



Surgery: Art, Science or Evidence-based?

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Surgery has evolved from practice and observation to trial and error with final verdict in the form of evidence based surgery. Since last 20 years of 20th century (1980-2022), it have been tremendous developments regarding research, evidence, data and clinical practice guidelines. It is a debate always whether surgery is art more than science. Technical skill is important but knowledge and decisions are major players in a good surgical outcome. Ultimate truth in Surgical Science is "Any good surgeon can operate, better surgeons know when to operate and the best surgeons know when not to operate". Life is an integral of changes continuously and surgery is always a dynamic event never static with similarity to life. Knowing when to operate or when to hold off always decides the pendulum of success and failure between alternatives.

Quality of evidence is the soul of science and good surgeons perform their surgical task based on strong quality evidence. Assessment, analysis, evidence, intervention and practice all decide the outcome and results and scientific, accurate protocol always corrects choice and close to truth.

Surgeons frequently choose to perform particular procedures because it is customary to do so, because they were trained to do so, because it makes sense, or because it accords with their personal findings. There shouldn't be much of a problem if the surgeon believes the procedure to be beneficial and the data from the research support this. When they diverge, there is an issue because either the surgeon's judgement or the available evidence is incorrect. Even worse, there may not always be reliable proof, leaving us with only the surgeon's judgement.

There is a tonne of data showing that surgeons overestimate the effectiveness of surgery, as well as a tonne of data showing that procedures that first seem to be highly effective (based on observational evidence) ultimately turn out to be ineffective when subjected to rigorous scientific testing.

Surgery that is evidence-based is the foundation for excellent patient care and successful treatment outcomes. The surgical community has a duty to patients to uphold this decorum and work toward improving the delivery of care in all facets of the service. Research is the cornerstone of surgery. For scientists, physicians, and surgeons alike, publishing guidelines promote peer evaluation of research at all stages of the process and serve as an invaluable resource.

So there are two problems in surgery: an evidence gap in which there's a lack of high quality evidence to support current practice, and an evidence-practice gap where there's high quality evidence that a procedure doesn't work, yet it's still performed.

Surgery as it is now practised is not supported by sound science. But things are improving. Our understanding is improving, evidence-based medicine is becoming more prevalent (in training and journal requirements, for example), and surgeons are becoming more knowledgeable about science. The current era of evidence-based medicine encourages surgeons to rely on data rather than tradition when proposing a treatment. This is one of the most important developments in medicine. Evidence-based medicine strives to overcome the hierarchical surgical training culture by adhering to treatment paradigms proposed by researchers.

Evidence, rather than tradition, is being imbued in surgery to challenge surgeons to distill data from the literature to guide the care of their patients in diagnosis, treatment, and prognosis in a national effort to deliver quality health care.

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Trials are improving, but putting their findings into practise takes time and frequently encounters opposition due to misgivings engendered by a lack of understanding of research and the biases that underpin present practise. In a study that summarised the research that has compared surgery to sham or placebo procedures, it was shown that the surgery in most such studies was no better than pretending to do the procedure [2]. Holistic, perfect and complete approach is always acceptable in Surgery with integration of science in the form of strong quality evidence with art in the form of skilful performance of surgical task.

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