Editorial

Back to the future: Scott’s Parabola

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I just returned from the American College of Foot & Ankle Surgeons’ (ACFAS) Annual Scientific Conference in Las Vegas. Anyone who attended would speak to the excellent venue, thought provoking conference content, positive energy, and the crystal clear fact that, although reduced in size by the effects of COVID-19, the conference was a complete success. I am proud to be a dues-paying member of ACFAS, the only surgical society to have never missed/cancelled an Annual Scientific Conference. Although the exhibit hall remained filled to capacity, the volume of booth traffic was clearly reduced due to the event requirements for social distancing. This gave me the ability to see the products/technologies being promoted in a different light compared to prior ACFAS Annual Scientific Conferences.

I was reminded of the 2001 publication by the British surgeon J.W. Scott, MD, entitled “Scott’s Parabola: The rise and fall of a surgical technique.” Mr. Scott conceived a model to illustrate the cyclical rise and fall of a surgical technique; essentially, the life cycle of a new product/technology (Fig. 1). Although Scott’s parabola does not in fact resemble the abstract mathematical definition of a parabola, the graphic provided should be carefully studied as it represents the all too familiar “hype cycle” we’ve all encountered. The short version involves the following sequence of events:

1. TECHNOLOGY TRIGGER: Published “breakthrough” generates significant press & interest.
2. PEAK OF INFLATED EXPECTATIONS: Frenzy of publicity generates overenthusiasm & unrealistic expectations resulting in some success but more failures.
3. TROUGH OF DISILLUSIONMENT: Technology fails to meet expectations, becomes unfashionable & is abandoned.
4. SLOPE OF ENLIGHTENMENT: Industry experiments to understand benefits & practical applications of technology.
5. PLATAEU OF PRODUCTIVITY: Technology benefits become widely demonstrated & accepted allowing technology to evolve into further generations.

Fig. 1. Scott’s parabola. Reproduced from Scott JW1 with permission from BMJ Publishing Group Ltd.

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Now think of the how the following surgical procedures have cycled through Scott’s Parabola more than once over the past 25-years’ time: the technique for and fixation of the modified Lapidus arthrodesis and first ray Minimal Incision Surgery approaches and fixation. I remember one of my mentors joking, “We better start using this (product/technology) while the results are 100 percent perfect and no complications have ever been reported.” After some reflection, I believe Foot & Ankle Surgery: Techniques, Reports & Cases (FASTRAC) is at risk of inadvertently promoting the rise of medical-industry rush for surgeons to adopt new products/technologies.

So, what now? Well, I fully intend to remain true to FASTRAC’s mission to “…(publish) the latest advances in cutting-edge surgical techniques …(and) provide practice-based evidence via case reports and articles on novel techniques to advance clinical research and daily clinical practice” (https://www.journals.elsevier.com/foot-and-ankle-surgery-techniques-reports-and-cases/). In order to do so, our Industry partners should be provided a scientific voice to introduce their products/technologies to our readers rather than through “infomercials” slipped under our hotel room doors at conferences or affixed to elevator doors and escalator pathway walls. These would be similar to the FASTRAC Case Series, Case Report and Surgical Techniques submission options. However, there’s one caveat: a separate section that includes the known complications encountered to date for all the products/technologies used and how these were addressed will be required for all Industry sponsored manuscripts. This information should already be available to the public through the U.S. Food and Drug Administration: Manufacturer and User Facility Device Experience (MAUDE) database (https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfmaude/search.cfm). However, readers, including the public, should not have to dig through the database to become familiar with the known complications associated with the product/technique before encountering them. Better yet, I encourage our Industry partners to add other valuable information that will help readers to determine where the product(s)/technologies being presented rest on Scott’s Parabola. Consequently, perhaps we will be able to avoid smothering innovation by mandating multiple high-level clinical evidence before proper reimbursement is allowed or condemning the surgeon’s publishing manuscripts with conflicts of interest in the product studied as a confession of scientific misconduct. Most importantly, industry partners will be able to help foot & ankle surgeons remain true to the Hippocratic Corpus, which states we have two duties, namely “… to do good or to do no harm.”

Be well,
Tom

Declaration of Competing Interest

The author declared no potential conflicts of interest with respect to research, authorship, and/or publication of this article.

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