medicine	 https://uconnconferences.dentistry.ucla.edu
 MAY. 27 - 30	The 66th Congress of the Spanish Society of Orthodontics (SEDO)	Grand Canary	
 JUN.12	The 35th Jarabak Lecture	University of Michigan	 Dr. Hera Kim-Berman bermanh@umich.edu
 JUN.19	Annual Alumni Reunion Meeting, Louisiana State University (LSU) Health Sciences Center	Louisiana State University (LSU) Health Sciences Center	 Dr. Glenn Dubroc gdubroc@lsu.edu
 SEP.11	The 50th Anniversary Celebration for University of West Virginia	University of West Virginia	 Dr. Peter Ngan pengan@hsc.wvu.edu
 OCT. 4 - 7	The 9th International Orthodontic Congress (IOC), the 12th Asian Pacific Orthodontic Conference (APOC), and the 79th Annual Meeting of Japanese Orthodontic Society (JOS)	PACIFICO Yokohama in Yokohama, Japan	 http://www.wfo2020.yokohama.or.jp
 NOV. 6 - 7	Northeastern Society of Orthodontists (NESO) 99th Annual Meeting	Bonaventure Hotel, Montreal, CANADA	



Maxillary Skeletal Expander



BioMaterials Korea, Inc Orthodontics

#506, 55 Digital-ro 34-gil, Guro-gu Seoul 08378, Korea

TEL : +82-2-2025-0725(Domestic Sales) / +82-2-2025-0726(International Sales)

FAX : +82-2-2025-0728

E-Mail : info_biomk@daum.net

www.biomk.com

www.moonmse.com



Facebook



User
Group



Youtube