

## Rad: 8.1

Tillstånd: Initial kronkaries på ocklusalytor (utan kavitet) med risk för progression, vuxna.

Åtgärd: Fissurförsegling med resinbaserade material som tillägg till daglig tandborstning.

### *Beskrivning av tillstånd och åtgärd*

Tuggytorna på de bakre tänderna (molarerna) har ofta trånga och djupa fissurer (fårör) som är svåråtkomliga för mekanisk rengöring. I fissurerna ansamlas plack (bakterier och matrester) i en sur miljö som demineraliserar (urkalkar) emaljen och mikrokaviteter bildas. Den första permanenta molaren (sexårstanden) är den mest kariesdrabbade tanden i bettet. Fissurförsegling med resinbaserade material innebär att man efter diagnostik och rengöring av fissurerna etsar med syra och applicerar ett tunt lager av plast. En liten mängd bakterier överlever under plasten och förblir biologiskt inaktiva så länge förseglingen är tät. De resinbaserade materialen är fukt känsliga och ställer stora krav på torrläggning.

### *Vilken effekt har åtgärden?*

Det saknas studier för att kunna bedöma effekten av fissurförsegling med resinbaserat material jämfört med ingen behandling eller fluoridbehandling på kariesprogression vid initial karies på ocklusalytor hos vuxna.

### *Har åtgärden några biverkningar eller oönskade effekter?*

- Åtgärden innebär inga kända biverkningar eller oönskade effekter.
- Det saknas information i studierna om biverkningar eller oönskade effekter.
- Ja.

### *Vilka studier ingår i granskningen?*

I underlaget ingår 0 studier.

Populationen i sökta studier var vuxna individer med initial karies utan kavitet ocklusalt på premolarer eller molarer. Majoriteten av deltagarna i studien skulle vara över 18 år eller också särredovisade i resultatdelen. Interventionsgruppen skulle ha fått en försegling av kariesangreppet med ett resinbaserat material medan kontrollgruppen skulle ha erhållit placebobehandling, fluoridbehandling eller ingen behandling av kariesangreppet. De sökta utfallsmåtten var kariesprogression samt behov av eller förekomst av fyllningsterapi. Inga relevanta studier med låg eller måttlig risk för bias som kan ligga till grund för ett underlag har identifierats.

Flera studier utförda på barn och yngre tonåringar exkluderades i granskningen då resultaten inte bedömdes vara överförbara till vuxna. Två systematiska översikter om vävnadsbesparande behandlingsmetoder vid initial karies har granskats men exkluderats då de huvudsakligen innefattar studier på barn och även primära tänder [1,2].

**Pågående studier:**

Inga pågående studier har identifierats.

Ja.

CTRI/2020/09/028036 Titel: A clinical trial to see the effect of occlusal pit and fissure sealant in preventing and arresting the caries incidence among adult population. RCT. Utförs i Indien. 170 individer, 19–40 år, med två molarer där ocklusalytorna ytorna har synlig initialkaries i emaljen. Lesionerna behandlas med resininfiltration eller placebo. Kariesprogression kommer att analyseras med röntgen efter 1 år. Retention av fissurförseglingsmaterialet kontrolleras efter 3 månader. Studien är i uppstartsfas och det finns inga uppgifter om när den beräknas vara rapporterad.

*Saknas någon information i studierna?*

Ingen relevant information saknas i studierna utifrån de uppställda inklusionskriterierna.

Ja. Det saknas studier på vuxna.

## Översikt av granskade studier

### Val av litteratur

Resultat från litteratursökning Datum: 2020-11-27 i PubMed samt komplettering av övriga databaser 2020-12-17

Beskrivning	Antal
Studier som granskades på abstractnivå utifrån de uppställda kriterierna för PICO	3 793
Granskade abstract/s som bedömdes relevanta utifrån de uppställda kriterierna för PICO och granskades på fulltextnivå	127
Systematiska översikter/RCT:er/observationsstudier som uppfyllde kriterierna för PICO och ingår i underlaget	0

## *Referenser*

1. Schwendicke F, Jager AM, Paris S, Hsu LY, Tu YK. Treating pit-and-fissure caries: a systematic review and network meta-analysis. *Journal of dental research* 2015;94:522-33.
2. Urquhart O, Tampi MP, Pilcher L, Slayton RL, Araujo MWB, Fontana M, et al. Nonrestorative Treatments for Caries: Systematic Review and Network Meta-analysis. *J Dent Res* 2019;98:14-26.

## Litteratursökning

PubMed via NLM 27 November 2020

Title: Rad 8.1, 8.2, 9.1

Search terms		Items found
<b>Intervention:</b>		
1.	"Pit and Fissure Sealants"[Mesh] OR approximal seal*[tiab] OR dental seal*[tiab] OR enamel seal*[tiab] OR fissure seal*[tiab] OR pit and fissure*[tiab] OR lesion seal*[tiab] OR therapeutic seal*[tiab] OR preventive seal*[tiab] OR proximal seal*[tiab]	4313
2.	sealing[ti] or sealants[ti]	4642
3.	"Resin Cements"[Mesh] OR "Glass Ionomer Cements"[Mesh] OR flowable composite*[tiab] OR (((cermet[tiab] OR resin[tiab] OR resin-based*[tiab] OR resin-modified[tiab] OR glass ionomer*[tiab] OR glassionomer[tiab]) AND (infiltration[tiab] OR sealant*[tiab] OR sealing*[tiab])) NOT medline[sb])	16848
4.	(infiltration[ti] OR sealing*[ti] OR sealant*[ti]) AND (pit and fissure*[ti] OR approximal*[ti] OR proximal*[ti] OR caries*[ti] OR carious*[ti] OR cavity[ti] OR resin*[ti] OR glass*[ti])	1572
5.	1-4 (OR)	23643
<b>Population/Outcome:</b>		
6.	"Dental Caries"[Mesh] OR ((caries[tiab] OR carious[tiab] OR cavity[tiab] OR cavities[tiab] OR cavitation[tiab] OR deminerali*[tiab] OR microcavit*[tiab] OR microcavit*[tiab] OR macula cariosa alba[tiab] OR tooth decay[tiab] OR non-cavitated lesions[tiab] OR initial lesion*[tiab] OR enamel lesion*[tiab]) NOT medline[sb])	94806
7.	5 AND 6	4047
<b>Study types: randomised controlled trials and other trials (filter: PubMed clinical queries, therapy, broad) <sup>1</sup></b>		
8.	((clinical[Title/Abstract] AND trial[Title/Abstract]) OR clinical trials as topic[MeSH Terms] OR clinical trial[Publication Type] OR random*[Title/Abstract] OR random allocation[MeSH Terms] OR therapeutic use[MeSH Subheading])	5599927
<b>Study types: systematic reviews and meta analysis (filter: Systematic Reviews Subset on PubMed 2017 to 2018<sup>2</sup> with modifications<sup>3</sup>)</b>		
9.	(((((systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR systematic literature review [ti] OR this systematic review [tw] OR pooling project [tw] OR (systematic review [tiab] AND review [pt]) OR meta synthesis [ti] OR meta-analy*[ti] OR integrative review [tw] OR integrative research review [tw] OR rapid review [tw] OR umbrella review [tw] OR consensus development conference [pt] OR practice guideline [pt] OR drug class reviews [ti] OR cochrane database syst rev [ta] OR acp journal club [ta] OR health technol assess [ta] OR evid rep technol as-	487035

<sup>1</sup> Haynes RB, McKibbon KA, Wilczynski NL, Walter SD, Werre SR, Hedges Team. Optimal search strategies for retrieving scientifically strong studies of treatment from Medline: analytical survey. *BMJ* 2005;330(7501):1179.

<sup>2</sup> <https://sites.google.com/a/york.ac.uk/issg-search-filters-resource/filters-to-identify-systematic-reviews/-pubmed-search-strategy> (190522).

<sup>3</sup> MeSH-term "Systematic Review" [Publication Type] added.

sess summ [ta] OR jbi database system rev implement rep [ta]) OR (clinical guideline [tw] AND management [tw]) OR ((evidence based[ti] OR evidence-based medicine [mh] OR best practice\* [ti] OR evidence synthesis [tiab]) AND (review [pt] OR diseases category[mh] OR behavior and behavior mechanisms [mh] OR therapeutics [mh] OR evaluation studies[pt] OR validation studies[pt] OR guideline [pt] OR pmcbook))OR ((systematic [tw] OR systematically [tw] OR critical [tiab] OR (study selection [tw]) OR (predetermined [tw] OR inclusion [tw] AND criteri\* [tw]) OR exclusion criteri\* [tw] OR main outcome measures [tw] OR standard of care [tw] OR standards of care [tw]) AND (survey [tiab] OR surveys [tiab] OR overview\* [tw] OR review [tiab] OR reviews [tiab] OR search\* [tw] OR handsearch [tw] OR analysis [ti] OR critique [tiab] OR appraisal [tw] OR (reduction [tw] AND (risk [mh] OR risk [tw]) AND (death OR recurrence))) AND (literature [tiab] OR articles [tiab] OR publications [tiab] OR publication [tiab] OR bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR pooled data [tw] OR unpublished [tw] OR citation [tw] OR citations [tw] OR database [tiab] OR internet [tiab] OR textbooks [tiab] OR references [tw] OR scales [tw] OR papers [tw] OR datasets [tw] OR trials [tiab] OR meta-analy\* [tw] OR (clinical [tiab] AND studies [tiab]) OR treatment outcome [mh] OR treatment outcome [tw] OR pmcbook)) NOT (letter [pt] OR newspaper article [pt]))) OR "Systematic Review" [Publication Type]

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**Combined sets**

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10.	3 AND 4 AND 9 Filters applied: Danish, English, Norwegian, Swedish	<b>200</b>
11.	2 AND 4 AND 8 Filters applied: Danish, English, Norwegian, Swedish	<b>2335</b>

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The search result, usually found at the end of the documentation, forms the list of abstracts.

[MeSH] = Term from the Medline controlled vocabulary, including terms found below this term in the MeSH hierarchy

[MeSH:NoExp] = Does not include terms found below this term in the MeSH hierarchy

[MAJR] = MeSH Major Topic

[TIAB] = Title or abstract

[TI] = Title

[AU] = Author

[OT]= Other term

[TW] = Text Word

Systematic[SB] = Filter for retrieving systematic reviews

\* = Truncation

Search terms		Items found
<b>Intervention:</b>		
1.	'fissure sealant'/exp OR 'resin cement'/exp OR 'glass ionomer'/exp	19,929
2.	((approximal* OR dental* OR enamel* OR fissure* OR lesion* OR therapeutic* OR prevent* OR proximal*) NEAR/1 seal*):ti,ab,kw	2,692
3.	sealing:ti OR sealants:ti	5,069
4.	'pit and fissure*':ti,ab,kw	1,006
5.	'flowable composite*':ti,ab,kw	646
6.	(cermet:ti,ab,kw OR resin:ti,ab,kw OR 'resin-based*':ti,ab,kw OR 'resin-modified':ti,ab,kw OR 'glass ionomer*':ti,ab,kw OR glassionomer:ti,ab,kw) AND (infiltration:ti,ab,kw OR sealant*':ti,ab,kw OR sealing*':ti,ab,kw)	2,511
7.	(infiltration:ti OR sealing*':ti OR sealant*':ti) AND ('pit and fissure*':ti OR approximal*':ti OR proximal*':ti OR caries*':ti OR carious*':ti OR cavity:ti OR resin*':ti OR glass*':ti)	1,521
8.	1-7 (OR)	25,702
<b>Population/Outcome:</b>		
9.	'dental caries'/exp	56,631
10.	caries:ti,ab,kw OR carious:ti,ab,kw OR cavity:ti,ab,kw OR cavities:ti,ab,kw OR cavitation:ti,ab,kw OR deminerali*':ti,ab,kw OR microcavit*':ti,ab,kw OR 'microcavit*':ti,ab,kw OR 'macula cariosa alba':ti,ab,kw OR 'tooth decay':ti,ab,kw OR 'non-cavitated lesions':ti,ab,kw OR 'initial lesion*':ti,ab,kw OR 'enamel lesion*':ti,ab,kw	287,037
11.	9-10 (OR)	304,012
<b>Study types: randomised controlled trials and other trials</b>		
12.	('clinical trial'/exp OR 'clinical trial (topic)'/exp OR 'randomized controlled trial'/de OR 'randomization'/de OR 'single blind procedure'/de OR 'double blind procedure'/de OR 'crossover procedure'/de OR 'placebo'/de OR 'meta analysis'/de OR 'prospective study'/de OR (randomi?ed NEXT/1 controlled NEXT/1 trial*) OR rct OR 'random allocation' OR 'randomly allocated' OR (allocated NEAR/2 random) OR (single NEXT/1 blind*) OR (double NEXT/1 blind*) OR ((treble OR triple) NEXT/1 blind*) OR placebo* OR (meta NEXT/1 analy*) OR metaanaly*) NOT ('case study'/de OR 'case report' OR 'abstract report'/de OR 'letter'/de)	2,743,851
<b>Study types: systematic reviews, meta-analysis</b>		
13.	'systematic review'/de	273,917
14.	'meta analysis'/de	201,000
15.	[cochrane review]/lim	21,796
16.	((systematic* NEXT/3 (review* OR overview)):ti,ab) OR ((systematic* NEXT/3 bibliographic*):ti,ab) OR ((systematic* NEXT/3 literature):ti,ab) OR 'meta analy*':ti,ab OR metaanaly*':ti,ab	393,153
17.	14-17 (OR)	493,927
<b>Limits: language</b>		
18.	([danish]/lim OR [english]/lim OR [norwegian]/lim OR [swedish]/lim)	

### Combined sets

19.	8 AND 11 AND 17 AND 18	<b>138</b>
20.	8 AND 11 AND 12 AND 18	<b>1,833</b>

The search result, usually found at the end of the documentation, forms the list of abstracts.

/de= Term from the EMTREE controlled vocabulary

/exp= Includes terms found below this term in the EMTREE hierarchy

/mj = Major Topic

:ab = Abstract

:au = Author

:ti = Article Title

:ti:ab = Title or abstract

\* = Truncation

“ “ = Citation Marks; searches for an exact phrase



Search terms		Items found
<b>Intervention:</b>		
1.	MeSH descriptor: [Pit and Fissure Sealants] explode all trees	384
2.	MeSH descriptor: [Resin Cements] explode all trees	1414
3.	MeSH descriptor: [Glass Ionomer Cements] explode all trees	752
4.	((approximal OR dental OR enamel OR fissure OR lesion OR therapeutic OR preventive OR proximal) NEXT (seal*)):ti,ab,kw	741
5.	("pit and fissure*"):ti,ab,kw	601
6.	("pit and fissure*"):ti,ab,kw	1957
7.	((cermet OR resin OR "resin-based*" OR "resin-modified" OR "glass ionomer*" OR glassionomer) AND (infiltration OR sealant* OR sealing*)):ti,ab,kw	843
8.	((infiltration OR sealing* OR sealant*) AND ("pit and fissure*" OR approximal* OR proximal* OR caries* OR carious* OR cavity OR resin* OR glass*)):ti	550
9.	1-8 (OR)	4102
<b>Population/Outcome:</b>		
10.	MeSH descriptor: [Dental Caries] explode all trees	2593
11.	((caries OR carious OR cavity OR cavities OR cavitation OR deminerali* OR micro-cavit* OR "micro-cavit*" OR "macula cariosa alba" OR "tooth decay" OR "non-cavitated lesions" OR "initial lesion*" OR "enamel lesion*")):ti,ab,kw	17528
12.	10-11 (OR)	17534
<b>Combined sets</b>		
13.	9 AND 12	CDSR/14 Pro- tocols/1 Central/ 1818

The search result, usually found at the end of the documentation, forms the list of abstracts.

:au = Author

MeSH = Term from the Medline controlled vocabulary, including terms found below this term in the MeSH hierarchy

this term only = Does not include terms found below this term in the MeSH hierarchy

:ti = title

:ab = abstract

:kw = keyword

\* = Truncation

“ “ = Citation Marks; searches for an exact phrase

CDSR = Cochrane Database of Systematic Review

CENTRAL = Cochrane Central Register of Controlled Trials, “trials”