Policy Number	**SUR705.028**
Policy Effective Date	**04/15/2026**

Neuralgia Inducing Cavitational Osteonecrosis (NICO)

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Related Policies (if applicable)
None

Disclaimer

Carefully check state regulations and/or the member contract.
Each benefit plan, summary plan description or contract defines which services are covered, which services are excluded, and which services are subject to dollar caps or other limitations, conditions or exclusions. Members and their providers have the responsibility for consulting the member's benefit plan, summary plan description or contract to determine if there are any exclusions or other benefit limitations applicable to this service or supply. **If there is a discrepancy between a Medical Policy and a member's benefit plan, summary plan description or contract, the benefit plan, summary plan description or contract will govern.**

Coverage

Diagnosis and treatment of neuralgia inducing cavitational osteonecrosis (NICO) **are considered experimental, investigational, and/or unproven**, including but not limited to:

- Ultrasonograph scans and interpretation (e.g., CaviTAU®); OR
- Surgery, including but not limited to:
    1. Debridement, or
    2. Scraping, or
    3. Curettage, or
    4. Any other method of removal of “cavitations”; OR
- Bone graft replacement; OR
- Any other therapy, including but not limited to:
    1. Rinsing “cavitations” with saline and/or colloidal silver; or
    2. Administration of chelation therapy and intravenous vitamin C.

Policy Guidelines

None.

Description

Neuralgia-inducing cavitational osteonecrosis (NICO), also known as Ratner's bone cavity, was originally described in 1920. The concept of NICO gained notoriety several decades later when it was used to describe a bony lesion(s) associated with symptoms characteristic of trigeminal neuralgia like facial pain. The concept has been expanded to include additional symptoms; these symptoms are osteomyelitis secondary to bone marrow ischemia, hypercoagulopathies and autoimmunity evidenced by the presence of anticardiolipin antibodies, thrombophilia, hypofibrinolysis and anti-peripheral nerve myelin antibodies, thrombophilia, hypofibrinolysis and anti-peripheral nerve myelin antibodies. Recently, it was reported that a genetic mutation (endothelial nitric oxide synthase) potentially could be associated with NICO.

Due to its indefinite disease characteristics with unclear etiology and pathogenesis, there have been doubts within the dental community regarding whether NICO is a distinct disease entity. Proponents of NICO, who are primarily "biological dentists", believe the bony lesion(s) as a newly identified form of avascular osteonecrosis (AO). AO most commonly affects the femur at the hip but also can affect other bones such as the femur at the knee or the humerus at the shoulder and is frequently the result of trauma or disease that damages blood supply to an area where there is not a lot of collateral circulation. However, many experts believe the jaw has abundant collateral circulation and therefore believe AO does not occur there.

While dentists are able to diagnose abscesses, cysts, and other bone lesions with x-rays, NICO cavitations are reported to be difficult to discover and usually missed on most x-rays. Despite the lack of knowledge regarding the actual existence of NICO lesions, aggressive treatment typically includes decortication and curettage of the bony tissues. Patients often require multiple surgical procedures to achieve some pain relief, which can take months to achieve. NICO has a strong tendency to recur and to develop in other jawbone sites. Some patients with long, frustrating histories of pain associated with endodontically treated teeth have been presented the treatment option of tooth extraction followed by periapical curettage in an attempt to alleviate pain. Presently, there are a number of non-odontogenic orofacial pain conditions that may coexist with bony lesions but are unrelated in pathogenesis including but not limited to trigeminal neuralgia (i.e., tic douloureux), atypical odontalgia, and myofascial pain. (1)

Regulatory Status

NOTE: This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

The Cavitat® Ultrasonograph Bone Densitometry device was promoted and marketed prior to its being cleared by the United States Food and Drug Administration (FDA). (2) The FDA specifically rejected a request to label and market the device as capable of diagnosing NICO or of distinguishing between normal and abnormal bone. It received limited 510(k) clearance as an

adjunct to standard x-rays and clinical diagnostic procedures. In 2010, the production and distribution of Cavitat® was discontinued.

The CaviTAU® device was developed as an updated version of the Cavitat®. It has been approved for use in the European Union but has not received FDA approval.

Rationale

This policy is based on a review of relevant professional guidelines and/or position statements.

American Association of Endodontists
The American Association of Endodontists (AAE) published a 2012 Position Statement on neuralgia-inducing cavitational osteonecrosis (NICO) lesions which states they "cannot condone surgical interventions intended to treat suspected NICO lesions. Even when a NICO lesion is suspected to be associated with an endodontically treated tooth, no surgical procedures should be performed until orofacial pain specialists confirm the diagnosis. It is also recommended that the treatment be performed and followed up by the orofacial pain specialists. In addition, the practice of recommending the extraction of endodontically treated teeth for the prevention of NICO, or any other disease, is unethical and should be reported immediately to the appropriate stated board of dentistry." (1)

Coding

Procedure codes on Medical Policy documents are included **only** as a general reference tool for each policy. **They may not be all-inclusive.**

The presence or absence of procedure, service, supply, or device codes in a Medical Policy document has no relevance for determination of benefit coverage for members or reimbursement for providers. **Only the written coverage position in a Medical Policy should be used for such determinations.**

Benefit coverage determinations based on written Medical Policy coverage positions must include review of the member's benefit contract or Summary Plan Description (SPD) for defined coverage vs. non-coverage, benefit exclusions, and benefit limitations such as dollar or duration caps.

CPT Codes	21025, 21026, 21030, 21040, 21046, 21047, 21048, 21049, 21210, 21215, 76977, 76999
HCPCS Codes	None

*Current Procedural Terminology (CPT®) ©2025 American Medical Association: Chicago, IL.

References

1. American Association of Endodontists (AAE), Research and Scientific Affairs Committee. NICO Lesions. Neuralgia-Inducing Cavitational Osteonecrosis. AAE Position Statement. Chicago, IL: AAE; 2012.
2. Keith DA. Neuralgia Inducing Cavitational Osteonecrosis of the Jaw: Scientific Controversy or pseudoscience? J Pain Res. Aug 24 2025; 18:4275-4284. PMID 40893123

Centers for Medicare and Medicaid Services (CMS)

The information contained in this section is for informational purposes only. HCSC makes no representation as to the accuracy of this information. It is not to be used for claims adjudication for HCSC Plans.

The Centers for Medicare and Medicaid Services (CMS) does not have a national Medicare coverage position. Coverage may be subject to local carrier discretion.

A national coverage position for Medicare may have been developed since this medical policy document was written. See Medicare's National Coverage at <https://www.cms.hhs.gov>.

Policy History/Revision

Date	Description of Change
04/15/2026	Document updated. Minor editorial change to Coverage without change to intent. Added reference 2.
12/15/2025	Document updated. Coverage unchanged. No new references added; some removed.
06/15/2024	Document updated with literature review. Coverage unchanged. No new references added.
03/15/2023	Reviewed. No changes.
05/15/2022	Document updated with literature review. Coverage unchanged. Reference 14 added; some updated and others removed.
03/15/2021	Reviewed. No changes.
05/01/2020	Document updated with literature review. Coverage unchanged. Reference 18 was added.
11/15/2018	Reviewed. No changes.
01/15/2018	Document updated with literature review. Coverage unchanged.
08/01/2016	Reviewed. No changes.
10/15/2015	Document updated with literature review. Coverage unchanged.
12/15/2014	Reviewed. No changes.
08/01/2013	Literature reviewed. No change
07/01/2008	Revised/updated entire document. This policy is no longer scheduled for routine literature review and update.
05/03/2006	Medical policy converted from position statement
02/01/2006	New medical document