

JAMSS Protocol

For treatment of jaw joint and muscle sprain/strain injuries

INTRODUCTION

What is Jaw Joint and Muscle Sprain/Strain (JAMSS)?

Jaw Joint and Muscle Sprain/Strain (JAMSS) is the diagnostic term that describes an acute trauma to the jaw joint or muscles. JAMSS is characterized by sudden onset acute jaw pain, limited range of motion, tenderness or dysfunction. It is defined as a localized, acute musculoskeletal disorder caused by traumatic or mechanical injury or both. Sudden onset acute pain associated with JAMSS refers to a patient with no prior history of jaw pain or treatment for dysfunction. It is common for both muscle strain and joint sprain to coexist; therefore, it is not essential to differentiate for initial treatment of JAMSS.

JAMSS is one of the most common sequelae to dental procedures

Trauma during dental care may occur after local anesthetic injections, hyperextension from opening the mouth too wide or for too long a period, or placing excessive force on the jaw during a dental procedure. Research indicates that more than 50% of patients with temporomandibular disorders (TMDs) report that the initial onset of pain was a direct result of dental care.¹

What are symptoms of JAMSS?

Symptoms of acute JAMSS (some or all may occur; no prior history)

- Acute jaw, face, ear, and/or head pain
- Limited, pain-free range of motion, less than 40 mm incisal to incisal edge
- Tenderness of jaw muscles and ligaments
- Dysfunction (difficulty chewing, opening or closing mouth)
- Inflammation with swelling and tenderness of joint
- Localized pain

What causes JAMSS?

Initiating factors of JAMSS

- Direct trauma to the jaw muscles or joints (including injections)
- Sustained or forceful contraction of the masticatory muscles
- Hyperextension of the masticatory muscles and temporomandibular joints
- Prolonged stretching of the masticatory muscles and joints, ligaments and tendons

What is the JAMSS Protocol?

The JAMSS Protocol is a comprehensive care plan to manage and evaluate acute jaw joint and muscle sprain/strain over a 2 to 4-week period from injury onset. It is an orthopedic model of care that recognizes the unique characteristics of the jaw joint and facial musculature. Additionally, the protocol stratifies results and provides the practitioner with a clearly defined path for next steps in care. Extensive training in TMJ disorders is *not* required for implementation by front-line care providers.

The JAMSS Protocol is based on the MEAT protocol for acute injury, which stands for Movement, Exercise, Analgesic, and Treatment. Unlike a sprained ankle or knee which can be rested, the temporomandibular joint region and associated muscles, tendons and ligaments are used for swallowing, chewing, speaking and smiling, and thus are difficult to immobilize. The JAMSS Protocol specifies the use of QuickSplint®, an interim oral appliance, for overnight wear to reduce pain signals and aid in recovery along with analgesics, movement and prescribed exercises.

The JAMSS Protocol was developed by orofacial pain experts

The *JAMSS Protocol* for treatment of JAMSS, and its complementary protocol, the *S.A.F.E. Protocol* for prevention of JAMSS during dental procedures, were developed by Bradley Eli, DMD, MS, and James Friction, DDS, MS, Diplomates of the American Board of Orofacial Pain, and Lee Ann Brady, DMD, Clinical Education Director at the Pankey Institute.



Initiate the JAMSS Protocol immediately

There is a critical 30-day threshold for the treatment of JAMSS injuries. If not addressed within the first 30 days, injury to jaw joints and muscles have a greater than 50% chance of progressing to chronic or intractable pain.^{1,2}

Early intervention can reduce pain amplification to the central nervous system by down-regulating multiple pain pathways. Therefore, the JAMSS Protocol should be instituted as soon as possible to minimize the impact of patient suffering and improve the likelihood of success in reducing dysfunction, and/or progression to a chronic pain condition.^{2,4} Clinical experience shows that 60% or more of patients with JAMSS (without significant prior history) who enter a speed-to-treat model will improve within four weeks to normal jaw function, where the patient is compliant.

The JAMSS Protocol

Step 1: Initial evaluation

Step 2: Diagnosis

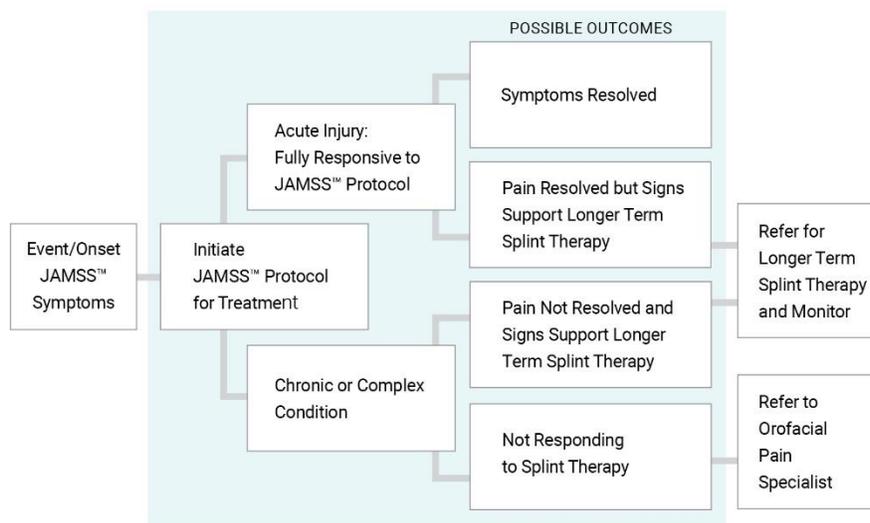
Step 3: Deliver QuickSplint for overnight wear

Step 4: Patient education on self-care measures

Step 5: Follow-up Appointment at 1 week

Step 6: Follow-up Appointment at 4 weeks

JAMSS Protocol Case Stratification after 4 weeks



Step 1: Initial Evaluation

- a. Have the patient complete the JAMSS Risk Assessment Questionnaire. Pay special attention to when their jaw pain started and any prior treatments for the current complaint. Note whether the patient has a prior history of jaw injury, treatment or other pain complaint. (See questionnaire on page 8.)
- b. Perform an initial examination to check for acute JAMSS symptoms. This should take 2-3 minutes.
 - Range of motion (this should be documented at every appointment)
 - Joint sounds
 - Signs of bruxism
 - Joint and muscle tenderness

Step 2: Diagnosis

If the patient exhibits any symptoms of JAMSS, and none of the exclusionary symptoms listed, the JAMSS Protocol should be started immediately.

Symptoms of JAMSS	Exclusionary criteria
Acute jaw, face, ear, and/or head pain	Presence of infection or cellulitis with redness, swelling, tenderness
Limited range of motion, less than 40 mm	Pericoronitis to partially impacted teeth
Tenderness of muscle and ligaments	Signs of fracture
Dysfunction (difficulty chewing, opening or closing mouth)	Bleeding and bruising in tissues
Inflammation with swelling and tenderness of joint	Open wounds or lesions in mouth or on lips
Localized pain to muscles and joint	Open jaw-locking (with shifting of jaw to the side to close it)
	Closed jaw-locking (catching of jaw due to disk displacement)

Note: Patients with a prior history of jaw injury can be treated with the JAMSS Protocol. If this type of patient presents in your office with a jaw pain (a sudden flare-up or reoccurrence) provide QuickSplint and encourage use of the patient self-care measures. The patient's pain and/or dysfunction may not resolve in four weeks. Referral to an orofacial pain specialist may be recommended for evaluation and care that might include imaging, medication and/or integrative care by specialists.

Step 3: Deliver a QuickSplint interim oral appliance to the patient for overnight wear

Follow the Prescriber's Instructions to provide QuickSplint®, an interim anterior bite splint designed for immediate placement. It is easy to custom-fabricate QuickSplint chairside in less than 5 minutes, even for patients with limited jaw opening.

QuickSplint is a conservative, non-invasive treatment modality that can help diagnose and manage the relationships between temporomandibular joint structures, jaw muscle activity, and neural control. For the JAMSS Protocol, QuickSplint is worn at night during sleep to reduce jaw closing muscle hyperactivity (e.g. jaw clenching or tooth grinding), inhibit muscle guarding, and help encourage healing of joint inflammation and restricted jaw opening. The flat occlusal surface allows the mandible to move freely in various directions instead of closing into a specific dental relationship.⁵

QuickSplint is designed for temporary use to minimize occlusal changes and allow time for jaw mobility to improve. This allows for pain-free impressions to be taken if a long-term appliance is indicated. QuickSplint is not a substitute for indicated full coverage splint therapy nor is it designed to avoid appropriate diagnostic imaging. As an initial step in treatment for jaw pain or parafunction, QuickSplint helps with patient acceptance of final treatment with a full coverage splint.

IMPORTANT: Direct the patient to call your office and discontinue use of QuickSplint if pain worsens. Advise the patient that QuickSplint should not be worn on a long-term basis due to the risk of super-eruption of the posterior teeth.

Step 4: Patient education on self-care measures

The patient should be directed in the following self-care measures that may be helpful in easing symptoms and reducing risk factors for chronic pain. Implied in this 4-week program is the notion that the patient needs to accept responsibility for their health and exhibit patience over a recovery period that could be 4 weeks, or in some cases longer.

a. JAMSS Patient Self-Care Measures (see page 6)

The JAMSS Patient Self-Care Measures patient hand-out is designed to provide patient self-care training on managing pain, daily jaw care, and how to avoid risk factors for delayed recovery. Careful use of the jaw will increase blood flow, encourage healing, and restore jaw function.

b. Jaw Rx-Ercises™ (see page 7)

Jaw Rx-Ercises are simple daily exercises the patient can repeat to help stretch and rotate the jaw joint and restore normal function and range of motion. Jaw Rx-Ercises should be performed several times throughout the day (at least 6 times per day for 10 seconds). It may take up to 7 days to experience the benefits of jaw relaxation since many patients will clench or brux during the day unconsciously.

Step 5: Follow-up appointment at one week

Evaluate the patient's pain complaint, assess patient compliance with QuickSplint, review the exercises and self-care, and encourage the patient. Examine the QuickSplint for brux marks which may indicate that the patient would benefit from a full arch appliance.

Determine whether the patient's pain and/or jaw dysfunction is better, worse, or the same. If the patient's pain is worse, discontinue use of QuickSplint and refer to a specialist. If the patient's pain is the same, be supportive and encourage the patient to continue self-care measures and use QuickSplint for an additional 3 weeks.

Schedule another follow-up in 3 weeks (unless pain resolves). Instruct the patient to bring the QuickSplint to the follow-up appointment so it can be examined for brux marks. If the patient's pain resolves prior to this follow-up, they do not need further examination unless grind marks are present on the surface of the QuickSplint or you have discussed potential follow-up treatment for parafunction (prior to the acute injury event).

Step 6: Follow-up appointment at 4 weeks

Evaluate the patient and examine the QuickSplint for clenching or grinding marks. Experience shows that 60% or more of the patients with JAMSS (without significant prior history) who enter a speed-to-treat model will improve within four weeks to normal jaw function.² The results will be stratified into one of four groups:

- 1) Symptom resolution without need for further treatment.
- 2) Symptom resolution with signs of pathologic parafunction, which then identified, needs ongoing protection (splint therapy) to prevent irreversible damage to hard-dental structures.
- 3) Patients with continued symptoms. Depending on your level of training, you or a specialist should direct appropriate imaging, physical medicine, long-term splint therapy, and/or supportive care.
- 4) Non-resolution of pain symptoms, with need for further examination (problem more chronic than a sprain/strain, such as a chronic pain condition or acute fracture or infection). These patients should be referred to a specialist.

With conservative, staged treatment that facilitates case stratification, it is easier to make a determination of medical necessity and adjudicate between dental and medical coverage.

The JAMSS Protocol is available to all dental professionals

Every team member needs to understand what JAMSS is, how it happens, and the systems in place in the office for prevention and management. The JAMSS Protocol documents are made available free of charge to all dental professionals via www.quicksplint.com courtesy of Dr. Eli and Orofacial Therapeutics, LP.



Patient Self-Care Measures

HEAT, EXERCISE, ANALGESICS, LIFESTYLE, STRAIN

For Jaw and Muscle Sprain/Strain (JAMSS),
Self-care is a core component of your recovery process.

HEAT, COLD & MASSAGE Apply moist heat and/or cold to reduce pain in tender muscles & joints

Applications of heat and/or ice used up to four times per day can relax the muscles and reduce pain. Generally, moist heat is used for comfort and relaxation and cold is used in the first 24 hours to control swelling. Use what feels best for you.

EXERCISES Do daily stretching and exercises

Gradually increase your jaw range-of-motion by placing two fingers, then three fingers between your front teeth and hold for a count of 10. Perform this stretch four times per day. It's yoga for the jaw. Exercise and stretch your jaw daily with the jaw exercises provided to you (JAW Rx-exercises). Closely monitor your jaw position during the day (waking hours) so that you maintain your jaw in a relaxed comfortable position.

ANALGESICS Use anti-inflammatory and pain reducing medications

Short-term use of over-the-counter ibuprofen, naproxen, acetaminophen or aspirin (without caffeine) can reduce joint and muscle pain. It is important to control pain as soon as possible to improve jaw function.

LIFESTYLE Make positive choices to promote healing

- Eat a "pain-free" diet and chew food evenly on both sides; cut food into small pieces.
- Be mindful of proper resting tongue position and maintaining a relaxed jaw throughout the day.
- Avoid stimulating activities in the late evening, including computer work and exercise.
- Get a good night's sleep and wear QuickSplint® temporary oral appliance overnight as directed. Reduce light and noise and lie on a comfortable mattress. Avoid sleeping on your stomach.

STRAIN Reduce muscle-tensing habits & activities that put strain on the jaw

- Clenching and grinding your teeth (bruxism)
- Touching or resting your teeth together
- Biting cheeks, lips, or tongue
- Eating or biting hard or chewy foods
- Chewing gum
- Resting your jaw on your hand
- Straining the jaw when playing a musical instrument
- Pushing the tongue against the teeth
- Tensing your jaw or pushing your jaw forward or to the side
- Opening your mouth too wide or too long when yawning, singing or during dental visits

The proper relaxed posture is Teeth Apart & Tongue Up (TATU). To achieve relaxed posture, position your tongue gently on the roof of the mouth behind your front teeth and let your jaw relax. To find this position, say the letter "N". Let your lips close, your jaw relax forward, and breathe through your nose. Maintain relaxed posture throughout the day.



JAW Rx-Ercises™

THERAPEUTIC TECHNIQUES TO RELAX JAW MUSCLES

JAW Rx-ercises™ are a set of jaw exercises designed to help you avoid daytime clenching or setting of teeth that causes your jaw and temple muscles to overwork and become sore. Masseter or jaw muscle soreness can be a trigger for headaches and/or jaw pain.

1

Position your tongue gently on the roof of your mouth just behind your front teeth. To find this position say the letter "N."



2

Holding your tongue in this position, rapidly open and close your jaw 10 times. Do not let your teeth touch when you close, and do not open your mouth more than one finger in width.



3

Keep your tongue in position while you gently open your jaw as wide as comfortably possible. Make sure to keep contact between your tongue and the roof of your mouth while opening.



4

Then slowly begin closing until your lips come together and STOP, closing your jaws. This will be the resting place for your jaw, teeth and tongue throughout the day.



You should perform these four steps thirty or more times throughout the day for up to one week. Doing so will retrain your muscles and brain to relax your jaw in a comfortable resting position, keeping your teeth apart when you are awake. JAW Rx-ercises™ have been shown to have a positive effect on reducing jaw pain and headache.

JAMSS Risk Assessment Questionnaire*

Use this questionnaire to evaluate patients for risk factors associated with Jaw Joint and Muscle Sprain/Strain (JAMSS)

1. Do you often have jaw or facial pain?	No	Yes
2. Do you often have headaches?	No	Yes
3. Do you have difficulty opening your mouth wide?	No	Yes
4. Does it hurt to open your mouth wide?	No	Yes
5. Does it hurt to chew hard or chewy foods?	No	Yes
6. Does it hurt after dental work is done?	No	Yes
7. Are your jaw and temple muscles tender when you press on them?	No	Yes
8. Do you often have aches and pain in your body?	No	Yes
9. Do you often notice yourself clenching or holding your teeth together?	No	Yes
10. Do you often feel depressed, downhearted, or blue due to pain?	No	Yes
11. Do you often feel anxiety or nervousness?	No	Yes
12. Do you often feel like you have had a lot of stress?	No	Yes

PATIENT NAME: _____

DATE: _____

PRIOR HISTORY: _____ No Yes

NOTES: _____

- A** Any "yes" answers suggest there is some risk of jaw joint and muscle sprain/strain (JAMSS).
- B** If the patient exhibits symptoms of JAMSS, implement the JAMSS Speed2Treat Protocol to reduce the chance of chronic jaw pain and dysfunction. The protocol manages and evaluates acute jaw joint and muscle sprain/strain over a 2 to 4-week period; it stratifies results and provides the practitioner with a clearly defined path for next steps in care.
- C** Even if you refer the patient to a specialist, you should initiate treatment of the acute pain symptoms with a QuickSplint® interim oral appliance and self-care measures.

*The JAMSS Risk Assessment Questionnaire is designed for use with the JAMSS Speed2Treat Protocol for treatment of jaw joint and muscle sprain/strain injuries, and the S.A.F.E. Protocol for prevention of jaw joint and muscle sprain/strain injuries during dental treatment.

For more information visit: www.QuickSplint.com



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