

EPG - Electropalatography

Electropalatography (EPG) is a technique used to monitor contacts between the tongue and hard palate, particularly during articulation and speech.

The artificial palate contains electrodes exposed to the lingual surface. When contact occurs between the tongue surface and any of the electrodes, electronic signals are sent to an external processing unit. EPG provides dynamic real-time visual feedback of the location and timing of tongue contacts with the hard palate.

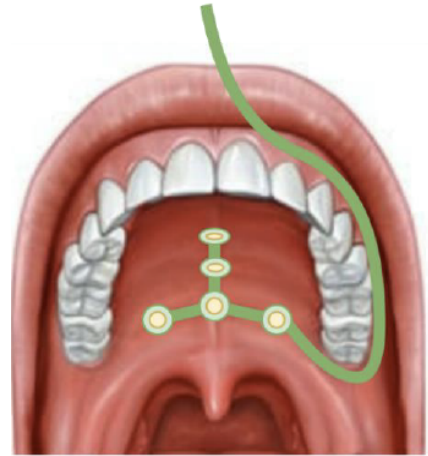


Figure 1

Over the past 50 years, electropalatography has established itself as a successful technique in research, treatment and rehabilitation of various types of disorders: from speech disorders to neurological ones, from Down syndrome to cleft palate, as well as hearing disorders, glossectomy and dysphagia.

The main limitation of this system is that it only allows obtaining an on-off signal that records the contact-noncontact of the tongue on each electrode, without quantifying the contact pressure itself.

Therefore, we want to design a system to measure the pressure exerted by the tongue on the palate and make a smart device capable of adapting to the patient's palate as shown in Figure 1.