Spinal surgery for low back pain: a way forward

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Surgeons need to wake up to the forces that are threatening the core part of many surgical practices, particularly in relation to the role of surgery in treating non-specific lower back pain.

There is a general perception that medicine, and this includes spinal surgery, needs to be guideline based and governments, managed care providers, insurers and health-care systems see guidelines as a way of managing—generally reducing—cost and optimising quality. In frontline clinical practice, it seems ever more likely that this will lead to delivery of a minimally acceptable quality of care rather than the best possible care.

There is no evidence that doctors adhere to guidelines [1], and this study identifies 183 published low back pain-specific guidelines and highlights the critical nature of these guidelines in value-based health-care procurement. They confirm an average delay for adoption into clinical practice of evidence from randomised control trials of 17 years and suggest three practical actions that can be taken by clinicians to address this. Firstly, they suggest better standardised guidelines and improvements in data collection and analysis; secondly, appropriate economic incentives for patients and physicians to reward “value over volume”; thirdly that all stakeholders in health-care delivery should agree on an objective common framework

for evaluating the value of individual and combined treatment modalities for back pain. A recent review [2] clearly identifies a failure of spinal surgical researchers to adopt the lessons learned from the early high-quality trials and a failure to focus on the key questions, i.e. if there is a role for surgery in back pain rather than looking at variations in surgical technique.

We ignore the guidelines movement at our peril. Whilst no one believes that the National Health Service in the UK delivers the best possible quality of care in quality of life-threatening conditions such as non-specific low back pain, the UK environment is often seen as a harbinger to where more sophisticated and expensive health-care systems are headed. A recent clinical commissioning policy statement in the UK [3] clearly states “the NHS Commissioning Board will not commission spinal surgery for the treatment of chronic non-specific low back pain. There is insufficient and inconsistent clinical evidence to support its use as a good value intervention in the context of the provision of NHS Services”. Whilst clearly the statement attempts to address an extremely broad area of clinical practice, this philosophy will undoubtedly infiltrate other purchaser’s mindsets and rightly so. At the same time there is a pragmatic and sensible realisation that conditions like non-specific chronic low back pain should no longer be subject to treatments with an aim of curing the problem, but this patient group needs support to manage their long-term problems [4].

Many surgeons have been slow to adopt the biopsychosocial model in clinical practice. Popularised some years ago [5], the evidence is unequivocal that psychosocial factors determine the severity of disability and risk of chronicity in back pain. In other words, the patients most likely to be referred to secondary care are most likely to have the worst yellow flags. In addition, the so-called

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psychosocial factors strongly predict the outcome of episodes of low back pain, structured non-surgical care and surgical interventions [6]. An original work [7] highlights that the range of psychological and social factors that need to be taken into consideration is probably broader than the current established list and they identify decision control, empowering leadership and fair leadership as important predictors in the outcome of back pain.

Recent studies are making more sophisticated optimising prediction of outcomes in episodes of back pain [8]. This approach may become a key driver in patients flowing through a back pain pathway. In addition, contemporary research [9] is pushing out the predictive horizon and identifying what may predict outcome in back pain 5 years down the line.

Can we get better at identifying patients who are likely to do badly at the initial consultation? Waddell signs, yellow flags [10], the STarT tool [11] and many others can be used to identify patients at risk. A recent study [12] analysed 548 patients diagnosed as having primary spine pain and used various tools which demonstrated that 42 % of the patients have a fibromyalgia phenotype according to the established fibromyalgia criteria and severity scales. Previous work [13] has identified that early cognitive interventions can substantially change the outcome if applied early in this type of patient group. It may be that tools such as painDETECT [14] will help spine care physicians and surgeons identify this substantial group of patients early on in their management.

As the current potential for surgery in treating non-specific low back pain reduces and recedes, witnessed by the significant decline in the use of total disc replacement, we must resist the search for another non-specific target. The dramatic increase in the diagnosis of sacroiliac joint pain, the use of sacroiliac joint injections [15] and the inevitable subsequent increase in the use of expensive fusion devices to treat sacroiliac joint pain is against a background of no evidence that this will be anything other than a further passing phase adhering to the eponymous and repeatedly demonstrated Scott's parabola [16].

In the next generation of low back science, there is a real chance that we may be able to stop chronic pain before it starts, to reduce and even eliminate the role for surgery in treating non-specific low back pain, and to be able to identify early those patients who will benefit from the more conventional back pain treatments in current practice.

As always, surgeons need to be aware of these factors and apply them in their day-to-day practice to deliver optimal evidence-based and effective treatment for patients with low back pain. Understanding and applying the

multiple factors determining outcome that have been identified in the basic and clinical science fields will allow us to continue to improve patient quality of life using the surgical techniques that have stood the test of time. This needs to be in addition to the implementation of the best evidence-based non-surgical options for managing this quixotic condition and early identification of patients who will not do well with simple physical treatments.

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