

SINGLE TOOTH INDIRECT RESTORATIONS

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Table of Contents	Page
INSTRUCTIONS FOR USE	1
BENEFIT CONSIDERATIONS	1
COVERAGE RATIONALE	1
DEFINITIONS	3
APPLICABLE CODES	3
DESCRIPTION OF SERVICES	4
CLINICAL EVIDENCE	4
REFERENCES	5
GUIDELINE HISTORY/REVISION INFORMATION	5

Related Policies
None

INSTRUCTIONS FOR USE

This Dental Coverage Guideline provides assistance in interpreting UnitedHealthcare dental benefit plans. When deciding coverage, the member specific benefit plan document must be referenced. The terms of the member specific benefit plan document [e.g., Certificate of Coverage (COC), Schedule of Benefits (SOB), and/or Summary Plan Description (SPD)] may differ greatly from the standard benefit plan upon which this Dental Coverage Guideline is based. In the event of a conflict, the member specific benefit plan document supersedes this Dental Coverage Guideline. All reviewers must first identify member eligibility, any federal or state regulatory requirements, and the member specific benefit plan coverage prior to use of this Dental Coverage Guideline. Other Clinical Policies and Coverage Guidelines may apply. UnitedHealthcare reserves the right, in its sole discretion, to modify its Policies and Guidelines as necessary. This Dental Coverage Guideline is provided for informational purposes. It does not constitute medical advice.

BENEFIT CONSIDERATIONS

Before using this guideline, please check the member specific benefit plan document and any federal or state mandates, if applicable.

Essential Health Benefits for Individual and Small Group

For plan years beginning on or after January 1, 2014, the Affordable Care Act of 2010 (ACA) requires fully insured non-grandfathered individual and small group health plans (inside and outside of Exchanges) to provide coverage for Pediatric Dental Essential Health Benefits ("EHBs"). Large group plans (both self-funded and fully insured), and small group ASO plans, are not subject to the requirement to offer coverage for Pediatric Dental EHBs. However, if such plans choose to provide coverage for benefits which are deemed Pediatric Dental EHBs, the ACA requires all dollar limits on those benefits to be removed on all Grandfathered and Non-Grandfathered plans. The determination of which benefits constitute Pediatric Dental EHBs is made on a state by state basis. As such, when using this guideline, it is important to refer to the member specific benefit plan document to determine benefit coverage.

COVERAGE RATIONALE

Indications for Coverage

For indirect restorations, the following clinical parameters apply:

- Five-year longevity should be evident, periodontium must be healthy or have documentation the member has periodontal disease under control for a period of at least 6 months, and no evidence of endodontic pathology or potential endodontic issues on the radiographic image.

Crowns

Crowns are indicated for the following:

- Extensive caries on three or more surfaces or 50% loss of clinical crown
- Large, >50% of the tooth, defective restoration that can be seen on the radiographic image or intraoral photograph
- Fracture of cusps

- Endodontically treated teeth, unless minimal access opening on anterior tooth
- Documentation that a direct restoration is not possible
- Crown/root ratio must be favorable
- Documentation/narrative that the failing existing crown can only be resolved with a new crown if not visible on radiographic image or intraoral photograph
- 50% bone support with no ligament or root pathology unless patient has undergone periodontal therapy/surgery
- Anterior teeth: at least 50% involvement of incisal portion
- Bicuspid and molars: 3 or more surfaces and/or one or more cusps involved
- Symptomatic "cracked tooth syndrome" (not enamel craze lines)
- Full coverage restoration of a primary tooth without a permanent successor

Crowns are not indicated for the following:

- If a lesser means of restoration is acceptable
- If root resorption is present
- Solely for cosmetic/aesthetic reasons (peg teeth, diastema closure, discoloration)
- For alteration of vertical dimension
- For purposes of preventing future fracture, or to eliminate enamel craze lines (cracked tooth syndrome must be diagnosed with documented diagnostic tests and supported by a narrative; tooth must be symptomatic)
- To treat non-pathologic wear/abrasion, or abfraction lesions in the absence of decay
- For molars exhibiting bone loss with a class III furcation involvement
- Periodontally compromised teeth, even with successful endodontics, unless the patient has undergone previous periodontal therapy/surgery and progress notes/periodontal notes indicate the tooth is stable
- Fracture of porcelain not involving the margin or a functional ridge is not sufficient for replacement

Onlays

Onlays are indicated for the following:

- Extensive caries on three or more surfaces or 50% loss of clinical crown
- Large, >50% of the tooth, defective restoration that can be seen on the radiographic image or intraoral photograph
- Fracture of cusps
- Endodontically treated teeth, unless minimal access opening on anterior tooth
- Documentation that a direct restoration is not possible
- Crown/root ratio must be favorable
- Documentation/narrative that the failing existing onlay can only be resolved with a new onlay if not visible on radiographic image or intraoral photograph
- 50% bone support with no ligament or root pathology unless patient has undergone periodontal therapy/surgery
- Anterior teeth: at least 50% involvement of incisal portion
- Bicuspid and molars: 3 or more surfaces and/or one or more cusps involved
- Benefitted for primary teeth without permanent successor
- Bicuspid and molars: 3 or more surfaces and one or more cusps involved
- Symptomatic "cracked tooth syndrome"

Onlays are not indicated for the following:

- If a lesser means of restoration is acceptable
- If root resorption is present
- Solely for cosmetic/aesthetic reasons (peg teeth, diastema closure, discoloration)
- For alteration of vertical dimension
- For purposes of preventing future fracture, or to eliminate enamel craze lines (cracked tooth syndrome must be diagnosed with documented diagnostic tests and supported by a narrative; tooth must be symptomatic)
- To treat non-pathologic wear/abrasion, or abfraction lesions in the absence of decay
- For molars exhibiting bone loss with a class III furcation involvement
- Periodontally compromised teeth, even with successful endodontics, unless the patient has undergone previous periodontal therapy/surgery and progress notes/periodontal notes indicate the tooth is stable
- Fracture of porcelain not involving the margin or a functional ridge is not sufficient for replacement

Inlays

Inlays are unproven

Inlays have not been proven superior over direct restorations and are alternative benefitted to amalgam restorations.

Coverage Limitations and Exclusions

- Replacement of complete dentures, and fixed and removable partial dentures or crowns, if damage or breakage was directly related to provider error. This type of replacement is the responsibility of the Dentist. If replacement is Necessary because of patient non-compliance, the patient is liable for the cost of replacement.

- Fixed or removable prosthodontic restoration procedures for complete oral rehabilitation or reconstruction.
- Procedures related to the reconstruction of a patient's correct vertical dimension of occlusion (VDO).
- Any Dental Procedure performed solely for cosmetic/aesthetic reasons (cosmetic procedures are those procedures that improve physical appearance).

DEFINITIONS

Crown: An artificial replacement that restores missing tooth structure by surrounding the remaining coronal tooth structure, or is placed on a dental implant. It is made of metal, ceramic or polymer materials or a combination of such materials. It is retained by luting cement or mechanical means. (ADA)

Inlay: An intracoronal dental restoration, made outside the oral cavity to conform to the prepared cavity, which restores some of the occlusal surface of a tooth, but does not restore any cusp tips. It is retained by luting cement. (ADA)

Onlay: A dental restoration made outside the oral cavity that covers one or more cusp tips and adjoining occlusal surfaces, but not the entire external surface. It is retained by luting cement. (ADA)

APPLICABLE CODES

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Clinical Policies and Coverage Guidelines may apply.

CDT Code	Description
D2510	inlay – metallic - one surface
D2520	inlay – metallic - two surfaces
D2530	inlay – metallic - three or more surfaces
D2542	onlay – metallic-two surfaces
D2543	onlay – metallic-three surfaces
D2544	onlay – metallic-four or more surfaces
D2610	inlay – porcelain/ceramic - one surface
D2620	inlay – porcelain/ceramic - two surfaces
D2630	inlay – porcelain/ceramic - three or more surfaces
D2642	onlay – porcelain/ceramic - two surfaces
D2643	onlay – porcelain/ceramic - three surfaces
D2644	onlay – porcelain/ceramic - four or more surfaces
D2650	inlay – resin-based composite - one surface
D2651	inlay – resin-based composite - two surfaces
D2652	inlay – resin-based composite - three or more surfaces
D2662	onlay – resin-based composite - two surfaces
D2663	onlay – resin-based composite - three surfaces
D2664	onlay – resin-based composite - four or more surfaces
D2710	crown, resin based composite, indirect
D2712	crown – 3/4 resin-based composite (indirect)
D2720	crown – resin with high noble metal
D2721	crown – resin with predominantly base metal
D2722	crown – resin with noble metal
D2740	crown – porcelain/ceramic
D2750	crown – porcelain fused to high noble metal
D2751	crown – porcelain fused to predominantly base metal
D2752	crown – porcelain fused to noble metal

CDT Code	Description
D2780	crown – 3/4 cast high noble metal
D2781	crown – 3/4 cast predominantly base metal
D2782	crown – 3/4 cast noble metal
D2783	crown – 3/4 porcelain/ceramic
D2790	crown – full cast high noble metal
D2791	crown – full cast predominantly base metal
D2792	crown – full cast noble metal
D2794	crown – titanium
D2799	provisional crown – further treatment or completion of diagnosis necessary prior to final impression

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DESCRIPTION OF SERVICES

Single tooth indirect restorations are those that are fabricated outside the mouth. Indirect restorations are made on a replica of the prepared tooth in a dental laboratory or by using computer-aided design/computer-assisted manufacturing (CAD/CAM) either chairside or in the dental laboratory and cemented. Local anesthetic, impressions, tooth preparation, temporary restoration, fitting, cementation, adjustment and any liners or bases are inclusive

CLINICAL EVIDENCE

Inlays

Angeletaki et al (2016) conducted a systematic review and meta-analysis to evaluate the long-term clinical performance of direct versus indirect composite inlays/onlays in posterior teeth. The electronic databases MEDLINE, EMBASE, Cochrane Oral Health Group's Trials Register and CENTRAL were searched with no restriction to publication date or language. Only randomised controlled trials (RCTs) were included and evaluated according to Cochrane risk of bias tool. The main outcome assessed was the restoration failure, determined by several clinical parameters. Two studies concerning direct and indirect inlays (82 patients with 248 restorations) and one study for onlays (157 patients with 176 restorations) satisfied the inclusion criteria. Two trials, one of unclear and one of high risk of bias, could be mathematically combined. The meta-analysis indicated no statistically significant difference in the risk failure between direct and indirect inlays, after 5 years. Only one parameter, the marginal discoloration, slightly favored direct inlays after 11 years. Only one study dealt with onlays; an overall 5-year survival of 87% was reported. The authors concluded that the difference of the two techniques did not reach statistical significance in order to recommend one technique over the other, and the scarcity of primary studies support the need for further well-designed long-term studies in order to reach firm conclusions about both techniques. Resin composite materials, placed directly or indirectly, exhibit a promising long-term clinical performance when rehabilitation of posterior teeth is needed.

da Veiga et al (2016) The aim of this systematic review and meta-analysis was to assess the differences in clinical performance in direct and indirect resin composite restorations in permanent posterior teeth.

PubMed, the Cochrane Library, Web of Science, Scopus, LILACS, BBO, ClinicalTrials.gov and SiGLE were searched without restrictions. The review included randomized clinical trials (RCTs) that compared the clinical performance of direct and indirect resin composite restorations in Class I and Class II cavities in permanent teeth, with at least two years of follow-up. The risk of bias tool suggested by Cochrane Collaboration was used for quality assessment. Twenty studies fulfilled the inclusion criteria after the abstract screening. Two articles were added after a hand search of the reference list of included studies. After examination, nine RCTs were included in the qualitative analysis and five were considered to have a 'low' risk of bias. The overall risk difference in longevity between direct and indirect resin composite restorations in permanent posterior teeth at five-year follow-up was 1.494, and regardless of the type of tooth restored, that of molar and premolars was 0.716 at three-year follow-up. Based on the findings, the authors concluded that there was no difference in longevity of direct and indirect resin composite restorations regardless of the type of material and the restored tooth.

Mendonca et al. (2010) conducted a study to evaluate the clinical performance of indirect composite restorations versus direct composite restorations after one year. Seventy six separate restorations were placed on pre molars and molars in healthy patients, either for new caries, or the replacement of deficient existing restorations. Materials were placed according to manufacturer's directions and evaluated at baseline and one year according to the modified United States Public Health Services (USPHS) criteria for: color match (CM), marginal discoloration (MD), secondary caries (SC), anatomic form (AF), surface texture (ST), marginal integrity (MI) and pulp sensitivity (PS). At 12 months, there

was no SC or PS noted, and statistically insignificant changes in CM, AF, and ST. There were however, statistically significant MI changes, with the direct composite restoration material showing superior results after one year. It was concluded that both provide satisfactory clinical performance, with the direct composite restorations performing better than indirect composite restorations for marginal integrity.

Pallesen et al. (2003) conducted a randomized, clinical study to evaluate the clinical performance of composite direct and indirect restorations. Twenty-eight sets of five class II restorations (two fillings, three inlays) were placed in 88 premolars and 52 molars in 28 adults. After 11 years, 27 sets of restorations (96%) were evaluated clinically using modified United States Public Health Service (USPHS) criteria. Replaced or repaired restorations were observed in 16% of the fillings and 17% of the inlays, and a further 5% of the restorations were replaced for reasons not related to the restoration. The remaining 107 restorations exhibited optimal ratings in 30% of the fillings and 12% of the inlays and acceptable ratings in 70% and 88%, respectively. The reasons for failure were fracture of restoration (four fillings, five inlays), secondary caries (two fillings, four inlays), fracture of tooth (two inlays), loss of proximal contact (two fillings), and loss of restoration (one inlay). The results showed that failures were seen more frequently in molar than premolar restorations, with no significant difference between direct and indirect restorations.

REFERENCES

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GUIDELINE HISTORY/REVISION INFORMATION

Date	Action/Description
02/01/2018	<ul style="list-style-type: none"> • Revised coverage rationale for: <ul style="list-style-type: none"> Crowns <ul style="list-style-type: none"> ○ Updated language to clarify crowns are indicated for: <ul style="list-style-type: none"> ▪ Large, >50% of the tooth, defective restoration that can be seen on the radiographic image <i>or intraoral photograph</i> ▪ Documentation/narrative that the failing existing crown can only be resolved with a new crown if not visible on radiographic image <i>or intraoral photograph</i> ▪ Bicuspid and molars: 3 or more surfaces <i>and/or</i> one or more cusps involved Onlays <ul style="list-style-type: none"> ○ Updated language to clarify onlays are indicated for: <ul style="list-style-type: none"> ▪ Large, >50% of the tooth, defective restoration that can be seen on the radiographic image <i>or intraoral photograph</i> ▪ Documentation/narrative that the failing existing <i>onlay</i> can only be resolved with a new <i>onlay</i> if not visible on radiographic image <i>or intraoral photograph</i> ▪ Bicuspid and molars: 3 or more surfaces <i>and/or</i> one or more cusps involved • Archived previous policy version DCG008.03