

What Lead Apron Weight Really Means to Musculoskeletal Health?

What your Lead Apron Weight Really Means to Musculoskeletal Health



Many radiologists or providers of the radiology department often complain of suffering from back problems and joint pain. They are at high risk of cumulative joint damage- an occupational hazard. Have you ever wondered the reason behind the damage to their musculoskeletal health? Well, it's the extra ounces or pounds they carry along with their body weight!

The radiation protection or lead aprons worn by the providers usually weigh more than 10 pounds. If you are thinking that it is not worth considering including a little extra weight in their radiation protection equipment, then you are wrong. In reality, these few extra pounds can make a significant difference in the strain their body endures throughout their working hours.

Professionals in the hospitals who wear radiation protection aprons do not sit idle rather they keep walking for a few miles every day and perform their daily tasks at their job in different body postures. While their body is in motion, a lot of force is exerted onto their joints which is far greater than their body weight. From walking on flat grounds to inclines, up and down the stairs, and bending forward or squatting, the strain on the joints is actually 1.5 to 5 times more than the body weight. So, even a 10-pound lead apron can exert about 15 to 50 pounds of force on the joints of the provider wearing it, depending upon his/her body movement. The force experienced increases with the more number of working hours. Thus, unsurprisingly, the providers working in a radiology environment face repetitive stress injuries. These injuries could result in their poor life quality, keep them from

enjoying any activities after their job, lead to more days of their absence at work, or even force them to discontinue working in their field altogether.

Keeping in mind the health hazards of wearing heavy radioprotection aprons and the hectic working schedules, the providers can still avoid a great deal of damage to their musculoskeletal health by controlling the weight they carry on their bodies. A quick fix or control on the weight carried by the provider and long-term health benefits is possible by replacing a heavy lead apron with a lighter and more ergonomic PPE. Wearing a tailored apron with a lead alternative can weigh about 6 pounds and even provide the appropriate level of protection i.e. radiation protection with a 1:1 ratio of the protective material to the area covered.

Another way to avoid or alleviate musculoskeletal pain arising from heavy radiation protection aprons is to go for a weight loss program. With a healthy diet and exercise, the provider can lose their body weight to cut down the effect of their heavy apron on their musculoskeletal health. Fresh fruits and vegetables, ginger and garlic, fatty fish like salmon, walnuts, or other foods rich in omega-3 must be included in their daily diet to maintain their body weight and also decrease the inflammation of their joints. In addition to weight loss, daily exercising can have many musculoskeletal benefits. With range-of-motion exercises there benefit joint mobility, weight-training exercises can provide joint support, low-impact aerobics helps in increasing blood circulation, and core-strengthening exercises provide spinal support and alignment. Thus, regular exercises can help alleviate joint pain by improving joint mobility and flexibility, strengthening the muscles around the joints, and increasing blood circulation.