

The format and contents have not been edited by Journal of Rehabilitation Medicine.

Appendix S1

EXAMPLE OF SEARCH STRATEGY

Databases: Cinahl	
S10	S5 AND S9
S9	(MH "Length of Stay") AND (MH "Subacute Care")
S8	S5 AND S6
S7	S3 AND S6
S6	Acute Care Transfer
S5	S3 AND S4
S4	(MH "Adverse Health Care Event+") AND "Adverse events"
S3	S1 AND S2
S2	(MH "Treatment Complications, Delayed") OR "medical complications" OR "complications"
S1	(MH "Rehabilitation Patients") AND "inpatient rehabilitation" OR "inpatient rehab" OR "irf" OR "rehabilitation"

Database: Medline	
S10	S5 AND S9
S9	(MH "Length of Stay") AND (MH "Subacute Care")
S8	S5 AND S6
S7	S3 AND S6
S6	(MH "Subacute Care") AND (MH "Patient Transfer") OR "Acute Care Transfer"
S5	S3 AND S4
S4	"Adverse events"
S3	S1 AND S2
S2	"medical complications" OR "complications"
S1	(MH "Inpatients") OR (MH "Rehabilitation+") OR (MH "Stroke Rehabilitation") OR (MH "Physical and Rehabilitation Medicine+") OR (MH "Neurological Rehabilitation+") OR (MH "Cardiac Rehabilitation") OR (MH "Rehabilitation of Speech and Language Disorders+") OR (MH "Hospitals, Rehabilitation") OR (MH "Rehabilitation Centers+") AND "inpatient rehabilitation OR inpatient rehab OR irf OR rehabilitation"

Appendix S2

QUALITY APPRAISALS

Cohort Studies	
Author	Score (%) 12 elements
Abdul-Sattar (40)	83.3
Aras, Kaya (42)	66.7
Carney, Ullrich (43)	75.0
Chen, Hsu (67)	83.3
Chu, Babu (45)	75.0
Civelek, Atalay (25)	91.7
Doshi, Say (46)	75.0
Equebal, Anwer (47)	75.0
Faulk, Cooper (64)	91.7
Formisano, Azicnuda (48)	75.0
Fu, Molinares (49)	75.0
Gökkaya, Aras (51)	91.7
Gupta, Taly (52)	75.0
Hammond, Horn (53)	75.0
Hung, Tsay (27)	91.7
Ikbali Afsar, Cosar (54)	91.7
Janus-Laszuk, Mirowska-Guzel (34)	91.7
Katrak, Black (29)	75.0
Kennedy, Livingston (65)	91.7
Kitisomprayoonkul, Sungkapo (56)	91.7
Kuptniratsaikul, Kovindha (57)	91.7
Lew, Lee (30)	91.7
Marcassa, A (68)	91.7
Mathews, Goodman (26)	75.0
McKechnie, Murray (31)	91.7
McKinley, Tewksbury (58)	83.3
McLean (35)	66.7
Mulroy, O'Keeffe (28)	66.7
Pinto and Galang (59)	91.7
Richard-Denis, Nguyen (61)	91.7
Roth, Lovell (17)	91.7
Roth and Lovell (37)	83.3
Shiner, Woodbridge (38)	75.0
Tennison, Fricke (62)	91.7
Yeung, Davis (39)	91.7
Zhang, Huang (63)	91.7
Cross Sectional Studies	
Author	Score (%) 8 elements
Cheng, Smith (44)	100.0
Considine, Mohr (2)	100.0
Fu, Lee (32)	100.0
Ganesh, Guernon (50)	100.0
Case Control Studies	
Author	Score (%) 10 elements
Alam, Wilson (41)	100.0
Considine, Street (24)	100.0
Im, Lim (55)	90.0
Pongratanakul, Thitisakulchai (60)	100.0
Robinson, Bazzi (36)	100.0
Quasi-Experimental	
Author	Score (%) 9 elements
Kim	88.9
Randomised Control Trial	
Author	Score (%) 12 elements
Whyte	91.7

Appendix S3

TYPE AND FREQUENCY OF REPORTED MEDICAL COMPLICATIONS (AS A PROPORTION OF THE STUDY POPULATION)

Authors	N	Biochemical, Fluid or Endocrine Alterations (%)	Cardiovascular Alterations (%)	Haematological Alterations (%)	Gastrointestinal/ Genitourinary Alterations (%)	Immunology (%)	Infection (%)	Neurological Alterations (%)	Orthopaedic or musculoskeletal Alterations (%)	Pain (%)	Psychiatry (%)	Respiratory Alterations (%)	Skin Alterations (%)	Other Alterations Adverse Events (%)
Abdul-Sattar (1)	90	-	-	1.1 Deep vein thrombosis (n = 1)	-	-	13.3 Urinary tract infection (n = 12)	-	17.7 Spasticity (n = 16)	4.4 Pain (n = 4)	20.0 Anxiety/Depression (n = 18)	-	2.2 Pressure Ulcer (n = 2)	-
Aras, Kaya (2)	40	2.5 Endocrine (n = 1)	17.5 Cardiopulmonary problems (n = 7)	2.5 Deep Vein thrombosis (n = 1)	32.5 GU tract (n = 13) 27.5 GI tract (n = 11)	-	1.1 Pneumonia (n = 1)	2.5 Hydrocephalus (n = 1) 2.5 Epilepsy (n = 1)	57.5 Spasticity (n = 23) 50 Contractures (n = 20) 37.5 Heterotrophic Ossification (n = 15)	-	-	-	2.5 PI (n = 1)	-
Chen, Hsu (3)	568	5.6 Hyponatraemia (n = 32) 3.9 Hyperkalaemia (n = 22) 3.0 Hypo-albuminaemia (n = 17) 2.8 Hypokalaemia (n = 16) 0.9 Uncontrolled diabetes mellitus (n = 5) 0.2 Hypernatraemia (n = 1)	1.9 Uncontrolled hypertension (n = 11) 0.5 Acute coronary syndrome (n = 3)	0.74 Pulmonary embolism (n = 4) 0.2 Deep vein thrombosis (n = 1)	28.3 Constipation (n = 161) 13.4 Upper gastrointestinal bleeding (n = 76)	0.7 Allergy (n = 4)	17.1 Symptomatic Urinary tract infection (n = 97) 16.0 Fever (n = 91) 5.1 Pneumonia (n = 29) 5.8 Other infections (n = 33)	1.6 Seizure (n = 9) 1.2 Stroke progression (n = 7)	-	23.2 Shoulder Pain (n = 132) 7.0 Knee pain (n = 40) 4.8 Neck pain (n = 27) 3.0 Back pain (n = 17) 9.2 Other Musculoskeletal pain (n = 52)	6.7 Depression (n = 38) 1.2 Anxiety (n = 7)	-	7.2 Dermatitis (n = 41) 0.9 Pressure ulcers (n = 5) 0.2 Scabies (n = 1)	2.3 Falls (n = 13)
Chu, Babu (4)	94	-	4.3 Arrhythmia (n = 4) 1.1 Hypotension (n = 1)	1.1 Anemia (n = 1) 1.1 Deep vein thrombosis (n = 1)	1.1 Small bowel obstruction (n = 1)	2.1 Rash (n = 2) 1.1 Allergy (n = 1) 2.1 Leukocytosis (n = 2)	8.5 Cellulitis (n = 8) 7.5 Urinary tract infection (n = 7) 3.2 Fever (n = 3)	1.1 (n = 1) Agitation	-	-	-	-	-	-

3.2
Clostridioides
difficile
(*n* = 3)

Appendix S3 CONTINUED

Authors	N	Biochemical, Fluid or Endocrine Alterations (%)	Cardiovascular Alterations (%)	Haematological Alterations (%)	Gastrointestinal/ Genitourinary Alterations (%)	Immunology (%)	Infection (%)	Neurological Alterations (%)	Orthopaedic or musculoskeletal Alterations (%)	Pain (%)	Psychiatry (%)	Respiratory Alterations (%)	Skin Alterations (%)	Other Alterations, Adverse Events (%)
Civelek, Atalay (5)	81	-	21.0 New arrhythmias (n = 17) 16.0 Angina (n = 13)	3.7 Deep vein thrombosis (n = 3) 1.2 Pulmonary embolism (n = 4)	7.4 Gastrointestinal complications (n = 6) 1.2 Haematuria (n = 4)	-	48.1 Urinary tract infection (n = 39)	2.5 New stroke (n = 2) 1.2 (n = 4) Seizure	-	37.0 Shoulder pain (n = 30) 32.1 Musculo-skeletal pain (n = 26)	37.0 Insomnia (n = 30) 32.1 Depression (n = 26) 11.1 Anxiety Disorder (n = 9) 7.4 Delirium (n = 6)	13.6 Pneumonia (n = 11)	11.1 Decubitus (n = 9)	-
Doshi, Say (6)	140	-	2.9 [#] Uncontrolled hypertension 1.4 [#] Cardiovascular complications	0.7 [#] Deep vein thrombosis	22.9 [#] Constipation 20.9 [#] Acute urinary retention 8.6 [#] Gastrointestinal bleeding	-	14.3 [#] Urinary tract infection 5 [#] Chest infection	0.7 [#] Seizure	-	8.6 [#] Limb pain	9.3 [#] Depression	-	2.1 [#] Drug Rash 0.7 [#] Pressure Sore	4.3 [#] Fall
Equebal, Anwer (7)	47	-	-	-	-	-	21.3 Urinary tract infection (n = 10)	-	2.1 Heterotopic ossification (n = 1)	-	-	-	34 Pressure Ulcer (n = 16)	-
Ganesh, Guernon (8)	68	-	-	-	5.9 Renal insufficiency (n = 38)	-	61.7 Pneumonia (n = 42) 47.1 Urinary tract infection (n = 32)	45.6 Seizure (n = 31) 38.2 Hydrocephalus (n = 26) 30.9 Hydrocephalus requiring shunt (n = 21)	56.7 Spasticity (n = 38)	-	-	-	-	-
Gökkaya, Aras (9)	-	-	72.3 Hypertension (n = 60)	3.6 Deep vein thrombosis (n = 3)	33.7 Neurogenic bladder (n = 28) 12.0 Neurogenic bowel (n = 10)	-	12.0 Pneumonia (n = 10) 8.4 Urinary tract infection (n = 7)	57.8 Aphasia (n = 48) 43.4 Sensory deficits (n = 36) 25.3 Recurrent stroke (n = 21) 21.7 Dysphagia (n = 18)	65.1 Immobilization (n = 54) 27.7 Spasticity (n = 23) 4.8 Contractures (n = 4) 3.6 Fractures (n = 3)	80.7 Shoulder pain (n = 67) 19.3 CRPS (n = 16) 12.0 Pain general (n = 10)	57.8 Psychosocial problems (n = 48)	3.6 Acute respiratory failure (n = 3)	1.2 Pressure Injury (n = 1)	3.6 Falls (n = 3) 1.2 Adverse drug event (n = 1)

1.2
Seizures
(n = 1)

3.6
Heterotopic ossification
(n = 3)

Appendix S3 CONTINUED

Authors	N	Biochemical, Fluid or Endocrine Alterations (%)	Cardiovascular Alterations (%)	Haematological Alterations (%)	Gastrointestinal/ Genitourinary Alterations (%)	Immunology (%)	Infection (%)	Neurological Alterations (%)	Orthopaedic or musculoskeletal Alterations (%)	Pain (%)	Psychiatry (%)	Respiratory Alterations (%)	Skin Alterations (%)	Other Alterations, Adverse Events (%)
Gupta, Taly (10)	64	-	-	6.3 Deep vein thrombosis (n = 4)	31.25 Urinary incontinence (n = 20) 23.5 Constipation (n = 15)	-	50 Urinary tract infection (n = 32)	-	35.93 Spasticity (n = 23) 6.3 Spasm (n = 4)	21.87 Pain (n = 14)	21.87 Depression (n = 14)	-	25 Pressure Ulcers (n = 16)	-
Hung, Tsay (11)	346	-	-	-	4.9 Upper gastrointestinal bleeding (n = 17)	1.7 Gouty Arthritis (n = 6)	13.6 Urinary tract infection (n = 47) 4.9 Pneumonia (n = 17)	1.5 Stroke Progression (n = 5) 1.2 Seizures (n = 4)	-	15 Musculo-skeletal pain (n = 52)	9.3 Depression (n = 32)	-	4.9 Pressure sores (n = 17)	0.3 Sudden death (n = 1)
Ikbali Afsar, Cosar (12) <i>Neoplastic cohort with identified complication</i>	43	-	-	6.7 Deep vein thrombosis (n = 14)	-	-	69.4 Urinary tract infection (n = 145)	-	5.3 Heterotopic ossification (n = 11) 5.7 Joint Contracture (n = 12)	-	-	-	35.9 Pressure injuries (n = 75)	-
<i>Traumatic Injury cohort with identified complication</i>	209	-	-	7.0 Deep vein thrombosis (n = 3)	-	-	48.8 Urinary tract infection (n = 21)	-	0 Heterotopic ossification 0 Joint Contracture	-	-	-	11.6 Pressure injuries (n = 5)	-
Janus-Lasuk et al. (2017)	1075	-	17.6 [#] Unstable hypertension 6.5 [#] Cardiac events	1.5 [#] Deep vein thrombosis 0.7 [#] Pulmonary embolism	6.1 [#] Diarrhea	-	23.2 [#] Urinary tract infection 8.8 [#] Respiratory tract infection	1.2 [#] Seizure 0.7 [#] Recurrent stroke	0.5 [#] Fractures	14.9 [#] Pain-shoulder 5.2 [#] Other pain	18.9 [#] Depression	-	-	17.9 [#] Falls
Kennedy, Livingston (13)	373	-	-	5 [#] Deep vein thrombosis	-	-	20 [#] Urinary tract infection	-	-	-	-	-	-	17 [#] Serious non cranial injuries

Appendix S3 CONTINUED

Authors	N	Biochemical, Fluid or Endocrine Alterations (%)	Cardiovascular Alterations (%)	Haematological Alterations (%)	Gastrointestinal/ Genitourinary Alterations (%)	Immunology (%)	Infection (%)	Neurological Alterations (%)	Orthopaedic or musculoskeletal Alterations (%)	Pain (%)	Psychiatry (%)	Respiratory Alterations (%)	Skin Alterations (%)	Other Alterations, Adverse Events (%)
Lew et al. (2002) <i>Ortho Rehab</i>	159 <i>n</i> = 107	-	-	-	Constipation [^]	-	Thrombophlebitis [^]	-	-	Post-operative pain [^] 35 [#]	-	-	Wound drainage [^]	-
<i>TBI Rehab</i>	<i>n</i> = 41	-	-	-	-	-	12 [#] Wound dehiscence or infection 4 [#] Osteomyelitis 4 [#] Urinary tract infection 4 [#] Pulmonary infection -	8 [#] Alteration in mental status 4 [#] Recurrent seizure	30 [#] Severe spasticity 15 [#] Heterotrophic ossification	Intractable pain	-	-	-	-
<i>CVI Rehab</i>	<i>n</i> = 11	-	36 [#] Sympto-matic blood pressure fluctuations	2.4 [#]	-	-	-	-	-	36 [#] Intractable shoulder pain	-	-	-	-
Marcassa, A (17)	5261	0.1 Acute renal failure (<i>n</i> = 7)	6.0 Heart Failure (<i>n</i> = 301) 5.0 Arrhythmias (<i>n</i> = 290) 5.2 [#]	-	-	-	9.0 Infection (<i>n</i> = 475)	0.2 Neurological complications (<i>n</i> = 11)	-	-	-	1.0 Respiratory failure (<i>n</i> = 78)	-	0.3 Falls (<i>n</i> = 15)
McKinley, Tewksbury (18) <i>Non-traumatic SCI</i>	117 38	-	5.2 [#] Orthostatic hypotension	7.9 [#] Deep vein thrombosis	2.6 [#] Gastrointestinal Bleeding	-	52.6 [#] Urinary tract infection 15.8 [#] Wound infection 2.6 [#] Pneumonia	0 Autonomic Dysreflexia	21.1 [#] Spasticity 2.6 [#] Heterotrophic Ossification	55.3 [#] Pain	23.7 [#] Depression	-	21.1 [#] Pressure injuries	-
<i>Traumatic SCI</i>	79	-	36.7 [#] Orthostatic hypotension	22.8 [#] Deep vein thrombosis	2.5 [#] Gastrointestinal Bleeding	-	67.1 [#] Urinary tract infection 2.5 [#] Wound infection 26.6 [#] Pneumonia 15	24.1 [#] Autonomic Dysreflexia	44.3 [#] Spasticity 7.6 [#] Heterotrophic Ossification	62.0 [#] Pain	26.6 [#] Depression	-	41.8 [#] Pressure injuries	-
McLean (19)	133	-	1.5 [#] Congestive Cardiac Failure	0.75 Deep vein thrombosis (<i>n</i> = 1)	4 Gastrointestinal symptoms (<i>n</i> = 5)	-	Urinary tract infection (<i>n</i> = 20) 2 Pneumonia [#]	1.5 [#] Seizures 0.75 Transient ischaemic attack (<i>n</i> = 1)	-	24 Shoulder Pain (<i>n</i> = 32) 5 Musculoskeletal Pain (<i>n</i> = 6) 1.5 [#] Chronic regional pain syndrome	26 Depression (<i>n</i> = 35)	-	1.5 [#] Pressure Ulcers	20.0 Falls (<i>n</i> = 26) 1.5 [#] Adverse Drug Reaction

Appendix S3 CONTINUED

Authors	N	Biochemical, Fluid or Endocrine Alterations (%)	Cardiovascular Alterations (%)	Haematological Alterations (%)	Gastrointestinal / Genitourinary Alterations (%)	Immunology (%)	Infection (%)	Neurological Alterations (%)	Orthopaedic or musculoskeletal Alterations (%)	Pain (%)	Psychiatry (%)	Respiratory Alterations (%)	Skin Alterations (%)	Other Alterations, Adverse Events (%)
Pongratanakul, Thitisakulchai (20)	150	-	8.8 Ischaemic heart disease (n = 3)	-	-	-	5.9 Urinary tract infection (n = 2) 8.8 Other infections (n = 3)	11.8 Intracranial haemorrhage (n = 4) 8.8 Recurrent stroke (n = 3) 8.8 Seizure (n = 3) 5.9 Alterations of consciousness (n = 2)	-	-	-	29.4 Respiratory tract infection (n = 10)	-	-
Roth and Lovell (21)	1845	7.0 Electrolyte abnormalities (n = 137)	12.0 Depression (n = 221)	-	6.0 Diarrhea (n = 102) 5.0 Urinary retention (n = 94)	-	29.0 Urinary tract infection (n = 521)	-	-	17.0 Joint or soft tissue pain (n = 311)	13.0 Depression (n = 243)	-	-	8.0 Drug reactions (n = 144)
Roth, Lovell (22)	1029	10.0 Dehydration (n = 103) 7.8 Electrolyte abnormalities (n = 80) 4.7 Nutrition deficiency (n = 48) 2.4 Hyperglycemia (n = 25)	13.0 Depression (n = 133) 3.2 Arrhythmias (n = 32) 2.9 Angina (n = 29) 2.0 CCF* (n = 20) 2.0 Hypotension (n = 19) 47.9	6.0 Anaemia (n = 61) 4.1 Deep vein thrombosis (n = 42) 1.1 Pulmonary embolism (n = 11)	4.8 Acute urinary retention (n = 49) 3.1 Peptic ulcer disease and gastrointestinal bleed (n = 31)	-	30.5 Urinary tract infection (n = 313) 4.0 Pneumonia (n = 42) 3.1 <i>Clostridioides difficile</i> (n = 32) 1.4 Cellulitis (n = 14)	1.6 New Stroke (n = 16) 1.5 Seizures (n = 15)	-	14.2 Joint or soft tissue pain (n = 146)	13.0 Depression (n = 133) 8.0 Anxiety (n = 81)	5 Acute respiratory failure (n = 5)	4.3 (n = 44) Pressure injuries	10.5 Falls (n = 108) 9.4 Drug reactions (n = 96)
Zhang, Huang (23)	146	-	47.9 Paroxysmal sympathetic hyperactivity (n = 70)	26.0 Deep vein thrombosis (n = 38)	19.2 Ileus (n = 28)	-	73.3 Pneumonia (n = 107) 69.2 Urinary tract infection (n = 101) 26.0 Keratitis (n = 38)	38.4 Hydrocephalus requiring VP shunt (n = 56) 29.5 Seizure/seizure like activity (n = 43)	52.7 Limb spasticity (n = 77) 15.8 Heterotopic ossification (n = 23)	75.3 Pain (n = 110)	-	-	70.5 Pressure injuries (n = 103)	19.2 Cortical visual impairment (n = 28) 17.6 Aphasia (n = 26)

Appendix S3 CONTINUED

Authors	N	Biochemical, Fluid or Endocrine Alterations (%)	Cardiovascular Alterations (%)	Haematological Alterations (%)	Gastrointestinal/ Genitourinary Alterations (%)	Immunology (%)	Infection (%)	Neurological Alterations (%)	Orthopaedic or musculoskeletal Alterations (%)	Pain (%)	Psychiatry (%)	Respiratory Alterations (%)	Skin Alterations (%)	Other Alterations, Adverse Events (%)
Shown as the frequency of complications occurring within the study period, where N = sample size														
Mathews et al. (2019)	21	10 Includes electrolyte abnormalities, abnormal blood glucose, fluid overload	10 Includes: Hypertension, orthostasis and symptomatic anaemia	6 Includes international normalised ratio out of range, deep vein thrombosis and epistaxis	12 Includes anorexia, constipation, urinary retention, acute kidney injury, gastroesophageal disease, haematuria	1 Pseudogout	1 Bacteraemia	2 Fatigue	1 Shoulder subluxation	5 Includes surgical site and musculo-skeletal pain	2 Depressed mood	3 Includes: Hypoxia/dyspnea	2 Pruritis	-
Shown as the cumulative number of complications recorded, where N = the total number of complications recorded within the study cohort. (% = proportion of complications recorded)														
Mulroy et al. (2013)	1065	6.23 Biochemical (n = 100) 3.05 Fluid imbalance (n = 49)	11.71 Cardiovascular (n = 188)	-	25.05 Gastrointestinal/ Genitourinary system (n = 402)	6.29 Rheumatological (n = 101)	-	6.23 Neurological (n = 100)	0.44 New fracture (n = 7)	-	9.47 Psychiatry (n = 152)	11.34 Respiratory (n = 182)	17.45 Skin (n = 280)	2.74 Injurious fall (n = 44)
Shown as the number of events occurring within the study cohort where N= sample size. (% = proportion of all events)														
Whyte, Nordenbo (24)	184	3.6 Abnormal laboratory findings (n = 17)	2.1 Tachycardia (n = 10)	-	4.3 Vomiting (n = 20) 2.8 Other Gastrointestinal problem (n = 13) 2.6 Diarrhea (n = 12)	-	6.4 Urinary Tract Infection (n = 30) 3.0 Pneumonia (n = 14) 2.1 Upper respiratory tract infection (n = 10)	6.4 Agitation/ Aggression (n = 30) 2.6 Autonomic Storm (n = 12) 2.1 Hydrocephalus (n = 10)	8.3 Hypertonia/ spasticity (n = 39) 4.7 Motor restlessness/ Hyperkinesia (n = 22)	-	-	-	2.6 Skin Rash (n = 12)	6.2 Sleep Disturbances (n = 29)

Notes: #- only proportions reported; ^ - data not provided; * - Congestive cardiac failure.

Appendix S4

STUDIES REPORTING THE PROPORTION OF PEOPLE REQUIRING RETURN TO ACUTE CARE AND ASSOCIATED COMPLICATIONS

Study Author Population	N	RTAC N (%)	Infection n (%)	Cardiac n (%)	Respiratory n (%)	Renal/ Urology n (%)	Neurological n (%)	Haematology n (%)	GI n (%)	Surgical n (%)	General Medical n (%)	Other n (%)	Falls/ Fracture n (%)
Alam et al. (1) General	293	293 (10.5)	#	#	-	-	#	#	-	#	-	#	-
Carney et al. (2) General	3072	250 (8.1)	55 (22.0) Infection	20 (8.0) Cardiac	35 (14.0) Pulmonary	23 (9.0) Shunt Failure	23 (9.0) Neurologic Change	-	18 (7.0) GI Bleeding	13 (5.0) Surgical complications	23 (9.0) General Medical Complications	43 (17.0) Other	-
Cheng et al. (3) Orthopaedic -amputees	118	19 (16.1)	6 (31.6) Infection 1 (5.3) Amputation Wound Infection	2 (10.5) Myocardial Infarction	3 (15.8) Hypoxia / Respiratory Failure	4 (21.1) Acute Kidney Injury	1 (5.3) Altered Mental Status	-	1 (5.3) GI Bleeding	2 (10.6) Surgical Wound	-	-	-
Chu et al. (4) Orthopaedic Bilateral Knee Arthroplasty	94	8 (8.5)	8 (8.5) Cellulitis 7 (7.4) UTI 3 (3.2) Fever 2 (2.1) <i>Clostridioides difficile</i>	4 (4.3) Arrhythmia 1 (1.1) Hypotension	-	-	1 (1.1) Agitation	2 (2.1) Leukocytosis 1 (1.1) Anaemia for transfusion 1 (1.1) DVT	1 (1.1) Small Bowel Obstruction	2 (2.1) Knee Dislocation	1 (1.1) Allergic Reaction	2 (2.1) Rash	-
Civelek et al. (5) Post stroke	81	9 (11.1)	3 (3.7) Fever	2 (2.5) Cardiac Ischaemia 1 (1.2) Arrhythmia	-	-	1 (1.2) New CVA	1 (1.2) Intractable DVT	1 (1.2) Severe abdominal pain	-	-	-	-
Considine et al. (6) General	136	136 (100)	17 (12.5) Febrile illness, UTI or cellulitis	12 (8.8) Chest pain 8 (5.9) Cardiac arrhythmia	14 (17.6) Respiratory distress /shortness of breath	4 (3.0) Renal colic/ Urinary retention	18 (13.2) Altered conscious state /delirium 4 (3.0) Signs of Stroke	-	17 (12.5) Pain/ Bleeding/ Vomiting	-	-	17 (12.5) Other	15 (11.0) Fall
Considine et al. (7) General	1763	557^^	77 (12.8) Sepsis / febrile illness	82 (13.6)	84 (13.9)	22 (3.6)	113 (18.7)	-	81 (13.4)	31 (5.1) Musculo-skeletal	-	30 (5.0) Integumentary/ wound	46 (7.6) Falls
Doshi et al. (8) General	140	8 (5.7)	-	2 (25.0) Uncontrolled Hypertension 1 (12.5) Hypotension	25 Pneumonia (n = 2)	-	1 (12.5) Thrombocytopenia	-	1 (12.5) Intestinal Obstruction	-	-	-	-

Faulk et al. (9) General	2282	256 (11.22)	57 (22.3) Infection	28 (10.9) Cardiac	68 (26.7) Pulmonary	-	23 (8.9) Neurological	-	1 (12.5) GI Bleeding	-	-	27 (10.5) Other	-
Formisano et al. (10) Brain Injury	1470		-	-	-	-	-	-	-	-	-	-	-

Appendix S4 CONTINUED

Study Author Population	N	RTAC (%)	Infection n (%)	Cardiac n (%)	Respiratory n (%)	Renal/ Urology n (%)	Neurological n (%)	Haematology n (%)	GI n (%)	Surgical n (%)	General Medical n (%)	Other n (%)	Falls/ Fracture n (%)
Formisano et al. (10) Brain Injury	1470		-	-	-	-	-	-	-	-	-	-	-
Traumatic (TBI)	<i>n</i> = 651	184 (28.2)											
Non traumatic (NTBI)	<i>n</i> = 819	267 (32.6)											
Fu et al. (11) Multiple Myeloma	122	32 (26.0)	11 (34.0) Infection	6 (19.0) Cardiac	1 (3.0) Pulmonary	2 (6.0) Renal	2 (6.0) Neurological	7 (22.0) Disease progression	1 (3.0) GI Bleeding	1 (3.0) Orthopaedic	-	1 (3.0) Other	-
Fu et al. (12) Leptomeningeal disease	30	9 (30.0)	2 (22.2) Fever	-	-	-	1 (16.7) Altered mental status	-	-	-	3 (33.3) Additional chemotherapy	1 (16.7) Progressive polyarthritis	-
Hammond et al. (13) Traumatic Brain Injury	2130	183 (8.6)	-	-	-	-	-	-	-	110 (52.0) Surgical	94 (45.0) Medical	5 (3.0) Unknown	-
Hung et al. (14) Post stroke	346	10 (2.89)	3 (30.0) Pneumonia	-	-	-	5 (50.0) Recurrent Stroke	-	-	1 (10.0) VP shunt obstruction	-	1 (10.0) Organic Psychosis	-
Im et al. (15) General	1301	121 (9.3)	31 (25.6) Infectious	26 (21.5) Cardiopulmonary	-	53 (4.1) Renal	14 (11.6) Neurosurgical 8 (6.6) Neurological	4 (3.3)	4 (3.3) General Surgical	18 (14.9) Orthopedic	-	11 (9.1) Plastic Surgical	-
Katrak et al. (16) Post stroke	729	80 (11.0)	13 (16.23) Infections	8 (10.0) Cardiac Complications	-	-	7 (8.8) New Stroke	7 (8.8) VTE	2 (2.5) GI Bleeding	12 (15.0) Planned Surgery	-	26 (32.5) Other	5 (6.3) Fracture

Kitisomprayoonkul et al. (17) Post stroke	118	14 (11.8)	5 (35.7) Pneumonia	3 (21.4) Cardiovascular	-	-	3 (21.4) Seizure 1 (7.1) Recurrent Stroke	1 (7.1) DVT	-	-	1 (7.1) Metabolic Encephalopathy	-	-
Marcassa et al. (18) Cardiac surgery	5261	212 (4.0)	-	-	-	-	-	-	-	-	-	-	-
Mathews et al. (19) Left ventricular assist devices and subsequent stroke	21	11 (52.4) ≥1 RTAC <i>*11 patients required a total of 14 RTAC</i>	3 (14.3) Fever with altered mental status	1 (9.0) Cardiac transplant	-	-	2 (18.0) Altered mental status 1 (9.0) Seizure like activity 1 (9.0) Hemorrhagic conversion of stroke	-	7 (33.3) GI Bleeding Epistaxis Drive line site bleeding	-	-	-	-
McKechnie et al. (20) Acquired Brain Injury	383	83 (22.0) (n = 83)	-	-	-	-	-	-	-	-	-	-	-

Appendix S4 CONTINUED

Study Author Population	N	RTAC (%)	Infection n (%)	Cardiac n (%)	Respiratory n (%)	Renal/ Urology n (%)	Neurological n (%)	Haematology n (%)	GI n (%)	Surgical n (%)	General Medical n (%)	Other n (%)	Falls/ Fracture n (%)
McLean (21) Post stroke	133	2 (1.5)	-	-	-	-	-	-	1 (0.75) Bowel Perforation	-	-	-	1 (0.75) Hip Fracture
Mulroy et al. (22) Functional	155	20 (17.8)	-	-	-	-	-	-	-	-	-	-	-
Pinto et al. (23) General	2312	228 (9.9)	-	-	-	-	-	10 (4.4) VTE related	30 (13.2) GI Bleeding	-	-	188 (82.4) Other	-
Pongratanakul et al. (24) Post stroke	995	32 (3.2)	15 (46.9)	3 (9.4)	-	-	10 (31.2)	-	-	-	-	4 (12.5)	-
Robinson et al. (25) Non-traumatic spinal cord injury	137	37 (19.8)	10 (27.0)	3 (8.0)	6 (16.0)	-	10 (27.0)	-	1 (3.0)	6 (16.0) Fractures/ Wound	-	1 (3.0) IVIg	-
Shiner et al. (26) Post cardiac transplant	116	39 (33.6)	8 (20.5) Sepsis 5 (12.8)	2 (5.1) RAF 1 (2.6) Hypotension	8 (20.5) Pleural effusion 6 (15.4) ARDS	3 (7.7) Acute renal failure	1 (2.6) Stroke	1 (2.6) PE	1 (2.6) Pancreatitis	-	-	3 (7.7) Transplant Rejection	-
Tennison et al. (27) Cancer rehabilitation	165	31 (18.8)	9 (29.0)	2 (6.5) Arrhythmia	5 (16.1)	1 (3.2)	3 (9.7)	4 (12.9)	-	-	4 (12.9)	3 (9.7)	-

			Complicated Fever or Sepsis		Respiratory distress	Urological procedure	Neurologic decline	Hematologic disorder			Cancer progression	Intractable pain		
Whyte et al. (28) Nonpenetrating TBI	184	29 (15.8)	0.40 events per patient per week		-	-	-	-	-	-	-	-	-	
Yeung et al. (29) Inpatient musculoskeletal rehabilitation	275	8 (2.9)	-	-	-	-	-	-	-	-	-	-	-	
Roth et al. (30) Post stroke rehabilitation	1029	197 (19.0)	3.2 (10/313) UTI	70 (20/29) Angina	-	2.0 (1/49) Retention	80.0 (12/15) Seizure	4.9 (3/61) Symptomatic anaemia	1.2 (1/80) General Electrolyte	-	-	3.1 (3/96) ADR	3.7 (4/108) Falls	
		<i>A total of 263 complications were recorded associated with RTAC.</i>	47.6 (20/42) Respiratory Infection	50 (16/32) Atrial arrhythmia 30 (6/20)		48.4(15/31) PUP/GI bleeding	87.5(14/16) New Stroke	83.3(35/42) DVT	2 (2/48) Nutritional deficiency			2.3 (1/44) PI	0.7 (1/146) Joint or soft tissue pain	
				CCF 3.2 (3/92) Hypertension		60.0 (3/5) ARF	1.2 (1/81) Anxiety/ Agitation	90.9 (10/11) PE						
					38.8 (7/19) Hypotension			2.2 (3/133) Depression						

Note: RTAC - return to acute care; GI - Gastrointestinal; USA - United States of America; # - data not provided; UTI - Urinary tract infection; DVT - Deep vein thrombosis; CVA - Cerebrovascular accident; ^ - Inclusion criterion required need for acute care transfer; GEM - Geriatric Evaluation and Management; ^^ - case refers to number of patients requiring acute care transfer, control refers to patients not requiring acute care transfer; ED - Emergency Department; GI - Gastrointestinal; VP - ventriculoperitoneal shunt; VTE - venous thromboembolism; IVIg - Intravenous immune globulin; PE - Pulmonary embolism; CCF - Congestive Cardiac Failure; PUP - Peptic ulcer perforation; ADR - Adverse drug reaction; PI - Pressure Injury; ARF - Acute respiratory failure; ARDS - Acute respiratory distress syndrome; RAF - Rapid atrial fibrillation; TBI - Traumatic brain injury.