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# Edward Alanson, 1782: responsibility in surgical innovation

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Edward Alanson acquired a reputation for having induced a 'revolution' in amputation technique: by combining the flap-technique with the immediate postoperative union of the skin-edges by apposition, he hoped to achieve healing by first intention. Feeling responsible to the public when changing the technique of amputation – an operation 'terrible to bear, horrid to see, and (which) must leave the person on whom it has been performed, in a mutilated imperfect state'<sup>1</sup> – Alanson substantiated the superiority of this innovation by comparing the results of his new method numerically with those he had previously observed using the old technique. He presented the results of his analyses using this 'historical control group', and referred frankly to some of its hidden pitfalls in the preface to his influential *Practical Observations on Amputations*.<sup>2</sup> A second English edition appeared, much enlarged by the favourable judgement of many colleagues, in 1784; a French translation was published the same year and a German translation in 1785. In the preface we read:

*'... such trials should likewise previously have been made, as are sufficient to demonstrate that the doctrine recommended will bear the test of general experience ... Had I been aware of the utility of such an attention, I would not have omitted taking an accurate history of every amputation at which I have been present. However, the following heads of success may be relied upon, and I hope will answer my present purpose.'*<sup>1</sup>

Judged by his mortality and morbidity statistics, Alanson's new technique was an improvement: whereas 10 out of 46 patients had died after the old procedure, none of the 35 patients he treated with the new technique had died, and the postoperative course had been much less complicated following the new procedure. Alanson insisted that the 35 patients whom he had treated with the new procedure had been unselected referrals to the Liverpool hospital, 'where the practice

has been made as public as possible', rather than in private practice.<sup>1</sup>

Alanson also requested information on the results of his colleagues, since they had adopted his technique one or two years previously. He published some of their observations together with some of his own as selected illustrative cases, broken down according to the anatomical localization of the operation (thigh, above ankle, arm, forearm). In a qualitative way, this breakdown showed simply that the new technique was applicable to all parts of the limbs. No attempt was made to compare outcomes by site of operation, or by indication for amputation.

Alanson's report shows various facets underlying the collection of facts to be presented as 'statistics': not only was he aware of the danger of selection made after the operation according to the outcome (reporting bias), but also of a possible bias in the admission or exclusion of certain cases from surgery at all. He asserted: 'I have never refused to operate upon any case that has presented, where a single person in consultation has thought such operation advisable'.<sup>1</sup> Furthermore, he requested 'that those who do me the favour to adopt the practice, will execute it exactly as recommended; for every single portion is so intimately connected with the rest, that they cannot remove one part, without danger of bringing down the whole fabric'.<sup>1</sup> In other words, he wanted his colleagues to test his invention fairly, lest it might be unduly discredited.

The technique of immediate union of the wound-edges was also propagated in Benjamin Bell's *System of Surgery*, which, after Heister's book,<sup>3</sup> became the foremost surgical textbook in Europe during the last two decades of the 18th century. As a matter of fact, the technique was quickly adopted in Great Britain and on the Continent with the exception of France, where its advantages were still a point of discussion in the 1840s. The copy of Alanson's book from which the title page is reproduced in the James Lind Library

actually belonged to Benjamin Bell. Although Bell claimed some priority over Alanson he did not deem it necessary to present detailed results of his practice, as Alanson had done.<sup>4</sup>

## References

- 1 Alanson E. *Practical observations on amputation, and the after-treatment*. 2nd edn. London: Joseph Johnson; 1782. p. vii–xvi
- 2 Alanson E. *Practical Observations on Amputation*. London: 1779
- 3 Heister L. *A General System of Surgery: In Three Parts*. Germany: 1719
- 4 Bell B. *A System of Surgery*. Edinburgh: 1783–88. Vol 1, p. v–vi, Vol 6, p. 334–6



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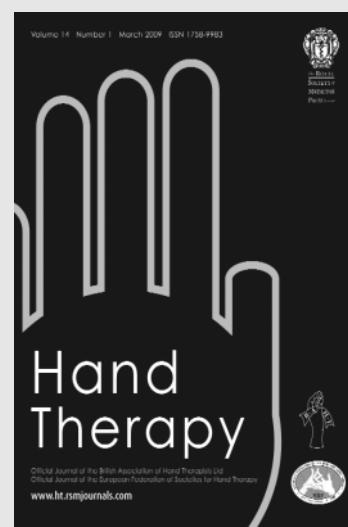
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