Author Year Country Research Design Score Total Sample Size	Methods	Outcome
Ojo et al. (2017) Nigeria Pre-Post N=35	**Population:** Mean age: 38.6±13.3 yr; Gender: male=24, female=11, Level of injury: cervical=27, thoracic=7, lumbar=1; Severity of injury: Frankel A=17, B=8, C=2, D=2, E=6. **Intervention:** Individuals who presented with acute, traumatic SCI were assessed at baseline and six mo following surgical decompression and spinal stabilization to determine whether surgical intervention enhances rehabilitation of individuals with SCI. Outcome measures were assessed at baseline and six mo following surgery. **Outcome measures:** Frankel grade; Complications. **Chronicity:** All individuals who had SCI and cord decompression surgery within a two-yr period were included in this study.	1. Frankel grade at six mo following surgical intervention showed improvement in nine (25.7%) individuals. 2. All individuals who presented as Frankel Grade C or Grade D improved to Grade E, while none of those who presented with Frankel Grade E deteriorated. 3. Common complications of spine decompression and fixation were surgical site infections (11.4%) and spine and chest infections (11.4%).
Rahimi-Movaghar et al. (2006) Iran Case Series N=24	**Population:** Mean age: 26.7 yr; Gender: males=21, females=3; Injury etiology: motor vehicle accident=14, fall=5, unknown=5; Level of injury: T12-L3; Level of severity: Frankel A=17, C=5, D=2. **Intervention:** Individuals with traumatic conus medullaris SCI who underwent surgical decompression were retrospectively analyzed. Median follow-up time was 32 mo. **Outcome Measures:** Frankel Grade.	1. Of the 17 individuals with Frankel Grade A, seven improved to C, two improved to D, two improved to E, and six remained the same. 2. Of the five individuals with Frankel Grade C, four improved to D and one improved to E. 3. Of the two individuals with Frankel Grade D, both improved to E.
Beisse et al. (2005) USA Pre-Post N=30	**Population:** Mean age: 39.4 yr; Gender: males=23, females=7; Injury etiology: fall=12, sports=10, motor vehicle accident=3, violence=2, tumor=1, infection=1, degeneration=1; Level of injury: T5=1, T6=1, T7=1, T9=1, T12=10, L1=11, L2=5; Level of severity: Frankel scale A=4, B=3, C=7, D=10, unclassified=6; Mean time since injury: 10.6 days. **Intervention:** Individuals with thoracolumbar canal compromise underwent endoscopic anterior spinal canal decompression, interbody reconstruction, and stabilization. Mean follow-up time was 42 mo. **Outcome Measures:** Frankel Scale, Complications.	1. Complications occurred in 11 individuals (36.7%). 2. There was no deterioration of the neurological function in any individual. 3. Based on the Frankel scale, 25% of individuals with complete paraplegia and 65% of those with incomplete neurological deficit improved at least one level on neurological examination.

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Hu et al. (1993) USA Case Series N=69	**Population:** Mean age: 30.0 yr; Gender: males=51, females=18; Level of injury: L1=36, L2=12, L3=11, L4=9, L5=3; Injury etiology: motor vehicle accident (n=36), fall (n=31), struck with object (n=2); Level of severity: incomplete. **Intervention:** Individuals who underwent decompression surgery following lumbar SCI injury were retrospectively analyzed by type of decompression. Outcomes were assessed at a mean follow-up time of 19 mo. **Outcome Measures:** American Spinal Injury Association (ASIA) Motor Score.	1. Overall, the average initial ASIA score was 19.4; 20.1 for the anterior decompression, 20.1 for the posterior decompression, and 17.2 for the fusion. 2. Anterior decompression improved by an average of 9.9 points. 3. Posterior decompression improved by an average of 10.2 points. 4. Fusion individuals improved by an average of 4.2 points. 5. There was no significant difference between those treated with anterior and posterior decompression ($p>0.05$); there was a significantly greater improvement seen in anterior and posterior decompression compared to fusion treated individuals ($p<0.05$).
Levi et al. (1991) USA Case Control $N_{Initial}$=103, N_{Final}=71	**Population:** *Incomplete deficit (INC, n=50)*: Median age: 32.5 yr; Gender: males=40, females=10; Injury etiology: motor vehicle accident=28, diving=9, fall=10, other=3; Level of injury: C3=7, C4=7, C5=19, C6=12, C7=5; Mean time since injury: 10.6 days. *Complete deficit (COM, n=53)*: Median age: 25.4 yr; Gender: male=45, female=8; Injury etiology: motor vehicle accident=27, diving=15, fall=5, other=6; Level of injury: C3=2, C4=4, C5=29, C6=13, C7=5; Mean time since injury: 5.1 days. **Intervention:** Individuals who underwent anterior decompression were retrospectively analyzed based on timing of surgery: INC early (<24 hr, n=10), COM early (n=35), INC late (>24 hr, n=40), and COM late (n=18). **Outcome Measures:** Motor Score, Functional Grade, Hospitalization, Respiratory Procedures, Mortality.	1. INC early: 37.2% improved motor score at discharge; 50% improved functional grade at discharge; 20 days in acute hospitalization. 2. INC late: 45% improved motor score at discharge; 22.5% improved functional grade at discharge; 22 days in acute hospitalization; one individual died. 3. There was no significant difference between INC early and late groups in motor score, functional grade, or hospitalization (all $p>0.05$). 4. COM early: 3.9% improved motor score at discharge; 11.4% improved functional grade at discharge; 38.7 days in acute hospitalization; 6.0 respiratory care procedures. 5. COM late: 4.5% improved motor score at discharge; 5.6% improved functional grade at discharge; 45.2 days in acute hospitalization; 9.86 respiratory care procedures. 6. There was no significant difference between COM early and late groups in motor score or functional grade (all $p>0.05$); however, the early group had significantly less days of hospitalization and significantly less respiratory procedures (all $p<0.05$).
Benzel & Larson (1987) USA Case Series N=99	**Population:** Level of injury: C4-C7; Level of severity: Neurological Grading System (NGS) I=35, II=11, III=8, IV=6, V=3, VI=23, VII=13; Mean time since injury: NGS I=22.5 days,	1. Four individuals died; three had NGS I and significant pulmonary problems and the 4th was NGS II at 3 mo post-op. 2. Complications included pneumonia (n=7), deep vein thrombosis (n=3),

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	II=46.2 days, III/IV/V=51.7 days, VI/VII=17.4 days. **Intervention:** Individuals who underwent decompression surgery to restore normal nerve connections following cervical spine fractures were retrospectively analyzed for outcomes post-surgery. **Outcome Measures:** Complications, Neurological Grading System.	respiratory failure (n=4), and sepsis (n=1). 3. All NGS I individuals remained Grade I following surgery. 1. Of the 11 NGS II individuals eight improved (III=3, IV=3, V=2) and three remained the same following surgery. 2. Of the eight NGS III individuals six improved (IV=1, V=4, VI=1) and two remained the same following surgery. 3. Of the six NGS IV individuals five improved (V=5) and one remained the same following surgery. 4. Of the three NGS V individuals all three improved (VI=3) following surgery. 5. Of the 23 NGS VI individuals 19 improved (VII=19) and four remained the same following surgery. 6. All 13 NGS VII individuals remained the same following surgery.
Kiwerski (1986) Poland Case Control N=1180	**Population:** Level of injury: C1-C3=74, C3-C5=421, C5-C7=685; Level of severity: Frankel A=506, B=171, C=212, D=291. **Intervention:** Individuals who underwent cervical decompression surgery (SG; n=548) or conservative treatment (CG; n=632) following cervical SCI injury were retrospectively analyzed. **Outcome Measures:** Frankel score, Mortality.	1. There was an improvement in 49% of CG individuals and 66% of SG individuals. 2. Mortality was 30% in individuals with complete SCI injuries and 4.3% in incomplete SCI injuries. 3. CG group: in individuals who were admitted within 6 hr there was an improvement of 2-3 Frankel grades in 41% of individuals and decreases with a greater time to admission. 4. SG group: in individuals who were admitted within 6 hr there was an improvement of 2-3 Frankel grades in 59% of individuals and decreases with a greater time to admission.
Benzel & Larson (1986a) USA Case Series N=105	**Population:** Mean age: 31.3 yr; Level of injury: T3-L4; Level of severity: Neurological Grading System (NGS) I=34, II=10, III=10, IV=12, V=11, VI=21, VII=7; Mean time since injury: NGS I=48.3 days, II=44.5 days, III/IV/V=35.4 days, VI/VII=19.4 days. **Intervention:** Individuals who underwent anterior decompression following thoracic and lumbar spine fractures were retrospectively analyzed for outcomes post-surgery. **Outcome Measures:** Complications, Neurological Grading System.	1. Complications included pneumonia (n=5), deep vein thrombosis (n=3), respiratory failure (n=2), renal failure (n=2) and superficial infection (n=1). 2. All NGS I individuals remained Grade I following surgery. 3. Of the 10 NGS II individuals four improved (III=2, IV=1, V=1) and six remained the same following surgery. 4. Of the 10 NGS III individuals nine improved (IV=2, V=6, VI=1) and one remained the same following surgery. 5. Of the 12 NGS IV individuals all 12 improved (V=6, VI=6) following surgery.

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		6. Of the 11 NGS V individuals 10 improved (VI=10) and one remained the same following surgery. 7. Of the 21 NGS VI individuals 17 improved (VII=17) and four remained the same following surgery. 8. All seven NGS VII individuals remained the same following surgery.
Benzel & Larson (1986b) USA Case Control N=35	**Population:** Level of injury: C4-C7. **Intervention:** Individuals with complete myelopathies secondary to cervical spinal fractures underwent spinal decompressions (anterior; n=23, posterior; n=2) or nerve root decompression (n=10). **Outcome Measures:** Recovery of nerve root function.	1. For those individuals treated with spinal decompressions, 15 showed substantial recovery of nerve root function. 2. None of the individuals treated with nerve root decompression showed recovery of nerve root function.