

SUPPLEMENTAL FILES

Supplement 1 Phase 1 search strategy

Search run on: 2021-06-16

Ovid MEDLINE(R) ALL <1946 to June 15, 2021>

- 1 Dental Cavity Preparation/ or Dental Atraumatic Restorative Treatment/ or ((selectiv* or minimal* or minimum or partial* or incomplet* or stepwise or atraumatic or 1-step or one-step or 2-step or two-step or noninvasive or non-invasive or nonmechanical or non-mechanical or ultraconservative or ultra-conservative) adj6 (remov* or excavat* or prepar* or restorat* or dentin*)),ti,ab,kf. or removal strategies.ti,ab,kf. or "two session".ti,ab,kf. or "alternative restorative treatment".ti,ab,kf. or "non-restorative cavity control".ti,ab,kf. or "minimally invasive".ti,ab,kf. [Selective removal: First priority terms] 125760
- 2 "dental pulp capping"/ or "pulp capping".ti,ab,kf. or "indirect pulp".ti,ab,kf. or "vital pulp therap".ti,ab,kf. or "cavity liner".ti,ab,kf. [Selective removal: Second priority terms] 2926
- 3 exp Dental Caries/ or (caries or carious).ti,ab,kf. or ((dental or dentin* or tooth or teeth) adj6 (decay* or lesion* or cavit*)),ti,ab,kf. [Caries] 71563
- 4 1 and 3 [Selective removal (first priority terms) AND Caries] 4122
- 5 2 and 3 [Selective removal (second priority terms) AND Caries] 739
- 6 4 or 5 [Selective removal AND Caries] 4693
- 7 limit 6 to systematic reviews 105

Supplement 2 Exemplary search strategy for category "Remaining Bacteria"

Ovid MEDLINE(R) ALL <1946 to July 23, 2021>

- 1 Dental Cavity Preparation/ or Dental Atraumatic Restorative Treatment/ or ((selectiv* or minimal* or minimum or partial* or incomplet* or stepwise or atraumatic or 1-step or one-step or 2-step or two-step or noninvasive or non-invasive or nonmechanical or non-mechanical or ultraconservative or ultra-conservative) adj6 (remov* or excavat* or prepar* or restorat* or dentin*)),ti,ab,kf. or removal strategies.ti,ab,kf. or "two session".ti,ab,kf. or "alternative restorative treatment".ti,ab,kf. or "non-restorative cavity control".ti,ab,kf. or "minimally invasive".ti,ab,kf. [Selective removal: First priority terms] 126771
- 2 "dental pulp capping"/ or "pulp capping".ti,ab,kf. or "indirect pulp".ti,ab,kf. or "vital pulp therap".ti,ab,kf. or "cavity liner".ti,ab,kf. [Selective removal: Second priority terms] 2938
- 3 exp Dental Caries/ or (caries or carious).ti,ab,kf. or ((dental or dentin* or tooth or teeth) adj6 (decay* or lesion* or cavit*)),ti,ab,kf. [Caries] 71855
- 4 1 and 3 [Selective removal (first priority terms) AND Caries] 4136
- 5 2 and 3 [Selective removal (second priority terms) AND Caries] 743
- 6 4 or 5 [Selective removal AND Caries] 4711
- 7 exp Dentin/mi or Dental Caries/mi or exp "Colony Count, Microbial"/ or Microbial Viability/ or ((Streptococc* or Lactobacill* or mutans or Veillonella or Actinomyces or bacteria* or microbio* or microbial or microorganism* or micro-organism*) adj6 (load or count or count or number or numbers or amount* or decrease or increase or total viable or viability or surviv* or growth or prolifer* or arrest or inhibition or metaboli* or activity or diversity or taxa)),ti,ab,kf. or ((level or levels) adj3 infection).ti,ab,kf. or ((microbiological or microbial) adj (evaluation or analysis or assessment or examination or status)),ti,ab,kf. or ((antibacterial or anti-bacterial or antimicro* or anti-micro*) adj effectiveness).ti,ab,kf. or histobacteriol*.ti,ab,kf. or Microbial Consortia/ or Microbiota/ or (microbiota* or microbiome* or bacteriome*).ti,ab,kf. or ((microbial or bacterial) adj (communit* or population)).ti,ab,kf. or Metagenome/ or metagenome*.ti,ab,kf. [remaining bacteria] 343227
- 8 6 and 7 [Selective caries removal AND Remaining bacteria] 315

Supplement 3 Data charting form

| Items | | Description |
|------------------------------|---------------------|---|
| Reference ID | | <i>e.g. author and year of publication</i> |
| PMID / PMCID | | <i>provide PMID and if available PMCID</i> |
| Background information | Authors | <i>name all authors of publication</i> |
| | Year of publication | <i>provide year of publication</i> |
| | Title | <i>provide title of publication</i> |
| | Setting | <i>describe study setting</i> |
| | Study objective | <i>describe all study objectives</i> |
| Study type | | <i>name study type according to table 3</i> |
| Population | Test group | <i>describe test and control groups with characteristic (e.g. type of cells or animals for preclinical studies or patient characteristics with gender and age for clinical studies)</i> |
| | Control group | |
| Details of relevant outcomes | | <i>describe all primary and secondary outcomes that might give relevant information about the review question</i> |