

# Standardising Patient Education in Spinal Cord Injury Rehabilitation: A Quality Improvement Initiative

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# What will be covered

1. Background

2. The Stream-Based Rehab Model

3. Aim

4. Methods

5. Results

6. Key Insights

7. Conclusion

# Background

- *“A personal multi-disciplinary patient education programme should be provided through 1:1 and group education, peer support and self-directed techniques with varied resources to meet patient’s preferred learning styles.”*  
— MASCIP Guidelines, Section 2.11.3

- **Education = empowerment**

- **SCI patients not always placed in specialised spinal units**
  - Delivery is often inconsistent across units and staff.
- **Different stages of recovery with different education needs**
  - Newly injured: Emotional readiness
  - Long-term spinal cord injury: Targeted education / refreshers



**= Need for standardised education programme to maintain consistency and ensure patient centred**

# The Stream-Based Rehab Model

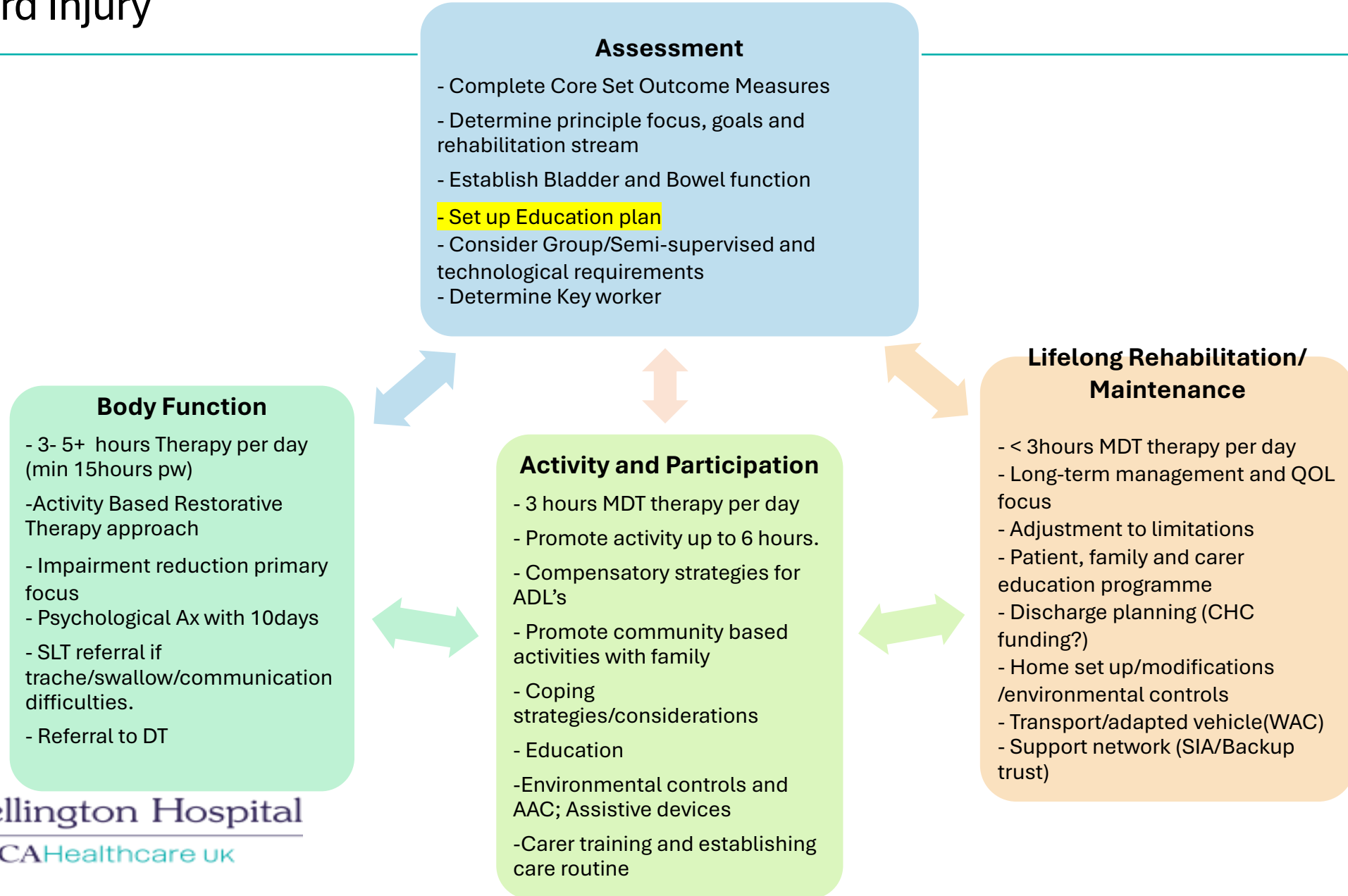
- Education program is imbedded in a **Stream based rehab model** we have created
  - To ensure consistency of care
  - Align care delivery with the **latest national standards**, including the MASCIP guidelines
  - Assessment; Treatment (Body function; Activity and participation; Lifelong rehabilitation/Maintenance)

This structure ensures that education is not a one-off event, but a  
**continuous, evolving process**



# Rehabilitation Streams

## Spinal Cord Injury



# Aim

To pilot a standardised, patient-centred education programme designed to improve the consistency and quality of SCI education through a structured, multidisciplinary approach.



# Methods

1. Decide on **Standardise resource** for education program and create the **education survey**

- Current education resource (Review and update of existing resources – ongoing)
- Key points

2. **Patient selection** (4 inpatients)

- Patient 1: C4 AIS B (longstanding- 3<sup>rd</sup> admission)
- Patient 2: L3 AIS C (Newly diagnosed)
- Patient 3: T4 AIS D (Newly diagnosed)
- Patient 4: T10 AIS D (Newly diagnosed)

3. **Baseline surveys** completed with each patient on admission

- Confidence level, priorities, learning preferences

4. **Delegation** and prioritisation of topics to MDT

5. **Education delivery by MDT**

- Using Standardised resource
- All opted for 1:1 sessions
- Preferred formats/languages (English and Arabic with interpreter)

6. **Discharge surveys**

- Confidence level
- All topics covered/ anything missing
- What worked well /what can improve on

# SCI Education survey

## Spinal Cord Injury Education questionnaire

-To complete on admission

We would like to introduce this questionnaire in order to understand better whether our patients would benefit from more education around their injury and how to notice and manage the symptoms.

Kindly fill out the questionnaire (circle the appropriate answer) on both sides and return it to a member of staff.

### 1. How confident are you in your knowledge regarding your condition?

Not at all  
confident

Very confident

1	2	3	4	5
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### 2. Would you like to receive education around your injury and/or symptoms?

- ☐ Yes
- ☐ No
- ☐ Maybe

### 3. What type of information would you like to receive regarding physical health? (Tick all that apply and mark your highest priority topics)

Topic	Yes/No	
Autonomic Dysreflexia/ Orthostatic Hypotension – condition that is usually relevant to people with spinal cord injuries with an injury at T6 or above		
Bladder and Bowel management		
Hyper resistance and spasms in muscles		
Skin and pressure relieving – how to keep my skin healthy		
Shoulder management and preservation – how to prevent secondary problems in my shoulders		
Respiratory management – problems with breathing		
Dietetics and how to live a healthy lifestyle		
Understanding your injury e.g. anatomy, anatomy changes		
Pain management		
Medications – why do I need certain medications		
Other – please specify below:		
_____		
_____		
_____		

### 4. What type of lifestyle information would you like to receive? (Tick all that apply and mark your highest priority topics)

Topic	Yes/No	Date completed and initial
Accessing community resources – what are the available facilities in the UK that I can benefit from		
Activities of daily living – ways of being able to complete my everyday activities as independently as possible		
Options of assistive devices and environmental assists– what pieces of equipment I could benefit from to increase my independence and quality of life		
Home modifications – what can I change in my home <u>in order to</u> increase my independence and safety		
Psychosocial adjustment – how can I better adapt to the environment		
Sexuality and relationships		

### 5. Would you be interested in receiving additional resources to research and read independently?

- ☐ Yes
- ☐ No
- ☐ Maybe

### 6. Would you like these resources in physical or electronic format?

- ☐ Physical (i.e. paper)
- ☐ Electronic (e.g. website or app)
- ☐ I am not interested in receiving resources to research and read independently

### 7. Would you be interested in participating in a group session that includes other people with similar condition?

- ☐ Yes
- ☐ No
- ☐ Maybe

### 8. Would you prefer to have your education delivered with a family member/friend?

- ☐ Yes
- ☐ No
- ☐ Maybe



# Methods

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- Confidence level
- All topics covered/ anything missing
- What worked well /what can improve on

Patient Name:  
Room:

Date:

## Spinal Cord Injury Education questionnaire

-To complete on discharge

1. Since your admission and completing the education program how confident are you in your knowledge regarding your condition?

Not at all  
confident

Very confident

1	2	3	4	5
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2. Do you feel all the topics you wanted more information on were covered?

- ☐ Yes
- ☐ No

3. Do you feel anything was missing? If so, please mention below

- ☐ Yes
- ☐ No

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4. What do you think worked well in education program?

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5. What do you think we can improve on?

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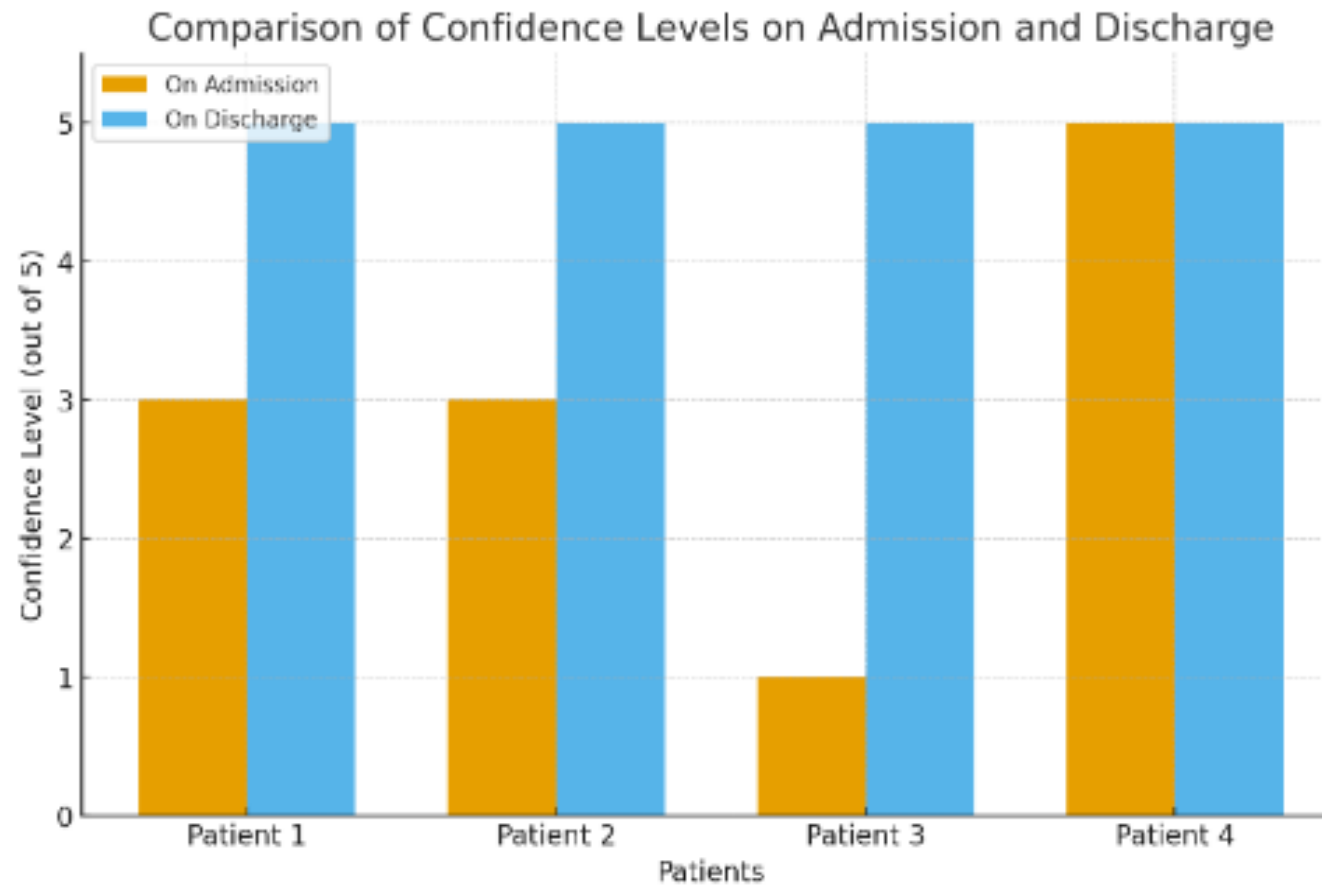
# Results: Topics

Patient		Topics																
		AD/OH	Bowel/ Bladder	Spasms/ Spasticity	Skin	Shoulder	Resp	DT	Injury	Pain	Meds	Other	Accessing communit y	ADLs	Assistive devices/E nvironmental controls	Home Mods	Psychosoc ial	Sex/relati onships
1	C4 AIS B	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	Yes	No	No	No
2	L3 AIS C	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Yes	No	Binder - when to use it	No	Yes	Yes	No	No	No
3	T3 AIS D	No	Yes	No	Yes	Yes	N/A	No	Yes	No	No	No	No	Yes	Yes	Yes	No	No
4	T10 AIS D	N/A	Yes	Yes	No	Yes	N/A	Yes	Yes	No	Yes	No	No	Yes	No	No	No	No

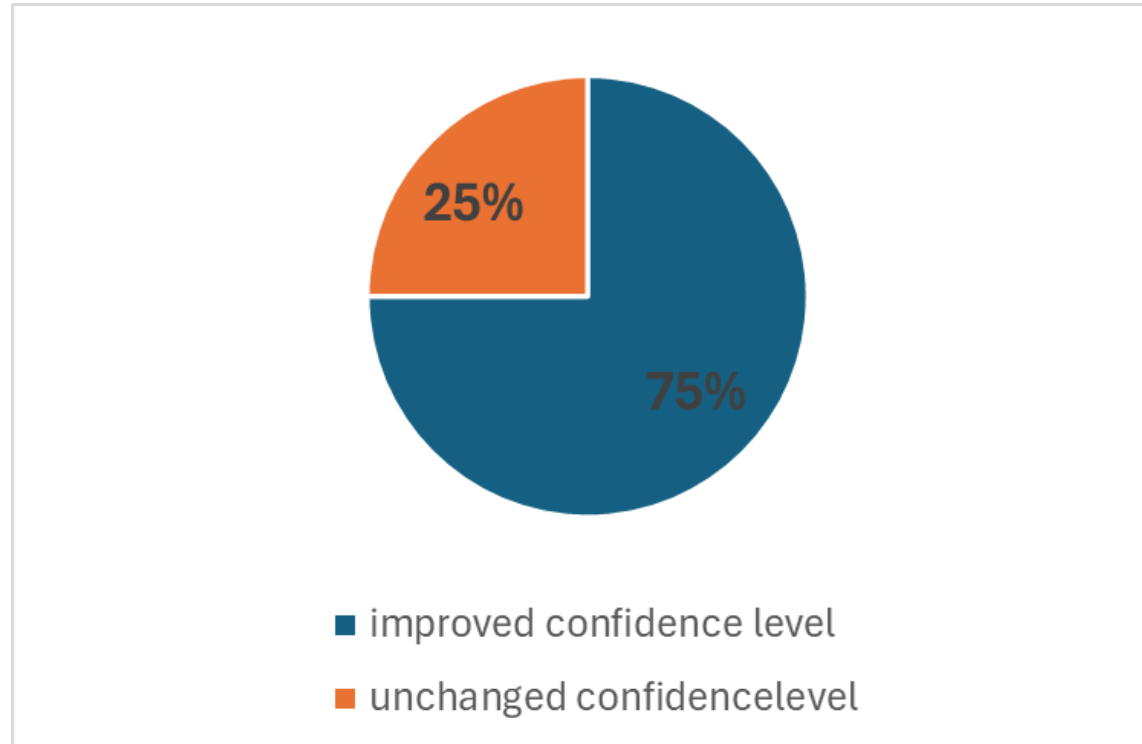
# What worked and what could be improved

Patient		Do you feel all topics were covered?	Anything missing	What worked well	Anything to Improve on
1	C4 AIS B	Yes	No	Happy	None, very happy
2	L3 AIS C	Yes	No		Liaison between Surgeon and team regarding precautions; to be on same page
3	T3 AIS D	Yes	No	Confidence and self-reliance	Walking without assistance
4	T10 AIS D	Yes	No		Nothing

# Confidence levels



# Summary of Results



Three of four participants (**75%**) **reported increased confidence** post-programme

The fourth participant rated 5 throughout but still found the programme helpful.

Including one who improved from a 1 (not confident) to a 5 (fully confident) and noted **greater self-reliance**.

**All participants reported that their educational needs were met**

# Conclusion

The pilot suggests a **standardised education programme is feasible** and can effectively **address the core educational needs** of SCI inpatients. **Supports wider implementation**

Standardisation **improved consistency** and **ensured quality, evidence-based education.**

The survey-feedback loop enabled responsive, **patient-led delivery.**

## Key considerations

- the limitations of self-reported confidence not always reflecting knowledge gaps.
- Further development and wider implementation are supported







# Questions





# Appendix

# Assessment Spinal Cord Injury

## **Core Set** (1<sup>st</sup> Week)

### Body Function

- ASIA (MS & Sensation)
- Spirometry
- PROM
- Screen Spasticity/ Spasm
- Screen shoulder pain
- Monitor autonomic dysfunction (AD & OH)
- **SCI Educational Survey**
- Measure for WC and commode

### Activity

- SCIM

## **Extended Set** (2<sup>nd</sup> + Week)

### Body Function

- In-depth muscle strength assessment (eg intrinsic hand muscles) – for some levels
- Spasticity and Spasms (Tardieu + Penn Spasm) - scale- if spasticity /spasm are problematic (referral to Hypertonicity clinic)
- Sensory (eg Nottingham sensory Ax) – for some levels
- Trunk control test in SCI

### Activity

- Gait ( 10 MWT + FAC)
- WSCI
- WUSPI
- 6 minute walk/wheelchair test
- UL AX CUE; ARMA
- Quality of life

## **Supplementary**

Functional Gait / Dynamic

Gait Platform

UL AX: Box& Blocks; Jebsen; 9 Hole Peg

Cognitive screen if traumatic C-spine injury or concerns noted

# Carrying out the SCI Education plan

## Clinical Patient Review Form

To be reviewed by the multidisciplinary team as part of the initial team meeting and then at 2-4 weekly intervals following goal setting.

The purpose of this document is to guide clinical discussion and reasoning across the MDT to ensure patients rehabilitation programmes are tailored, consistent and evidence informed.

Date:						
Team members:						
Present: (✓/X)	Patient			Nurse		
	Sig other			PT		
	OT			SLT		
	Psychologist			NMT		
Overarching Goal of admission: <i>Specifics goals to help with review/follow-up</i>						
Patient / Family understanding of rehabilitation & expectations						
Values/what is most important to your patient						
Anticipated length of stay / Estimated d/c date						
Discharge Location		Discharge planning form updated <input type="checkbox"/> Yes <input type="checkbox"/> No (comment: _____)				
Outcome measures completed (refer to streams for core, extended and supplementary set): -Core set completed? -What prediction tools could you use? -Admission timeframes to consider -What is achievable?						
MDT Rehabilitation Framework: -consider discipline input frequency, duration and structure -what evidence supports this? -what timescale do you have? -what do you think their functional outcome will be and by what timeframe?		Hours of therapy	PT	SLT	OT	NMT NP
		1:1 total per day				
		Assistant				
		Non-clinical				

1

Non-clinical					
Agreed Initial MDT Rehabilitation Stream					
x Body Function (impairment reduction focus)					
<input type="checkbox"/> Activity and Participation					
<input type="checkbox"/> Lifelong Rehabilitation					

Internal referrals:	Yes	No	N/A	Date completed
Fitness group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spasticity clinic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gait clinic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dietician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Neurological Music therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Complimentary therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Complex posture and seating clinic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Upper limb tech group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
?Peer group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tracheostomy Ward Round / ENT review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## Clinical Patient Review Form Follow-up

Summary of clinical progress - document any key medical assessments / changes / interventions (Botox, relevant medication):
Brief summary of teams <u>review</u> of the 24 hours routine (include positioning, splinting, bowel/bladder, medication needs):
2 weekly outcome measures completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Plan / Comment:
Barriers observed to clinical progress and what has been done to address them
Any modifications to current treatment plan:

2

<input type="checkbox"/> Yes <input type="checkbox"/> No						
MDT Rehabilitation Framework: -consider discipline input frequency, duration and structure -what evidence supports this? -what timescale do you have? -what do you think their functional outcome will be and by what timeframe?	Hours of therapy	PT	SLT	OT	NMT	NP
	1:1 total per day					
	Assistant					
	Non-clinical					
Plan / Comment						
Education Topics Reviewed and plan (see form)						
<input type="checkbox"/> Yes <input type="checkbox"/> No Plan / Comment						
Focus of education in the next two weeks:						
Discharge planning update: Discharge location <input type="checkbox"/> Yes <input type="checkbox"/> No <del>PaC:</del>						
Therapies:						
Change to different rehabilitation stream: <input type="checkbox"/> Yes (New Stream _____) <input type="checkbox"/> No Rationale:						

3

# Current changes

Implementation to greater team

Accessibility of education resource and behavioural change

Survey for therapists use

Adjustment to the survey to include relevance to patients condition by clinician

Extra question on discharge survey if scored the same and lower

Continue update education information and make adjustments according to patient feedback

Group base peer support education sessions

Easy to read patient friendly information sheets (easily translatable)

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Topic	Relevant for patient (Therapist to answer)	Yes/No (patient to answer)	Delegated person to carry out education	Date completed
Autonomic Dysreflexia/ Orthostatic Hypotension – condition that is usually relevant to people with spinal cord injuries with an injury at T6 or above				
Bladder and Bowel management				
Hyper resistance and spasms in muscles				
Skin and pressure relieving – how to keep my skin healthy				
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Dietetics and how to live a healthy lifestyle				
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Medications – why do I need certain medications				
Other – please specify below: _____				

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Patient Name:  
Room:

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**Spinal Cord Injury Education questionnaire**

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Not at all  
confident

Very confident

1	2	3	4	5
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**2. If your current score is the same or lower than your admission score, can you explain the reasons behind this?**

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**3. Do you feel all the topics you wanted more information on were covered?**

- ☐ Yes
- ☐ No

**4. Do you feel anything was missing? If so, please mention below**

- ☐ Yes
- ☐ No

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**5. What do you think worked well in education program?**

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**6. What do you think we can improve on?**

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