

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

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I. POLICY

Thermal capsulorrhaphy is considered **not medically necessary** as a treatment of joint instability, including, but not limited to the shoulder, knee, and elbow.

II. PRODUCT VARIATIONS

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

FEP PPO - Note* - The Federal Employee Program (FEP) Service Benefit Plan does not have a medical policy related to these services.

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 relatively 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, i.e., either as anterior, posterior, inferior, or multidirectional instability. Multidirectional instability most frequently consists of anterior and inferior subluxation or dislocation. Inferior movement is also classified as multidirectional.

Initial treatment of shoulder subluxation or dislocation is conservative in nature followed by range of motion and strengthening exercises. However, if instability persists, either activity modifications or surgical treatment may be considered. Activity modification may be

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appropriate for those patients that can identify a single motion that aggravates instability, such as overhead throwing motions. Surgical treatment may be considered in those who are unwilling to give up specific activities (i.e., related to sports) or when instability occurs frequently or during daily activities.

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 techniques, 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 technically simpler arthroscopic technique for tightening the capsule and ligaments. The technique is based on the observation that the use of nonablative levels of radiofrequency thermal energy can 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). In addition, thermal capsulorrhaphy has also been investigated as an arthroscopic treatment of glenohumeral laxity, a common injury among overhead athletes, such as baseball players, resulting in internal impingement of the posterior rotator cuff against the glenoid labrum. Internal impingement is often accompanied by posterior rotator cuff tearing and labral injury. Thermal capsulorrhaphy has also been proposed as a sole arthroscopic treatment. For example, the technique may be considered in patients with chronic shoulder pain without recognized instability, based on the theory that the pain may be related to occult or microinstability. This diagnosis may be considered when a diagnostic arthroscopy reveals only lax ligaments and is commonly seen among baseball players. Finally, thermal capsulorrhaphy may be considered in patients with congenital ligamentous laxity, such as Ehlers-Danlos or Marfan’s syndrome.

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

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a net harm. Because of the lack of efficacy and potential for harm, this procedure is considered not medically necessary.

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 BlueCross. Members and providers should consult the member's health benefit plan for information or contact Capital BlueCross for benefit information.

VII. DISCLAIMER

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Capital BlueCross'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 BlueCross' Provider Services or Member Services. Capital BlueCross 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

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determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

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

CPT Codes®							
29999							

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HCPCS Code	Description
S2300	Arthroscopy, shoulder, surgical; with thermally-induced capsulorrhaphy

IX. REFERENCES

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X. POLICY HISTORY

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MP 1.086	CAC 1/28/03
	CAC 7/29/03
	CAC 1/25/05
	CAC 2/28/06
	CAC 2/27/07
	CAC 3/25/08
	CAC 5/26/09
	CAC 11/30/10 Revised policy statement from medically necessary to not medically necessary. Adopted BCBSA
	CAC 11/22/11 Consensus Review

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7/26/13 Admin coding review completed
CAC 9/24/13 Consensus Review. No change to policy statements. Rationale section added. Added FEP variation to reference the FEP policy manual. References reviewed and updated.
CAC 9/30/14 Consensus Review. No change to policy statements. Rationale and References sections updated.
CAC 9/29/15 Consensus review. No change to the policy statement. Reference and rationale update. Coding Reviewed
CAC 9/27/2016 Consensus review. No change to the policy statement. Reference updated. BCBSA policy retired on 3/10/2016. Coding reviewed. Variation reformatting.
CAC 11/28/2017 Consensus review. No change to the policy statement. References reviewed. Coding reviewed.
8/20/2018 Consensus review. No change to policy statements. References reviewed.
6/5/2019 Consensus review. Policy statement unchanged. References updated.
7/13/2020 Consensus Review. Policy statement unchanged. Product and Benefit variations as well as Disclaimer updated. FEP policy reference removed as no longer effective. References updated.

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