

Epidemiology of Upper Extremity Amputations in the Province of Québec

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Disclosure/Financial Support: No financial support received. None of the authors have a financial interest to disclose related to this study.

BACKGROUND AND PURPOSE: The injury mechanism is the most important factor determining survival rate and functional outcome in replantation surgery of the upper extremities.¹⁻² However, injury causes are often underreported in the literature and overlooked in medical records. Thus, we sought to study the epidemiology of upper extremity injuries referred to our provincial replantation hand center.

METHODS: We conducted a retrospective analysis of all records of patients referred to our center for digital amputation or devascularization from 2010 to 2013. Further data were obtained through a validated telephone survey. The gathered information included demographics and a narrative of the mechanism of injury including factors involved.

RESULTS: A total of 377 patients were referred during the period of 2010-2013. The referral rate was 1.17/100 000 person/year. 131 patients completed the questionnaire. The majority were male (85.41%), mostly in the 40-60 years-old age category (43.5%). 66.4% of the injuries occurred in the non-dominant hand. 66.31% involved one finger, with the thumb and index comprising 48.42% of the cases. They mostly worked an average of 30 hours/week (64.12%), though most injuries (61.83%) occurred at home. Power hand tools or fixed powered machines accounted for 69.12% of the injuries with the table saw being responsible for 35.2% of them. Most patients reported that guards were absent at the time of injury (80.1%). 70.59% had more than 10 years experience with the machine. When respondents were asked what was according to them the reason of the injury, a clear pattern was noticed. For the table saw it was the absence of guard that was most cited (66.5%). They mentioned the lack of dexterity with small pieces as the main reason for guard retrieval (88.6%). For the miter, radial and mechanical saw it was an improper position adopted while performing the cut that was mentioned the most, as it led to the unexpected kickback of the tool in 95.5% of the cases. For the wood splitter, the lack of coordination was responsible for 65.4% of the injuries, as they were two persons performing the task at the moment of the accident.

CONCLUSIONS: A closer examination of amputation causes shows a clear pattern. Unexpectedly, most events occurred at home. Further development in safeguards and a better population awareness is required to prevent further injuries.

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