Medical Rehabilitation after Disasters: Why, When, How?

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Role of Medical Rehabilitation in natural Disasters: An ISPRM Discussion paper

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Sudden ecological disruption or threat that exceeds the adjustment capacity of the affected community and requires external assistance.

- Earthquakes
- Tsunamis
- Volcanic eruptions
- Geological Phenomenon
- Hurricanes
- Tornadoes
What is already known?

- Sudden and Catastrophic
- Major loss of Lives and Limbs
- Disruption of communication and transport network
- Overwhelm the existing resources
- Major impact on economy
Background

- Large number of new onset disabilities with pre-existing disabled population
- No or Little role of Rehabilitation Medicine in Disasters
- Katrina to Haiti ---- A decade of change
- 5th World Congress of ISPRM at Istanbul, Turkey, 13-17 June 2009 --- Motion passed at BOG meeting
- Sub-Committee on Rehabilitation Disaster Relief (RDRC) within ISPRM WHO Liaison Committee ---June 2010.
Epidemiology of disaster

Illustrate challenges for disability management in disasters with case studies of spinal cord injuries and limb amputations

Evidence on the effectiveness of rehabilitation interventions in disasters

Recommendations regarding the role of PRM and ISPRM in future natural disaster rehabilitation
Searching for evidence

- Highest level of evidence and ethical issues involved
- Available options
- Limitations of disaster Rehabilitation related research
  - Limited time to plan research and collect data
  - Compromised record keeping
  - Problems with documenting functional outcomes/gains
  - Little or no physiatrist involvement.
Methodology

- Discussions with SME’s
- Literature search
- Personal experience of the Committee members all around the globe
Methodology

**Literature search**
- Medline
- Ovid
- Springerlink
- Science Direct
- Google scholar
- Gray Literature

**Key words**
- Disasters, Physical Medicine and Rehabilitation, Physiatrist, earthquakes, tsunamis, Tornadoes, Fires, Cyclones, Volcanic eruptions, Disaster management, disaster planning, disaster response, persons with disability, Physiotherapy, occupational therapy, Spinal cord injuries, traumatic brain injury, amputation, fractures, nerve injury,

**Limits**
- English Language
- 1950 - 2010
Disability and PM&R conditions in disasters

Patients with pre-existing disabilities

Major
• Spinal Cord Injuries
• Traumatic Brain Injuries
• Major Amputations
• Peripheral Nerve Injuries
• Long bone fractures

Minor
• Muscle soreness
• Pain and cramps
• Tendonitis/fasciitis
• Musculoskeletal pain
• Sprains and Strains
Issues with Inadequate disability Management in disasters: Case Studies
Spinal Cord Injuries

- Most devastating neurological disability
- “The most neglected of all patients injured in an earthquake”
- Bam (Iran) -------Haiti 2010
- Every body wants to be a hero
- Physiatrist s involvement ----Indispensible
• Poor evacuations techniques
• Inadequate assessments

• Absence of an adequate pain management program
• Unrealistic counseling

• Little or no patient education
• Inappropriate prescription of mobility aids

• Prolonged Hospital admission
• Increased rate of complications
Rehabilitation interventions after disasters: Experience around the Globe and the lessons learned
Large number of disabilities in natural disasters

Rehabilitation services not developed or quickly exhausted

Medical rehabilitation is an urgent emergency service

Multidisciplinary team of Rehabilitation Professionals
Differentiation from Community Based Rehabilitation

Coordination of National and International NGO’s

Development of appropriate assessment tools

Trained Physiatrists or Rehabilitation Professionals only
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Large no of Disabilities

Reduces patient burden on acute care specialties

Reduces mortality and morbidity

Better Utilization of resources

Better follow up and community re-integration

Better management of non fatal conditions
When and where?

As soon as possible
At the Disaster site Vs. Rehabilitation centers
Early Vs. Sub acute Vs. Late
“When the earthquake happened I was struck on my back by the falling debris and had severe backache when rescued from the rubble. I walked to the Neelum stadium and waited for my turn to be rescued. When the pain became unbearable I lied down. I still remember when people lifted me from my feet and arms to put me in the helicopter, I could hear my back snap and suddenly I was numb from waist down and couldn’t move my lower limbs. They told me after 3 days in Rawalpindi that I had a broken back”
When and where?

As soon as possible

At the Disaster site Vs. Rehabilitation centers

Early Vs. Sub acute Vs. Late
<table>
<thead>
<tr>
<th>Multidisciplinary team</th>
<th>Doctors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiatrists</td>
<td>NGO’s and Volunteers</td>
</tr>
<tr>
<td>Rehab professionals</td>
<td></td>
</tr>
</tbody>
</table>

- Active rehabilitation
- Supervision
- Advice

Training and teaching

“Good intentions and No rehab experience”
Suggested Plan of Rehabilitation Interventions after a disaster.

1-2 Weeks
- Measure the burden of disability in the disaster area
- Establish multidisciplinary screening/staffing process

2-4 Weeks
- Perform Rehabilitation triage to allocate resources and making decision on evacuations and transport
- Document baseline functional status and deficits
- Provide acute rehabilitation interventions to target population

4-12 Weeks
- Establish Telerehabilitation network and consultations (National & International)
- Decisions on evacuation to a specialised center in selected cases only
- Training of local staff and Rehabilitation Teams

Discharge planning Long term Rehab and Follow up plans
Physiatrists can help in the post disaster phase by offering their expertise in the prevention of pressure ulcers, positioning techniques, prevention of thromboembolism, conservative management of SCI and preventing debilitating effects of prolonged immobility following major injuries. It is important that physiatrists should be consulted in disaster response plans and their expertise utilized earlier rather than late when preventable complications have already occurred.
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ANY QUESTIONS ????????