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Page: 1/1

BIOTRONIK SE & Co. KG  
Woermannkehre 1  
12359 Berlin  
Tel +49 (0) 30 68905-1414  
Fax +49 (0) 30 68905-961414  
www.biotronik.com

## Zero-Gravity Radiation Protection System

The **Zero-Gravity™** Radiation Protection System is designed to increase the level of radiation protection and simultaneously eliminate the weight burden for the operator. It consists of a body and head shield suspended from a balancer that moves along a ceiling rail or a movable base.

### How does Zero-Gravity work?

Zero-Gravity acts as a continuous lead barrier with a clear, acrylic head shield, and a calf-length body shield. The shield material has a significantly higher lead equivalency than traditional radiation protection apparel.<sup>1</sup> This allows Zero-Gravity to provide an 87-100 percent reduction in radiation exposure compared to conventional lead aprons used with table shields and movable shields.<sup>2</sup>

The Zero-Gravity shield connects magnetically with a lightweight vest. This way, the physician can move in the room freely and unencumbered, even during difficult interventions or diagnostic procedures.

### Radiation hazards for physicians in the workplace

Many physicians worldwide work with radiation every day. In recent years, the frequency and duration of interventional radiology and cardiology examinations and procedures have markedly increased.<sup>3</sup> Health care workers are exposed to higher radiation doses and orthopedic strain from wearing heavy protective apparel.

A standard lead apron weighs up to ten kilograms and may be worn for more than six hours a day in some cases. Resulting orthopedic strain can limit physicians' careers or cut them short.<sup>3</sup> Interventional cardiologists wear lead aprons four times longer and report more neck and back pain than orthopedists or rheumatologists.<sup>4</sup> This can also lead to missed days of work, increasing costs hospitals and healthcare systems.<sup>5</sup>

### References:

<sup>1</sup> A measurement of the reduction of intensity (attenuation) of X-rays by an absorbent material. The attenuating effect is comparable to that of a pure lead layer of corresponding thickness. The Zero-Gravity body shield has a lead equivalency of up to 1 mm, and the head shield of 0.5 mm.

<sup>2</sup> Savage C et al. *OJ Rad.* 2013, 3.

<sup>3</sup> Mettler FA Jr et al. *Radiology.* 2009, 253.

<sup>4</sup> Ross A et al. *Am J Cardiol.* 1997, 79.

<sup>5</sup> Tomassoni G. *J Afib.* 2013, 5(7).