

A new surgery gives quadriplegic patients the use of their hands and arms

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Dr. Tremblay and Dr. Boghossian's young quadriplegic patient, Jeanne Carrière, waiting for the surgery that gave her back the use of her arms and hands. Credit: Centre intégré universitaire de santé et de services sociaux de l'Est-de-l'Île-de-Montréal (CIUSSS-EMTL)

Dominique Tremblay and Élie Boghossian, plastic surgeons at

Maisonneuve-Rosemont Hospital (MRH) and researchers at the the Université de Montréal Faculty of Medicine, have developed a new approach to nerve transfer that essentially consists of moving certain healthy nerves from eligible patients to an inactive nerve, in order to reanimate the muscles of their hands and arms that were no longer functioning. This was achieved in the case of a young quadriplegic patient of Drs. Tremblay and Boghossian, Ms. Jeanne Carrière, who regained the use of her arms and hands with this new surgical technique.

"In the quadriplegic patient, we replace the nerve impulses of a nerve that does not work with a nerve that still works. With time and rehabilitation, the [nerve](#) impulse is reformed, and the use of the hands and arms gradually returns," explained Dr. Tremblay—also head of the division of plastic surgery at the University of Montreal—about this great innovation in surgery.

Over the past two years, as part of a development phase, more than a dozen patients have undergone this type of reconstruction at HMR and all these procedures have been successful. It should be noted that all patients' rehabilitation steps were done in close collaboration with the Institut de réadaptation Gingras-Lindsay-de-Montréal. It is therefore on the strength of these successes that the CIUSSS-EMTL is now able to end the [development phase](#) and offer this type of intervention to all patients who could now benefit from it.

The HMR recently obtained designation from the Quebec Ministry of Health and Social Services, which identifies this establishment as unique in Quebec in carrying out vascularized composite allotransplantations, mainly facial transplants and upper limb (arm) transplants.

Provided by University of Montreal

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