THERAPEUTIC ASPECTS OF USE SYSTEM N.O.R

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ABSTRACT
In the treatment of cranial-mandibular disorders and other diseases of the masticatory system should apply a therapy that has a special place as the approach and results that is called occlusal equilibration. The study is based on a sample of patients from The Department of Education of the Faculty of Dentistry Iasi, received treatment with cranial-mandibular repositioning in the last three years (2002-2004), having the purpose to evaluate the therapeutic aspects of N.O.R. systems using.

Key words: NOR system

INTRODUCTION
In the treatment of cranial-mandibular disorders and other diseases of the masticatory system should apply a therapy that has a special place as the approach and results that is called occlusal equilibration. An accurate chewing rebalancing is the desire of all dentists and can be treated as a generic term occlusal therapy. Occlusal therapy has broad indication, but must be established at the outset etiological factors of occlusal problems that undetected in time will lead to confusion, controversy and chaos accompanied by failure treatments.

PURPOSE
The essential purpose of the current dental therapy is to maintain optimal oral health, homeostasis of the masticatory system. Analysis of occlusal problems, their identification and removal should be done in the context of a comprehensive treatment plan intended to achieve and maintain the best possible oral health.

MATERIAL AND METHODS
The study is based on a sample of patients from The Department of Education of the Faculty of Dentistry Iasi, received treatment with cranial-mandibular repositioning in the last three years (2002-2004). The study group has 952 of the 1451 subjects who received specialized treatment, 462 men and 490 women, aged between 13 and 93 years. To collect the required data have been available observational records of clinic patients, which gave us the results of clinical examination, laboratory tests, complete diagnosis, treatment, and final diagnosis.

It was collected in some tables specifically designed to monitor all parameters of interest for cranial-mandibular disorders. Data collected were entered into the computer and using the "Statistics 2000" were processed in order to be able to extract conclusions of the study.

The N.O.R. is defined as a set of
conceptual ideas to support a method of recording three-dimensional cranial relationships - chewing jaw and jaw kinematics, an assembly of mechanical devices that produce these records for oral rehabilitation.

The N.O.R. consists of two components:
- clinical device called CLINI-N.O.R. consists of two clinically-pantographs with three knives and three joints of their registration, a support nose and mandifix.
- laboratory device called Lab-N.O.R. consists of an articulator, two laboratory-pantographs with three knives and three of their coupling cylinder, two connectors and a positioner model.

RESULTS AND DISCUSSIONS

The main goal of rehabilitation is to restore oral reports static and dynamic occlusion. Arch dimensional facial movements allows recording basic dental subjects, total edentulous or partially edentulous, following the proper reporting model the focus jaw opening / closing of the simulator. To this end, the spring face must be chosen so as to be compatible with the simulator. Registration allows the practitioner face bow transfer the correct position of the jaw model simulator. Arch Facial not only allows proper positioning of the jaw model...
simulator, but its proper place to horizontal plane. Doctor and technician are able to view maxillary arch as it appears in the oral cavity of the patient, which will enhance the aesthetic effect obtained. For accurate reporting of the jaw model onto the plane, use a reference point located earlier to two condyles. The point most often used is orbital, represented by the lower edge portion of the orbital bone. Tragus, which corresponds to condylar point delimited with orbital Frankfurt horizontal plane. With the facial arch, jaw model report to the horizontal will be transferred to the simulator. An arch face is generally composed of a metal frame with an intraoral and a facial part. The intraoral consists of a metal occlusal tray or a fork, which for a partially edentulous occlusion attach to the pattern. The intraoral sagittal plane is extended by a rod that fits your facial component.

Facial Arch itself is "U" and its ends will be placed in the right points of emergence of terminal hinge axis. Indicator will be placed at the head of a fixed part and support will be fixed during nasal records and will remain unchanged throughout use to keep its position fixed. To be mounted on the patient, facial springs used as a benchmark fixed head in Frankfurt plane (orbital porion) or Camper plan (previous nasal spine external auditory meatus). For fitting models in the simulator is correct, symphysis-condylar distance the patient will coincide with the corresponding distance on the simulator. If models are fitted to a great distance from the condylar axis that too earlier in the oral cavity will only posterior teeth occlusal contacts. Conversely, if the models are mounted too close to condylar points the oral cavity is not occluded in the posterior teeth. An incorrect occlusion is obtained and if models are to be mounted above or below the fair. Plan occlusion of the simulator must match the patient's occlusion plan. In the recording position of the jaw to the skull can be used individually determined hinge axis hinge axis arbitrarily chosen. Hinge axis can cause the patient using a cinematic arc to locate its face. Side arm of the arc is placed so that the tip arc supposed to coincide with the point of emergence of the hinge axis, 12 mm before tragus, the line joining tragus external angle of the eye. This level sets a rectangle graph paper, which will be recording. Hinge axis is located exactly by closing-opening movement of low amplitude. During movement, the distance will not overpass the incisor amplitude of 20 mm, for achieving the pure rotational movements around the hinge axis. At a greater inter-incisive distance, leaving condyles stable centric relation position, down on slope back of the articular tubercle. The middle of rotation movements represents the emergence of the hinge axis. With a magnifying glass will be fixed at this level of recording needle tip. After removing the millimetre paper, the needle will make a skin recording actual point of emergence of the hinge axis. Determination and recording individual hinge axis is not a therapeutic advantage in situations very common mobile partial denture restoration. To obtain stable denture occlusal contacts is sufficient realization of registration based on arbitrary hinge axis model jaw simulator mounting thereunder. For this purpose use a facial anatomic arch is fixed at the points of emergence of the hinge axis arbitrarily. Usually choose the tragus points placed at, the imaginary line connecting the posterior edge of tragus and external angle of the eye. It is considered that an 12mm error of 5 mm in locating the hinge axis produces a position error of the model simulation in anterior-posterior direction by 0.2 mm. Individualization registration algorithm mandibular-head relationship with NOR system was developed to diagnose a patient lying partially edentulous Kennedy class I edentulous jaw with a change and
mandibular Kennedy class.

**Figure 9. Tomography indicates mandibular growth alterations with a tendency to subluxation of the right TMJ**

**RECORDING IMPRESSION**

Occlusion involves balancing a number of steps that require high precision time and thoroughness. The smallest mistake may compromise the final result. These steps begin by recording impression routine is an act of great importance but for the optimum development of subsequent stages. A correct impression should not have bubbles or distortions, to be precise and tray choice is also very important.

In order to avoid deformation during removal impression will use a tray, without retainers, rim lock trays, be sprayed before use with a spray adhesive. Avoid using a perforated trays elastic deformation because the risk of is too large to take off unable to return to the initial.

Impression material can be used to analyse occlusal alginate material is high fidelity. Cusps tips should not touch the tray to avoid any deformation. Before putting in the oral cavity the impression tray, we smoothed the alginate, to avoid air bubbles on occlusal faces. Setting time specified by the manufacturer must be strictly observed. After removal and impression check will be poured as soon as the plaster hard.

If only a static analysis aims to use the arc face occlusion is not necessary. In exchange for a dynamic analysis of functional movements using a conventional arc allows mounting face models in a similar position and orientation of the jaw against the TMJ.

**FITTING MODELS TO THE JAW ARTICULATOR**

Before fitting the model jaw articulator mounting insert a size to get a steady and repetitive. Facial bow is then positioned on the support of reverse articulator back the two former places with wooden wedges and support specific previously to facial bow previous arm with a mounting rod.

**MOUNTING THE MANDIBULAR MODEL**
Installation is done in maximal intercuspation position if it is balanced and well neuromuscular highlighted. Mounting is by means of a piece and a movable support for obstruction if the position is unstable maximal intercuspation an analysis for a bite or occlusion or rehabilitation where mandibular cranial position should be checked or modified.

CLINICAL STAGES
Before adding wax models already in registration must be prepared to link the ease of handling and adjusting with wax.

Principles of recording lateral occlusion
Registration genuine masticatory function is often impossible on articulator adjustment is done classically in occlusion side (in the opposite chewing) but is accompanied by the operator manually driving the jaw angles to stimulate muscle action close up and the posterior teeth leading it. Difficulty in mastering this technique is steering technique.

Lateral occlusion technique records
There are two main ways to make these records: either by direct interposition of impression material between the two arches, or using a previous reference to obtain a larger space for impression material between the back teeth. You can use a variety of impression materials such as thermoplastic resins, light-curing resin plates, silicones specific, hard wax.

Clinical stages of adjustment. Making faces prosthetic occlusion.
The records induced posterior areas should be well represented in static and dynamic contact. Models must be mounted so that support cusps and the guidance to be in contact during chewing stimulate the articulator. If at this stage is adjusted articulator unbiased values and recorded as simple inferences, we must have a lack of posterior occlusion in sectors occlusion during lateral movements and propulsion. This dual procedure allows balancing all voluntary movements and functional. MTI and MTP setting the articulator is done using a set of interchangeable fins. On a semi-adjustable articulator generation second generation, possessing a set of independent control wings, stage setting and MTP and MTI are slightly different.

Figure 10. Aspects of arc adjustment in the system face NOR: a. the emplacement of the arc face. b. bow used is equipped with ear inserts. c. a reference plane adjustment is simple with the national support

Installation must be done two times gypsum due to compensate for expansion slots. Finally, a plate is interposed between the wafer wax mounting and the first casting plaster. Final therapeutic solution was represented at the maxillary denture and prosthetic elastic skeleton anchored in traditional methods of
treatment using hook elements as maintenance, support and stabilization.

Oral rehabilitation of patients through flexible prosthesis and the skeleton allow resizing and repositioning the lower floor cranial-mandibular.

Figure 11. Aspects of regulation in the Nordic system arc face: a plate of wax is wrapped three times a fork, then the edges are folded down. It is positioned on the jaw. Occlusal bite fork patient registration allows the operator to adjust and link spring with a fork

Figure 12. Clinical picture of the four pieces of wax made correctly. Each can be identified by its initial registration and distance

Figure 13. If the required records are transferred immediately, they should be soaked in warm water for it to relax before giving be used

Figure 14. Aspects of models of two types of prosthetic
CONCLUSIONS
1. Occlusal therapy is based on a series of objectives to be pursued, so that the results lead to stability and rebalance functionality. The indications of occlusal therapy are multiple implications dysfunctional syndrome, orthodontic, prosthetic
2. Using NOR, focused on the principles of oral rehabilitation, restoration fully behind the occlusion determinant role on the balance of muscle and joint.
3. Treatment of balancing the occlusion is not considered as concluded before, the patient should continue the visits to the doctor in order to maintain the results.
4. Choosing the therapeutic algorithm is the final decision after clinical and laboratory data correlation.

REFERENCES