MEDICAL POLICY

POLICY TITLE	THERMAL CAPSULORRHAPHY AS A TREATMENT OF JOINT INSTABILITY
POLICY NUMBER	MP 1.086

CLINICAL BENEFIT	☐ MINIMIZE SAFETY RISK OR CONCERN. ☒ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. ☐ ASSURE APPROPRIATE LEVEL OF CARE. ☐ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. ☐ ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. ☐ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	**6/1/2024**

I. POLICY

Thermal capsulorrhaphy is considered **investigational** as a treatment of joint instability. There is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.

II. PRODUCT VARIATIONS

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This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations as discussed in Section VI. Please see additional information below.

FEP PPO - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at: https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies .

III. DESCRIPTION/BACKGROUND

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Thermal capsulorrhaphy uses thermal energy to restructure collagen in the capsule or ligaments to reduce the capsule size. This procedure has primarily been evaluated for shoulder joint instability but may also be proposed to treat capsular laxity in other joints.

Shoulder instability is a common occurrence, reported in between 2% and 8% of the population. The condition may arise from a single traumatic event (i.e., subluxation or dislocation), repeated microtrauma or constitutional ligamentous laxity, resulting in deformation and/or damage in the glenohumeral capsule and ligaments. Shoulder instability may be categorized according to the movement of the humeral head: anterior, posterior, inferior, or multidirectional instability.

Surgery consists of inspection of the shoulder joint with repair, reattachment, or tightening of the labrum, ligaments, or capsule, performed either with sutures or sutures attached to absorbable tacks or anchors. While arthroscopic approaches have been investigated over the past decade,

their success has been controversial due to a higher rate of recurrent instability compared with open technique. This is thought to be related in part to the lack of restoration of capsular tension. Reports of arthroscopic techniques have described various suturing techniques for tightening the capsule, which require mastery of technically difficult arthroscopic intra-articular knot tying.

Thermal capsulorrhaphy has been proposed as a simpler arthroscopic technique for tightening the capsule and ligaments. This technique utilizes non-ablative levels of radiofrequency thermal energy to alter the collagen in the glenohumeral ligaments and/or capsule, resulting in their shrinkage and a decrease in capsular volume, both thought to restore capsular tension. Thermal capsulorrhaphy may be used in conjunction with arthroscopic repair of torn ligaments or other structures (i.e., repair of Bankart or superior labrum anterior and posterior lesion). Thermal capsulorrhaphy has also been considered in patients with congenital ligamentous laxity, such as Ehlers-Danlos or Marfan's syndrome.

Thermal capsulorrhaphy has also been investigated as treatment for instability of the hip, ankle, hand, and wrist.

While thermal capsulorrhaphy was initially investigated using laser energy, the use of radiofrequency probes are now more commonly used. Devices include Oratec ORA-50 Monopolar RF Generator (Oratec Interventions, Menlo Park, CA) and Arthrocare (Arthrocare Corporation, Sunnyvale, CA).

IV. RATIONALE

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Summary of Evidence

The literature does not support use of thermal capsulorrhaphy. The few available comparative studies do not support that this procedure is an efficacious treatment for shoulder instability. The case series report a high rate of unsatisfactory results and complications, raising the potential for a net harm. Reported complications have included capsular necrosis, loss of capsular and glenohumeral ligament integrity, chondrolysis, nerve damage, and failure leading to recurrent instability. The evidence does not demonstrate positive health outcomes.

V. DEFINITIONS

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CAPSULORRHAPHY refers to suture of a joint capsule or a tear in a capsule.

GLENOHUMERAL pertains to the humerus and the glenoid cavity.

MICROINSTABILITY refers to instability due to particle/Kinetic-theoretical effects, typically occurring on small scales, as opposed to those derivable from fluid models valid on larger scales.

MICROTRAUMA refers to a very small injury.

RADIOFREQUENCY refers to radiant energy of a certain frequency range.

SUBLUXATION refers to a partial or incomplete dislocation.

VI. BENEFIT VARIATIONS

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The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits, and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member's health benefit plan for information or contact Capital Blue Cross for benefit information.

VII. DISCLAIMER

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Capital Blue Cross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

VIII. CODING INFORMATION

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Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Thermal capsulorrhaphy is considered **investigational** as a treatment of joint instability, including, but not limited to the shoulder, knee, and elbow; therefore, not covered:

Procedure Codes								
29999	S2300							

IX. REFERENCES

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X. POLICY HISTORY

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MP 1.086	**07/13/2020 Consensus review.** Policy statement unchanged. Product and Benefit variations as well as Disclaimer updated. FEP policy reference removed as no longer effective. References updated.
	05/21/2021 Consensus review. Product Variations updated. No change to policy statement. References updated.
	01/05/2022 Consensus review. No change to policy statement. References updated.
	01/12/2024 Minor review. Updated statement from NMN to INV. Updated background. New references.

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