

The Journey Toward Enhanced Rehabilitation for Complex Musculoskeletal Trauma Patients

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Purpose: The aim was to assess improvements in access, continuity, and quality of care and outcomes of outpatient rehabilitation following traumatic complex musculoskeletal (CMSK) injury at a Level I major trauma center.

Methods: A Major Trauma Rehabilitation Pathway (MTRP) for CMSK patients was developed with physiotherapy roles split between the trauma ward and outpatients, along with specialist training in CMSK rehabilitation competencies. Direct bedside booking with therapists prior to discharge plus novel major trauma classes including holistic multidisciplinary team education, individualized exercise, and peer support was developed. Patients meeting the MTRP criteria (polytrauma, complex pelvic and limb fractures, and limb reconstruction) were offered to opt into the pathway or continue with usual care in their local area. Waiting times, Short Form (SF)-36, General Anxiety Disorder (GAD)-7 and Patient Health Questionnaire (PHQ)-9 (baseline, 6 months, and discharge) were measured. Unequal variance between both cohorts was conducted (F-tests) and statistical significance tested (2-sample t-tests). Patient satisfaction surveys were conducted as well as staff feedback.

Results: 35 patients enrolled in the MTRP pathway (mean rehabilitation duration 250 days). There was a statistically significant difference ($p < 0.02$) in favor of the MTRP for all domains of the SF-36 bar 'Health Change' versus non-MTRP. A significant reduction in GAD-7 screening scores was found in the MTRP group from baseline to 6 months and discharge ($P < 0.05$) and between baseline and discharge in the PHQ-9 scores ($P < 0.05$). No significant difference in these scores were found in the non-MTRP group ($P < 0.05$). 14 physiotherapists completed specialist training competencies. Staff reported increased confidence and support. All patients were seen within a month of discharge. Patients reported high levels of satisfaction and 71% reported they would rather opt into the MTRP than attend their local hospital. 29% reported that they would prefer to have rehabilitation locally due to travel times and difficulties.

Conclusion: These data suggests that the introduction of the MTRP and major trauma class improved access, quality of care, and outcomes in comparison to usual rehabilitation. The role of education, self-management advice, and peer support in long-term outcomes as well as ways of improving equity of access to specialist CMSK rehabilitation need further investigation.