



LM-Activator™ as a part of effective orthodontic workflow in Finland

One of the many dental professionals using the LM-Activator™ eruption guidance appliance in their daily work is dentist **Kaisa Packalén** who graduated from the University of Turku in 2017. Since 2019, Kaisa is working in Naantali, a mid-size town in southwestern Finland, at the municipal dental clinic as an assisting dentist to the orthodontist responsible for the treatments. In Finland, it is common in the municipal clinics that one of the general dentists receives a further training in orthodontics to deal with the daily operations regarding orthodontic treatments. This allows to free up the time from the orthodontist and more efficient resource management in the team. The training of an assisting dentist to the orthodontist comprises of some further courses in orthodontics but also practical training working alongside an orthodontist. In this article, Kaisa describes the job of an assisting dentist and the ways LM-Activator™ makes orthodontic treatment both pleasant and efficient for the patient and professional.

Orthodontic treatment is a fine-tuned clinical process

In Finland, orthodontic treatment is given in municipal health centers based on national harmonized criteria. In Naantali the team working in close cooperation with the orthodontic treatment consist of one orthodontist, one assisting dentist to the orthodontist, four dental hygienists and one dental nurse, who is trained in orthodontics. The patients are pre-screened by dentists and dental hygienists. After this pre-screening, the patients are referred to an orthodontist for the actual screening where the need for treatment is defined. The orthodontist drafts an individual treatment plan for each patient. The plan will be clinically implemented in cooperation with the assisting dentist to the orthodontist and dental hygienists.

The actual orthodontic treatment process starts after the malocclusion has been identified. A dental hygienist performs the initial checkup, measuring the occlusal relationships (Angle's classes and overbites), examining the facial profile, the special features of the teeth and the dentition phase, taking photos and measuring the occlusal index as well as obtaining the impressions either by conventional casts or scanning. Usually also X-rays are taken. With this information, the orthodontist compiles a treatment plan, often without seeing the patient. The treatment plan is presented to the patients and the parents so that they know how the treatment process will proceed.

The work of the assisting dentist to the orthodontist starts here

In an orthodontic treatment process, tasks are carefully allocated so that the treatment can be carried out in a cost-efficient manner. In Naantali, the role of the orthodontist is quite small in the clinical work; they are mainly consulted in demanding cases, and they are responsible for making sure the process goes smoothly. In particularly demanding cases, orthodontist consultations are made for intermediate checkups.

In Naantali, the role of an assisting dentist is significant in the treatment process since most of the patients will see the assisting dentist instead of an orthodontist. The orthodontist is available only once or twice a month, so the clinical work is left to the assisting dentist. In addition to the clinical work, the assisting dentist advises dentists and dental hygienists in the potential need for orthodontic treatment and pre-screening and allocates work in advance, for instance by scheduling patients for intermediate checkups with dental hygienists. Checkups take place approximately every 3 months.

In Finland, orthodontic treatment is started based on national criteria and a general 10-part scoring system is used in determining the possible need for treatment. In Naantali, treatment is started for cases scoring 7 or up, but also milder malocclusions are treated whenever possible. Regardless of the scoring, when treating children and adolescents the goal is always to ensure normal occlusal development. When normal development is ensured, it is possible to efficiently prevent adverse effects from difficult malocclusions for the patients. Most of the children in need of orthodontic treatment are diagnosed in statutory yearly checkups, which emphasizes the expertise of skilled dental hygienists. Dental hygienists identify developing malocclusions at a very early phase and book a consultation for possible orthodontic treatment.

If necessary, the treatment can be started in deciduous dentition; if treatment is started in an early stage, malocclusion can be prevented from becoming more severe, and the process is usually easier and more comfortable for the patient. The need for an orthodontic treatment is always assessed individually. For most patients, the treatment takes place during the early mixed or mixed dentition, but sometimes the treatment must be delayed due to poor compliance or dental hygiene. Treatment can be given also in permanent dentition, but the main rule is that the earlier treatment is started, the easier it is.

Unfortunately, malocclusions often persist in permanent dentition; that is why the treatment plan should be carefully made. If harmful habits and malocclusions are treated at an early phase, skeletal asymmetries can be prevented, and normal growth is enabled.



Versatility is the advantage of LM-Activator™ in successful treatment

LM-Activator™ is proven to be an effective and cost-effective orthodontic appliance, which is also easy to use. Thanks to its versatility and wide range of use, the LM-Activator™ can be used all the way from deciduous to permanent dentition. Because of its versatility, most removable appliances in use are LM-Activators™ as they can be used for correcting deep bite, distal bite, mild open bite, and incorrect tongue position. Other indications are for example dental arch expansion in mild cases of crowding and closing gaps in the dental arch. Using fixed appliances is more expensive both due to higher material costs and labor costs as more time is needed for the treatment, so the treatment is not as cost-effective for the clinic as treatment with LM-Activator™.

To ensure successful treatment, it is important to pay attention to some basic things. Firstly, the most important matter for successful treatment is correct patient selection before the treatment is started. If orthodontic treatment is used to influence the relationship between upper and lower jaws for example by activating mandibular growth, the treatment should be given when jaws are still growing. Another significant point is the importance of correct nasal breathing. If the patient cannot breathe through the nose, the mouth opens during the night and the appliance falls out. If this continues, the treatment will not be successful. Furthermore, the desired treatment result can only be achieved when the patient and the parents are motivated and cooperating.

The best patient is a motivated one

There are a lot of ways to motivate patients in the treatment and there is no solution that fits every patient. An appliance that is mainly used during the night is more appealing, as the use is not noticed by others. The material is soft and comfortable to use for most patients.

The LM-Activator™ is also easy to clean, and it is easier to take care of the dental hygiene compared to using fixed appliances. Additionally, younger patients like to decorate the case with pictures and stickers. One argument that has proven to work is that successful treatment may help in avoiding longer and more demanding treatments, such as the use of fixed appliances.

Most patients have a positive attitude towards the use of the appliance, but some are more prejudiced and find it difficult to believe that the appliance is really functioning because it looks like a mouth guard. Those patients are often especially delighted when the treatment starts to work, and results become visible. At the final stages of treatment, comparing initial models or pre-treatment images to the result, and noting the progress made, is rewarding for both the patients and the dental care professionals.

Orthodontic treatment takes one to four years depending on the treatment goal and if treatment is done during the growth spurt, the treatment can be often paused. For each patient, the goal is to make the treatment as easy as possible, and often dividing the treatment to several phases leads to best end results. Because of this, treatment duration is not the best metric: right timing is more important. Depending on the circumstances and the frequency of use, the results are in best cases apparent within a year of starting the treatment. In particular cases, such as correcting a single anterior tooth crossbite, results can be seen even after three months of use.

Dentist, Assisting Dentist to the Orthodontist
Kaisa Packalén, Dental Hygienists Marjut
Reunanen and Eveliina Helasvuo
Dental Assistant Sanna Wahteristo



I definitely recommend early treatment whenever possible. The earlier treatment can start, the better severe malocclusion can be prevented.

Additionally, I'm very satisfied in the way we allocate work, which makes my own work easier. We have a great team! When everyone is comfortable with their tasks, patient appointments can be taken care of and the work divided between different professionals. Each have our own strengths: we as dentists are good in planning the treatment and envisioning the direction to take, whereas dental hygienists are remarkably skilled in motivating patients in the use of the appliance. When everyone is working with their own strengths, everything goes smoothly!"

- Kaisa Packalén DDS

Naantali municipal dental clinic

- Orthodontic treatments started: ca. 80 annually, 6 to 7 appliances given out in a month
- Checkup controls every 3 months
- Checkup appointments are short and take up little chair time
- Orthodontic treatment with fixed appliances is more expensive due to materials used and the time required by the dental professionals

LMActivator™

LM-Activator™ is a prefabricated appliance for growing patients. It acts as a guide to correct the changing teeth and growing jaws and developing malocclusions. LM-Activator™ is developed and made in Finland. Using medical grade silicone means that the appliance is safe, flexible by nature, and comfortable for the patient while being also a very hygienic option.



This article is the first part of a larger set of articles discussing for example dental hygienist training in orthodontics and practical work, orthodontist's point of view and consulting role in a team as well as the story of LM-Activator™.

Start of treatment with LM-Activator™ eruption guidance appliance



The patient's
first visit at the
dental clinic



The patient's
second visit at the
dental clinic



The patient's
third visit at the
dental clinic

