
Renaissance Clinical Criteria for Utilization Management Decisions

Clinical Criteria for Single Crown Restorations

Reference Number: 282.22.v2

Version Effective Date: 6/21/2025

Introduction

This Renaissance clinical criteria document addresses the use of single crown restorations. The purpose of this document is to provide written clinical criteria to ensure that Renaissance consistently applies sound and objective clinical evidence when determining the medical necessity and clinical appropriateness of single crown treatment, as well as taking individual patient circumstances and the local delivery system into account.

Single crowns are indirectly constructed restorations that cover a portion or all of a tooth. They may be composed of metal, metal with a ceramic veneer fused to metal, metal with resin-based composite, all ceramic material or all resin-based composite. The selection of materials for single crown restoration depends on the strength, durability, wear and fracture resistance, biocompatibility and appearance required for a particular restoration and patient. A single crown restoration is constructed by first preparing a tooth for the crown, then externally manufacturing the crown and finally cementing the crown on the tooth.

Single crown restorations are most commonly performed to replace tooth structure missing or damaged due to dental caries, traumatic injury or other circumstances that compromise the coronal portion of a tooth. Crowns may also be performed for other purposes such as splinting together teeth weakened by periodontal disease, developing appropriate occlusion, restoring developmental defects or acting as retainers for fixed and removable partial dentures. The design of a crown is intended to reproduce the contours of a natural tooth in order to establish appropriate function, protect the tooth and provide an acceptable appearance.

Single crown restorations may be performed by general dentists, pediatric dental specialists or prosthodontists in a variety of healthcare facilities.

Applicable Dental Procedure Codes

The following dental procedure codes defined in the current version of the American Dental Association's Code on Dental Procedures and Nomenclature (the CDT® Code) are applicable to this document and are the appropriate codes to use when documenting single crown procedures. Inclusion of these codes here is for informational purposes only and does not imply benefit coverage or noncoverage of a procedure by a member's dental plan. A determination that a dental procedure is medically necessary and clinically appropriate does not guarantee that the procedure is a covered benefit of a member's dental plan. To determine if single crown restorations are a covered benefit of an individual member's dental plan, please refer to the plan documents in effect on the date of service.

CDT® Procedure Code	Procedure Code Nomenclature
D2710	crown - resin-based composite (indirect)
D2712	crown - ¾ 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

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CDT® Procedure Code	Procedure Code Nomenclature
D2750	crown - porcelain fused to high noble metal
D2751	crown - porcelain fused to predominantly base metal
D2752	crown - porcelain fused to noble metal
D2753	crown - porcelain fused to titanium and titanium alloys
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 and titanium alloys

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Clinical Criteria¹

When approval of benefit payment for a single crown restoration by a member's dental plan requires a determination by Renaissance that the procedure is medically necessary and clinically appropriate, the patient's dental record must document a generally accepted indication for performing the procedure. Indications for a single crown restoration to be considered for benefit payment include:

- A tooth with extensive loss of coronal structure (50% or more of coronal tooth structure is missing) due to dental caries, restoration failure and/or fracture leaving insufficient intact tooth structure remaining where placement of a direct restoration would have a poor long-term prognosis for restoring and maintaining tooth contours and function
- A tooth with extensive loss of coronal structure due to successful endodontic therapy leaving insufficient intact tooth structure remaining where a direct restoration would have a poor long-term prognosis in restoring and maintaining tooth contours and function
- A tooth where a documented evaluation has resulted in the diagnosis of a fracture plane that has isolated one or more cusps of a tooth, is causing consistent reproducible pain to cold and/or biting pressure on the tooth, has not compromised the tooth's pulp or root and may be stabilized with expected relief of symptoms by cuspal reinforcement from a crown
- A tooth with a condition of abnormal enamel and/or dentin formation that requires crown coverage to maintain proper structure and function of the tooth
- An existing crown that has become unserviceable due to recurrent dental caries or fracture and requires replacement to maintain a tooth's proper structure and function

The following conditions are generally considered to make the performance of a single crown restoration unnecessary, inadvisable or deficient in clinical quality and may result in disapproval of benefits based on a determination that the procedure is not medically necessary or clinically appropriate:

- Replacement of a crown that remains intact and functional

¹ Government regulations or the provisions of a member's dental plan that define when a dental procedure may be considered medically necessary and clinically appropriate with respect to benefit coverage may take precedence over these clinical criteria.

- A tooth utilized for a single crown restoration that does not have extensive loss of coronal structure where placement of a direct restoration would have a good long-term prognosis for restoring and protecting tooth contours and function
- Placement of a single crown solely to improve the esthetic appearance of a tooth, such as diastema closure or cosmetic restoration of a peg lateral tooth
- Craze lines, surface cracks, anatomic grooves and sound stained or unstained pits or fissures with no evidence of a fracture plane that isolates one or more cusps of a tooth
- Fracture of porcelain veneering material that does not compromise crown structure and function
- Lack of an opposing dentition for the functionality of a single crown restoration
- A single crown placed on a tooth that is broken down by dental caries, extensive restoration and/or fracture with insufficient sound tooth structure for successful restoration
- A single crown placed on a tooth that has unresolved periapical pathology, failed endodontic treatment, an improperly aligned post and/or failed root integrity due to root fracture or resorptive defect
- A single crown placed on a tooth that has insufficient alveolar bone support, advanced furcation involvement and/or advanced mucogingival defects
- A single crown placed on a primary tooth undergoing natural exfoliation
- A single crown placed on a tooth without allowing adequate healing time following crown lengthening
- Inadequately prepared/adapted single crown restorations, including crowns with marginal defects and/or inadequate interproximal contacts, axial contours or occlusion
- Allergy to a material in a restoration (e.g., nickel)
- A high caries risk and/or poor oral hygiene that presents a relative contraindication to restorative treatment
- Compromised temporomandibular joint likely to cause complications during or after restorative treatment
- An alternative treatment is more appropriate for a patient's condition or circumstance based on accepted standards of care

Additional criteria for single crown restorations that should be considered include:

- A comprehensive evaluation of the condition of existing teeth and edentulous areas must be carried out and fully documented prior to planning and performing single crown treatment. Any untreated dental caries, failed direct restorations, periodontal disease, endodontic pathology or structural weakness involving abutment teeth must be addressed as part of crown treatment. Installed crowns must meet the applicable standards of dental practice for restorative material selection, restoration design and preparation, marginal integrity, interproximal contacts, retention and occlusion.
- To be considered for benefit payment, a single crown restoration procedure must be completed as determined by the insertion date when the crown is first cemented to the tooth.
- Repair of a crown is considered to be indicated when the restoration has restorative material failure and a repair may be expected to return the crown to a serviceable condition for a reasonable duration of function
- Requests for crowns on retained primary teeth will be considered on a case-by-case basis with determinations based on an evaluation of factors including, but not limited to, structural integrity, of the tooth condition of the remaining root, periodontal support, the extent and progression of infraocclusion and evidence of root resorption.

- Single crown restorations performed solely for one of the following conditions or reasons may not be covered by a member's dental plan: teeth without extensive loss of tooth structure due specifically to dental caries or fracture, tooth structure loss resulting from attrition, abrasion, abfraction or erosion, periodontal splinting, correction of congenital or developmental malformations, vertical dimension adjustment, stabilization of occlusion, improvement of appearance, injuries covered under another type of health plan or crowns for children under a certain age (e.g., under age 12). To determine if these services are a covered benefit of an individual member's dental plan, please refer to the plan documents in effect on the date of service.

Other Considerations

When the payment of benefits for a dental procedure by a member's dental plan depends on the application of clinical criteria to determine whether the procedure is medically necessary or clinically appropriate, the following additional information will be taken into consideration, if applicable:

- Individual patient characteristics including age, comorbidities, complications, progress of treatment, psychosocial situation and home environment
- Available services in the local dental delivery system and their ability to meet the member's specific dental care needs when clinical criteria are applied

Required Documentation

The decision to provide a single crown for a patient should be based on a thorough clinical and radiographic examination that facilitates the formulation of an appropriate treatment plan. When the payment of benefits for a crown by a member's dental plan depends on a review of the procedure's medical necessity and clinical appropriateness, the treating practitioner should submit with the claim the following information from the patient's dental record. If the practitioner is unable to provide this information, benefit payment may be disapproved.

- Preoperative radiographic evidence should be submitted demonstrating that the periodontal, endodontic and structural condition of the teeth will support the placement and maintenance a crown. Submitted radiographs must allow evaluation of the entire tooth from crown to root tip. If the need for a crown is not clearly evident through radiographic imaging, providing an intraoral photographic image of the involved tooth showing the degree of breakdown is recommended.
- A request for crown benefits following endodontic therapy must include a radiograph of the entire tooth showing its post-endodontic condition.
- The patient treatment record should be submitted documenting the clinical rationale for providing or replacing a crown.

Additional Information

The provision of dental advice and clinical treatment of patients is the sole responsibility of treating dentists, and these clinical criteria are not intended to restrict dentists from carrying out that responsibility or recommend treatment to their patients.

Renaissance's clinical criteria are developed and annually updated by a panel of licensed dental general practitioners and specialists serving on Renaissance's Utilization Management (UM) Committee, including the Dental Director and Utilization Management Director. The criteria are developed in alignment with evidence-based clinical recommendations, guidelines and parameters of care of leading nationally recognized dental public health organizations, health research agencies and professional organizations, credible scientific evidence published in peer-reviewed medical and dental literature, the curriculum of accredited dental schools, the regulatory status of relevant

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dental technologies, the rules and requirements of the Centers for Medicare and Medicaid Services, Renaissance national processing policies and input from practicing dentists. New and revised clinical criteria must be approved by the Dental Director and adopted by the UM Committee prior to release.

Federal or state statutes or regulations, dental plan contract provisions, local or national claim processing policies or other mandated requirements may take precedence over these clinical criteria.

Renaissance reserves the right to modify or replace this document at any time as appropriate to ensure the soundness, accuracy and objectivity of Renaissance's clinical criteria.

Appendix A

Crowns Single crown restorations are most commonly performed to replace tooth structure missing or damaged due to dental caries, traumatic injury or other circumstances that compromise the coronal portion of a tooth.

Clinical criteria and/or indications for approval:

- Criteria for crowns include permanent teeth needing multi-surface restorations or where other types of restorations have a poor clinical outcome.
- A permanent anterior tooth with loss of tooth structure due to initial caries, recurrent caries, restoration failure, and/or tooth/restoration fracture with structure loss involving four or more surfaces and at least 50% of the incisal edge or cuspal tip, where direct restorations would have a poor prognosis.
- A permanent premolar tooth with loss of tooth structure due to initial caries, recurrent caries, restoration failure, and/or tooth/restoration fracture with structure loss involving **three or more surfaces** and **one or more cusps** must be fractured or missing.
- A permanent molar tooth with loss of tooth structure due to initial caries, recurrent caries, restoration failure, and/or tooth/restoration fracture with structure loss involving **four or more surfaces** and **two or more cusps** must be fractured or missing
- A tooth with successful prior endodontic treatment and an endodontic access opening that has removed an extensive amount of tooth structure such that a crown is required to support the remaining tooth structure.
- When replacing a crown, open margin with obvious recurrent decay, fracture, or other structural failure must be documented.

Crowns are not indicated under the following circumstances:

- A lesser means of restoration is possible.
- Tooth has sub-osseous and/or furcation caries.
- Tooth has advanced periodontal disease.
- Tooth is a primary tooth, unless permanent tooth is congenitally missing.
- Crowns are being planned to alter vertical dimension.
- Tooth has no apparent destruction due to caries or trauma

Criteria for authorization of crowns after endodontic treatment:

- Include a dated post-endodontic radiograph.
- Tooth should be filled sufficiently close to the radiological apex to ensure that an apical seal is achieved, unless there is a curvature or calcification of the canal that limits the dentist's ability to fill the canal to the apex.

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- The filling must be properly condensed/obturated. Filling material does not extend excessively beyond the apex.
- Crown must be opposed by a tooth or denture or is an abutment for a partial denture.
- The patient must be free from active periodontal disease.
- The permanent tooth must be at least 50% supported in bone.

References

American College of Prosthodontists. Parameters of Care for the Specialty of Prosthodontics. J Prosthodont. 2020 Jul;29(S1):3-147.

American Dental Association, CDT 2025: Current Dental Terminology. American Dental Association, Chicago, IL, 2024.

Renaissance Plan of Michigan. (2024) Clinical Criteria for Contraindications to Restorative and Prosthodontic Treatment (282.18).

Endodontics: Colleagues for Excellence Newsletter, Summer; 2008. American Association of Endodontics. Cracking the Cracked Tooth Code: Detection and Treatment of Various Longitudinal Tooth Fractures.

Ferracane JL, Hilton TJ, Funkhouser E; National Dental Practice–Based Research Network Collaborative Group. Lessons learned from the Cracked Tooth Registry: A 3-year clinical study in the Nation's Network. J Am Dent Assoc. 2023 Mar;154(3):235-244.

Hilton TJ, Funkhouser E, et al.; National Dental PBRN Collaborative Group. Recommended treatment of cracked teeth: Results from the National Dental Practice-Based Research Network. J Prosthet Dent. 2020 Jan;123(1):71-78.

Hvaring CL, Birkeland K. The long-term fate of persisting deciduous molars and canines in 42 patients with severe hypodontia: a 12-year follow-up. Eur J Orthod. 2020 Dec 2;42(6):581-586.

Layton DM (Ed.), Morgano SM, et al. Glossary of Prosthodontic Terms 2023, 10th edition. J Prosthet Dent. 2023 Oct;130(4 Suppl 1):e7-e126.

McCracken MS, Louis DR, et al.; National Dental Practice-Based Research Network Collaborative Group. Treatment recommendations for single-unit crowns: Findings from The National Dental Practice-Based Research Network. J Am Dent Assoc. 2016 Nov;147(11):882-890.

Rosenstiel SF, Land MF, Walter R. Contemporary fixed prosthodontics. 6th ed. Mosby; 2022.

Shillingberg HT, Sather DA, Wilson EL, et al. Fundamentals of fixed prosthodontics. 4th ed. Quintessence; 2012.