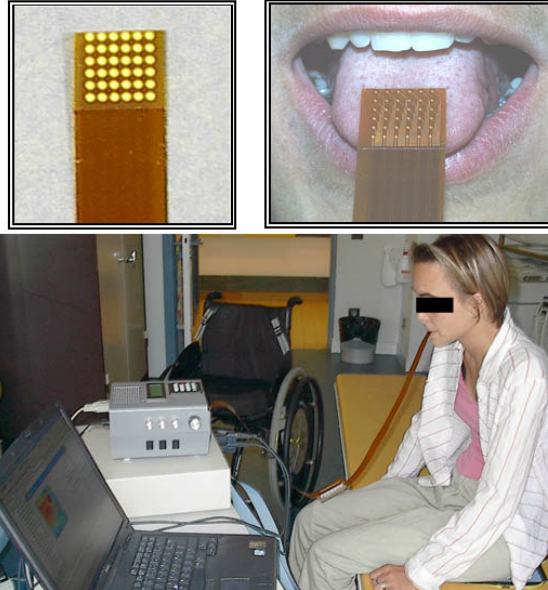


Pressure ulcers preventions through lingual electro-stimulation

This project focuses on a sensory substitution device made of a matrix of electrodes put in contact with the tongue upper surface (the *Tongue Display Unit* : TDU). We want to use this device in order to prevent eschars (ulcers) observed onto paraplegic patients. The idea consists in measuring the pressure cartography under the patient buttocks (mattress of sensors) and in sending this cartography to the patient tongue, through the TDU. The patient gets therefore sensory information and is replaced at the center of the perception/action loop. A wireless TDU device is under study.



Publications :

Moreau-Gaudry A, Robineau F, Andre P-F, Pauget P, Demongeot J. & Payan Y. (2005). Utilisation de la substitution sensorielle par électro-stimulation linguale pour la prévention des escarres chez les paraplégiques. Etude préliminaire. *Actes de la Journée Thématique de la Société de Biomécanique "Biomécanique du mouvement et Handicap Moteur"*, Lyon, Mai 2005.

Patent :

Payan Y., Demongeot J. & Vazquez J. (2004). *Dispositif de prévention d'escarre*. Centre National de la Recherche Scientifique / Université Joseph Fourier de Grenoble. Num: 04/51319, 24 Juin 2004, France.

Collaborations : Centre Médico-Universitaire Daniel Douady (P. Pauget)

Status : Work in progress. First evaluations carried out with volunteers.

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