



<b>Title</b>	<b>Permanent and Semi-Permanent Dermal Fillers</b>
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## Aim

To assess the safety and efficacy of injectable semi-permanent and permanent dermal fillers compared to other injectable methods of facial augmentation for age-related wrinkle reduction, and for aesthetic improvement of human immunodeficiency virus (HIV)-associated facial lipoatrophy.

## Conclusions and results

For-age related lines and wrinkles, and for HIV-associated facial lipoatrophy patients, permanent and semi-permanent dermal fillers increased skin thickness or improved subjective ratings of appearance and resulted in high patient satisfaction.

Long-term efficacy data were scarce, but appeared good in the few studies reporting it. The level of adverse-event reporting for both interventions varied greatly. Many adverse events were transient and mild, and most were associated with the injection process and resolved within a matter of days. Many of the studies in the review reported lumps, but this received little follow-up. Long-term safety was limited and hence could not be determined. The included studies varied in quality and did not employ similar study protocols. This variation prevented statistical pooling and limited the conclusions that could be drawn.

## Methods

Studies were identified by searching EMBASE, CINAHL, PubMed, Cochrane Library, and Current Contents from inception to July 2008. Additional articles were identified through references in the retrieved studies. Twenty studies were included in this review, including 4 RCTs, 1 pseudo-RCT, and 2 nonrandomized comparative studies. Data from the included studies were extracted by an ASERNIP-S researcher using standardized data extraction tables developed *a priori* and checked by a second researcher. Statistical pooling was not appropriate due to the study and result heterogeneity.

## Further research/reviews required

Long-term safety and efficacy, including quality of life outcomes, of permanent and semi-permanent dermal fillers. The development, and/or validation of assessment tools for use in cosmetic intervention studies. Development of training standards to aid physicians with injection techniques and product placement.