 **Information Sheet For Patients, Families and Carers**

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| **Electric Nerve Stimulation after Peripheral Nerve Injury Repair.** |
| **Principal Investigators** | A/Prof James LeongDr Pedro Guio-AguilarDr Jeremy Wiseman Dr Peter Lioufas |

### 1 Introduction

You have suffered a traumatic injury of the upper limb and its suspected that you have severed one or more nerves. Your surgeon has recommended the use of Electric Stimulation after performing standard microsurgical repair of the nerve injured.

This document gives you information about the reasons for the procedure and the benefits and risks of the procedure, so that you can make an informed decision.

### 2 What is Electric Stimulation?

Electric stimulation is using low voltage and low current to stimulate the repaired nerve during the surgical procedure while you are under a general anaesthetic. The voltage and current is smaller than what is given out from a small AAA battery. There is growing evidence showing that electric stimulation therapy accelerates nerve recovery.

### 3 What is the indication for the use of Electric Stimulation?

Outcomes of peripheral nerve injury are extremely poor despite the advances in medicine and microsurgery. The poor results are mainly due to the slow nerve repair process. Electric stimulation aims to reduce the nerve regeneration time and enhance the functional outcomes after peripheral nerve injury. To date, there are not other readily available alternatives to standard surgical repair of peripheral nerves. Electric stimulation is an adjuvant therapy to standard surgical repair of the nerve under the microscope. Electric stimulation is not an experimental procedure. Electric stimulation has been used previously in humans to improve outcomes of peripheral nerve injury and the results of multiple studies have proven that electric stimulation is a safe procedure that accelerates nerve recovery.

### 4 What are the Benefits of Electric Stimulation?

In simple language, the muscle is like an electric motor that needs continual supply of electricity to keep it running in good condition. The nerve is the cable and the nerve impulse is the electricity. When there is an injury to the nerve, the electric cable is divided and the motor cannot work.

Depending on how long does it take to restore the electricity supply to the motor, the motor will deteriorate and weaken. If the establishment of electricity supply is too slow the motor capacity is depleted and will not work. In the case of the muscle, this is called wasting and paralysis. There is evidence showing that electric stimulation therapy speeds up the nerve growth, reducing the regeneration time and increasing the likelihood of recovery of the motor and sensory functions.

###  What will happen if I decided not to have the Electric Stimulation?

Participation is completely voluntary. Electric stimulation is an additional therapy we do to the repaired nerve. Your treatment and rehabilitation will be no different. Your injuries will be repaired as per best practice.

The use of electric stimulation in peripheral nerve injury as adjuvant therapy has been reviewed and approved by the Human Research Ethics Committee of Monash Health.

###  Are there any alternatives to Electric Stimulation?

### No.

###  What does the Electric Stimulation involve?

You will undergo repair of the nerve under the microscope followed by low frequency electric pulses of the nerve for 1 hour. The electric stimulation is performed at the time of surgical procedure of your upper limb. The entire procedure is performed under a general anaesthetic , usually takes several hours and you will feel no pain.

You will not have any additional restrictions to be discharge home after surgery in comparison to patients that do not have Electric Stimulation.

You will be required to attend the Outpatient Plastics Surgery Clinic and Hand Therapy Clinic at Dandenong Hospital in the same fashion as patients undergoing standard microsurgical nerve repair alone.

Your medical records will remain private and confidential and will only be accessed by the health professionals involved in your care and the main researchers of this project. Patient information will only be released with the permission of the participant or as required by law.

### What are the possible risks and complications?

No additional risk. No complications and side effects.

**More information**

 Dr Pedro Guio-Aguilar, Dr Wiseman, Dr P liofas

Phone:  **0434 377 970**

**NOTE**

In the unlikely event of suffering any injuries or complications as a result of this research project, you should contact the study team as soon as possible and you will be assisted with arranging appropriate medical treatment. If you are eligible for Medicare, you can receive any medical treatment required to treat the injury or complication, free of charge, as a public patient in any Australian public hospital.

**Complains**

Ms Deborah Dell

Human Research Ethics Committee Manager,

Phone: **03 9594 4611**

**Do you require an interpreter?**

 **** Yes / No (circle)

**Consent Form**

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| **Electric Nerve Stimulation to Enhance Functional Outcomes after Peripheral Nerve Injury Repair.** |
| **Principal Investigators** | A/Prof James LeongDr Pedro Guio-AguilarDr Jeremy Wiseman Dr Peter Lioufas |

**Declaration by Participant**

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purposes, procedures and risks of the procedure described.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the study without affecting my future health care.

I understand that I will be given a signed copy of this document to keep.

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|  | Name of Participant (please print) |  |  |
|  |
|  | Signature |  |  Date |  |  |
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\* Witness is not to be the investigator, a member of the study team or their delegate. In the event that an interpreter is used, the interpreter may not act as a witness to the consent process. Witness must be 18 years or older.

**Declaration by Doctor**

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

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|  | Name of Doctor (please print) |  |  |
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|  | Signature |  |  Date |  |  |
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