

orthoplus

functional education devices

EF Line[®]
by orthoplus[®]



Functional Education

by orthoplus®

Functional Education was generated by the Bioprogressive philosophy that advocates a global and customized approach of the patient as taught by **Drs. ROBERT M. RICKETTS, and Carl F. GUGINO**. Today, it is widely integrated in all treatment philosophies worldwide as a key element of the treatment armamentarium at the disposal of practitioners.

It gives its full meaning to the naming of **“Dentofacial Orthopedics”** and extends the scope of the practitioner to a global management of his/her patient.

Functional Education can ideally be implemented in children from **3 to 14 years** of age and over, and also in adults, through the correction of bad habits and of their consequences (lowered tongue position, lip or tongue interposition, mouth breathing, nasal valve collapse...).

It will bring **a long term stability** of the corrections from orthopedic treatment by fixed appliances, and improve the comfort and well-being of the patient.

Whether you are discovering Functional Education or are a seasoned practitioner, this was designed to make the implementation of the range easier **EF Line**.
by orthoplus

Optimize your daily Functional Education even more and discover our training services and the associated tools..

Welcome to the **EF Line** Universe, let your needs be your guide and contact our teams.
by orthoplus

orthoplus is here to assist you.

In this catalogue, discover a comprehensive range of devices for implementing Functional Education in your office.

To guide you:

- These pictograms will allow you to find the most proper device for your patient, according to the treatment plan you devised.

- **patient's age:**

**3 - 6
y.o.**

**6 - 8
y.o.**

**8 - 10
y.o.**

**10 - 12
y.o.**

- **dental Class:**

CL I

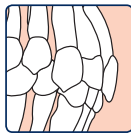
CL II

CL III

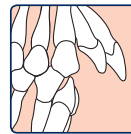
- **tooth position:**



Open bite

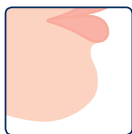


Overbite



Overjet

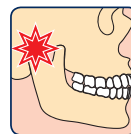
- **specific:**



labiomental
fold



thumb sucking



TMJ

- **crosssections:**

Find a cross-section for each device to see the inter-arch relationship of every appliance:

- **physiological rest**
- **mandibular protusion**
- **maxillary anterior sliding range**



EF Line[®]

by orthoplus[®]

- the 6 keys p 5
- how to select the proper device ? p 6 to 7
- EF Line[®] devices p 8 to 13
- other cases treated by Functional Education p 14 to 19
- your patients' motivation p 20 to 22

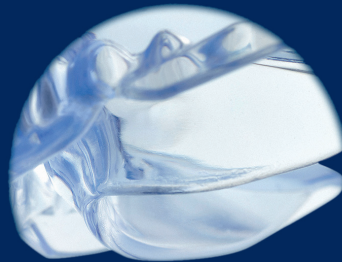
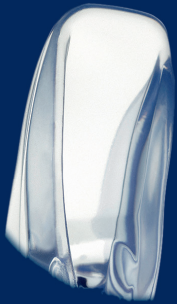


Growing-up is a piece of cake !

the 6 keys of the devices in the EF Line range

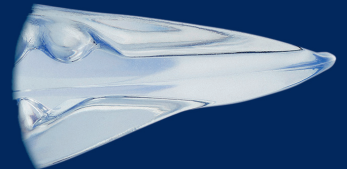
Double splint

With higher lingual and buccal shields in order to free the neutral zone from any muscular interference and contribute to proper dental growth.



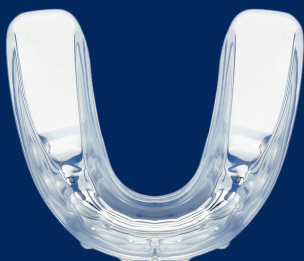
Tongue ramp

To guide the tongue against the palate when swallowing. This passive re-education leads the patient towards the proper position and contributes to the development of the transverse dimension.



Overthickness

Aerofoil shaped posterior thickness. This allows a pressure relief on the TMJs and a freeing of the mandibular growth.



Arch form

Accu Form. This wide shape keeps the musculature at bay and frees the transverse dimension growth.



Lip Bumper

The integral lip bumper allows a normalization of the muscle tone in the lower lip and in the mentolabial fold.



Indents

Some appliances feature indents on the maxilla and the mandible. This allows a better action on tooth alignment and a centering of the midlines.
















how to choose...



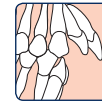
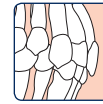
	Classe I	Classe II			Classe III
		Moderate	Severe	Very severe	
3 y.o.		EF Kid 			
6 y.o.		EF Start 			EF Classe III Petit 
8 y.o.	EF T Slim 	EF T Slim 	EF Classe II Slim 	EF Classe II two steps 	EF Classe III Petit 
10 y.o.	EF Profil 				EF Classe III Standard 
12 y.o.	EF Profil 	EF T Slim Long 	EF Classe II Standard 	 <p>Treatment of overjet greater than 10 mm</p>	EF Classe III Standard 
and +	EF Guide 	EF Guide 			

Warning: This selection is for information only. Arch size, dental age and treatment goals vary in each patient.

...the proper device ?

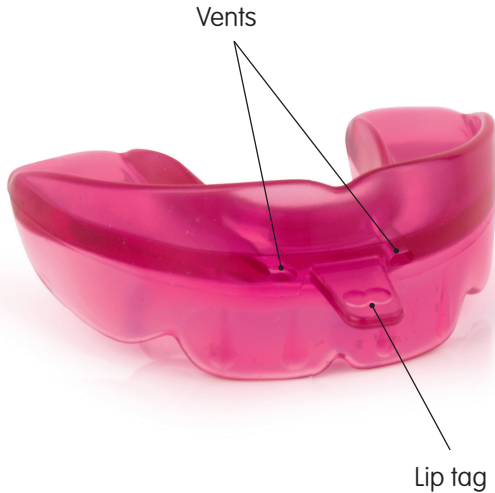
						Indent	
EF Kid	●	●	●	●	●		 Physiological rest
EF Start		●				●	 Physiological rest
EF Profil		●					 Physiological rest
EF T Slim		●				●	 Physiological rest
EF T Slim Long		●				●	 Physiological rest
EF Classe II Slim		●					 Mandibular protrusion
EF Classe II Standard			●		●		 Mandibular protrusion
EF Classe II 2 Steps	●		●				 Mandibular protrusion
EF Guide		●				●	 Physiological rest
EF Classe III Petit	●						 Maxillary anterior sliding range
EF Classe III Standard	●						 Maxillary anterior sliding range

EF Kid



CL
I-II-III

3 - 6
y.o.



- Lip tag: for lip contact and prehension.
- Vents for the circulation of saliva and for suppressing the sensation of suffocation at night.

Available in 3 colors:



D590 600R



D590 600B



D590 600

Case treated by EF Kid

Mathilde 7 y.o., before EF Kid

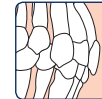
- Class I, maxillary alveolar protrusion • Hyperdivergent tendency • Severe crowding with insufficient space for canines • Tongue dysfunction when swallowing



Mathilde, after 12 months EF Kid

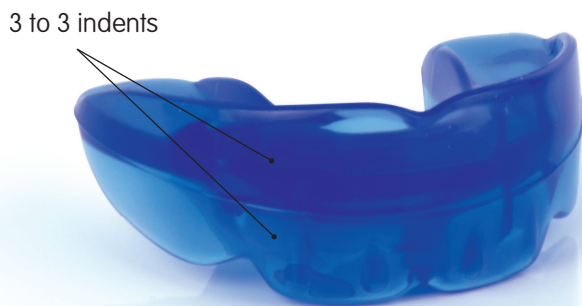


EF Start



CL
I - II

6 - 8
y.o.



- Universal 3 to 3 maxillary and mandibular indents to align the midlines.

Available in 3 colors:



D590 220R



D590 220B



D590 220

Case treated by EF Start

Lucas 7 y.o., before EF Start

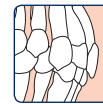
- Class II 1 • Retrognathic mandible • Tongue dysfunction when swallowing • Deep bite



Lucas, after 12 months EF Start



EF T Slim

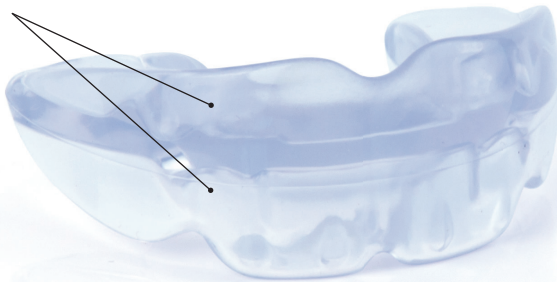


CL I

CL II
moderate

8 - 10
y.o.

3 to 3 indents



Physiological rest position

- Universal 3 to 3 maxillary and mandibular indents to align the midlines.

Available in 5 colors:



D590 300R



D590 300B



D590 300V



D590 300J



D590 300

Case treated by EF T Slim

Martin 10 y.o., before EF T Slim

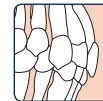
- Class II 2 moderate



Martin, after 12 months EF T Slim



EF T Slim Long

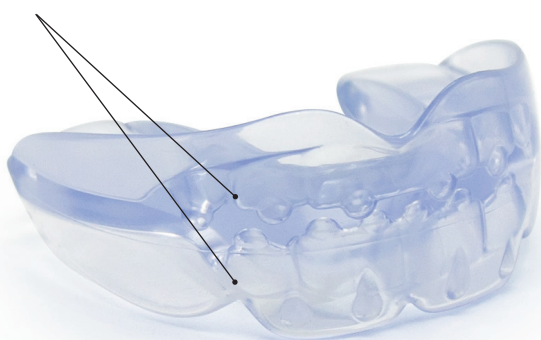


CL I

CL II
moderate

10 - 12
y.o.

3 to 3 indents



Physiological rest position

- Universal 3 to 3 maxillary and mandibular indents to align the midlines.
- Distal extension to include 6s and 7s.

Available in 5 colors :



D590 300LR



D590 300LB



D590 300LV



D590 300LJ



D590 300L

Case treated with EF T Slim Long

Aurélien 10 y.o., before EF T Slim Long

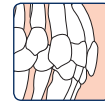
- Skeletal Class I • Tongue dysfunction when swallowing • Family history (mother had maxillofacial surgery and father was treated for impacted maxillary canines)



Aurélien, after 12 months EF T Slim Long



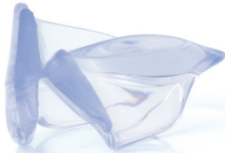
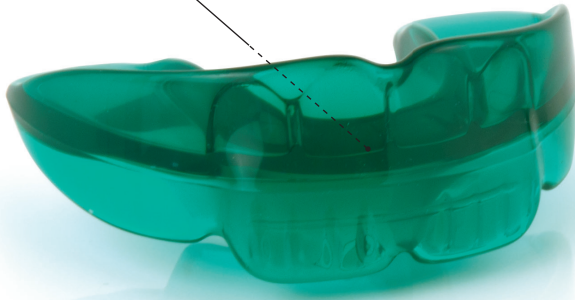
EF Classe II Slim



CL II
severe

8 - 12
y.o.

Tongue rest area



Mandibular protrusion

- Tongue rest area for resting the dorsal surface of the tongue against the palate.
- Lower buccal shields for maximum patient comfort.
- Short bumpers for shallow labiomental folds.

Available in 5 colors:



D590 004R



D590 004B



D590 004V



D590 004



D590 005

Case treated by EF Classe II Slim

Enzo 10 y.o., before EF Classe II Slim

- Class II 1 • TSALD predisposition • Skeletal Class II with maxillary alveolar protrusion and retrognathic mandible • Tongue dysfunction when swallowing.



Enzo, after 12 months EF Classe II Slim



EF Classe II Standard



CL II
severe

8 - 12
y.o.

Higher buccal shields



Deeper Bumpers



Mandibular protrusion

- Deeper bumpers allow a normalization of the muscle tone in the lower lip and the mentolabial fold.
- Higher buccal shields for buccalized laterals and ectopic cuspids.

Disponible en 5 couleurs :



D590 001R



D590 001B



D590 001V



D590 001



D590 003

Case treated by EF Classe II Standard

Maéva 11 y.o., before EF Classe II Standard

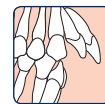
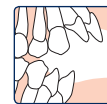
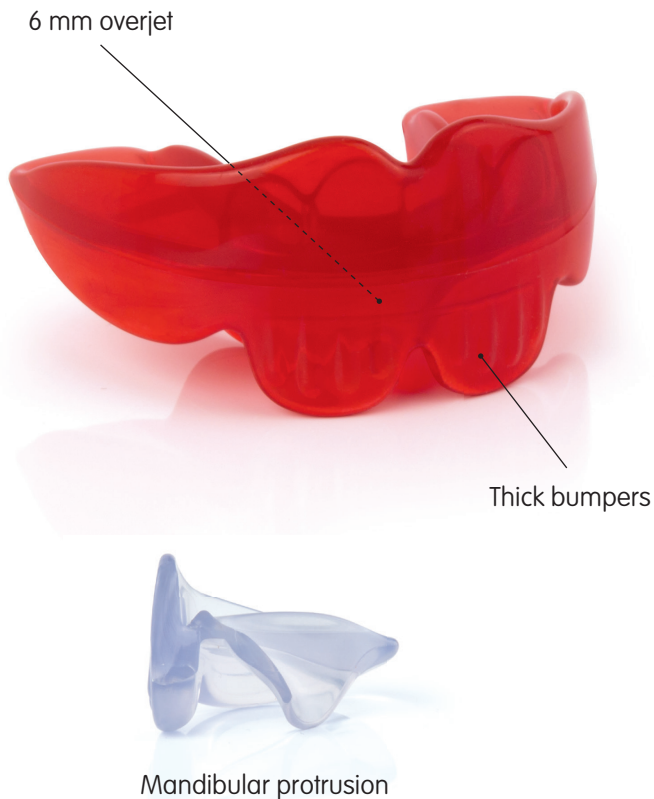
- Class II • Anteroposterior discrepancy • Narrow maxillary arch.



Maéva, after 12 months EF Classe II Slim



EF Classe II 2 Steps



> 10 mm

CL II
very severe

8 - 12
y.o.

- Designed with a 6 mm overjet for progressive repositioning of the mandible.
- Thicker bumpers allow a normalization of the muscle tone in the lower lip and in the mentolabial fold.

Available in 5 colors:



D590 006R



D590 006B



D590 006V



D590 006J



D590 006

Case treated by EF Classe II 2 Steps

Evan 9 y.o., before EF Classe II 2 Steps

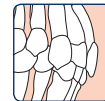
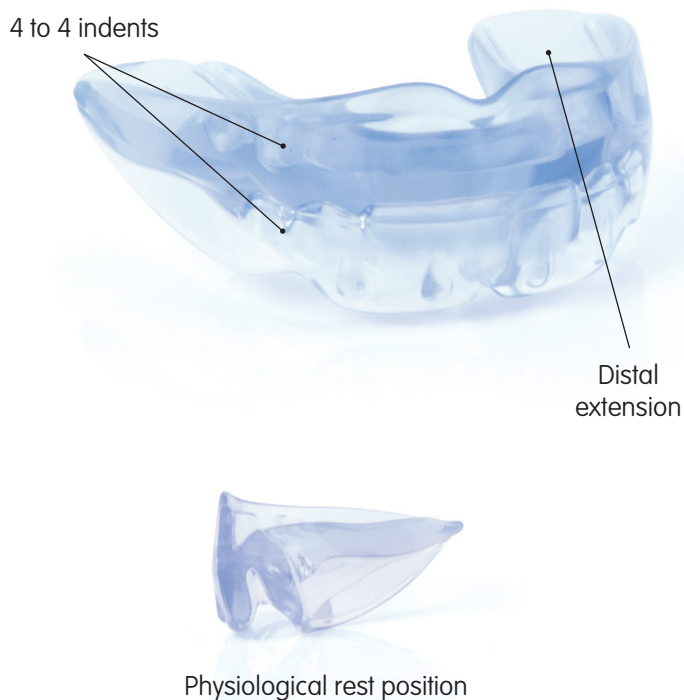


Evan, after EF Classe II 2 Steps



See complete functional treatment page 18

EF Guide



CL I

from
10 y.o.

- Available in 8 sizes from 0 to 7.
- 4 to 4 maxillary and mandibular indents for retention, also useful as eruption guide.
- Distal extension to include 7s.

Available in 1 color :



LEFG 0 • LEFG 1 • LEFG 2 • LEFG 3
LEFG 4 • LEFG 5 • LEFG 6 • LEFG 7

Case treated by EF Guide

Julien 13 y.o., before EF Guide

- Skeletal Class II with retrognathic mandible.



Julien, after 12 months EF Guide



EF Classe III Petit

CL III

6 - 10
y.o.

3 to 3 indents



Maxillary anterior sliding range

- Maxillary anterior sliding range to facilitate the bite jumping.
- 3 to 3 tooth slots to position the appliance.

Available in 3 colors:



D590 500R



D590 500B



D590 500

Case treated by EF Classe III Petit

Lucas 8 y.o., before EF Classe III Petit

• Class III • Prognathic • Cross bite



Lucas, after 9 months EF Classe III Petit

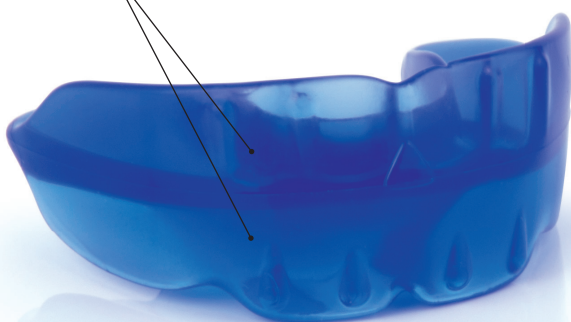


EF Classe III Standard

CL III

8 - 12
y.o.

3 to 3 indents



Maxillary anterior sliding range

- Maxillary anterior sliding range to facilitate the bite jumping.
- 3 to 3 maxillary and mandibular tooth slots to position the appliance.

Available in 3 colors :



D590 400R



D590 400B



D590 400

Cas traité avec EF Classe III Standard

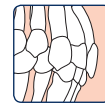
Vivien 8 y.o., before EF Classe III Standard



Vivien after EF Classe III Standard



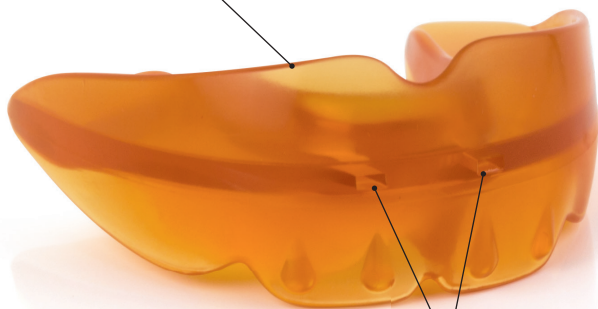
EF Profil



CL I

8 - 12
y.o.

Reduced height and
thickness of the shield



Events



Physiological rest position

- 2 hardnesses.
- Vents.
- Reduced thickness of the maxillary lingual shield from the 3s on to use with a quad helix.
- Reduced thickness of the buccal shields.

Available in 3 colors:



D590 7000



D590 700



D590 700BS souple

Case treated by EF Profil

Julia 9 y.o., before EF Profil

• Skeletal Class I • Hyperdivergent tendency • Severe anterior TSALD.



Julia, after 12 months EF Profil



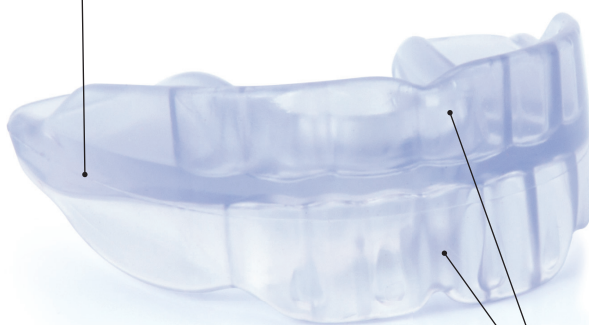
EF TMJ



TMJ

from
12 y.o.

Inter-molar thickness



3 to 3 indents



Physiological position

- Increased inter-molar thickness to relieve the pressure on TMJs.
- 3 to 3 maxillary and mandibular tooth slots.
- Positioning space for maxillary incisors, for a comfort position for the patient.

Available in 1 color :

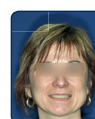


D590 240

Case treated by EF TMJ

Anita 47 y.o., before EF TMJ

• Skeletal Class I • Hyperdivergent tendency • Severe anterior TSALD.



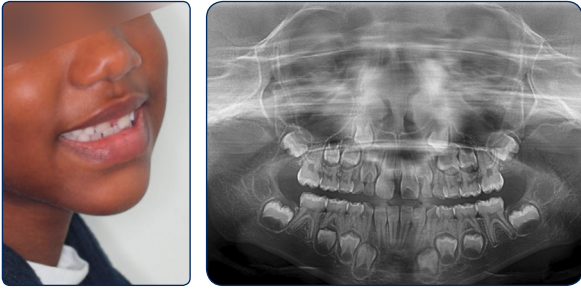
After EF TMJ followed by EF guide



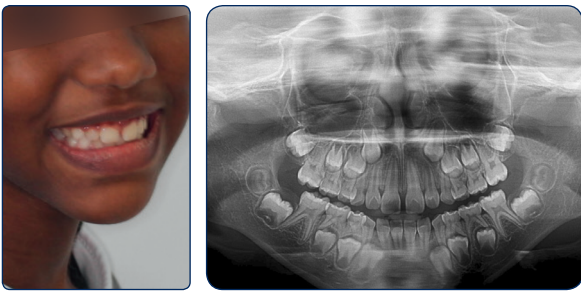
other cases treated by Functional Education

Case treated by EF Kid

- Skeletal Class I • Hyperdivergent tendency • Right incisor in crossbite
- Predisposing factors to anterior TSALD • Tongue dysfunction when swallowing



EF Kid



Results: anterior guidance restored

Jaya

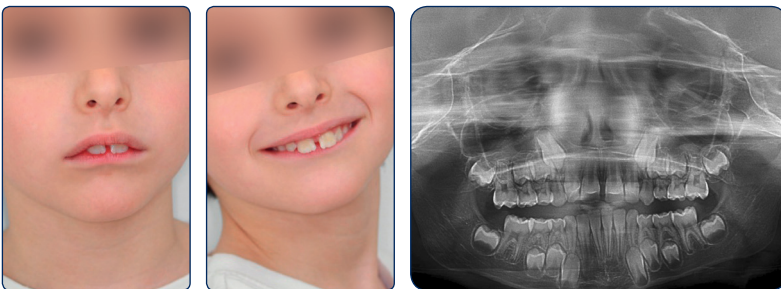
7
y.o.

Treatment time: 12 months

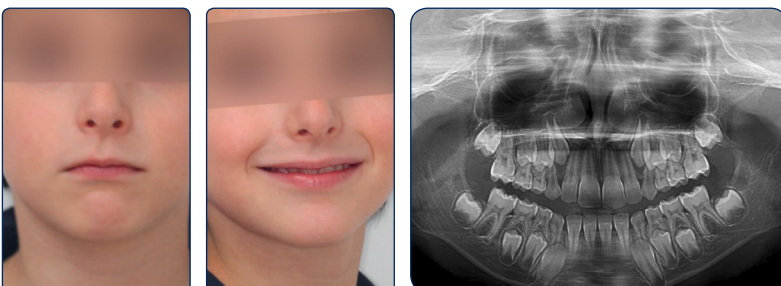


Case treated by EF Start

- Class II 1 • Skeletal Class II with maxillary alveolar protrusion and retrognathic mandible
- Paternal heredity • Deep bite • Anterior TSALD with insufficient space for canines
- Tongue dysfunction when swallowing • Mouth breathing



EF Start



Results: harmonious smile and balanced facial contours

Benjamin

7
y.o.

Treatment time: 12 months



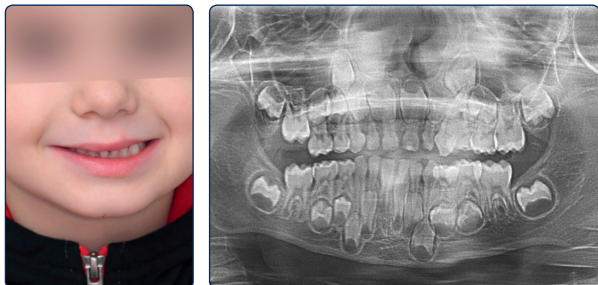
Case treated by EF Kid...

- Linguoversion of left maxilla
- Referred to by the pediatrician for a lateral mandibular deviation

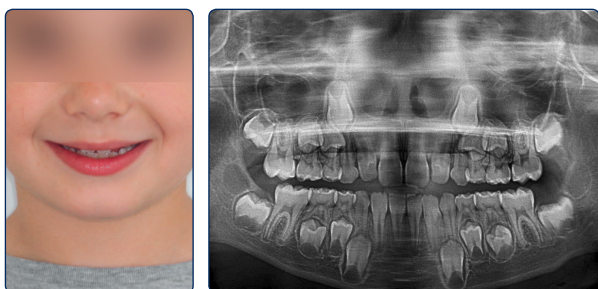
Matyss

6
y.o.

Treatment time: 36 months



EF Kid for 24 months

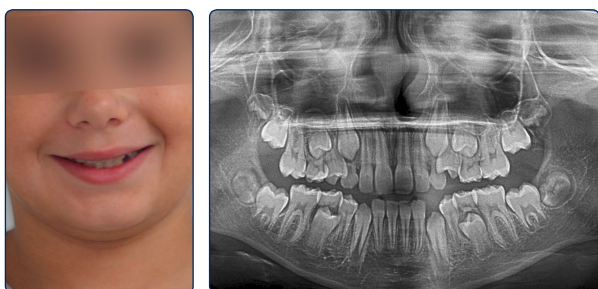


Results: correction of the mandibular deviation



...then with EF T Slim

EFT Slim for 12 months



Results: consolidation of the correction



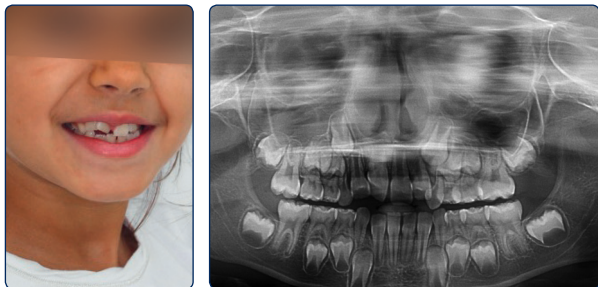
Case treated by EF Kid...

- Linguoversion of left maxilla
- Severe crowding

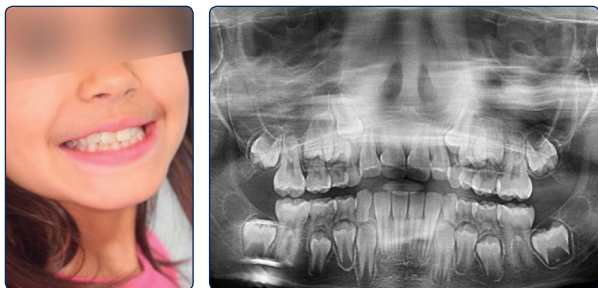
Andréa

7
y.o.

Treatment time: 24 months



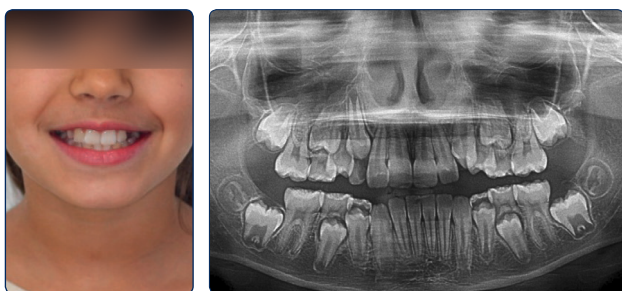
EF Kid for 12 months



Results: closing of the open bite • improvement of arch curvature

...then with EF T Slim

EFT Slim for 12 months



Results: guidance of permanent teeth

Case treated by EF Classe II 2 Steps...

Evan

9
y.o.

Treatment time: 12 months



EF Classe II 2 Steps for 3 months



Results: improvement of the overjet, without rabbiting

...then with EF Classe II Standard...

EF Classe II Standard for 3 months



Results: improvement of the overjet, then of the deep bite

...then with EF T Slim

EF T Slim for 6 months



Results: Class II corrected • waiting for buccal segments (1 year in treatment)

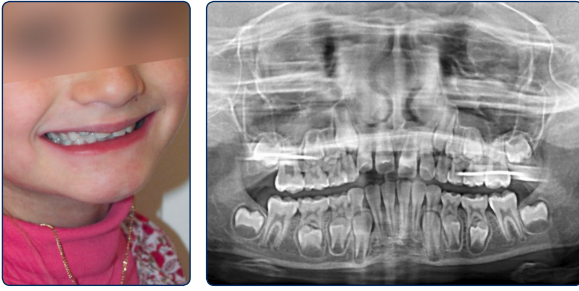
Case treated by EF Classe II Slim

Elsa

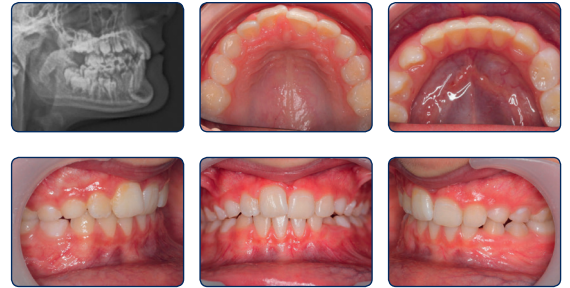
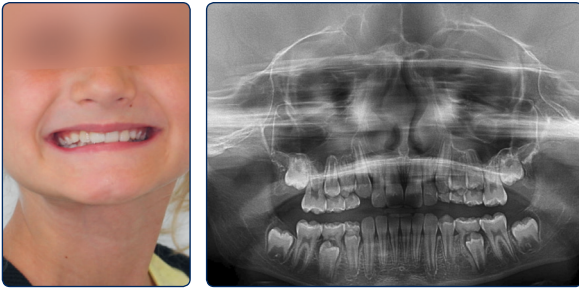
8
y.o.

- Class II 1 • Anterior openbite on the right side • Skeletal Class II with maxillary alveolar protrusion and retrognathic mandible • Hyperdivergent tendency

Treatment time: 12 months



EF Classe II Slim for 12 months



Results: alveolar protrusion corrected • freeing of the mandibular growth

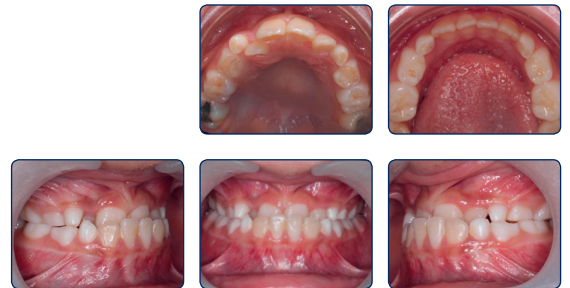
Case treated by EF Classe III Petit

Elisabeth

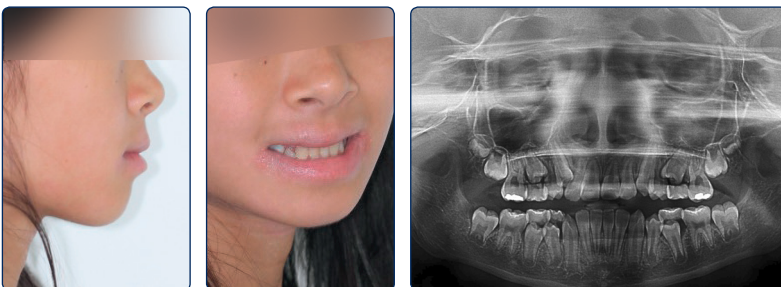
8
y.o.

- Class III • Prognathic mandible • Anterior crossbite
- Severe anterior TSALD • Tongue dysfunction when swallowing

Treatment time: 12 months



EF Classe III Petit for 12 months



Results: crossbite corrected • balanced facial profile

your patients' motivation...

I'm Bulle,
and I'm on
my way !



Growing-up is a piece of cake !

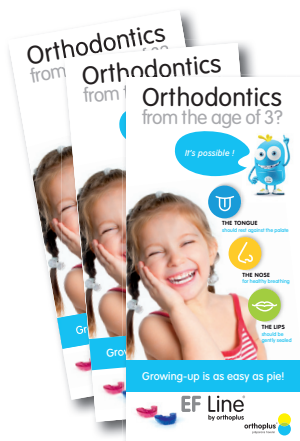
...in your waiting room...

poster (ref.: D590 106)



Parents' information poster in your waiting room...

flyers (ref.: D590 108)



...and for even further information.

...the motivation carries on...

the dentaface application



An application for a good follow-up and good treatment progress:

- Photos at regular intervals and morphing of the photos throughout the treatment
- Weekly questions as a reminder of the wear of the device and of exercises to perform

Youtube: create your own channel !



We made 5 videos for your patients, for support all along their treatment: (See them on: [youtube/orthoplus.fr](https://www.youtube.com/orthoplus.fr))

- Video 1: General presentation of the exercises
- Video 2: Breathing exercises
- Video 3: Muscle and swallowing exercises
- Video 4: Wear and maintenance of the device

the manual (ref.: D 000 130)



Introduction of simple methods for correcting 3 functions. For parents to be involved in the treatment of their child :

- Swallowing
- Breathing
- Posture
- Integration of the 3 functions

...for you and your team

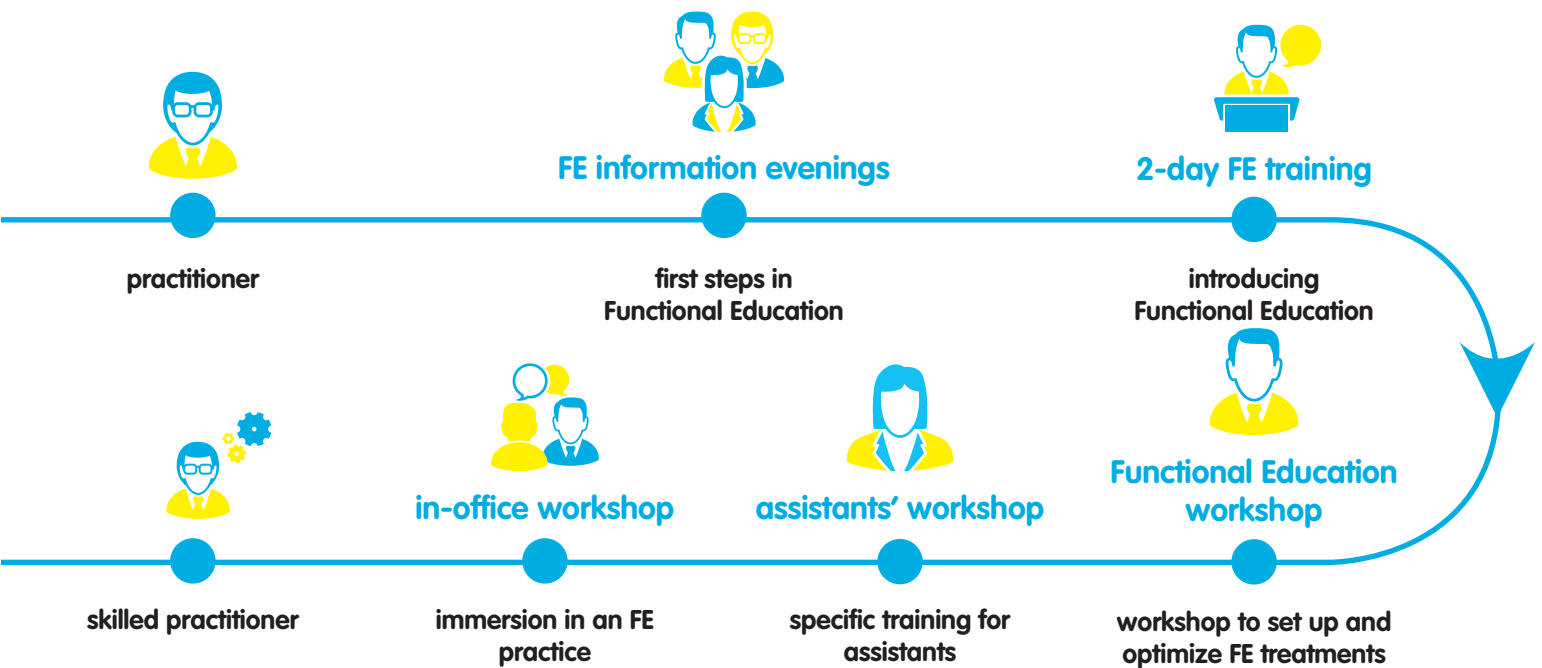
Whatever the motivation and aspiration, training means improving practices as fast as possible. We provide the possibility for you to follow a complete course.

Complete
Course

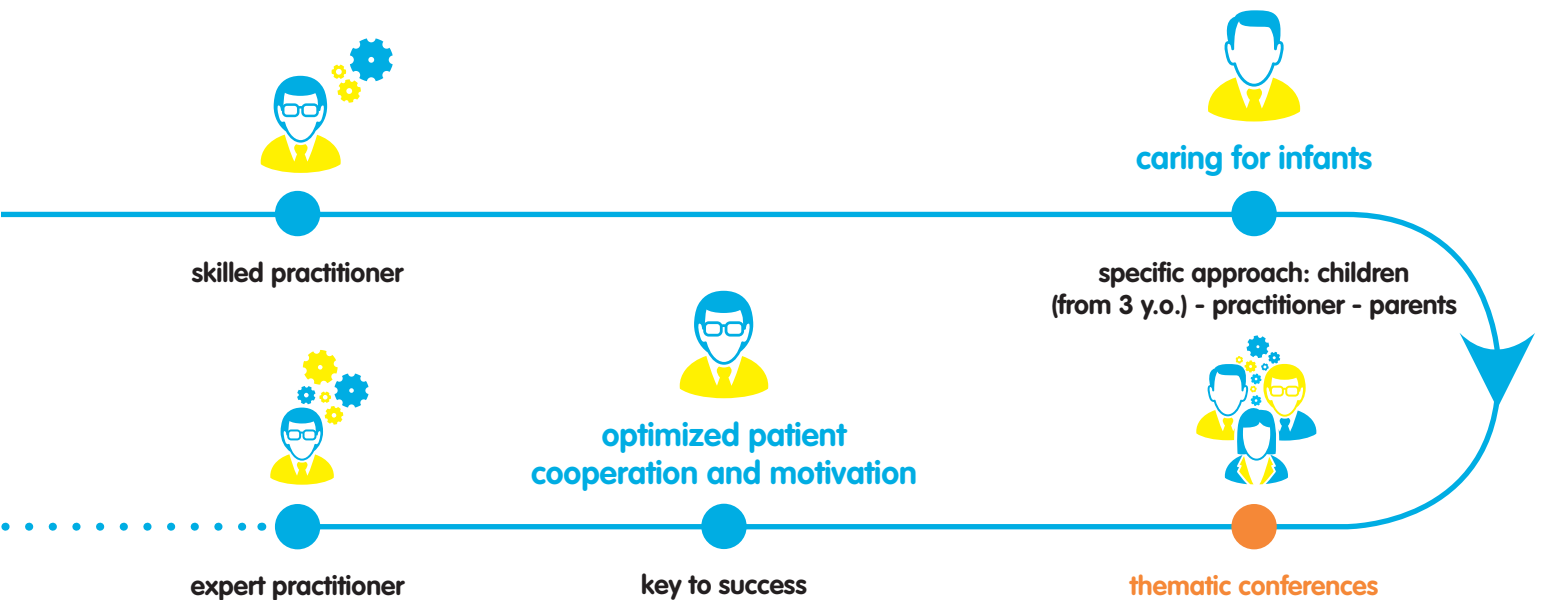
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implementing Functional Education



personalized specialization



1st observational clinical study of a Functional Education device



clinical study

Observation of the clinical use of an interceptive splint, indicated for treating Class II Division 1 dysmorphosis.

An observational study was conducted on 81 children (52 girls and 29 boys), from 6 to 11 years of age, showing a Class II division 1 malocclusion linked to functional troubles in the orofacial sphere, and demonstrated that an early start of the orthodontic treatment with a soft functional educator efficiently corrects functional troubles and improves dento-skeletal dysmorphoses. The patients wore an EF splint for 12 months, 2 hours a day and all night long, breathing re-education exercises were prescribed.

Results:

CORRECTION OF FUNCTIONAL TROUBLES:

- Correction of the tongue's rest position and of the tongue index toward an elevated tongue position
- Restoration of a physiological nose breathing (80% of mouth breathers were able to breathe through their nose at M12)
- Decrease in the lower lip tonus at rest and in function
- Normalization of the muscular tonus in the buccinators
- Reduced negative influence of the buccinators on the lower incisors

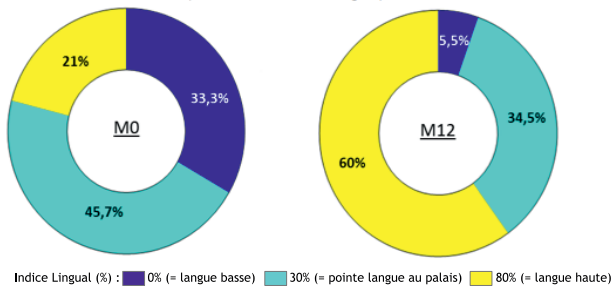
Positive impact on the
cranio-dento-skeletal
system

DENTO-SKELETAL CHANGES:

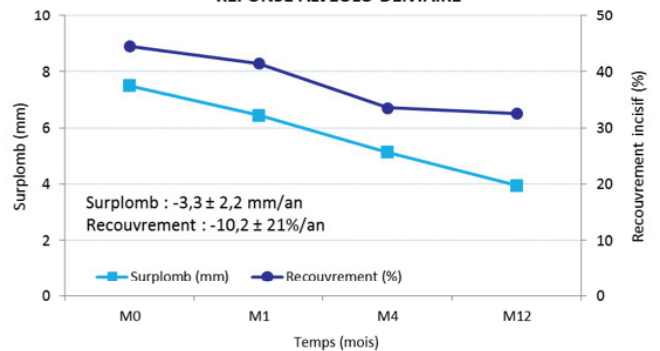
- Change in shape of the growing maxilla (90% of narrow maxillas evolved toward normal shape at M12)
- Important dento-alveolar and skeletal changes illustrating an improvement of the antero-posterior discrepancy :
 - Significant decrease of the overjet and of the incisors' deep bite
 - Significant decrease of the ANB angle (more by increase of SNB than by decrease of SNA), thus freeing of the normal mandibular growth of the child.

90% improvement in Class II division 1 malocclusions after 1 year of regular use of an EF splint.

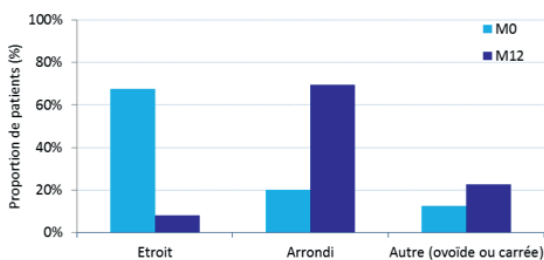
CORRECTION DE LA POSITION LINGUALE (Evolution de l'indice lingual)



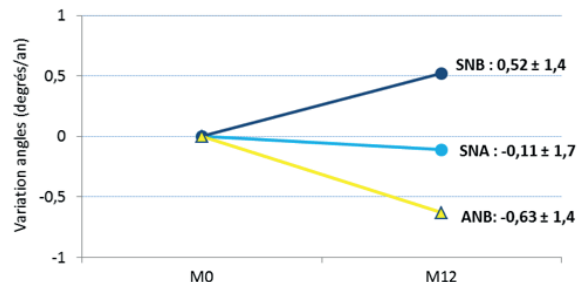
RÉPONSE ALVÉOLO-DENTAIRE



CHANGEMENT DE FORME DU MAXILLAIRE



CÉPHALOMETRIE : ÉVOLUTION DES ANGLES



Conclusion: This observational study showed that soft educators from the EF Line, through their design, efficiently corrected functional troubles linked to an improper tongue position and allowed positive dento-skeletal changes.

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