

ORAL SURGERY: MISCELLANEOUS SURGICAL PROCEDURES

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INSTRUCTIONS FOR USE

This Dental Coverage Policy 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 Policy is based. In the event of a conflict, the member specific benefit plan document supersedes this Dental Coverage Policy. 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 Policy. 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 Policy is provided for informational purposes. It does not constitute medical advice.

BENEFIT CONSIDERATIONS

Before using this policy, 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 policy, it is important to refer to the member specific benefit plan document to determine benefit coverage.

COVERAGE RATIONALE

Oroantral Fistula Closure

Oroantral fistula closure is indicated for the closure of an oroantral fistula not related to cleft palate repair surgery.

Primary Closure of a Sinus Perforation

Primary closure of a sinus perforation is generally indicated for large (> 2mm) defects resulting from routine tooth extraction, retrieval of root tips, or implant placement.

Primary closure of a sinus perforation is generally not indicated for defects less than 2mm in diameter.

Tooth Reimplantation and/or Stabilization of Accidentally Evulsed or Displaced Tooth

Tooth reimplantation and/or stabilization of accidentally evulsed or displaced tooth are indicated for the following:

- Subluxation injuries to permanent teeth
- Lateral luxation injuries of primary and permanent teeth
- Extrusion injuries of <3mm in an immature developing primary tooth
- Avulsion of permanent teeth

Tooth reimplantation and/or stabilization of accidentally evulsed or displaced tooth are not indicated for the following, and extraction is recommended:

- For primary teeth if injury is severe or tooth is near exfoliation
- For intrusion injuries to primary teeth when the apex is displaced toward the permanent tooth germ
- For extrusion injuries to primary teeth > 3mm, or primary tooth is fully formed, mobile, near exfoliation, or the child is unable to cope with an emergency situation
- For avulsion of primary teeth
- When a tooth has been out of the oral cavity for 60 minutes or more
- For individuals with unmanaged medical conditions that result in excessive or uncontrolled bleeding, reduced resistance to infection, or poor healing response
- Lack of alveolar integrity

Surgical Repositioning of Teeth

Surgical repositioning of teeth is indicated for the following:

- For the treatment of intrusion injuries to permanent teeth
- Extrusion of teeth with crown/root fractures to prepare for restoration of permanent teeth

Surgical repositioning of teeth is not indicated for the treatment of injuries to primary teeth.

Bone Replacement Graft for Ridge Preservation

Bone replacement graft for ridge preservation is indicated for the following:

- When bone has been lost in extraction site, or site of implant removal to prepare for new implant
- When there has been loss of alveolar ridge needed to support a removable prosthesis or fill space under the pontic of a fixed partial denture

Bone replacement graft for ridge preservation is not indicated for the following:

- As a routine procedure to fill extraction sites
- For individuals with unmanaged medical conditions that result in excessive or uncontrolled bleeding, reduced resistance to infection, or poor healing response

Collection and Application of Autologous Blood Concentrate Product

Evidence in the published scientific literature is inconsistent and does not lend strong support to the clinical utility of using platelet rich plasma (PRP) to augment bone or soft tissue healing for oral surgery applications.

Sinus Augmentation Procedures

Sinus augmentation or sinus lift is a procedure associated with implant placement. For most plans, implants are not covered, but for those plans that do have coverage, the following identify guidelines for this procedure.

Sinus augmentation is indicated for the following:

- To prevent the displacement of dental implants in the posterior maxilla due to pneumatization of the maxillary sinus
- When there is poor bone quality that prevents adequate initial stability during implant placement

Sinus augmentation is not indicated for the following:

- Conditions blocking the ventilation and clearance of the maxillary sinus. (Many of these causes are reversible and should be treated before the sinus lift procedure, and include, but are not limited to: history of smoking; allergic rhinitis; previous nasal surgery or trauma; a history of chronic and/or recurrent sinusitis; chronic nasal obstruction and/or rhinorrhea; chronic hyposmia and/or hypogeusia; previous treatment for head and neck neoplasms; and comorbidities, particularly systemic diseases and pathologies that interfere with mucosal composition or ciliary movements)
- For individuals with unmanaged medical conditions that result in excessive or uncontrolled bleeding, reduced resistance to infection, or poor healing response

Salivary Gland and Duct Procedures

Salivary gland and duct procedures involve treatment of abnormalities of the major and minor salivary glands, including sialoliths (stones), tumors and other growths. Procedures include the removal of sialoliths, surgical excision of portions of or the entire gland, and repair of salivary fistulas and defects of salivary ducts, and may be completed intraorally or extraorally.

DEFINITIONS

Avulsion: Complete displacement of the tooth out of socket; the periodontal ligament is severed and fracture of the alveolus may occur. (AAPD)

Extrusion: Partial displacement of the tooth axially from the socket; partial avulsion. The periodontal ligament is usually torn. (AAPD)

Intrusion: Apical displacement of tooth into the alveolar bone. The tooth is driven into the socket, compressing the periodontal ligament and commonly causes a crushing fracture of the alveolar socket. (AAPD)

Lateral Luxation: Displacement of the tooth in a direction other than axially. The periodontal ligament is torn and contusion or fracture of the supporting alveolar bone occurs. (AAPD)

Oroantral Fistula: An open connection between the maxillary sinus usually caused by extraction of maxillary posterior teeth. (Visscher 2010)

Sinus Augmentation: A surgical procedure wherein the membrane lining of the maxillary sinus is elevated away from the bony floor of the sinus and the intervening space created is filled with bone. The purpose of the operation is usually to create an increased alveolar height to facilitate placement of a dental implant. Synonym(s): sinus lift.

Subluxation: Injury to tooth-supporting structures with abnormal loosening but without tooth displacement. (AAPD)

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 policy 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
D7260	Oroantral fistula closure
D7261	Primary closure of a sinus perforation
D7270	Tooth reimplantation and/or stabilization of accidentally evulsed or displaced tooth
D7272	Tooth transplantation (includes reimplantation from one site to another and splinting and/or stabilization)
D7290	Surgical repositioning of teeth
D7921	Collection and application of autologous blood concentrate product
D7951	Sinus augmentation with bone or bone substitutes via a lateral open approach
D7952	Sinus augmentation via a vertical approach
D7953	Bone replacement graft for ridge preservation – per site
D7979	Surgical sialolithotomy
D7980	Surgical sialolithotomy
D7981	Excision of salivary gland, by report
D7982	Sialodochoplasty
D7983	Closure of salivary fistula
D7999	Unspecified oral surgery procedure, by report

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CPT Code	Description
21210	Graft, bone; nasal, maxillary or malar areas (includes obtaining graft)
21215	Graft, bone; mandible (includes obtaining graft)
30580	Repair fistula; oromaxillary (combine with 31030 if antrotomy is included)
41899	Unlisted procedure, dentoalveolar structures
42699	Unlisted procedure, salivary glands or ducts

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DESCRIPTION OF SERVICES

These procedures involve the treatment of various conditions that may be inherent or iatrogenically related to dental infections, osteomyelitis, radiation therapy or trauma. Some oral surgery procedures may be covered under the member's medical benefit when determined to be medical in nature. Refer to the member's Certificate of Coverage and/or health plan documentation for specific coverage guidelines. These include, but are not limited to the following:

- Procedures related to transplant preparation (including the initiation of immunosuppressives)
- Simple and compound fracture management due to traumatic injury
- Treatment of cancer & cleft lip/palate
- Management of temporomandibular disorders
- Orthognathic surgeries
- Procedures performed on salivary glands

Autologous blood products include platelet rich plasma, fibrin, growth factors and stem cells. These are used to enhance healing of bone and soft tissues.

CLINICAL EVIDENCE

In a 2018 systematic review, Ghanaati et al investigated the level of scientific evidence of published articles related to the use of platelet rich fibrin (PRF) for bone and soft tissue regeneration in dentistry and maxillofacial surgery. A total of 392 articles were found, 72 of which were classified for each indication field. The results showed the following: When comparing PRF with biomaterials vs biomaterial alone in sinus lift (5 studies; IIa), no statistically significant differences were detected. Socket preservation and ridge augmentation using PRF significantly enhanced new bone formation compared to healing without PRF (seven studies Ib, IIa, IIb). Reepithelialization and bone regeneration was achieved in 96 of 101 patients diagnosed with medication-related osteonecrosis of the jaw (5 studies, III). In periodontology, PRF alone (six studies; Ib, IIa, IIb) or its combination with biomaterials (six studies; Ib, IIa, IIb) significantly improved the pocket depth and attachment loss compared to a treatment without PRF. Over 70% of the patients were part of studies with a high level of scientific evidence (randomized and controlled prospective studies). The authors concluded that PRF is a beneficial tool that significantly improves bone and soft tissue regeneration. However, the clinical community requires a standardization of PRF protocols to further examine the benefit of PRF in bone and soft tissue regeneration in reproducible studies, with a higher scientific level of evidence.

Del Fabbro et al (2017) conducted a systematic review and meta- analysis to determine the effectiveness of an autologous platelet concentrate (APC) adjunct in the preservation of fresh extraction sockets. Databases were searched and only controlled clinical trials or randomized clinical trials were included. Selected articles underwent risk-of-bias assessment. The outcomes evaluated were: complications and adverse events, discomfort and quality of life, bone healing and remodeling assessed by histologic and radiographic techniques, and soft tissue healing. Overall, 1,193 teeth were extracted from 911 patients. Meta-analysis showed that soft tissue healing, probing depth at 3 months, and bone density at 1, 3, and 6 months were statistically better for the APC group. Qualitative analysis suggested that APCs might be associated with a decrease in swelling and trismus. However, no relevant difference among groups was found for probing depth at 1 month, incidence of alveolar osteitis, acute inflammation or infection, percentage of new bone, and indirect measurement of bone metabolism. The authors concluded that APCs should be used in postextraction sites to improve clinical and radiographic outcomes such as bone density and soft tissue healing and postoperative symptoms. The actual benefit of APCs on decreasing pain in extraction sockets is still not quantifiable.

Del Fabbro et al (2014) conducted a systematic review to evaluate the efficacy of platelet concentrates for alveolar socket healing after tooth extraction. Autologous platelet concentrates are claimed to enhance hard and soft tissue healing due to the considerable amount of growth factors that are released after application in the surgical site. However, their actual efficacy for improving tissue healing and regeneration in oral surgery applications is controversial. Medline, Embase and Cochrane Central Register of Controlled Trials were searched as well as manual searching of the relevant journals and of the reference lists of reviews and all identified randomised controlled trials. Randomised controlled trials evaluating the effect of a platelet concentrate on fresh extraction sockets were included. Further inclusion criteria were that at least 10 patients were treated (at least 5 per group) and there was a minimum

follow-up duration of 3 months. Primary outcomes were postoperative complications, patient satisfaction and postoperative discomfort. Secondary outcomes were any clinical, radiographic, histological and histomorphometric variables used to assess hard and soft tissue healing. Six articles met the inclusion criteria (199 teeth in 156 patients). Three studies were considered at high risk of bias, two at medium risk and one at low risk. A large heterogeneity in study characteristics and outcome variables used to assess hard tissue healing was observed. A meta-analysis of two studies reporting histomorphometric evaluation of bone biopsies at 3 months' follow-up showed greater bone formation when platelet concentrates were used, as compared to control cases ($P < 0.001$; mean difference 20.41%, 95% C.I. 13.29%, 27.52%). Beneficial effects of platelet concentrates were generally but not systematically reported in most studies, in particular when considering the effects on soft tissue healing and the patient's reported postoperative symptoms like pain and swelling, although no meta-analysis could be done for such parameters. The authors concluded that although the results of the meta-analysis of the present review are suggestive for a positive effect of platelet concentrates on bone formation in post-extraction sockets, due to the limited amount and quality of the available evidence, they need to be cautiously interpreted. A standardization of the experimental design is necessary for a better understanding of the true effects of the use of platelet concentrates for enhancing post-extraction socket healing.

Friberg (2016) conducted a literature review to analyze data on bone augmentation at single-tooth implants with regard to the type of graft materials, the stability of grafts over time, reported time span towards implant placement, implant survival rates, implant marginal bone maintenance and possible complications. Analyses of article titles and abstracts resulted in 93 studies, which were subsequently full-text analyzed. After the final selection, a total of 24 studies were included, of which 13 reported on single implants and horizontal/vertical augmentation (onlay), 10 focused on single implants and sinus augmentation (inlay), and one study presented the outcome of single implants and distraction osteogenesis. All bone materials, i.e. autografts, allografts, xenografts, and alloplasts, were used with comparable satisfactory results, allowing for placement of 7 to 10 mm-long implants. Stability of bone graft volume over time was sparsely documented. Some onlay autografts tended to resorb early i.e. prior to implant placement, but minor bone resorption was also seen for other grafts over time. A continuous but small bone resorption of inlay autografts and alloplasts was seen over time for the few sites recorded. A staged approach predominated for the onlay grafts, with implants placed 3 to 6 months post-grafting, and overall a majority of these implants (347/363) were submerged. For the inlay graft procedures almost all implants were immediately inserted at the time of grafting, and the majority of these implants (253/256) were submerged. A total of five and two implant failures were registered during the various study periods for the onlays and inlays, respectively. Marginal bone conditions, around implants in grafted sites, were comparable to what has generally been reported for non-grafted sites. The authors concluded that the literature shows bone augmentation for the single-tooth implant is a viable treatment option with predictable graft and implant outcomes.

Lemos et al (2016) conducted a systematic review to evaluate the effect on bone formation and implant survival of combining platelet-rich plasma (PRP) with bone grafts in maxillary augmentation. A comprehensive review of articles listed in the PubMed/MEDLINE, Embase, and Cochrane Library databases covering the period January 2000 to January 2015 was performed. The meta-analysis was based on bone formation for which the mean difference (MD, in millimeters) was calculated. Implant survival was assessed as a dichotomous outcome and evaluated using the risk ratio (RR) with 95% confidence interval (CI). After inclusion and exclusion criteria were applied, 17 studies were selected for qualitative analysis and 13 for quantitative analysis. A total of 369 patients (mean age 51.67 years) and 621 maxillary sinus augmentations were evaluated. After the data analysis, additional analyses were performed of the implant stability quotient, marginal bone loss, and alveolar bone height measured by MD. The results showed no significant difference in implant stability, marginal bone loss, alveolar bone height, implant survival, or bone formation. In conclusion, this meta-analysis indicates no influence of PRP with bone graft on bone formation and implant survival in maxillary sinus augmentation.

Mihaylova et al (2017) conducted an extensive critical overview of the literature on the development and application of platelet concentrates. Platelet concentrates are innovative endogenous therapeutic agents which gained a lot of interest in different medical and dental disciplines due to their potential ability to stimulate and increase regeneration of soft and hard tissues. The effect of platelet-derived products is considered to be a result of the high number of platelets which contain a wide range of growth factors. They are not just therapeutic products but autologous blood concentrates containing active molecules. The quality of platelet concentrates may vary according to the individual physical state of donors making it difficult to compare the outcomes of their application. Although, there are many studies analyzing the properties of these biomaterials both in vivo and in vitro, a consensus regarding their efficacy still has to be reached. Evidence described in the literature on the efficacy of platelet concentrates in procedures in oral and maxillofacial region are controversial and limited. The authors concluded that in order to clarify the real advantages and priorities for the patients, when the blood-derived products are applied, further in vitro and in vivo research about the activity of PRP and PRF on the dental cell biology should be conducted.

Pocaterra et al (2016) conducted a systematic review and meta-analysis of randomized controlled clinical trials to assess the scientific evidence on the effectiveness of platelet rich plasma (PRP) as an adjunctive material in the sinus

floor elevation technique. Only randomized controlled clinical trials comparing a group receiving PRP as an adjunctive material to a control group without PRP, involving adult human subjects (age >18 years) with no systemic disease, were included. Of the studies identified, only one reported a significant difference in bone augmentation in favour of the adjunctive use of PRP, while four studies did not find any significant difference. None of the studies included reported a significant difference in the implant survival rate. The authors concluded that further randomized clinical trials are needed to clarify the effectiveness of adjunctive PRP.

Temmerman et al (2016) conducted a split mouth randomized control trial to investigate the influence of the use leukocyte- and platelet-rich fibrin (L-PRF) as a socket filling material and its ridge preservation properties. Twenty-two patients in need of single bilateral and closely symmetrical tooth extractions in the maxilla or mandible were included in a split-mouth RCT. Treatments were randomly assigned (L-PRF socket filling versus natural healing). CBCT scans were obtained after tooth extraction and three months. Scans were evaluated by superimposition using the original DICOM data. Mean ridge width differences between time points were measured at three levels below the crest on both the buccal and lingual sides. Mean vertical height changes at the buccal were -1.5 mm for control sites and 0.5 mm for test sites. At the buccal side, control sites values were, respectively, -2.1, -0.3 mm and -0.1 mm and test sites values were, respectively, -0.6 mm, -0.1 mm and 0.0 mm. Significant differences were found for total width reduction between test at 1 mm below crest level. Significant differences were found for socket fill (visible mineralized bone) between test and control sites. The authors concluded that the use of L-PRF as a socket filling material to achieve preservation of horizontal and vertical ridge dimension at three months after tooth extraction is beneficial. This study is limited to a small number of participants.

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

Bone graft products and delivery methods are extensive. See the following website for more information and search by product name in device name section: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm>. (Accessed July 17, 2018)

Administration of platelet-rich plasma (PRP) and platelet rich fibrin are procedures and therefore not subject to regulation by the FDA. Devices for the preparation of platelet concentration systems do require FDA approval. See the following website for more information and search in device name section: <http://www.fda.gov/MedicalDevices/default.htm>. (Accessed July 17, 2018)

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POLICY HISTORY/REVISION INFORMATION

Date	Action/Description
10/01/2018	<ul style="list-style-type: none">• Revised coverage rationale:<ul style="list-style-type: none">○ Replaced references to “patients” with “individuals”○ Removed language pertaining to coverage limitations and exclusions• Updated supporting information to reflect the most current description of services, clinical evidence, FDA information, and references• Archived previous policy version DCP027.03