

# BLM (BLMS)

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## Buccolingual Masticatory Syndrome (BLMS)

### The Core Definition of BLMS

The acronym BLMS stands for **Buccolingual Masticatory Syndrome**, a specialized and often debilitating form of motor disorder characterized by involuntary, repetitive movements primarily affecting the oral-facial musculature. At its core, BLMS represents a complex neurological manifestation classified under the umbrella term of **dyskinesia**, meaning abnormal involuntary movement. The condition targets the specific muscle groups responsible for crucial functions such as chewing (mastication), swallowing, speaking, and facial expression. While the terminology is highly specific--bucco referring to the cheek area, lingual referring to the tongue, and masticatory relating to chewing--the symptoms often spill over into related areas, including the periorbital (around the eye) muscles, resulting in frequent blinking or tics.

The fundamental mechanism underlying BLMS involves a disruption in the basal ganglia, the deep brain structures critical for controlling voluntary movement and inhibiting involuntary ones. This disruption is most commonly linked to long-term alterations in dopamine receptor sensitivity, leading to an imbalance between the inhibitory and excitatory pathways that regulate motor control. Unlike simple tremors or spasms, BLMS involves coordinated, yet uncontrollable, patterns of motion that mimic purposeful actions--such as chewing or lip-smacking--but occur spontaneously and persistently. This leads to significant functional impairment, impacting eating, social interaction, and overall quality of life due to the highly visible and often embarrassing nature of the movements.

The key symptoms that define this syndrome include jerky labial and lingual movements, characterized by rapid tongue protrusion, twisting, or rolling inside the mouth, and involuntary lip movements such as pouting, grimacing, or continuous smacking. These movements are typically exacerbated by stress or focused attention and often disappear entirely during sleep. The syndrome is not merely cosmetic; the severity of the involuntary swallowing movements can interfere with nutrient intake and hydration, while the ceaseless chewing motions can lead to dental issues or trauma to the oral cavity, necessitating careful medical and neurological management.

### Historical Identification and Etiology

The historical identification of the movements now categorized under BLMS is inextricably linked to the advent and widespread use of antipsychotic medications, specifically the typical **neuroleptic** drugs introduced in the mid-20th century. While specific early descriptions of the full syndrome are varied, the phenomenon gained significant clinical attention in the 1960s and 1970s as long-term motor side effects of psychiatric treatment became impossible to ignore. Psychiatrists and neurologists began noting a distinct pattern of irreversible, delayed-onset movement disorders in

patients treated for chronic mental health conditions, most notably schizophrenia.

This observed pattern was formally named **Tardive Dyskinesia** (TD), with the buccolingual masticatory movements quickly recognized as the most frequent and characteristic manifestation. Therefore, BLMS is often considered a specific, highly localized subtype or presentation of TD. The research context leading to this understanding involved numerous longitudinal studies tracking patients on maintenance doses of dopamine-blocking agents. These studies conclusively established a strong correlation between the duration of exposure to these medications and the risk of developing these late-onset, involuntary movements, confirming the pharmacological basis of the disorder.

The origin of the condition, therefore, lies primarily in iatrogenic causes--conditions resulting from medical intervention. The primary theory centers on the chronic blockade of postsynaptic dopamine D2 receptors in the striatum, part of the basal ganglia. Over time, the brain attempts to compensate for this blockade by increasing the sensitivity or density of these receptors (a phenomenon known as up-regulation). When the inhibitory action of dopamine is reduced, or when the receptors become hypersensitive, the result is excessive, uncontrolled motor output, manifesting as the characteristic movements seen in BLMS. Recognition of this link fundamentally changed prescribing practices and spurred the development of newer, atypical antipsychotic drugs with different receptor profiles aimed at minimizing this severe side effect.

## Clinical Manifestations and Symptomology

The clinical presentation of Buccolingual Masticatory Syndrome is characterized by a specific constellation of highly visible and repetitive involuntary movements. These movements are typically non-rhythmic and fluctuate in intensity, often worsening when the individual is self-conscious or attempting to control them. The symptoms are frequently asymmetrical initially but tend to become generalized across the oral-facial region over time, leading to significant distress and social isolation for the affected individual.

Detailed symptomology highlights the involvement of all structures of the mouth and lower face. The lingual symptoms are often the most prominent, including continuous tongue thrusting, writhing, or "fly-catching" movements. Labial symptoms involve pouting, puckering, grimacing, and repetitive lip-smacking or kissing motions. The masticatory component manifests as involuntary chewing or grinding movements, even in the absence of food. This combination results in a perpetually active lower face, making speech articulation difficult (dysarthria) and severely compromising the ability to maintain dentures or prosthetic devices.

Beyond the core oral movements, BLMS frequently includes associated symptoms that extend to the facial musculature and beyond, often leading to a broader diagnosis of generalized tardive dyskinesia if other body parts are involved. These associated symptoms can include:

**Blinking and Ocular Tics:** Rapid, involuntary eye closure or fluttering (blepharospasm).

**Facial Grimacing:** Contorting the lower or upper face into strange expressions, often due to involuntary muscle contractions.

**Jerky Swallowing Movements:** Repetitive throat clearing or swallowing motions, often leading to discomfort or the appearance of choking.

**Respiratory Irregularities:** In severe, protracted cases, movements can sometimes affect the diaphragm, leading to grunting noises or irregular breathing patterns.

## A Practical Illustrative Example

Consider the case of Mrs. Eleanor Vance, a 75-year-old woman who has lived successfully with bipolar disorder for the past 25 years, managed primarily through a regimen of typical antipsychotic and mood-stabilizing medications. While the medication has been highly effective in maintaining her psychological stability, approximately five years ago, Mrs. Vance began exhibiting subtle, persistent movements that were initially dismissed as nervous habits. This real-world scenario perfectly illustrates the slow onset and cumulative impact of Buccolingual Masticatory Syndrome.

The "How-To" of applying the BLMS principle begins with the observation phase. Initially, Mrs. Vance's family noticed she would involuntarily smack her lips after finishing a meal, a movement that gradually progressed to continuous, rapid tongue flickering, often rubbing against her teeth or the inside of her cheeks. She also developed a noticeable, repeated pouting motion when resting or watching television. These movements were subtle at first but became prominent enough that she started avoiding social situations, particularly church luncheons or family gatherings, where she felt self-conscious about her inability to control her face while eating or conversing.

The next step involves clinical assessment, often utilizing structured tools like the Abnormal Involuntary Movement Scale (**AIMS scale**). The neurologist observes and scores the frequency and amplitude of the buccolingual and masticatory movements while the patient is performing specific tasks (e.g., sticking out the tongue) and while at rest. Upon reviewing Mrs. Vance's extensive pharmacological history, the connection between the long-term dopamine receptor blockade and the development of the involuntary, localized movements--specifically affecting the mouth and lower face--confirms the diagnosis of BLMS. This leads directly to the critical clinical decision: whether to slowly taper the causative medication, switch to an atypical agent, or introduce specific antidyskinetic treatments, carefully balancing the risk of psychiatric relapse against the goal of alleviating the debilitating motor symptoms.

## Significance in Clinical Psychology and Neurology

The significance of Buccolingual Masticatory Syndrome extends far beyond its physical manifestations; it serves as a crucial ethical and pharmacological marker in clinical practice. For

the field of psychiatry, the recognition and study of BLMS necessitated a massive shift in therapeutic approaches, emphasizing the need for lower doses, intermittent treatment schedules, and the development of second-generation (atypical) antipsychotics which carry a significantly lower, though not zero, risk of inducing tardive syndromes. It underscores the critical requirement for informed consent, ensuring patients fully understand the potential for irreversible motor side effects when initiating long-term neuroleptic treatment.

In neurology and **Neuropsychiatry**, BLMS provides a vital model for understanding dopamine pathways and their role in motor inhibition. Its existence validates theories regarding receptor hypersensitivity and the chronic compensatory mechanisms of the basal ganglia. Its application today is paramount in movement disorder clinics, where clinicians must differentiate BLMS from other oral dyskinesias caused by stroke, Huntington's disease, or dental issues. Furthermore, the systematic monitoring of patients at risk, using standardized scales like AIMS, is a direct clinical application stemming from the recognition of conditions like BLMS, allowing for early detection and intervention before the movements become severe and irreversible.

The impact of BLMS on patient quality of life is profound. The constant, visible movements lead to severe self-consciousness, contributing to social withdrawal, depression, and anxiety, complicating the underlying psychiatric condition. Consequently, treatment protocols for BLMS are inherently multidisciplinary, requiring collaboration between neurologists, psychiatrists, and sometimes speech pathologists or dentists, focusing not only on mitigating the movement disorder itself but also on managing the significant psychological distress and functional limitations it imposes on daily living.

## Related Conditions and Broader Categorization

Buccolingual Masticatory Syndrome exists within a spectrum of movement disorders, all related through common underlying neurological pathology and often shared etiological factors. Its closest and most comprehensive relation is **Tardive Dyskinesia (TD)**, which is the broader syndrome encompassing all late-onset, involuntary movements resulting from prolonged exposure to dopamine receptor blocking agents. BLMS is simply the most common anatomical expression of TD, localized to the oral-facial region. Other related forms of tardive syndromes include tardive dystonia (sustained muscle contractions causing twisting or abnormal postures) and tardive akathisia (a distressing internal restlessness often leading to constant shifting or pacing).

Beyond the tardive spectrum, BLMS must be differentiated from primary movement disorders such as essential tremor, which is usually rhythmic and affects the limbs, and Huntington's disease, which causes more generalized chorea. It also shares surface similarities with some tic disorders, but tics are often suppressible for short periods, whereas the movements of BLMS are truly involuntary and non-suppressible. The relationship between BLMS and other drug-induced

movement disorders, such as acute dystonia or parkinsonism, is also important, though these conditions typically occur early in treatment, distinguishing them from the delayed onset characteristic of the buccolingual masticatory syndrome.

In terms of broader categorization, Buccolingual Masticatory Syndrome falls squarely within the subfield of **Neuropsychiatry**, which is the clinical intersection of neurology and psychiatry. This subfield focuses specifically on mental disorders that are attributable to diseases of the nervous system. Given that BLMS is a neurological disorder resulting from psychiatric treatment, its study and management require expertise in both fields. It is also a key area of study within Clinical Pharmacology, particularly the subspecialty dedicated to psychopharmacology, which examines the adverse effects and optimal dosing strategies for centrally acting medications. This placement emphasizes the syndrome's dual nature as both a motor disorder and a critical consequence of long-term mental health management.

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