Spinal Cord Compression: Rehabilitation Process in Practice

Kristina Coe
Neuro-Oncology Physiotherapist
&
Tracy Eckersley
Oncology Occupational Therapist

The Christie NHS Foundation Trust
Objectives

• Brief overview of integration of pathways
• Discuss how these relate to rehabilitation
• Demonstrate flow through each stage of patient pathway
• Summarise key points at each stage
• Aim to visually summarise ‘Rehabilitation Process in Practice’
• Provide key references & AHP MSCC lead contacts
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<td>Yellow</td>
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<td>Post treatment destination</td>
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At Risk of MSCC

Red Flag Alert Card for Clinicians (GMCCN)


Identification of Red Flags

Suspicion of MSCC

Urgent Contact & Referral to GP/Consultant/MSCC Co-ordinator
Summary of Key Points:
At Risk Of MSCC

- Presentation in a variety of settings: Primary, Secondary & Tertiary.
- 25% present as unknown primary
- Delays in diagnosis reduce quality & length of life
- Ability to walk at diagnosis directly relates to ability to walk post treatment.
- Sound knowledge of Red Flags imperative for all staff and patients.
- Patient information & clinical awareness @ every stage
- Emphasis on speed of response: Save from disability rather than rescue from aftermath

If survivorship or indeed quality of life in the palliative phase is to improve, we need to develop towards early prophylactic intervention rather than late palliative management.
**Presentation of Suspected MSCC**

- **Urgent Contact & Referral to GP/Consultant/MSCC Co-ordinator**
- **Whole Spine MRI** within 24 hours
- **Steroids**: Dexamethasone: 16mg Loading Dose & Daily During Treatment
- **Bladder & Bowel Management**: Catheter & Slipper Pan
- **Anti-coagulant Therapy/TED Stockings**: as per Guidelines
- **Appropriate & Adequate Analgesia**: Refer to PCST or Pain Team as Indicated

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**Patient/Carer Information**
Summary of Key Points: Presentation of suspected MSCC

- Poor knowledge of red flags & belief of awaiting solid (late) neurological signs = delay in referral for urgent imaging.
- Poor correlation of sensory level & site of pain to actual compression site.
- Inappropriate selection of diagnostic modalities = false economy as whole spine MRI within 24 hours is the gold standard imaging to confirm MSCC.
- CT, Bone scans & X-ray do not accurately image neurological tissue = false negatives & false reassurance.
- Assume spinal instability & place on flat bed rest & log roll & await results prior to sending home!
- Flat bed rest = preservation of neurology & function until bony & neurological stability can be ensured (NICE 2008).
- Flat bed rest means FLAT BED REST!
- NB: place in context of patient compliance & ability to tolerate: Apply common sense to guidelines.
- Log roll procedure = 5 minimum.
Presentation of Confirmed MSCC & Unstable Spine Prior to Treatment

Whole Spine MRI within 24 hours

- Negative for MSCC
  - Take off Bed Rest
  - MDT Intervention as Required

- Confirmed MSCC
  - Spine Stable?
    - Yes
      - Plan for Supportive Management
      - Plan for Radiotherapy/Chemotherapy
    - No
      - External Bracing: Collar/Thoracolumbar
      - Neurosurgical Opinion
        - Not Appropriate
        - Appropriate

Baseline Assessment:

MDT Referral inc Physio = 24 hours OT = 48 hours

Patient/Carer Information

Holistic Assessment
Summary of Key Points: Presentation of Confirmed MSCC & Unstable Spine Prior to Treatment

- Decisions regarding stability: Radiologist/Oncologist/Neurosurgeon/Physiotherapist
- Imaging = ‘snapshot in time’ & does not assure continued stability
- Regular reassessment & clinical vigilance
- Decision regarding adherence to flat bed rest/log roll/bracing made in context of the supportive patient situation. Agreement with Patient/Physiotherapist/PCST/Oncologist
- Careful handling provides little physical gain but will benefit largely psychologically & emotionally
- External bracing can be effective in stabilising & pain management
- Surgery primary consideration: Best functional outcome
- Don’t wait for completion of treatment to commence holistic and baseline assessments.
Stable Spine During & After Treatment (Surgery &/or Radiotherapy)

- MDT Referral
- Patient/Carer Information

Treatment Plan

Discuss with Consultant

- Flat Bed Rest & Log Roll
- Changing Neurology?

Supportive Care

Treatment Plan Formulated & Commenced

Baseline Assessment

Outcome Measures

Commence Mobilisation as per Guidelines

Establish Holistic Patient Centred Goals

Rehabilitation

- Breathing & Limb Exercises, Positioning,
- Ascertain Functional Ability

Baseline Assessment Outcome Measures

- Breathing & Limb Exercises, Positioning,
OT & Physio Collaborative Working

There are many areas where OT & physiotherapy overlap at this point in the pathway and where joint working is often beneficial for both the professions & the patient.

- **Referral & liaison** with continuous line of communication with other MDT members
- **Assessment** of balance, sitting & carrying out basic functional tasks within imposed limits
- **Goal setting**: Assist with self esteem & psychological adjustment & realistic expectations
- **Determining appropriate transfer methods** (hoist/slide board/patient turner/aids)
- **Functional based rehab**: May include compensatory strategies
- **Neuro-rehab model**: Requires flexible & adaptive approach
- **Wheelchair & pressure relief assessment**
Profession Specific Rehabilitation

**Occupational Therapy**
- Education & advice on anxiety management and relaxation
- Assessment & provision of equipment
- Education of family on use of equipment & manual handling techniques
- Assess functional roles & educate patient & family on promoting function.
- Assess home environment

**Physiotherapy**
- Reiterate information & advice as provided in earlier stages
- Repeat baseline neurological assessment & outcome measures at regular intervals
- Maintain respiratory function
- Rehabilitation: Provision of aids, stair assessment etc
- Provision of spinal braces if required.
Summary of Key Points:
Stable Spine After Treatment

- Repeat baseline assessments regularly and monitor for change in neurology.
- Complete and repeat outcome measures appropriate to profession (Tokuhashi & Tomita)
- Commence graduated mobilisation as per guidelines once stability has been assured and treatment commenced.
- Rehabilitation commences at diagnosis with overall goal to improve quality of life.
- Rehabilitation is effective & the functional outcomes are equivocal to traumatic SCC

‘Ethos of rehabilitation is to facilitate return to as near independent life as possible regardless of life expectancy’. (Rankin et al 2008)
Summary of Key Points: Stable Spine After Treatment

- Goals holistic & individualised in conjunction with patient with consideration to prognosis & quality of life whether focus is survivorship, palliative care or end of life.

- Management is multifaceted & not always directly proportional to level of disability.

- Requires flexibility to accommodate changing symptoms & deficits, especially in rapidly progressive disease.

- Use of guidelines & pathways assist in informing effective decision making & facilitates appropriate discharge planning.
Discharge inc. Post Hospital Discharge & Approaching End of Life

- MDT Referral
- Patient/Carer Information
- Ascertain Functional Ability
- Discharge Discussion Patient, Family & MDT
- ? For Continuing Healthcare Assessment+/- Fast Track Process
- Hospice
- Nursing Home
- DGH
- Inpatient Rehabilitation
- Intermediate care
- Community Palliative Care & Therapy
- Home
Patient Related Barriers

- Poor & conflicting communication & patient information
- Patient/Family denial
- Psychological distress, low mood or withdrawal
- Uncontrolled pain
- Fatigue
- Lack of awareness of prognosis or rapidity of disease & therefore unrealistic expectations.
- Poor prognosis restricting time frames
## Discharge Setting Barriers

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<tr>
<th>Inpatient Rehab &amp; Intermediate Care</th>
<th>DGH</th>
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<tr>
<td>• Waiting list duration Vs QOL</td>
<td>• Medical based wards not conducive to level of rehab required</td>
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<td>• Specific &amp; restricted criteria</td>
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<td>• Need to be medically fit</td>
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<tr>
<td>• Assurance of short-term progress &amp; goal achievement</td>
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<tr>
<td>• Specified level of baseline function (intermediate care)</td>
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<tr>
<th>Nursing Home</th>
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<td>• Cost of care support</td>
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<tr>
<td>• Only option if inadequate home environment or required care support. Patient desire.</td>
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<td>• Limited access to therapy.</td>
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## Discharge Setting Barriers

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<th>Home</th>
<th>Hospice</th>
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| • Postcode inequality in provision of oncology, neurology & palliative care to meet needs.  
  • Waiting lists for ongoing rehab  
  • Limited resources: care support, equipment & therapy.  
  • Continuing healthcare process Vs ‘rehabilitation potential’  
  • Inadequate home environment. | • Limited inpatient rehabilitation  
  • ? Appropriate use of specialist hospice facilities & resources  
  • Patient/family pre-conceived ideas of hospice purpose. |
Summary of Key Points: Discharge

- Discharge commences on admission & needs to be a continual consideration throughout the pathway as estimated discharge can occur within 48 hours (unrealistic in real time)

- Prepare patient & carers: physically, socially, emotionally and psychologically.

- Discharge pathway appears to have a simple trajectory, but in reality is very convoluted and complex.

- Multiple barriers to both rehabilitation & discharge planning = unrealistic expectations, conflict, unachievable goals & delays.

- Comprehensive MDT approach with close communication & information (including patients & carers) integral to pathway effectiveness.

- No individual holds all skills required to overcome/minimise barriers & facilitate the best journey for patient & family.
Rehabilitation Process in Practice

1. Identification of Risk Factors & Red Flags
2. Ascertain Functional Ability
3. Discharge Discussion Patient, Family & MDT
4. Discharge Destination
5. Community Palliative Care & Therapy

Comprehensive MDT Approach

1. Baseline Assessment
2. Flat Bed Rest & Log Roll

Patient/Carer Information

1. Medical Treatment Plan Formulated & Commenced
2. Holistic Assessment
3. Referral to GP/Consultant/MSCC Co-ordinator
4. Urgent Contact & Referral to GP/Consultant/MSCC Co-ordinator
5. MSCC Suspected

Holistic Assessment

1. Suspicion of MSCC
2. Flat Bed Rest & Log Roll
3. Whole Spine MRI within 24 hours
4. Confirmed MSCC
5. Spine Stable?
6. Discharge Discussion Patient, Family & MDT
7. Neurosurgical Opinion
8. External Bracing
9. Commence Mobilisation as per Guidelines
10. Establish Holistic Patient Centred Goals
11. Changing Neurology?
12. Ascertain Functional Ability

Supportive Care

1. Discuss with Consultant
2. Medical Treatment Plan Formulated & Commenced
Contacts & Useful Websites

AHP Rehab leads for the Christie:
Kristina Coe, Tracy Eckersley & Lena Richards:

• (kristina.coe@christie.nhs.uk)
• (tracy.eckersley@christie.nhs.uk)
• (lena.richards@christie.nhs.uk)
• 0161 446 3795

Websites for pathways and guidelines:

• www.GMCCN.nhs.uk
• www.christie.nhs.uk
References


Tokuhashi Score
Metastatic Spinal Tumour Prognosis

- **General condition (Karnofsky)**
  - 0 points: poor (10% - 40%)
  - 1 point: moderate (50% - 70%)
  - 2 points: good (80% - 100%)

- **No. of metastases in the vertebral body**
  - 0 points: >= 3
  - 1 point: 1 - 2
  - 2 points: 1

- **Metastases to the major internal organs**
  - 0 points: unremovable
  - 1 point: removable
  - 2 points: no metastases

- **Primary site of the cancer**
  - 0 points: lung, osteosarcoma, stomach, bladder, esophagus, pancreas
  - 1 point: liver, galbladder, unidentified
  - 2 points: others
  - 3 points: kidney, uterus
  - 4 points: rectum
  - 5 points: thyroid, breast, prostate, carcinoid tumor

- **No. of extraspinal bone metastases foci**
  - 0 points: >= 3
  - 1 point: 1 - 2
  - 2 points: 1

- **Palsy**
  - 0 points: complete (Frankel A, B)
  - 1 point: incomplete (Frankel C, D)
  - 2 points: none (Frankel E)

- **Survival prognosis**
  - total score 0 - 8: 85% lives < 6 months => conservative treatment or palliative surgery
  - total score 9 - 11: 73% lives > 6 months (and 30% > 1 year) => palliative surgery or (exceptionally) excisional surgery
  - total score 12 - 15: 95% lives > 1 year => excisional surgery

Tomita Scale (1983): Outcome Measure for Spinal Cord Compression

- 1: Intact or minimal neurological deficit. No functional deficit
- 2: Mild neurological impairment, walking with aids
- 3: Moderate neurological deficit, ambulatory with aids
- 4: Paraparetic, unable to walk, some power remains
- 5: Paraplegic, no motor power. Wheelchair bound