


# Delivering Specialist Multidisciplinary Neurological Rehabilitation in Acute Medical and Surgical Settings: Service description of St James Acute Neurorehabilitation Team (SJART)

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## Background

- Patients admitted for acute medical and surgical care can develop neurological conditions and some have existing long term neurological conditions.
- Specialist neurological rehabilitation services in acute hospitals are mainly provided within dedicated in-patient rehabilitation units.
- These units are unable to manage the early, intense acute medical, surgical and nursing needs of the patient.
- Rehabilitation needs of such patients often unmet during the acute care period with deterioration in functional abilities leading to prolonged hospital stay.
- Transfer to in-patient rehabilitation units is often delayed by the patient's acute care needs.
- Early rehabilitation input has been shown to improve health outcomes (Heiss and Teasal 2006; Biernaskie et al, 2004).
- Important window of opportunity to provide this rehabilitation input is missed and secondary complications like muscle contracture can develop.
- This concept of early and specialist rehabilitation starting in the acute phase of hospital care is supported by the National Service Framework for long term conditions.

## Service Development

- A roving neurological rehabilitation team providing essential multidisciplinary neuro-rehabilitation service for those with complex disability caused by neurological conditions as part of the patient's acute care management was developed in 1997 to bridge this service gap.
- Clinical service is provided within the acute ward environment and referrals are received from any of the clinical specialties.
- The team is based in a 997-bedded acute hospital (Part of 2286 bed NHS Trust) that is also a regional centre for various conditions serving a population base of 750,000.
- Team composition is multidisciplinary with medical personnel (consultant and specialist registrar) and clinical specialist therapists (physiotherapy and occupational therapy).
- The Team conducts a weekly ward round and team meeting to review all referrals.

## Referral

- Specialist neurological rehabilitation assessment and treatment in patients who are medically unwell.
- Advice and provision of specialist equipment.
- Management of complications that lead to preventable disability.
- Assists with complex and timely discharge planning from hospital in addition to arranging and preparing for appropriate transfer to the specialist rehabilitation service.
- Teaching, support and guidance of junior staff, and senior staff with specialist knowledge in other clinical areas.
- Advocacy and support for the patient and their family.
- Helps the ward by considering the relationship of the patient's condition to their social and vocational needs.

- Active involvement in undergraduate and postgraduate medical education.

## Aim

Provision of early specialist neurological rehabilitation input for patients with such needs in acute medical, surgical and intensive care settings.

## Innovation

- The team utilises already existing hospital resources to optimise the patient's rehabilitation care.
- This is provided in the form of specialist advice, patient advocacy, ward staff support, training and hands-on treatment in neuro-rehabilitation.
- Services provided include spasticity management, specialist seating, switches for communication, splinting and discharge planning facilitation in complex cases.

## Complex cases.

Biernaskie J, Chermanenko G, Corbett D. Efficacy of rehabilitation experience declines with time after focal ischemic brain injury. *J Neuroscience* 2004;24:1245-1254  
 Department of Health. National Service Framework for Long-Term Conditions. Quality requirement 11: Caring for people with neurological conditions in hospital or other health and social care settings. Pg 59-61, March 2005.  
 Heiss WD, Teasel RW (2006) Brain recovery and rehabilitation. [Review] *Stroke* Feb;37(2):314-6.

## Results : Results of activity analysis for 1 year (Jan –Dec 2006)

Surgical	17
Respiratory medicine	7
ICU / HDU	7
Infectious diseases	6
Orthopaedics	5
Medical	5
Care Of the Elderly	4
Stroke unit	4
Oncology	2
Renal unit	2
Paediatrics	1
Urology	1
Plastics	1
Liver unit	1
<b>Total</b>	<b>63</b>

**Table 1**  
Referring  
Specialties

**Table 2.** Patients with pre-existing neurological condition

Stroke	16
Multiple sclerosis	6
Cerebral Palsy	3
Spinal cord Injury	3
Parkinson's Disease	2
Alcoholic polyneuropathy	1
Arachnoiditis	1
Hereditary spastic paraparesis	1
Sensory neuropathy	1
<b>Total</b>	<b>34</b>

**Table 3.** New Neurological diagnosis

Critical care neuropathy	5
Non-neurological deconditioning	5
Stroke	3
Botulism	1
Motor radiculomyelitis	1
Altered level of consciousness	1
Space Occupying Lesion (glioma)	1
Toxoplasmosis (cerebral)	1
<b>Total</b>	<b>18</b>

Assessment and Advice	63
Perceptual/cognitive assessment	9
Hands on therapy (Occupational therapy and Physiotherapy)	40
* Spasticity management	23
Teaching and support to ward staff	40
#Pre-discharge planning	50
Formal reports / letters	2
Initial assessment and advice only	2

\*Spasticity Management includes botulinum toxin injection, splinting, casting, positioning and seating advice.( Interdisciplinary approach).  
 # Pre-discharge planning for those with complex needs involve meetings with all stakeholders, liaison with in and out of area services and home visits by team/ ward therapists.

**Table 4.** Team Interventions

	Neurological Rehabilitation ward	5
	Acute Neurology ward	3
	Stroke Unit	2
	Elderly Rehabilitation ward	3
	<b>Sub-Total</b>	<b>13</b>
On-going rehabilitation within Trust		
Hospital Transfer (out of area)	8	
Home with no further follow up	7	
Home with Intermediate Care Team support	5	
Home with Therapy out-patient support from Team	4	
Home with support from Rehabilitation Outpatient Clinic	4	
Home with referral for further input with the Community Rehabilitation Unit	3	
Home with Community Stroke Team	2	
Home with Adult Learning Disability Team support	1	
Care In Community bed	1	
Nursing Home with referral to the Community Rehabilitation Unit	1	
Died	5	
<b>Total</b>	<b>Table 5. Discharge Destination</b>	<b>54</b>

## Conclusion

- A roving bedless rehabilitation team as described is effectively poised to respond to the early neurological rehabilitation needs of patients undergoing acute medical and surgical care.
- The team could be further strengthened by the expertise of other professions such as nursing and speech and language therapy.
- Pre-discharge planning is productive but time consuming and allows for effective utilisation of acute hospital beds.
- Formal research project using a control group to measure cost effectiveness, length of hospital stay and disability outcomes is indicated for further evaluation.