

Spinal Cord Injury: Effects and Potential Treatments

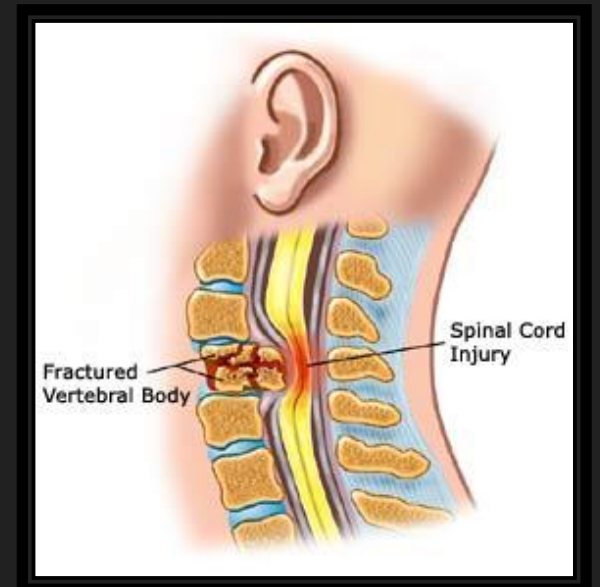
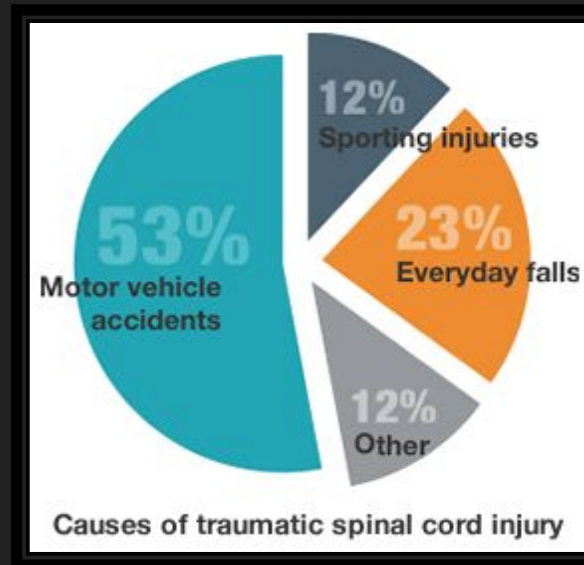


(Ruffing, 2013)

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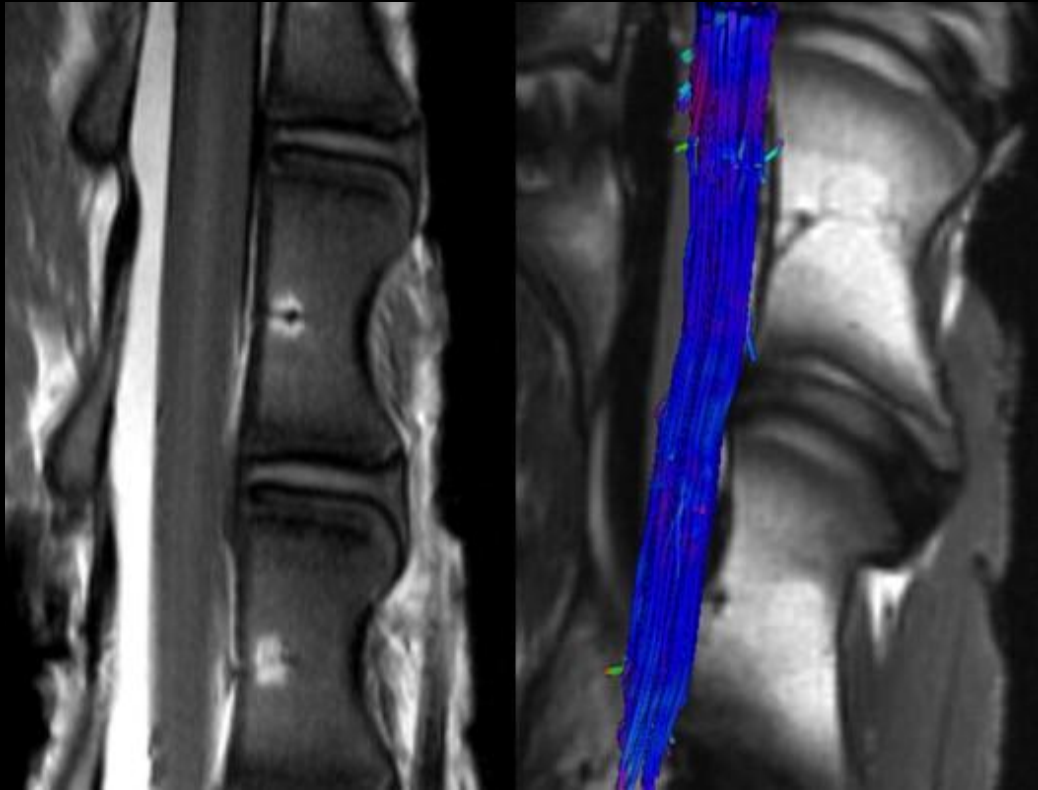
Spinal Cord Injury

- Definition
- Statistics
- No Cure

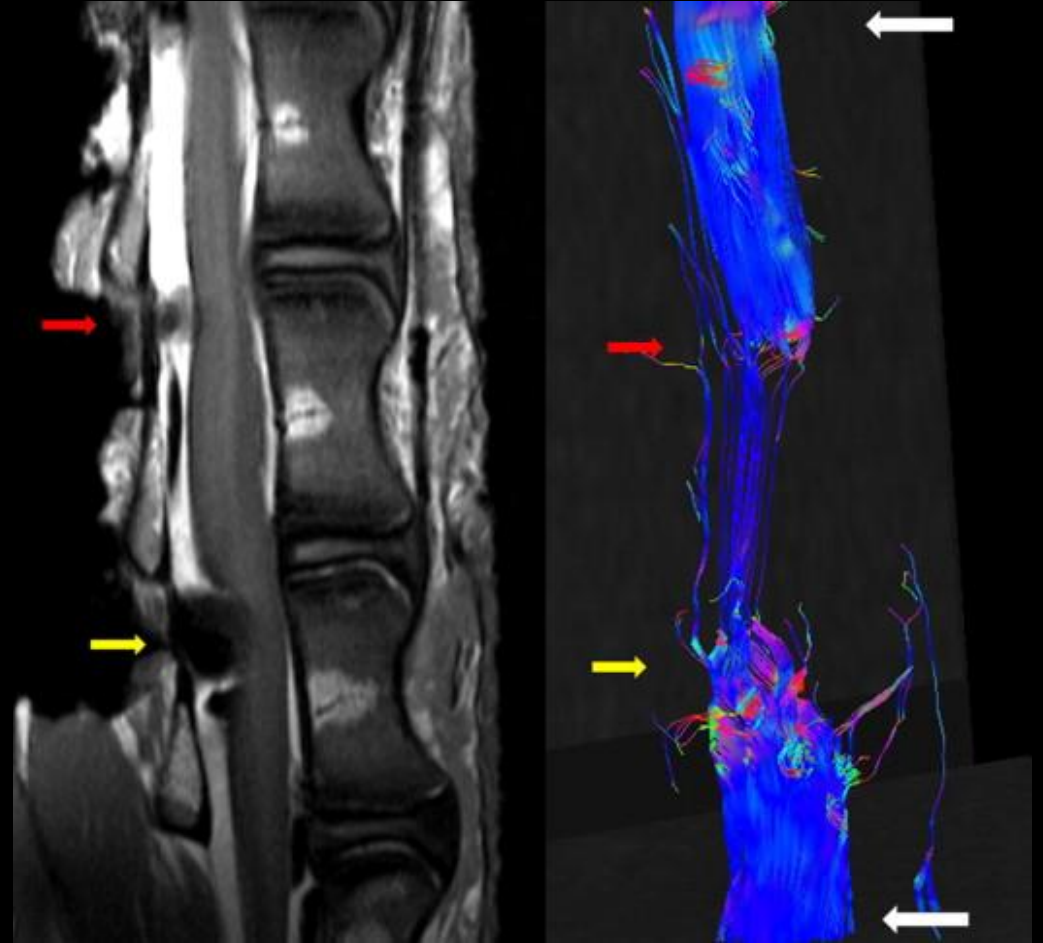


(Joshi, 2008; Spinalcure.org, 2013)

DTI Tractography



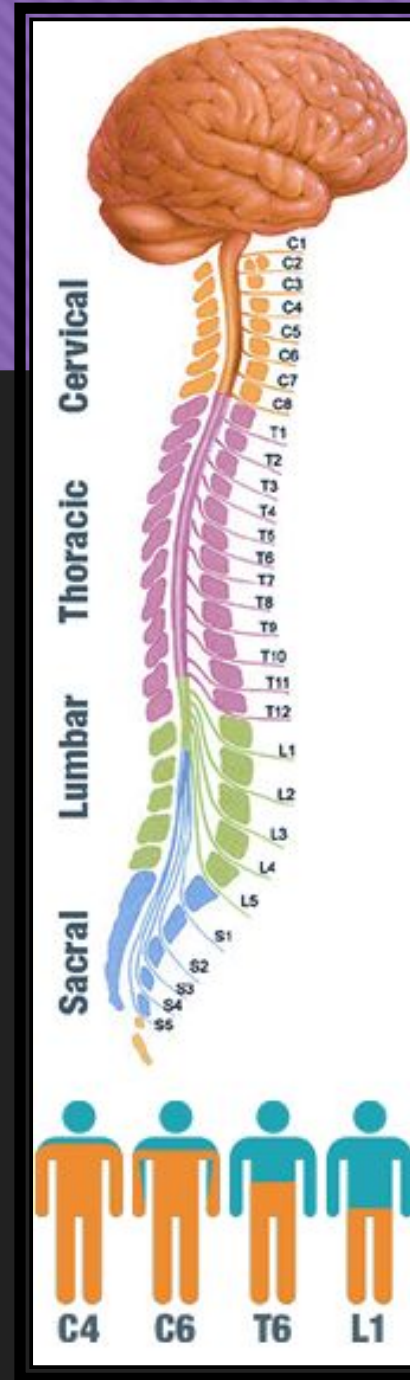
Before



After

Physiological Impact

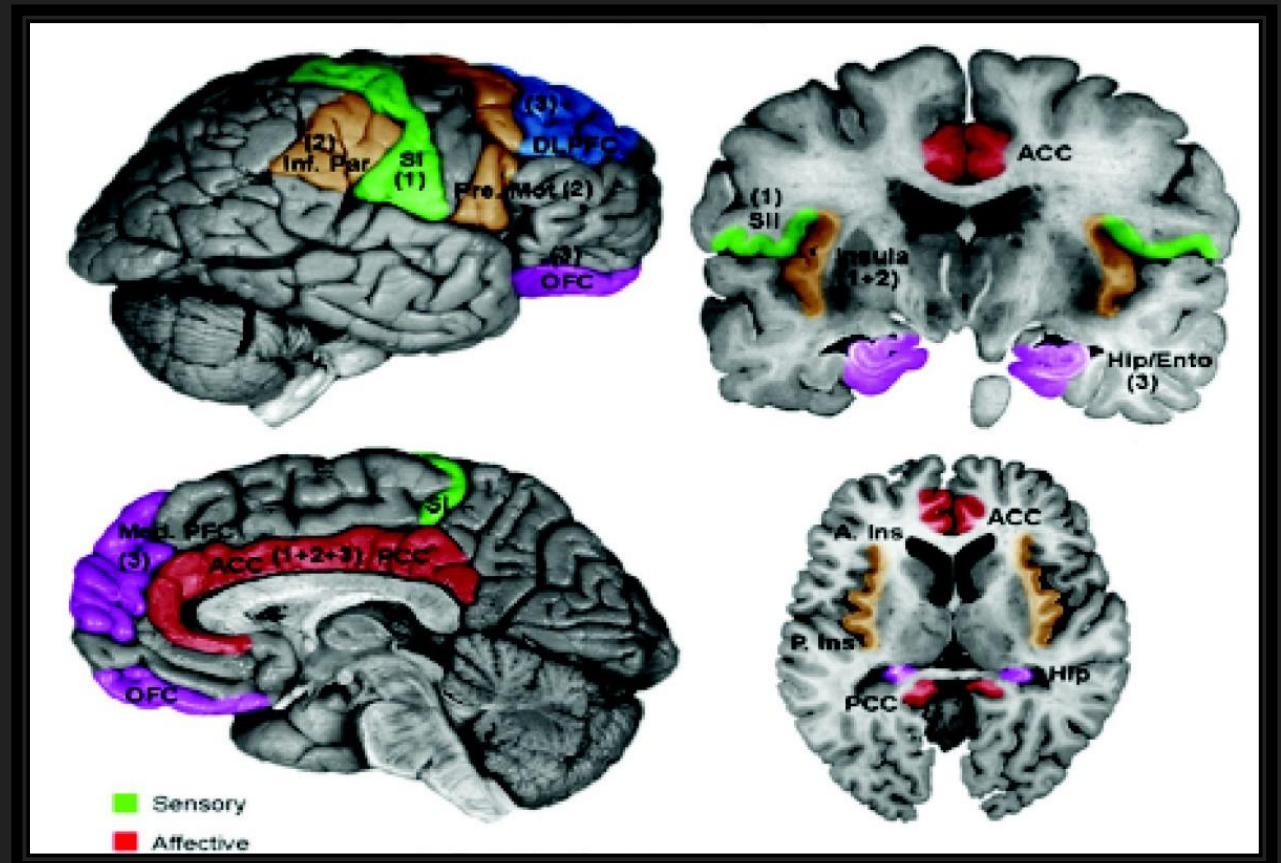
- Paralysis
- Neurological Response
 - Apoptosis
 - Glial Scar
 - Inflammation



(Spinalcure.org, 2013)

Medical Complications

- Bladder and Bowel Dysfunction
- Sexual Dysfunction
- Pressure Sores
- Muscle Spasticity
- Chronic Pain
- Immunodeficiency



Health Risks

(Carolinashealthcare.org, 2013; Sci.washington.edu, 2013)

- Osteoporosis
- Obesity
- Type II Diabetes
- Heart Disease
- Respiratory Illness
- Hypertension



Social Consequences

- Interpersonal Relationships
- Economic Well-being
 - Diagnosis
 - Lifetime Costs
 - Employment



(Farberov, 2012)

Psychological Aftermath

- Stress – Anxiety
- Depression
- Cognitive Functioning
- Resilience – Posttraumatic Growth



(Forbes, 2013)

Cognitive Behavioral Therapy

- Purposeful Activity
- Adopt Challenge-Focused Appraisals
- Group/Family Therapy



(Eklund, 2011)

Cell-Based Therapies

- Goals
- Repercussions
- Type
 - Embryonic Stem Cells
 - Neural Stem Cells
 - Induced-Pluripotent Stem Cells



(Liang et al., 2013)

Activity-Based Interventions

(Calstatela.edu, 2011; Harkema, 2013)

- Locomotor Training
- Epidural Spinal Cord Stimulation
- How It Works



Activity-Based Interventions

- Positive Outcomes
 - Regained Sensory and Motor Function
 - Improved Respiratory, Bowel, Bladder, and Sexual Function
 - Decreased Neural Pain
 - Increased Somatic Health
 - Enhanced Psychological Functioning