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There has long been anecdotal evidence that the wearing of lead aprons for prolonged periods of time contributes to low back and neck pain in radiologists and cardiologists, particularly those performing interventional procedures. Moore et al (1) were unable to show a statistical correlation between lead apron use and greater complaints of low back pain in a survey of 236 radiologists, although trends were shown that those who wore aprons for more than 10 hours a week missed more time from work owing to back pain. Ross et al (2) surveyed three physician groups to investigate the impact of standing for long periods while wearing lead aprons (cardiologists) versus lengthy standing at an operating table without weights (orthopedic surgeons) and standing for short periods while examining patients (rheumatologists). They clearly showed that the cardiologists who wore lead aprons had a significantly higher incidence of skeletal complaints and more days missed from work because of back pain than did individuals of the control groups.

Wearing a 15-pound lead apron can place pressures of up to 300 pounds per square inch of intravertebral disks (3). Efforts have been made in the past to modify the weight distribution of lead aprons to minimize stress on the low back by using two-piece aprons and velcro straps (4) to involve the pelvis in weight support. These may be of some value, but for the angiographer suffering from back pain, the ideal apron should be weightless.

Such a device does exist. The Pinkerton ''Hang 'em High'' Apron Support System (Cook/Inoray Incorporated, Niagara Falls, NY) (Fig 1) is a conventional apron, providing 0.5-mm front and 0.25-mm back Pb protection, mounted on a mobile gantry with adjustable counterbalance weights and retractable handlebars.

It is easy to wear and comes with sterile handlebar covers. Although initially somewhat cumbersome to use, one rapidly adapts to the minimal mobility restriction in the angiography suite. It is a small price to pay for a weightless apron! In my situation, it allowed me to return to performing angiography and interventional procedures 5 weeks after a lumbar diskectomy.

This device may be of interest and value to angiographers and interventionalists with chronic neck or back pain, and may allow a more rapid return to work for those recovering from spinal surgery.

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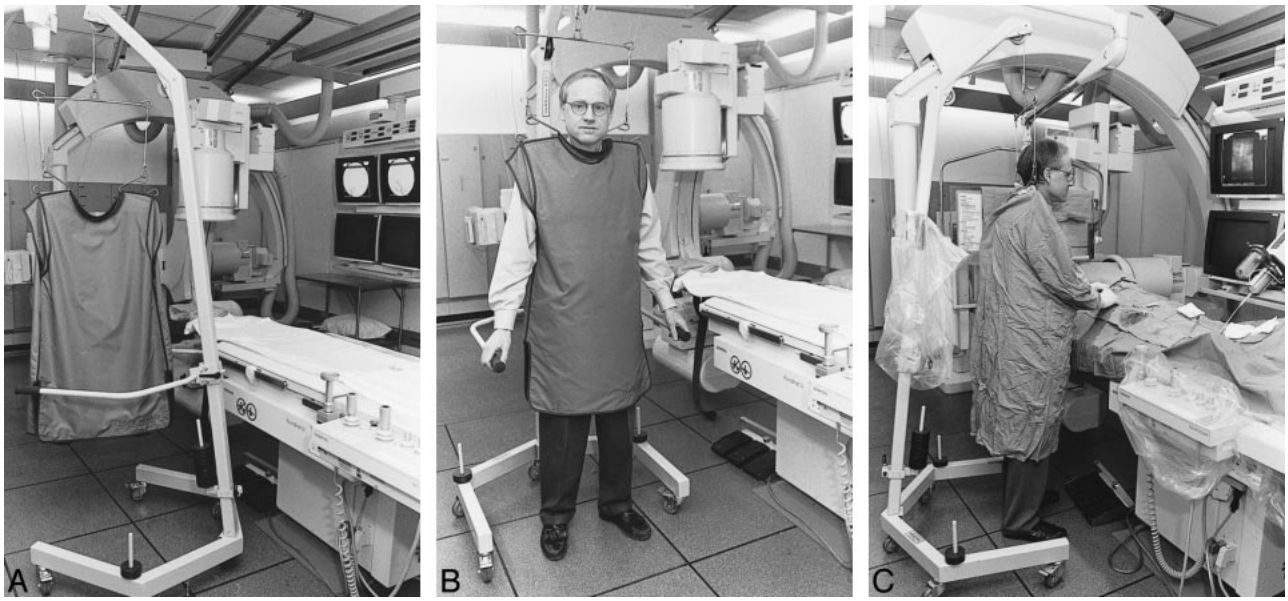

FIG 1. *A,* The Pinkerton ''Hang 'em High'' apron support system; *B,* Wearing the apron system; *C,* Performing angiography while wearing the apron.