

Additional File 4

Factors affecting RTW identified in the included studies of non-regression analyses, univariate and multivariate analyses

Study ID	Number of participants in multivariate analysis	% loss to follow up / missing data	Analysis	Multivariate analysis: significant results	Multivariate analysis: Non-significant results	Univariate analysis: significant results	Factors from other analysis (no regression analysis)
Gabbe 2008 (34)	103	3.4%	logistic regression analyses	- Higher discharge FIM motor scores: (AOR 1.03, 95% CI: 1.01–1.04) Age 35 to 44 years: (AOR 0.31, 95% CI: 0.13–0.76) accident compensation schemes for work and transported-related injury: (AOR 0.28; 95% CI: 0.11–0.72)		- compensable status - age - Presence of extremity injury - ISS - Discharge from hospital destination - modified FIM locomotion item - FIM motor score - total FIM score - modified FIM total	
Gross 2010 (33)	115	36.1%	Logistic regression analysis	Educational level (OR: 0.249; 95%CI 0.068-0.916, p=0.036) ISS (OR:1.115; 95%CI 1.020 – 1.220) Time in ER (OR: 0.917, 95%CI 0.862-0.974 p=0.005) LEP (OR: 1.002, 95%CI 1.000 1.004, p= 0.033)	Nagelkerke R ² 0.74	- Pain - EQ-5D - SF-36 - FIM - MFA - Time to CT - Time to emergency OR - GCS	

				• NHP (OR: 1.103, 95%CI: (1.058 1.150), p=0.001)		• ISS • AIS head • RTS • SapO₂ 1 day • TRISS • SAPS II mort • Smoking pre-trauma	
Grotz 1997 (39)	42	27.5%	Chi-Quadrat Test and Mann-Whitney U-Test				Significant: • Traumatic brain injury (grade) • LOS Rehab • Limited movement Tegner Activity Score Non-significant: • Age • Sex • Polytrauma Schlüssel • GCS • GOS • ICU stay • Mechanical ventilation • Limited movement (hands, elbow, shoulder, knee, ankle)
Haas 2021 (41)	5,167	Retrospective analysis	Weighted multivariable probit regression	• ICU admission mean difference-in-difference change in percentage employed: with intensive or special care unit, -22.1% [95% CI, -24.4% to -19.8%] • Severe head injury presence of a severe head injury (mean difference-in-difference change in percentage employed: yes, -17.9% [95% CI, -19.9% to -15.8%])	• Sex • Marital status • Self-employment		

				- Longer index LOS hospital (mean difference-in-difference change in percentage employed: low tercile, -5.6% [95% CI, -7.3% to -3.8%]) Mechanical ventilation (mean difference- in-difference change in percentage employed: yes, -26.8% [95% CI, -30.1% to -23.5%]) - Low preinjury income (mean difference in difference -18.5% [95% CI, -20.8% to -16.2%]) - Age			
Holtslag 2007 (12)	214	7%	logistic regression analysis	At discharge: Nagelkerke R²= 0.23 Age (OR 1.89; CI 95% 1.03- 3.46) Spinal cord injury (OR 4.3; CI 95% 1.07 – 17.2) Hospital LOS <21 (OR 2.65; CI 95% 1.35 – 5.18) Discharge home (OR 0.41; CI 95% 0.20 – 0.84) At 12-18 months post-injury Nagelkerke R²= 0.507 GARS-ADL (OR 3.69; CI 95% 1.71 – 7.95) HISCwA (OR 2.63; CI 95% 1.24 – 5.58) AMA (OR 7.51, CI 95% 3.29 – 17.1)	At discharge: - ISS - Comorbidity - ICU stay - Injury location – brain At 12-18 months post-injury - ISS - Comorbidities - Injury location – brain - ICU stay	- Age - Co-morbidity - Injury location – brain - Injury location – spinal cord - ISS - ICU stay - Discharge home - Discharge to rehab center - AMA - GARS-ADL - HISCwA	
Kivioja 1990 (36)	71	15.6%	Logistic regression	ISS Age Physical fitness Complaints from lower extremity injury			
Livingston 2009 (37)	76	28.6%	Kruskal-Wallis and ² tests /Student's t and Mann-	/			Non-sign. - Presence of any TBI - Head AIS - Extremity AIS

			Whitney <i>U</i> tests				• Presence of any extremity fracture • ISS • Age • Ventilator days
Post 2006 (43)	40	24.3%	chi-square tests / Student's t-tests	/			Significant • Age Non-significant • Head injury • Extremity injury • ISS • Blue collar and white collar
Simmel 2019 (32)	84	40%	Logistic regression	• Age (OR 1.088; p<0.05) • General health status (OR 0.934; p<0.01) • LOS ICU (OR 1.072; p<0.01)	Nagelkerkes $R^2 = 0,526$	• Time between follow-up and accident	• LOS hospital • Cost bearer for treatment • Head injury • Abdomen injury • More support during hospitalization expected
Soberg 2007 (31)	97	34.2%	Cox regression model	• Social functioning (RR 2.72; CI95% 1.04–7.13) • LOS hospital (RR 5.06; CI95% 1.28–20.01) • Education (RR 4.14; CI95% 1.99–8.61)		• profession • NISS • powerful other locus of health control • physical functioning • sex • age	
Van Ditschneider 2022 (38)	100	50%	Chi-square test or Fisher's exact	/			Sign.

			test was used as applicable				- Better score in all health domains of EQ-5D - Injury Severity Non-sign. - Gender - Type of injury - Age - Level of education - No of comorbidities - Severity of specific organ injuries 1-year post-injury
Vles 2005 (35)	127	15%	Logistic regression and linear regression	ISS ($p < 0.001$) Gender ($p < 0.05$) Injury of one or more extremities (protective effect – $p < 0.05$)	- Age - Nr. Of body areas with injury - Head injury - Abdominal injury - Thorax injury - Injury remaining body - Isolated head injury - Injury spine / pelvis		

Legend: AIS = Abbreviated Injury Scale; AMA = percentage of permanent impairment according to the fourth American Medical Association guide; CT= computer tomography; EQ-5D = European Quality of Life 5 Dimensions 3 Level Version; ER = emergency room; FIM = functional independency measurement; GARS-ADL = Groningen Activity Restriction Scale-Activities of Daily Living; GCS = Glasgow Coma Scale; GOS = Glasgow Outcome Scale; HISCwA = Head Injury Symptom Checklist, without anxiety; ICU = intensive care unit, ISS= Injury Severity Score; LEP = Mean nurse per day and per patient ratio; LOS = length of stay, MFA = Musculoskeletal functional Assessment NHP = Nottingham Health Profile, NISS = New injury Severity Score; RTS = Revised Trauma Score; SapO₂ = arterial hemoglobin saturation by pulse oximetry; SAPS II mort = expected Simplified Acute Physiology Score II mortality; SF-36 = Short Form 36; TRISS = Trauma and Injury Severity Score