

**Video S1.** Measurement of the flexion angle of cervical spine with the optical motion capture system.

**Video S2.** Measurement of the extension angle of cervical spine with the optical motion capture system.

**Video S3.** Measurement of the left lateral bending angle of cervical spine with the optical motion capture system.

**Video S4.** Measurement of the right lateral bending angle of cervical spine with the optical motion capture

**Video S5.** Measurement of the left rotation angle of cervical spine with the optical motion capture system.

**Video S6.** Measurement of the right rotation angle of cervical spine with the optical motion capture