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**The effect of local and systemic statin use as an adjunct to non-surgical and surgical periodontal therapy. A systematic review and meta-analysis.**

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**Short running title:** Statins and periodontal treatment

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**Abstract**

***Objectives***

To evaluate the effect of local and/or systemic statin use as an adjunct to non-surgical and/or surgical periodontal therapy.

***Data***

Literature search according to PRISMA guidelines with the following eligibility criteria: (a) English or German language; (b) interventional studies; (c) statins as monotherapy or as an adjunct to non-surgical and/or surgical treatment of periodontitis; (d) clinical and/or radiographic treatment effect size of statin intake reported.

***Sources***

Medline (PubMed), Embase (Ovid), CENTRAL (Ovid).

***Study selection***

Thirteen clinical studies regarding local application and 2 with systemic administration of statins as an adjunct to non-surgical treatment (SRP) and 4 studies regarding intrasurgical statin application with a maximum follow-up of 9 months could be included; simvastatin, atorvastatin, and rosuvastatin were used. Local but not systemic statin application as an adjunct to SRP yielded significantly larger probing pocket depth (PD), radiographic defect depth (RDD), and bleeding index reduction, and larger clinical attachment level gain, and less residual PD and RDD ( $p \leq 0.016$ ); rosuvastatin appeared as the most

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