

Summer Studentships 2026/2027

PROJECT TITLE:

Do It Yourself Cranial Nerve Block Model

AIM:

This study aims to develop and test a cranial nerve block model as a useful tool for performing simulated cranial nerve blocks.

METHODS:

We will create a 3D printed skull model, a SCOBY 'skin' and, using an iterative process, build a realistic skull and scalp model before inviting 40 participants (approximately 10 each from neurology, general medicine, emergency department, and anaesthetics) to perform a range of cranial nerve blocks on the model depending on their specialty needs (for example greater and lesser occipital, supra and infra orbital, mental), seeking feedback on fidelity (realism), and confidence in performing the procedures (pre and post attempts). Participants will be asked for their experience in performing each type of block and give informed written consent.

RESEARCH SIGNIFICANCE:

Cranial nerve blocks are often utilized in clinical practice in the treatment of acute pain, acute or chronic severe headache syndromes, and as procedural blocks such as for suturing or for post-operative pain. Patients requiring such procedures may present to a variety of services including the emergency department, pain services, neurology services, or required during or following cranial surgeries. Staff performing such procedures will typically learn by experience under supervision by performing the procedure on patients in the clinical setting. No model of cranial nerve block is available commercially and being able to perform a first procedure in on a high-fidelity model and without concern for harm of patient is advantageous for training in a safe environment.

STUDENT'S ROLE AND EXPOSURE TO SCIENTIFIC METHOD:

The student will develop the model through iterative trials with advice from staff experienced in building similar models and those skilled in performing the procedure. The student will then recruit participants, conduct the testing phase, administer questionnaires, and collate results. The student will hold primary responsibility for drafting any abstract or manuscript arising from this work. Ethics approval for the study will be gained prior to commencement of the project.

RELEVANT PREVIOUS EXPERIENCE FOR STUDENTS (Education or Research):

The ideal student will have expressed an interest in neurology or pain management and have an interest in clinical skills education.

Main supervisor:

Martin Punter

Email address:	Martin.punter@otago.ac.nz	
Other Supervisor/s:	Brad Peckler (ED Physician and Director of Simulation and Skills Centre) Peter Watts (Senior Simulation Technician)	
Host Department:	Neurology / Simulation and Skills Centre	
Location:	Simulation and Skills Centre, Wellington Regional Hospital	
	Can students work remotely?	No