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YOUTUBE IS NOT A RELIABLE SOURCE OF INFORMATION REGARDING “ORTHODONTIC RETENTION”

We live in a society in constant evolution, where issues of intrapersonal treatment are increasingly gaining space in contemporary times. Communication makes information increasingly accessible. Social networks are important platforms that patients use to obtain information about health-related topics. Among these media, YouTube stands out, which is a video-sharing platform providing visual and auditory information on a wide range of health-related topics. Currently, YouTube ranks second in information traffic on the internet worldwide. Orthodontic patients can use this platform

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as a means of obtaining information about the orthodontic treatment they will be undergoing. The topic of orthodontic retention might be the target of these searches. Based on this assumption, Turkish researchers developed a study¹ evaluating the content and quality of information offered by YouTube to patients seeking information related to orthodontic retainers. To conduct the study, the keyword “orthodontic retainers” was used. From the first 120 results, 97 videos were selected to be analyzed. Videos were rated for quality with a video information and quality index (VIQI) and a global quality scale (GQS). The authors concluded by carrying out this study that a wide range of information about orthodontic retention can be found on YouTube. However, the content of these videos is generally insufficient. The authors point out that due to increased access to social media by patients, it is necessary for orthodontists to provide accurate professional orthodontic information.

THE INSTALLATION AND ACTIVATION OF THE ORTHODONTIC APPLIANCE PROMOTES TRANSITORY DIFFICULTY IN FEEDING

The orthodontic treatment of malocclusions is only possible thanks to the response of the periodontal tissues to the applied orthodontic forces. It is well known that tension and compression forces change periodontal blood flow, resulting in local inflammation that provides a favorable microenvironment for deposition or resorption of alveolar bone, resulting in orthodontic tooth movement. This inflammatory process is commonly associated with painful sensations and discomfort, in addition to taste alteration. Although these changes seem obvious, the scientific literature on the subject is scarce and divergent. Based on this prerogative, the objective of the present study² was to investigate mastication and the nutritional impacts (nutrient intake) of the activation and/or installation of different orthodontic appliances (fixed labial, lingual, and aligners). To conduct the study, six electronic databases and gray literature (until May 2021) were consulted for relevant studies evaluating mastication and nutrition after activation or installation of orthodontic appliances. The research followed PRISMA guidelines and the study was registered in PROSPERO. The authors concluded that chewing was reduced during the first 24 to 48 h after activation or installation of the fixed orthodontic appliance, but it was transient (up to 30 days). As for the nutritional impact, no conclusion was reached, given the insufficiency of available data.

BRUXISM DOES NOT CHANGE THE LENGTH AND WIDTH OF THE MAXILLARY ARCH

Bruxism consists of a parafunctional, involuntary habit, characterized by grinding or squeezing the teeth through the contraction of the mastication muscles. Bruxism can be considered the most destructive parafunctional activity of the stomatognathic system, causing abnormal wear of the teeth and damage to periodontal tissues, the temporomandibular joint, and muscles. Several studies in the literature prove the influence of bruxism on the aforementioned damage; however, no study to date has been dedicated to evaluating its effects on maxillary width and length. Based on this assumption, Turkish authors developed a study³ investigating the effects of bruxism on the length and width of the maxillary arch in children, using a three-dimensional (3D) digital model analysis (Fig 1). To carry out this study, 60 children were evaluated, half with bruxism and the other half without. Digital models of the patients' maxilla were obtained with a 3D intraoral scanner, and measurements of width and length between landmarks in the maxilla were obtained from the digital models. The results of the study revealed that the presence of bruxism does not change the length and width of the maxillary arch.

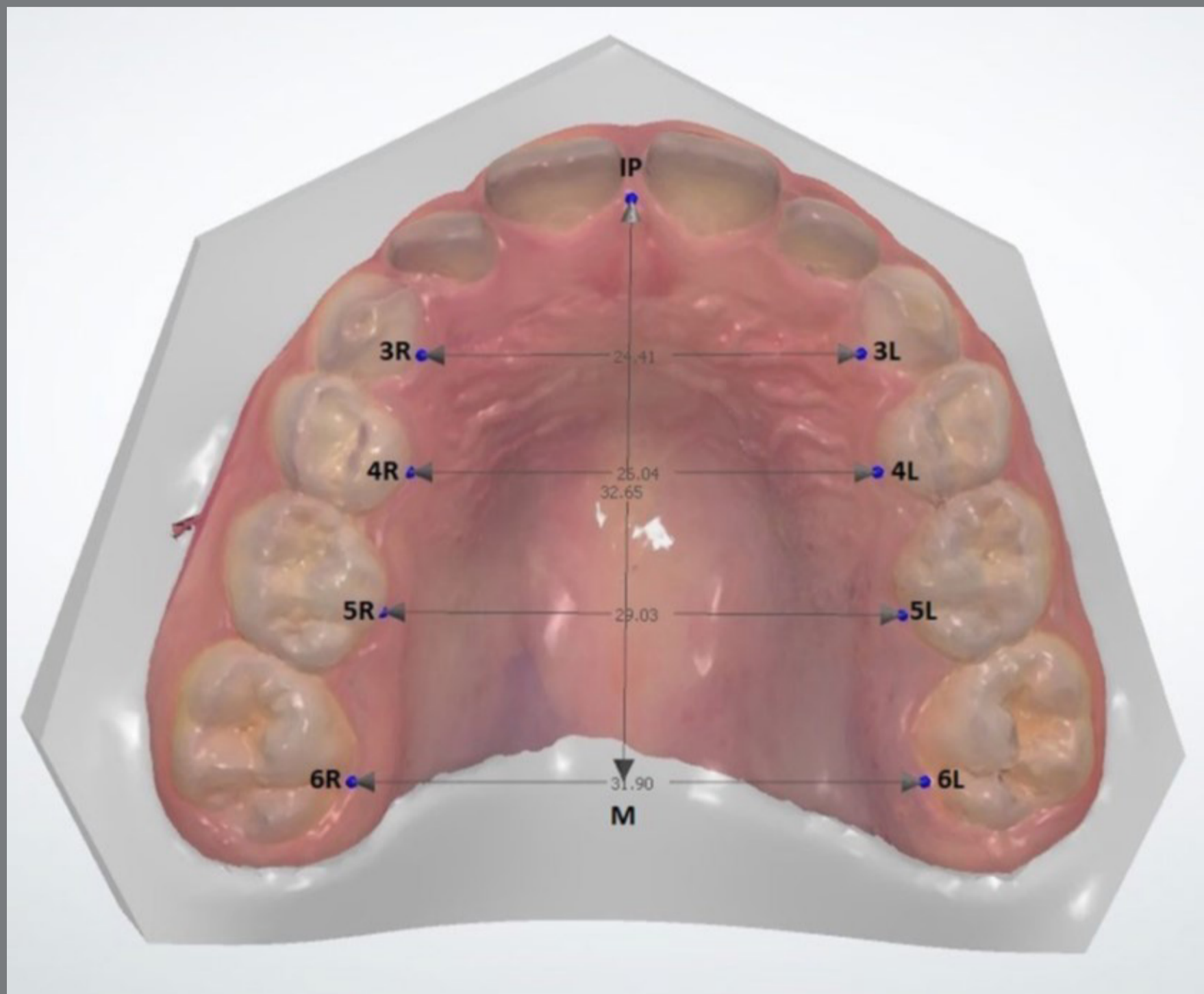


Figure 1: Measurements performed on a 3D digital model. Source: Bodrumlu et al.³, 2022.

NO CORRELATION IS SEEN BETWEEN LABIAL INCLINATION AND INCREASED RECESSION WHEN USING THE JASPER JUMPER DEVICE

It is not news that part of the correction of Class II malocclusions with the use of fixed functional appliances is carried out by the projection of the lower anterior teeth. The scientific literature is categorical in pointing out the projection of teeth as one of the factors for the development of gingival recessions. However, for the most part, the evidence comes from short-term studies, requiring long-term evaluations. To address this lack of scientific data, Brazilian researchers developed a study⁴ evaluating the long-term results of Class II treatment with the Jasper Jumper appliance regarding lower incisor inclination and gingival recession. For the study, 16 patients with Class II malocclusion with a mean age of 12.54 years (SD = 1.17) were treated with the Jasper Jumper appliance and conventional fixed orthodontic appliances. Dental records were made before (T_1) and after (T_2) treatment, as well as 11.90 years (SD = 0.48) after appliance removal (T_3). The frequency of gingival recession, clinical crown height, and mandibular incisor position was evaluated using intraoral photographs, digital models, and lateral cephalograms (Fig 2). The results of the study revealed that no significant correlation between the amount of labial inclination of the incisor and increased crown height was found.

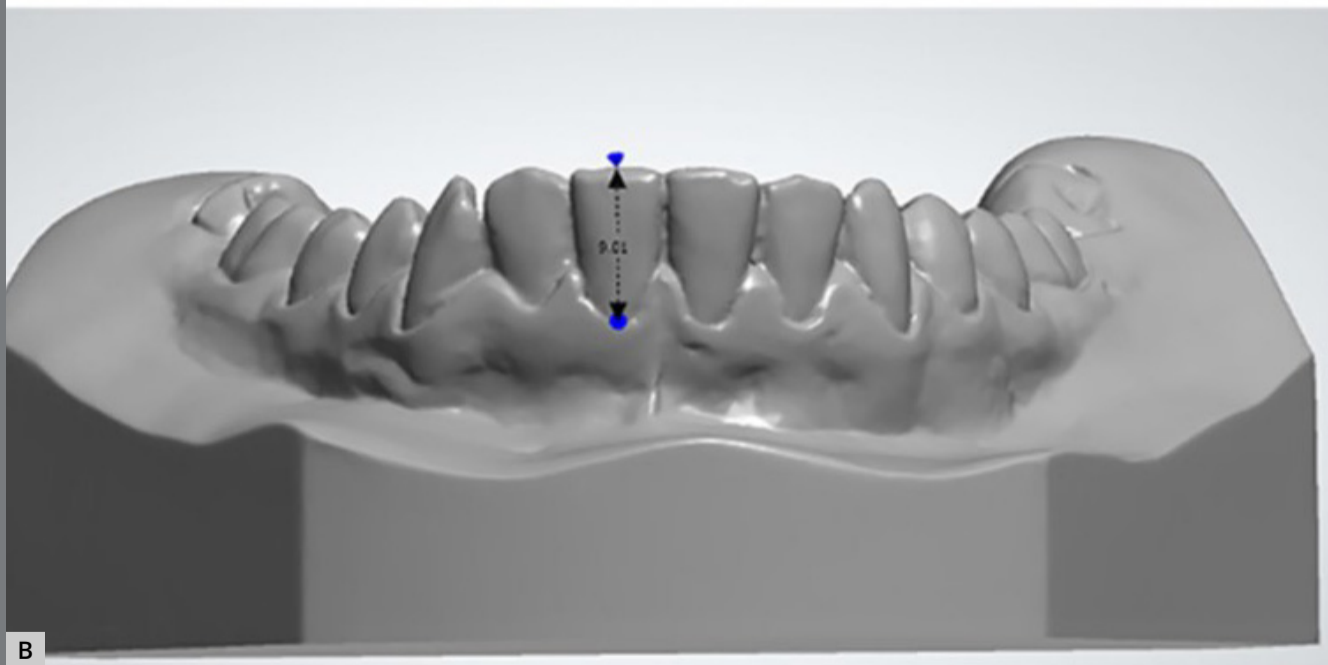
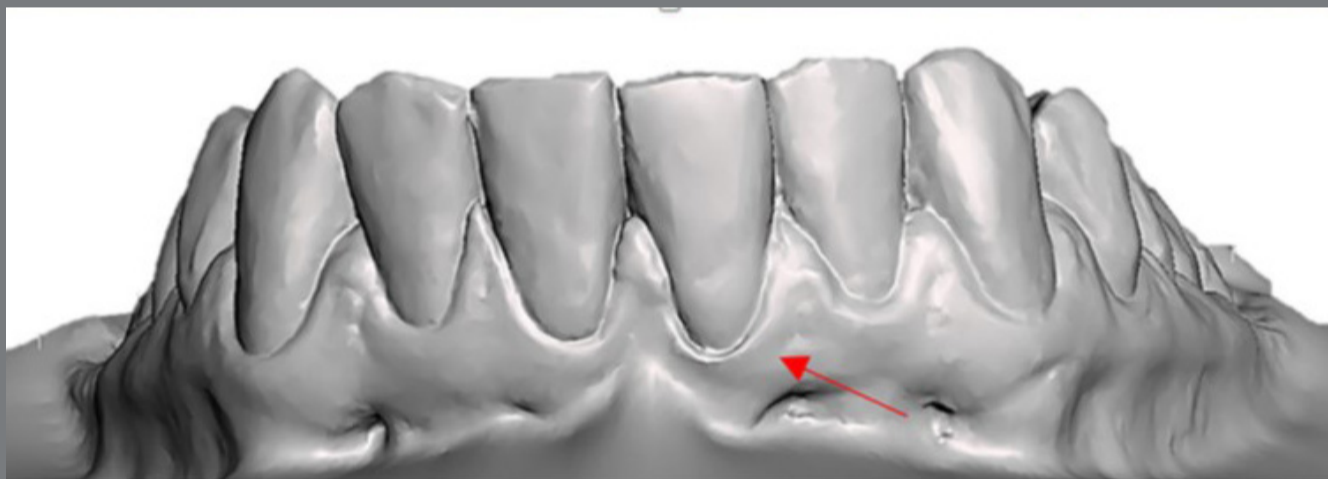


Figure 2: **A)** Evaluation of the presence of gingival recession: presence of apical displacement of the gingiva below the cemento-enamel junction or the labial margin was clearly below the marginal level of the adjacent teeth. **B)** Clinical crown height was measured as a linear measurement between the most apical region of the gingiva and the incisal edge of the mandibular incisor. Source: Moura et al.⁴, 2021.

INVISALIGN INTERFERES WITH PATIENTS' SPEECH

Aligners are here to stay. Thinking about orthodontics today without considering aligners is a utopia. The popularization of aligners has largely been due to their aesthetics and the possibility of removal when cleaning and eating. However, not everything is rosy — the aligners need improvement, particularly regarding orthodontic mechanics. In addition, these devices generate some difficulty in the speech of patients when they are installed. However, no studies to date have evaluated this issue. Based on this lack of relevant literature, researchers from the University of Saint Louis developed a study⁵ evaluating the speech-language pathology performance of adult patients undergoing orthodontic treatment with Invisalign aligners. To carry out this study, 44 patients were recruited, 24 of whom used Invisalign aligners and 20 who used a conventional fixed orthodontic appliance. Patients' speech was recorded before delivery of the first set of clear aligners or bracket bonding (T_0), immediately after delivery of aligners or bonding (T_1), and two months after delivery of aligners or bonding (T_2). Speech was assessed through a combination of three auditory analyses: (1) objective acoustic analysis using digital ultrasound (Fig 3), (2) semi-objective assessment by six speech therapists, and (3) subjective assessment with a

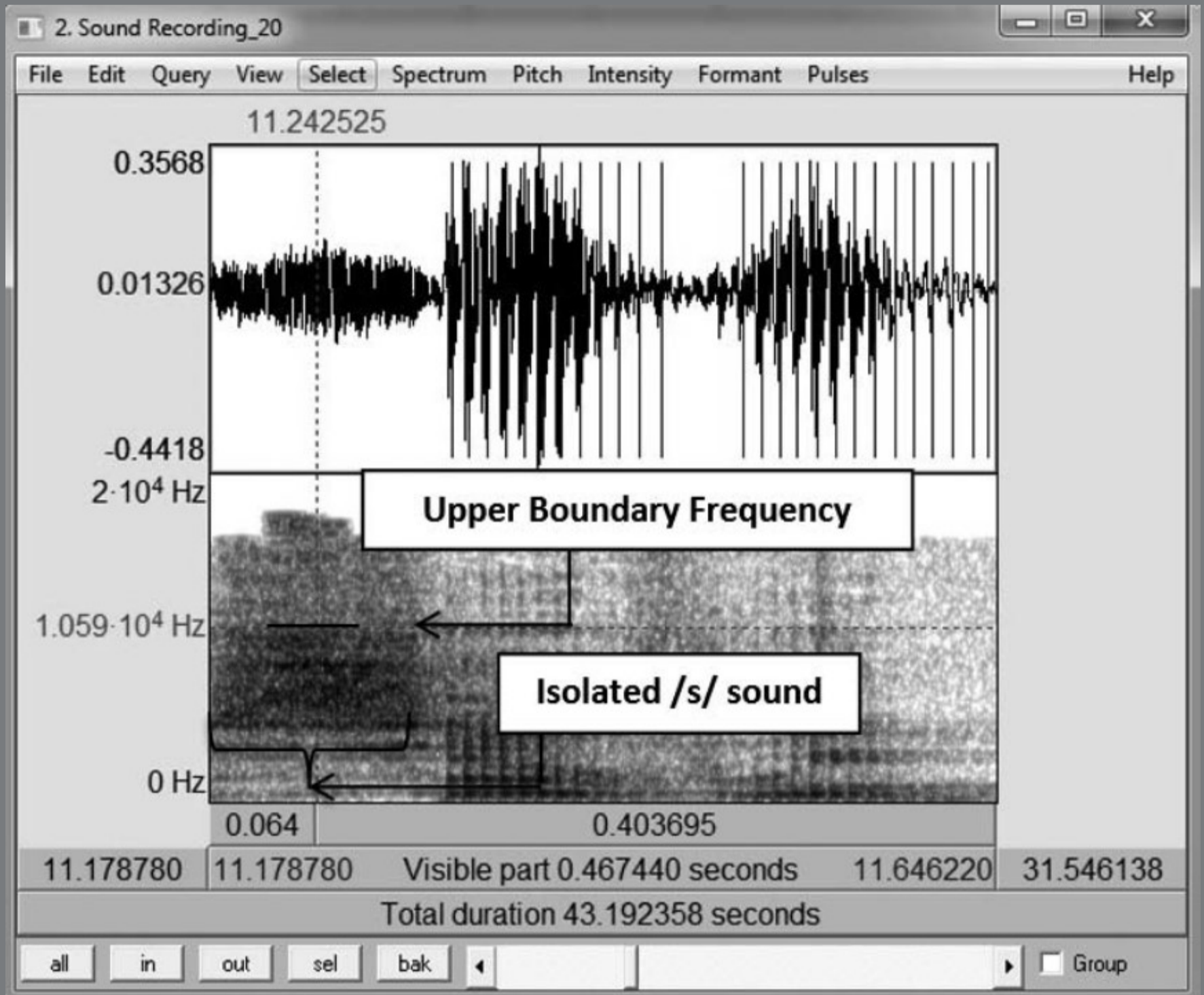


Figure 3: Wide band spectrogram of the English word “several” spoken by a subject for evaluation of the isolated /s/ sound. Source: Fraundorf et al.⁵, 2022.

patient assessment questionnaire. Study results revealed that Invisalign treatment significantly affects speech, and although patients experience some level of adaptation, speech does not return to normal after two months of treatment.

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