

Negative Effects of Immobilization-Deconditioning Syndrome

Begins as soon as 4 hours of immobilization

Chiropractic Helps Reverse all of these processes:

Muscle

Weakness

↓ flexibility

↓ muscle mass

↓ mitochondrial content

Type I & II muscle atrophy

Muscle

Incoordination

↓ oxidative potential

↓ cross-sectional area

↑ connective tissue fibrosis

20% loss of muscle strength per week

Joint Immobilization

Bone demineralization

Capsular adhesions

↓ ligamentous tolerance (includes annular disc weakness)

Shrinks joint capsule

↑ compressive loading

Irreversible changes after 8 weeks

Disk Biochemistry

↓ oxygen

↓ glucose

↓ sulfate

↑ lactate concentration

↓ proteoglycan content

Cardiopulmonary

↓ in VQ2 max

↑ maximal heart rate

Nervous System

↓ proprioception

↓ central neuromotor control or movement & posture

Craig Liebenson, JMPT 1992

Note: Chiropractic is similar to physical therapy in that it takes multiple sessions to re-educate and alter the physiology of the tissue, especially in a chronic condition.