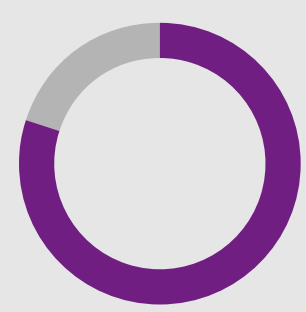


# TRUE PIONEERS KEEP THEIR HEADS UP.

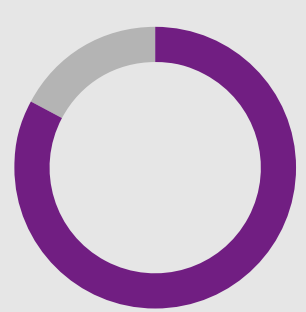
## NEUROSURGERY CAN BE AN ERGONOMIC CHALLENGE.

For every inch the head moves forward, the head, neck, and upper back muscles must support an additional **10 pounds** of weight (1).

Furthermore, trunk postures, such as forward flexion, lateral bending, and axial twisting, are associated with back pain (2).



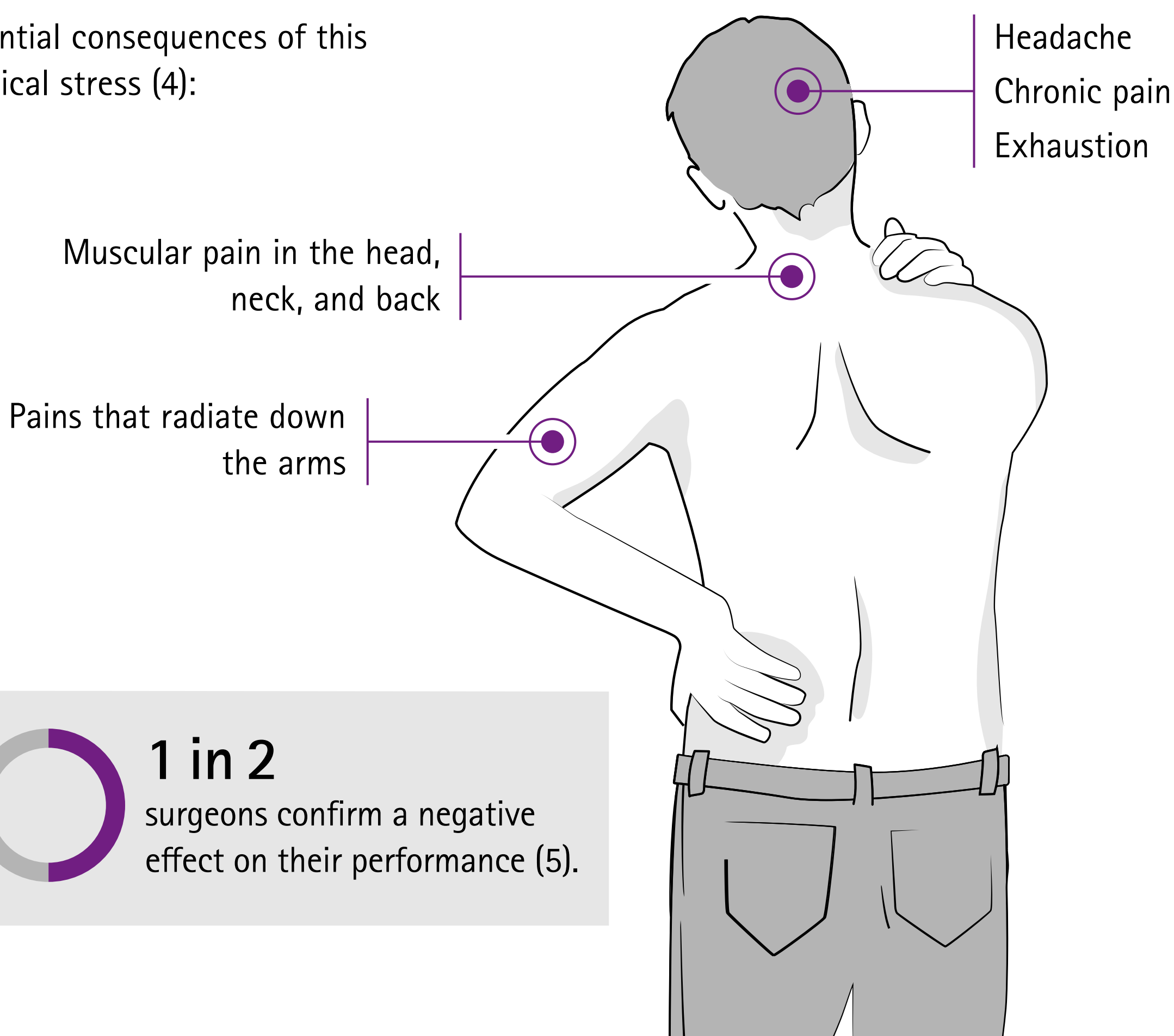
**4 in 5** neurosurgeons report pain after a day of surgery (3).



**83%** of these had musculoskeletal pain (3).

## FLAWED ERGONOMICS MAY COMPROMISE THE HEALTH AND PERFORMANCE OF SURGEONS.

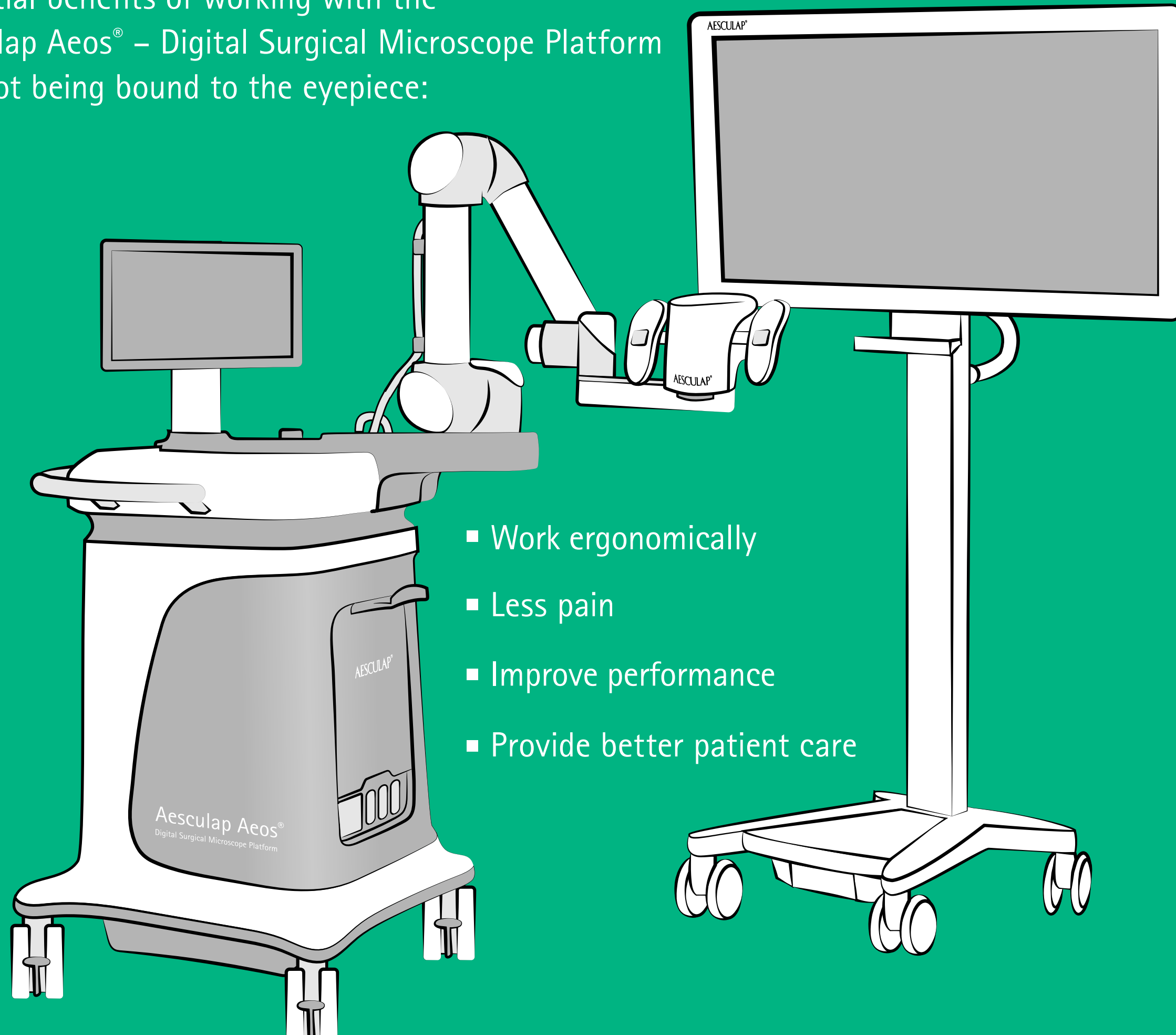
Potential consequences of this physical stress (4):



**1 in 2** surgeons confirm a negative effect on their performance (5).

## NEUROSURGEONS DESERVE THE CHANCE TO STAND TALL.

Potential benefits of working with the Aesculap Aeos® – Digital Surgical Microscope Platform and not being bound to the eyepiece:



- Work ergonomically
- Less pain
- Improve performance
- Provide better patient care

**i** For information on ergonomic and pain-free surgery, visit [www.bbraun.com/aesculapaeos-standtall](http://www.bbraun.com/aesculapaeos-standtall)

(1) Kapandji A. The Physiology of the Joints. Volume 3. 6th ed. London: Churchill Livingstone; 2008. | (2) Keyserling WM, Punnett L, Fine LJ. Trunk Posture and Back Pain: Identification and Control of Occupational Risk Factors. Applied Industrial Hygiene; 3(3):87-92. | (3) Kerstin Pingel. 7 Tips For Better Ergonomics in Neurosurgery. Leica Science Lab. 2014. | (4) Kerstin Pingel. Ergonomically Designed Surgical Microscopes Support Performance. Leica Science Lab. 2014. | (5) Davis WT, Fletcher SA, Guillamondegui OD: Musculoskeletal occupational injury among surgeons: effects for patients, providers, and institutions. J Surg Res. 2014 in "Shape Shifters". Surgeon News. September 2017:28-30