in the soft-tissue profile and in the skeletal region. The parameters indicated a mesiobasal jaw relationship and a growth pattern with an anterior course: the vertical grouping of the soft-tissue profile showed a disharmony between the mid-face and the lower face (G’-Sn:Sn-Me; 47%/53%). This was relatively weakly expressed in the bony structures (N-Sna:Sna-Me; 44%/56%). In the region of the lower face there was also mild disharmony (Sn-Stm:Stm-Me; 31%/69%). Complementary assessment of the mandible showed that the area from the subnasal-labral inferius to the soft-tissue chin (Li-Me’), which should have been 1:0.9, was shifted in favor of the Li-Me’ part (0.9:1; Fig. 4). The panoramic image showed a lucency of teeth 31 and 41. A root canal procedure followed by root apex resection was thus performed (Fig. 5).

Therapeutic objectives and treatment planning
The objectives of this combined orthodontic-maxillofacial surgical treatment were:
1. The establishment of neutral, stable, and functional occlusion with physiological condylar positioning;
2. The optimisation of the facial esthetics;
3. The optimisation of the dental esthetics, considering the periodontal situation;
4. The assurance of the stability of the results achieved;
5. Meeting the patient’s expectations.
The improvement of the facial esthetics, not only in the sagittal axis in the region of the lower face (the mandibular region) but also in the region of the mid-face (hypoplasia) and in the transverse axis, should be noted as specific treatment objectives. The change in the region of the mid-face was intended to affect the upper lip and the upper-lip vermilion. These treatment objectives were achieved by two procedures:
1. A dorsal extension of the mandible with lateral sweep to the left for correction of the sagittal and transverse defects, as well as occlusion and the soft-tissue profile.
2. Bone augmentation in the mid-face for harmonization of the face. It would not have been possible to achieve the desired treatment objectives with respect to function and esthetics using orthodontic procedures alone.27

Therapeutic procedure
Correction of the pronounced dysgnathia was done in six phases:28–33
1. Splint therapy: a flat bite guard splint was installed for six weeks in order to determine the physiological condylar position or centrics before the final treatment planning. By doing this, the forced bite could be demonstrated to its full extent.

BUILD A LEVIN PRACTICE™ WITH LEVIN GROUP’S TOTAL ORTHO SUCCESS™

Orthodontists who grow their practices are implementing effective marketing and management systems allowing them to outperform other practices. You can’t afford to sit back and wait for something to happen. You have to act now to make a difference! To learn more about Levin Group’s comprehensive consulting programs and seminars, go to www.levingrouportho.com or call 888.973.0000.

Visit www.levingrouportho.com for a complete list of upcoming seminars!

Roger P. Levin, DDS - Chairman & CEO, Levin Group, Inc.

Successful people have always been the ones who act on opportunities. Don’t miss yours!

Visit www.levingrouportho.com for a complete list of upcoming seminars!
**INTRODUCING**

iOC™
powered by iTero.

- **Optimal Control**
  The iOC Scanner improves diagnostic acuity, treatment planning, and chairside consultation with the patient.

- **Optimal Consistency**
  Digital orthodontic scanning removes the uncertainties associated with conventional alginate and PVS impressions.

- **Optimal Convenience**
  Intuitive software and automated prompts facilitate ease of use and widespread adoption by office staff.

- **Optimal Connectivity**
  The iOC digital technology enhances patient communication and accelerates treatment acceptance.

---

**A Digitally Perfect Orthodontic Impression**

The new iOC Scanner provides a precise orthodontic impression that is, quite literally, digitally perfect. Powered by iTero, the iOC Scanner uses parallel confocal imaging to digitally capture the contours of tooth and gingival structures, producing an accurate digital orthodontic scan in just minutes. The iOC Scanner is designed expressly for seamless integration with OrthoCAD iCast, OrthoCAD iQ, and the suite of digital imaging solutions developed by Cadent.
2. Orthodontics for forming and adjusting the dental arches relative to each other and decen- sation of the skeletal dysgnathia (Figs. 6a, b).

3. Splint therapy for determining the condylar position. This was performed in the four to six weeks prior to the surgical procedure. The objective was registration of the jaw joint in a physiological position (centric).

4. Oral surgery for correction of the skeletal dysgnathia: after model operation, determination of the transposition path and production of the splint in the target occlusion, the surgical mandibular translocation using sagittal split according to Obwegeser–Dal Pont was done. Augmentation in the mid-facial region was done using autologous bone.

5. Orthodontics for fine adjustment of occlusion.

6. Retention: 3-3 retainers were used as the retention appliance. Prosthetic care was provided after six months.

Results

Figures 7a–e show the situation after the conclusion of treatment and after extraction of tooth 51 and subsequent prosthetic treatment, neutral occlusion and correct midline with physiological sagittal and vertical bite.

The extra-oral images show a harmonious profile in the vertical as well as in the sagittal axis (Figs. 8a, b).

The oral profile is harmonious. The upper-lip vermilion is distinct- ly visible in comparison to the orig- inal situation (Figs. 8c, d).

The PFS shows the changes in the parameters that arose as the result of the displacement of the mandible. There is harmonization in the vertical arrangement of the bony and soft-tissue profile. The disharmony in the lower third of the face has been corrected (Fig. 9; Tables 1, 2).

The OPG shows the positioning screws in both jaw angles and the fixation screws of the augmented screws in both jaw angles and the face has been corrected (Fig. 9; Table 2).

Bony and soft-tissue profile. The harmonization in the vertical arrangement of the mandible. There is harmonization in the vertical bite.

Vertical bite.

Vertical bite. Neutral occlusion and correct mid- facial situation (Figs. 8c, d).

Vertical bite.

Vertical bite. Neutral occlusion and correct mid-facial situation (Figs. 8c, d).

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.

Vertical bite.