Most spinal fusion surgery is being done without clear evidence that it benefits patients, according to an opinion piece in the Feb 12 New England Journal of Medicine.

About 75% of spinal fusions now are done for reasons such as disk disorders that are beyond the original indications and aren’t backed by enough research.

The authors conclude the costly procedure may be overused.

The annual number of spinal fusions has been rising rapidly—by 77% between 1996 and 2001—compared with 13% to 14% for hip and knee replacements.

Expensive spinal implants like pedicle screws and cages, which can add thousands of dollars to a case, also have been introduced without much in the way of research, according to Richard A. Deyo, MD, professor of medicine at the University of Washington, Seattle, and his colleagues.

Time to step back?

“It seems that it’s appropriate to step back and ask, ‘Is it really wise to be using instrumentation as routinely as we do,’ if we can’t demonstrate any benefit to patients in terms of pain relief or function, and if the costs are higher and the complications are higher,” Dr Deyo told OR Manager.

One example is instrumented and noninstrumented fusions. Though several randomized trials show instrumented fusions had a slightly higher rate of solid fusions, “It’s not clear at all that they result in any better pain relief or patient functioning,” he said. “And in most cases, the use of implants seems to be associated with more complications.”

As evidence that spinal fusions are overused, the authors point to wide variations in use of the procedure around the country—in New England rates vary 10-fold from one place to another, according to a 1995 report—rapidly rising rates of surgery, high rates of reoperation, and high rates of complications.

If evidence-based practice was followed, spinal fusion might be reserved for spondylolisthesis and only rarely performed for disk herniation or spinal stenosis with spondylolisthesis, they say.

Recommendations for change

The authors make several recommendations.

Among them are better alignment of financial incentives with data on the efficacy of fusions and stepped-up regulation by the Food and Drug Administration.

On the financial aspects, Dr Deyo said he didn’t have a specific proposal but is concerned “that in a sense surgeons are being paid the best for doing procedures where there arguably is the least evidence of benefit for patients.” He noted that spine surgeons have a higher income than other orthopedic and neurosurgeons and that spinal fusions pay better than other types of spinal procedures.

The authors also advocate that the FDA require “more rigorous research” on spinal devices before they are introduced; for instance, looking at whether the...
devices yield better pain relief and function in addition to a better solid fusion rate.

What about new technologies like bone morphogenic protein (BMP)?

“I think we need more evidence on these things,” he said. “In the case of BMP, at least there are some randomized trials to support its use, although they are very small trials and relatively short-term. I think it is not so clear what the long-term benefits will be and whether the benefit is worth the cost.”

The authors advised similar caution on other new technologies, such as artificial disks, electrothermal therapy, analgesic pumps, and implanted spinal stimulators.

They also advise caution on new spinal implants like artificial disks.

How could their article help value analysis teams in the OR?

Dr Deyo said, “Many of the things are probably things people think about and already do to some extent—such as trying to standardize implants as much as possible.” he said.

Another suggestion is tougher: looking to see whether surgeons recommending new devices have financial conflicts of interest.

“I think it’s worth it—unpleasant though it may be—for a hospital administrator to ask, ‘Is the surgeon getting consulting fees from the company that makes the device? Or is this really a disinterested recommendation?’”

References

