An Update in Level of Evidence for Plastic Surgery Research

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Background: While it cannot be denied that artistry is an inherent part of plastic surgery, medical decision making guided by scientific data provides an objective means for patient care. Since its advent in the 1990's, practice of evidence-based medicine has become an increasingly integral part of plastic surgery. But even with emphasis on this, quality of plastic surgery research continues to lag behind other specialties. In 2011, the level of evidence (LOE) pyramid was implemented as a tool in plastic surgery literature in an effort to bring attention EBM and promote quality of research. The objective of this study is to examine the current overall quality of plastic surgery research as compared to the previous 20 years.

Methods: Articles from the *Plastic and Reconstructive Surgery* journal published in 2013 were culled for information including level of evidence based on the assigned score from the LOE pyramid. This information was compared with data from previous years.

Results: In 2013 a total of 536 articles were published in *Plastic and Reconstructive Surgery* and of these, 247 studies were included in the analysis (animal studies, cadaver studies, basic science studies, review articles, correspondence letters, CME articles, and Special topics articles were excluded). The average level of evidence in PRS for 2013 was 3.4 with a standard deviation of 0.94 and a 95% confidence interval of +/- 0.117. Average LOE for 2003, 1993, and 1983 were 4.16, 4.25, and 4.42 with standard deviations of 0.85, 0.82, and 0.72 respectively. An ANOVA test was performed showing a p-value < 0.0001, indicating a significant improvement in quality of research over time.

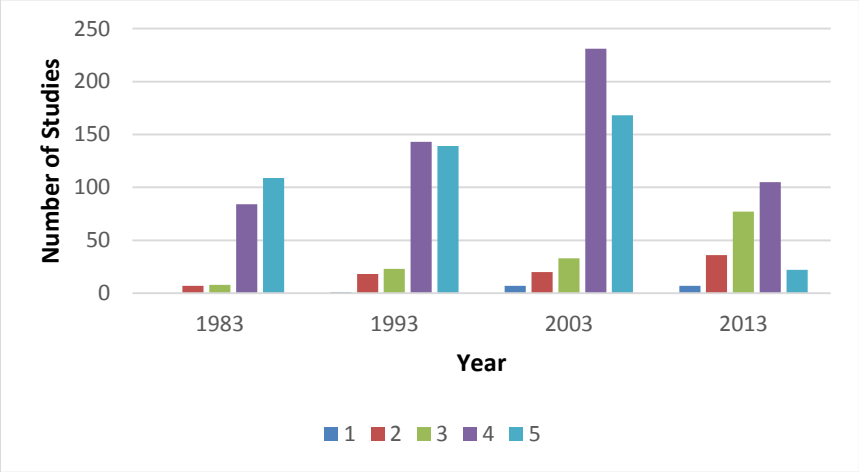

Figure 1 Distribution of LOE over 30 Years

Conclusion: Evidence-based medicine continues to take on a focal role in all practices of medicine including plastic surgery. It is imperative that clinical decision making be substantiated by unbiased data. Research in the realm of plastic surgery is continuing to advance with an overall improvement in LOE. While higher quality studies remain less common in plastic surgery than some of the other surgical specialties, significant improvements have been made in the last decade.