A Cost-benefit Analysis of a Cutaneous Laser Surgery Service vs “Traditional” Surgery, for Scarring

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Background: Cutaneous laser management of scarring is a clinically established modality of treatment. However, some health organisations deny the benefits of a dedicated, consultant-led laser service citing concerns about cost, effectiveness and sustainability. Thermal disease presents a major burden of scarring with significant and well-documented health and economic cost. Aim: We present a cost-benefit analysis of a cutaneous laser surgery service vs “traditional” surgery, for scarring, using burn procedures as index service.

Method: We retrospectively evaluated 24 years of clinical laser service delivery at a high volume UK Centre of reconstructive surgery, comparing “head to head” costings for laser vs traditional surgery on secondary burn reconstruction. We also performed a critical appraisal of the past 5 years of published current best evidence according to CEBM and PRISMA guidelines.

Results: Economic viability and long-term sustainability for a laser surgery service is supported in the literature by CEBM level 2, 4 and 5 evidence. Introduction of this service led to sustained and substantial cost saving, at a fraction of the cost of traditional surgery. A 47.3% reduction in secondary burn surgery was witnessed. Cost of a laser suite at 2015 levels (£ 470 per h) compared well to the simultaneous cost of an operating theater (£1450 per h). Indirect costs savings, inflationary measures, quality of life, and life burden, as well as impact of the change in overall economic contribution of the treated patients were not quantified in this exploratory study.

Discussion: A laser service produces quality results and is supported by current best evidence, justifying the delivery of this service. A dearth of codified laser and area-specific procedures within reimbursable operating tarriff codes needs urgent attention.
Conclusion: Cutaneous laser surgery service is economically sustainable, cost-effective with comparable results.