

Research Project Details	
Title	A Multi-centre Prospective Cohort Study of Surgically Treated Displaced Mid-diaphyseal Clavicle Fractures
Investigator	Dr. Prism Schneider, University of Calgary
Funding Period	2021-2024
Budget	\$65,000.00
Issue/Rationale	<p>Broken collarbones are very common, especially in active young adults, and are often surgically treated. Either one larger plate or two smaller plates (an increasingly common technique) are used to realign the broken pieces of the collarbone and assist in the healing process. The larger plates have to commonly be removed, as they can cause discomfort due to prominence. There is emerging support that two smaller plates are a better surgical technique that requires fewer second surgeries for plate removal and may speed up return to function and return to work. There is very limited information regarding outcomes in Workers' Compensation (WCB) patients requiring clavicle fracture fixation, as these patients are often excluded from research studies or outcomes are not specifically reported for this population. Our study will prospectively compare this promising new mini-fragment dual plating surgical technique to traditional fixation methods for displaced clavicle fractures to inform post-operative rehabilitation, patient counselling, and expected complete return to work.</p>
Objective(s)	<p>The specific objectives of this study are:</p> <ol style="list-style-type: none"> 1. To compare implant removal rates within 2-years of the index procedure and rationale for implant removal following clavicle fracture fixation between dual plating and all other fracture fixation techniques. 2. To compare time to return to modified duties, time to full work duties, and lost time from work between Workers' Compensation patients and non-Workers' Compensation patients. 3. To report union rates, functional outcomes, and validated patient-reported outcome measures (PROMs), and complication rates (implant complications including failure and irritation, wound complications, non-union, malunion rates) in a large prospective cohort of patients requiring clavicle surgical fixation. 4. To compare patient satisfaction and rationale for any implant removal procedures between dual plating and all other fracture fixation techniques.
Anticipated Results/ Impact	<p>This will be the first study to compare WCB with non-WCB patient outcomes following surgical management of clavicle fractures. This novel information will provide insight into resilience scores between these patient groups, expected and actual complete return to work, and patient rationale for implant removal. If the dual mini-fragment plating technique is supported by this study, the implications could include reduced pain medication usage, cost savings for both government and WCB payers, improved workplace safety strategies, and comparison of Canadian WCB patient outcomes with outcomes reported in United States Workers' Compensation patients.</p>
Keywords	Clavicle fractures, collarbone, dual-plate fixation, functional outcomes, return-to-work