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First Bite Syndrome: Nursing Perspectives and Clinical Management

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Abstract

First bite syndrome (FBS) is a rare condition that classically presents as intense pain in the parotid region at the first bite of each meal that diminishes with subsequent bites, usually after head and neck surgery. Nurses contribute through symptom recognition, pain and functional assessment, nutritional monitoring, patient education, psychosocial support, and follow-up. This discussion applies general nursing pain and perioperative care guidance to FBS; these recommendations have not been tested in FBS-specific nursing trials. Intraparotid botulinum toxin type A may help persistent or disabling symptoms, but evidence is limited to small, heterogeneous studies. Nursing care should focus on patient-defined goals, assessment of new or atypical symptoms, continuity after discharge, and reassessment of eating and treatment response.

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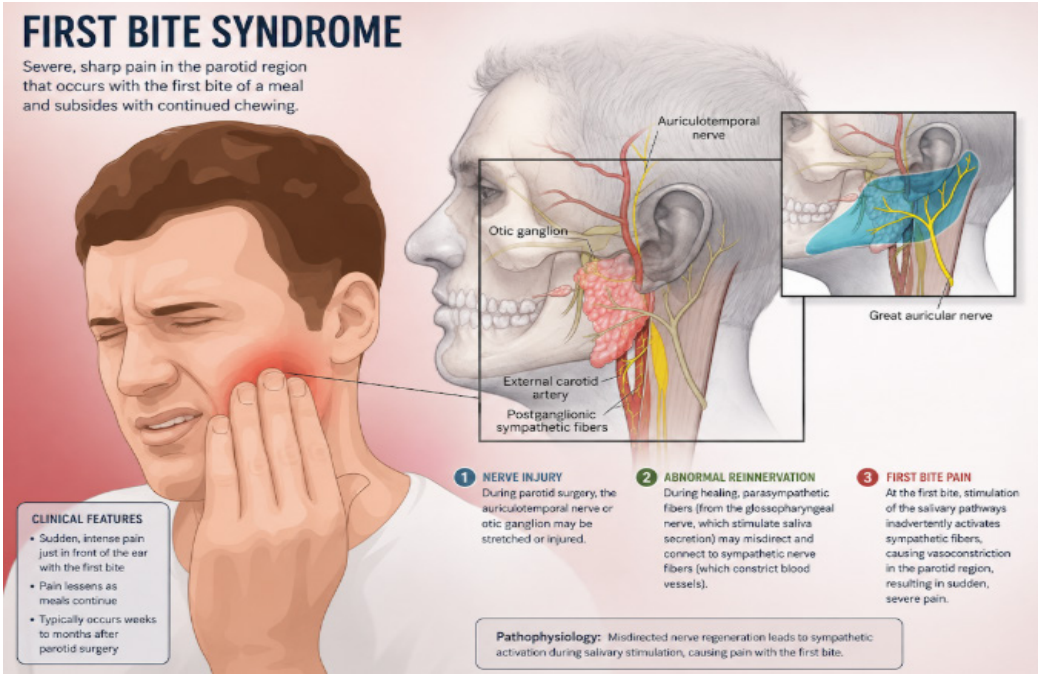
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Introduction and Clinical Overview

First bite syndrome (FBS) is a distinctive and often intensely painful orofacial disorder characterized by sudden, severe pain in the parotid region immediately upon taking the first bite of food. The pain is typically described as cramping, squeezing, or spasm-like and progressively diminishes over the next several bites. Following a period of rest without eating, the characteristic pain returns with the first bite of the subsequent meal. This highly reproducible pattern is the defining clinical feature of FBS and distinguishes it from many other forms of facial pain [1-3].

FBS was initially recognized in patients undergoing surgery involving the parapharyngeal space and upper neck. Its association has subsequently expanded to include procedures involving the deep lobe of the parotid gland, infratemporal fossa, carotid sheath, and cervical sympathetic chain as well as temporomandibular joint surgery [1,4]. Although relatively uncommon, FBS is clinically significant because persistent episodes can cause considerable patient distress, interfere with normal eating patterns, and adversely affect nutritional intake and quality of life. Importantly, symptoms may occur in the absence of an obvious structural abnormality on routine clinical examination. (Figure)



Nurses are well positioned to recognize its characteristic pain pattern during postoperative recovery, outpatient follow-up, nutritional assessment, and telephone consultations. Because symptoms may develop after hospital discharge, patient education and clear instructions regarding symptom reporting and appropriate clinical reassessment are essential [3,4].

Pain triggered by the initial taste or consumption of food is an important clinical clue [4]. Nursing assessment should establish the location, onset, intensity, and duration of pain, determine whether it diminishes with subsequent bites, and evaluate its impact on eating and daily functioning. These findings should be documented and communicated to the surgical team. Although this characteristic pattern may raise suspicion of FBS, it does not independently establish the diagnosis or exclude other potential causes of orofacial pain.

Nursing care extends beyond pain assessment to include evaluation of functional impairment, nutritional monitoring, patient education, psychosocial support, and coordination of multidisciplinary care. Current evidence regarding FBS treatment is derived primarily from case reports and small case series [5]. Consequently, the nursing recommendations presented in this discussion are informed by general principles of person- and family-centred

pain management rather than FBS-specific nursing clinical trials [6]. Relevant perioperative nutritional guidance and shared decision-making principles are also considered. All nursing interventions should be individualized according to patient needs and delivered within the nurse's professional scope of practice and applicable institutional policies.

Nursing Assessment

Initial and ongoing nursing assessment should establish symptom onset, severity, and effects on daily function [6]. Record pain location, its relationship to eating, and whether it diminishes with subsequent bites. Report findings for diagnostic assessment; meal-related pain alone does not confirm FBS.

A Focused Assessment Should Include

Pain characteristics: location, intensity, duration, quality, radiation, frequency, and triggers; note cramping or squeezing pain and whether it consistently occurs with the first bite.

Surgical History: Procedure and timing, including parotidectomy, parapharyngeal space, skull base, or temporomandibular joint surgery, and cervical sympathetic chain dissection [3,7,8].

Neurological Findings: New facial asymmetry, ptosis, pupillary asymmetry, altered facial sensation, or other changes. Horner syndrome may accompany FBS after sympathetic injury but is not required for diagnosis [2]. New findings need clinical assessment.

Oral and Salivary Symptoms: Dry mouth, altered salivary flow, gland swelling or tenderness, and difficulty chewing or swallowing.

Nutritional Status: Food intake, meal avoidance, weight loss, hydration, and ability to maintain an adequate diet.

Psychological and Functional Effects: Willingness to eat, sleep, social participation, daily activities, and concerns about recovery. Do not assume anxiety or reduced quality of life [6].

Use a consistent pain measure. Numerical rating scales showed better compliance than visual analogue or verbal scales in comparative studies, although these findings are not FBS-specific [9].

Record first-bite pain separately from pain at rest and assess its effect on eating. A brief diary can track food triggers, pain intensity, and duration. Reassessment should include patient- defined functional goals, not pain scores alone [6].

The care plan should record the patients' main concern, baseline pain, ability to start and complete meals, and review date. Adapt assessment and communication when self-report is difficult, using locally approved approaches. These measures follow general nursing pain guidance; they are not a validated FBS assessment tool [6].

Severe pain does not necessarily indicate a surgical complication, but new or progressive pain should not be attributed automatically to FBS. FBS has been presented as a symptom of parapharyngeal space malignancy [10]. Fever, increasing swelling, erythema, a palpable mass, progressive neurological deficits, or pain unrelated to eating require assessment for infection, recurrent disease, or another structural cause.

Pain Management and Patient Education

Nursing care aims to reduce pain and support eating and daily activities. Management should reflect symptom severity, comorbidities, current medications, and previous treatment response [6,11].

Observation and supportive care may suit patients with tolerable symptoms, in consultation with he treating clinician [4,8]. The proposed mechanism involves parotid sympathetic denervation, altered autonomic regulation, and an exaggerated response to parasympathetic stimulation [2,4].

Nurses should explain the pain pattern and note that this mechanism remains uncertain.

Once clinical assessment supports postoperative FBS and addresses concerning alternative causes, explain that symptoms may persist for an unpredictable period [3–5]. Some patients improve spontaneously; others need treatment [3,5]. Avoid minimizing pain, promising recovery, or implying that new symptoms need no assessment.

Patients may try small initial bites, slower eating, and identifying food triggers. Acidic foods or strong tastes may increase discomfort [12]. These coping strategies lack controlled FBS trial evidence [5]. Avoid broad dietary restrictions and check that changes do not reduce nutrition or hydration.

The treating clinician may consider analgesics or neuropathic pain medications, although FBS evidence is limited and conflicting [5,13]. Nurses should reconcile medications, assess pain relief and eating, monitor adverse effects, and reinforce safe use [6,11]. Refer medication concerns to the prescriber or pharmacist; do not change doses independently.

Tailor education to communication needs and patient preferences. Ask patients to explain the monitoring and follow-up plan in their own words, clarify misunderstandings, and provide accessible written information. Include a support person with permission. Document teaching and points requiring reinforcement [6,11].

Nutritional Support and Functional Recovery

Meal-related pain may interfere with eating [3,5]. Ask about delayed meals, reduced intake, and food avoidance. Inadequate intake or unintended weight change warrants nutritional risk assessment. Perioperative nutrition guidance supports this approach, but the frequency of nutritional complications in FBS is unknown [14].

Assess appetite, food and fluid intake, weight change, and chewing or swallowing difficulties.

Track intake and weight, use locally approved nutritional screening, and arrange dietitian referral when risk is identified [14].

Support adequate intake without unnecessary restriction [14]. Smaller, more frequent meals may suit individual preferences, but each meal may trigger pain; benefit should not be assumed. FBS does not exclude postoperative swallowing problems. Assess before changing food texture. Persistent dysphagia, coughing during meals, or suspected aspiration requires a separate swallowing assessment.

Set patient-defined goals for completing meals, maintaining intake, or social eating. Explore coping strategies without pressuring patients to resume activities or minimize symptoms. Specify when dietitian input or further clinical review is needed [6,14].

Postoperative Monitoring and Early Recognition

Include FBS in preoperative and discharge counselling when the procedure poses a relevant risk. Parapharyngeal space dissection, deep-lobe parotid resection, and sympathetic chain sacrifice were independent risk factors in a retrospective cohort [3]. Nurses should reinforce individualized risk counselling and explain where to seek assessment for meal-related pain.

Before discharge, explain the first-bite pain pattern, symptoms requiring review, and how to contact the surgical team. Onset may be delayed [3]. Record the follow-up contact and the patients understanding in the discharge plan and handover [11].

During telephone or virtual follow-up, document the first-bite pain pattern, intake, and any new or progressive symptoms, recognizing the limits of remote examination. Ask specifically about pain at the start of meals when patients report preauricular or parotid-region discomfort [4].

Report findings and the agreed next contact to the responsible clinician [6,11].

Distinguish stable FBS from possible new complications. Increasing swelling, fever, wound changes, progressive neurological symptoms, or a new mass require timely medical review.

Sudden or rapidly progressive neurological deficits require urgent assessment.

Nursing Responsibilities During Botulinum Toxin Treatment

The specialist and patient may consider intraparotid botulinum toxin type A for persistent or disabling symptoms inadequately relieved by conservative care [15-18].

Before treatment, nurses should document baseline pain, eating limitations, and goals; review medications and allergies; and check procedural instructions and consent according to local policy. The specialist

explains indications, risks, alternatives, and evidence limitations. Nurses check understanding and unanswered questions. Benefit is uncertain, and permanent resolution is not guaranteed [5,15].

For ultrasound-guided injections, nursing support may include preparation, positioning, aseptic practice, and documentation within local policy and scope. Record the specialist-administered treatment and follow-up plan. These are general procedural practice suggestions; the cited FBS treatment review did not evaluate their effectiveness as nursing interventions [15].

After treatment, assess the patient's condition and confirm follow-up. Reassess pain, ability to start meals, intake, duration of benefit, and adverse effects. A review of eight uncontrolled studies involving 22 patients found that 10 (45.5%) received a second injection for recurrent pain, a mean of 3.8 months after the first [15]. This interval is not a recommended schedule; reinjection requires specialist reassessment. The small evidence base limits conclusions about effectiveness and safety.

The review reported no injection complications, but its small sample does not establish safety [15]. Provide product-specific and local safety instructions. Advise patients to report new facial weakness, troublesome dry mouth, salivary changes, or swallowing difficulty. These precautions do not represent established FBS complication rates. Clinically significant or progressive swallowing or breathing difficulty requires urgent assessment.

Psychosocial Support and Shared Decision-Making

Ask how FBS affects eating, social participation, and emotional well-being. Anxiety and depression were common comorbidities in a retrospective cohort, but causation was not established [7]. Explore anticipatory anxiety, embarrassment, frustration, or concern about recurrent disease without assuming these experiences. Acknowledge pain and ask about its effects on mood, relationships, and daily routines. Avoid assumptions about distress or recovery. Discuss persistent concerns and arrange support according to patient needs and preferences [6].

Treatment should reflect patient priorities and the uncertainty of the evidence. Patients with tolerable symptoms may prefer observation because spontaneous improvement is possible [5]. Others may seek intervention when pain disrupts nutrition, work, or social activities. Nurses can help identify goals, prepare questions, and discuss treatment benefits, limitations, and burdens with the clinician. Shared decision-making guidance supports this process, not the comparative effectiveness of FBS treatments [19].

Multidisciplinary Coordination

Care may involve head and neck, oral and maxillofacial, or otolaryngological surgeons; pain specialists; nurses; pharmacists; dentists; dietitians; and speech-language pathologists for swallowing concerns. Refer according to assessed needs. General pain guidance supports interprofessional care, but no comparative evidence establishes a specific FBS team model [6]. Nurses should report worsening symptoms or function, coordinate referrals and follow-up, and check understanding of the care plan [6,11]. Document the pain pattern, intake and weight trends, treatment response, patient priorities, and review plan for hospital–community handover. These measures follow general care-coordination guidance, not a validated FBS pathway.

Handover should identify who will review symptoms, follow up referrals, and respond to concerns before the scheduled review. Ask about barriers to appointments or advice and report them to the responsible service [6,11]. Coordination should address assessment, treatment, nutrition, and psychosocial needs [6,14]. Structured nursing care has not been shown to reduce investigations or improve FBS outcomes.

Implications for Nursing Practice

Nursing care links specialist treatment with symptom monitoring, eating, patient understanding, and follow-up between visits [6]. It complements medical and surgical assessment. Treatment evidence does not establish whether existing interventions correct the proposed underlying mechanism [5]. Nursing priorities are recognizing and reporting the pain pattern, addressing nutritional concerns, and coordinating clinical review [6,11,14]. Evaluate symptom documentation, functional goals, education needs, and completion of follow-up. These are suggested care- process measures, not validated indicators of FBS treatment effectiveness. Prospective studies should evaluate whether structured

nursing assessment, education, and follow-up improve patient-reported outcomes, nutrition, quality of life, and supportive-care outcomes. Measures should include symptom recording and functional goals. Treatment reviews report small, heterogeneous studies without controlled comparisons [5,15]. A 2026 review proposed diagnostic criteria from case reports and series but did not validate a nursing assessment tool or care pathway [20].

Conclusion

FBS causes severe, usually unilateral parotid-region pain at the first bite that diminishes with subsequent bites, most often after head and neck surgery [1,2,20]. Associated procedures involve the parapharyngeal space, deep parotid lobe, infratemporal fossa, or cervical sympathetic chain [3]. Diagnosis is mainly clinical, but atypical symptoms or concern for recurrent disease or structural abnormalities may require imaging or further investigation [10]. The proposed autonomic mechanism remains uncertain [2,4]. Management should reflect symptom severity, duration, effects on eating, and patient preference. Observation and supportive care may suit tolerable symptoms; intraparotid botulinum toxin type A may help persistent or disabling pain, although evidence is limited by small samples, varied protocols, and no randomized controlled trials [5,15]. Nursing care supports recognition, assessment, nutritional monitoring, education, psychosocial support, and follow-up [6,11,14]. Patient-defined goals, reassessment of pain and eating, and clear handover support continuity and informed decisions [6,14,19]. These recommendations draw on general supportive-care guidance rather than FBS-specific nursing trials. Prospective research is needed to determine whether structured nursing assessment, education, and follow-up improve nutritional, functional, or quality-of-life outcomes.

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