The head, face, masticatory muscles and TMJ are various common sites in which pain is experienced. Many conditions present similar signs and characteristic patterns that may lead to diagnostic confusion and ultimately misdirected care. Defined, validated classification systems relating to the multiplicity of painful entities can significantly improve the diagnostic outcomes. Due to the rapid advances in our knowledge regarding pain mechanisms and pathways, classification systems must be ever evolving, not rigid. Presently an ideal system related to masticatory system disorders does not exist.

One set of diagnostic criteria will not satisfy all circumstances to which it might be applied. More importantly, many classifications systems were developed for the purpose of evaluating large populations of study populations for clinical research endeavors and are not absolutely applicable to every clinical case presentation.

For example, the inclusion criteria for a clinical trial might require the presence of all criteria. One set of diagnostic criteria while a clinical diagnosis might require the presence of only a few. These criteria are meant only to provide clinical guidance for diagnosis. Final diagnostic decisions must be based on the clinical judgment of the health care professional. This article will provide the reader with a review of the most accepted diagnostic classification system related to temporomandibular disorder (TMD). It is generally recognized that two basic categories of TMD exist, extracapsular (myogenous) and intracapsular (arthrogenous). The majority of TMDs are extracapsular in nature; however, it is not uncommon for these two basic categories to co-exist.

Masticatory muscle-related conditions are found to be the most common subgroup of TMD1,4

The current understanding of the complexity and the dynamic relationship between the masticatory and cervical musculature enables the profession to better assess the condition(s) possible etiologies. Classifications systems and demands placed on the system, as well as normal function while awake or sleep, are true

Presently an ideal system related to masticatory system disorders does not exist.

“Two basic categories of TMD exist, extracapsular (myogenous) and intracapsular (arthrogenous).”

“Myospasm is an involuntary, sudden, continuous (fasciculation) tonic contraction of the muscle. Previously used terms are trismus, “cramp.” A muscle in spasm is acutely shortened. The patient experiences acute pain, a limited range of motion and often acute malocclusion. EMG studies verify sustained muscle contraction even at rest.5 The most common differential diagnoses to consider includes myositis, local myalgia-unclassified and myofacial pain.

Mynopsia is the incompletely or involuntarily sustained muscle contraction of the muscle, usually not associated with pain or not. Neoplasia as defined as a new, abnormal or uncontrolled growth of tissue mass (eg, myxoma). Confirmation must be obtained by biopsy and imaging.

Congential or developmental disorders Most congenital or developmental disorders are not associated with orofacial pain. They can be categorized as agenesis, hypoplasia, hyperplasia and neoplasia. Aplasia is a fault or incomplete development of the cranial bones or mandible. Usually the aplasias conditions of the cranial bones is the overdevelopment of the cranial bones and may be associated with pain unless the muscle is extended beyond its functional length. There are two basic subcategories: myostatic (reversible condition) and myofibromatous (irreversible condition). Clinical characteristics include a limited range of motion, unwillingness to passively stretch and a history of trauma and protective splinting (co-contraction). There is significant evidence that these conditions exist, there are few reliable clinical or radiographic differences that can be used to distinguish them from each other.

Masticatory muscle-related conditions are found to be the most common subgroup of TMD.1,4

The current understanding of the complexity and the dynamic relationship between the masticatory and cervical musculature enables the profession to better assess the condition(s) possible etiologies. Classifications systems and demands placed on the system, as well as normal function while awake or sleep, are true

Presently an ideal system related to masticatory system disorders does not exist.

“Two basic categories of TMD exist, extracapsular (myogenous) and intracapsular (arthrogenous).”

“Myospasm is an involuntary, sudden, continuous (fasciculation) tonic contraction of the muscle. Previously used terms are trismus, “cramp.” A muscle in spasm is acutely shortened. The patient experiences acute pain, a limited range of motion and often acute malocclusion. EMG studies verify sustained muscle contraction even at rest.5 The most common differential diagnoses to consider includes myositis, local myalgia-unclassified and myofacial pain.

Mynopsia is the incompletely or involuntarily sustained muscle contraction of the muscle, usually not associated with pain or not. Neoplasia as defined as a new, abnormal or uncontrolled growth of tissue mass (eg, myxoma). Confirmation must be obtained by biopsy and imaging.

Congential or developmental disorders Most congenital or developmental disorders are not associated with orofacial pain. They can be categorized as agenesis, hypoplasia, hyperplasia and neoplasia. Aplasia is a fault or incomplete development of the cranial bones or mandible. Usually the aplasias conditions of the cranial bones is the overdevelopment of the cranial bones and may be associated with pain unless the muscle is extended beyond its functional length. There are two basic subcategories: myostatic (reversible condition) and myofibromatous (irreversible condition). Clinical characteristics include a limited range of motion, unwillingness to passively stretch and a history of trauma and protective splinting (co-contraction). There is significant evidence that these conditions exist, there are few reliable clinical or radiographic differences that can be used to distinguish them from each other.

Masticatory muscle-related conditions are found to be the most common subgroup of TMD.1,4

The current understanding of the complexity and the dynamic relationship between the masticatory and cervical musculature enables the profession to better assess the condition(s) possible etiologies. Classifications systems and demands placed on the system, as well as normal function while awake or sleep, are true

Presently an ideal system related to masticatory system disorders does not exist.

“Two basic categories of TMD exist, extracapsular (myogenous) and intracapsular (arthrogenous).”

“Myospasm is an involuntary, sudden, continuous (fasciculation) tonic contraction of the muscle. Previously used terms are trismus, “cramp.” A muscle in spasm is acutely shortened. The patient experiences acute pain, a limited range of motion and often acute malocclusion. EMG studies verify sustained muscle contraction even at rest.5 The most common differential diagnoses to consider includes myositis, local myalgia-unclassified and myofacial pain.

Mynopsia is the incompletely or involuntarily sustained muscle contraction of the muscle, usually not associated with pain or not. Neoplasia as defined as a new, abnormal or uncontrolled growth of tissue mass (eg, myxoma). Confirmation must be obtained by biopsy and imaging.

Congential or developmental disorders Most congenital or developmental disorders are not associated with orofacial pain. They can be categorized as agenesis, hypoplasia, hyperplasia and neoplasia. Aplasia is a fault or incomplete development of the cranial bones or mandible. Usually the aplasias conditions of the cranial bones is the overdevelopment of the cranial bones and may be associated with pain unless the muscle is extended beyond its functional length. There are two basic subcategories: myostatic (reversible condition) and myofibromatous (irreversible condition). Clinical characteristics include a limited range of motion, unwillingness to passively stretch and a history of trauma and protective splinting (co-contraction). There is significant evidence that these conditions exist, there are few reliable clinical or radiographic differences that can be used to distinguish them from each other.

Masticatory muscle-related conditions are found to be the most common subgroup of TMD.1,4

The current understanding of the complexity and the dynamic relationship between the masticatory and cervical musculature enables the profession to better assess the condition(s) possible etiologies. Classifications systems and demands placed on the system, as well as normal function while awake or sleep, are true

Presently an ideal system related to masticatory system disorders does not exist.
Although the concept of natural progression has been suggested, there is little convincing evidence that TMJ clicking typically progresses to locking or that arthritic changes must develop. This inability to demonstrate a normal physiological response.

Diagnostic criteria include: reproducible joint noise usually at the time of opening or closing, soft-tissue imaging confirms a displaced disk that is allowed to return to normal position on opening and hard tissue imaging will demonstrate absence of degenerative bone changes. Pain may be precipitated by joint movement and deviation during movement coinciding with a click.

Dislocation without reduction, or “closed-lock,” is described as an altered or misaligned disc-condyle structural relationship that is maintained during function. Fracture is characterized by a lack of joint noise and limited jaw movement. Pain is usually associated with mandibular deflection to the affected side (if not bilateral), soft tissue imaging reveals disc displaced without reduction and hard tissue imaging reveals evidence of incomplete osteoarthritic changes.

Patient may experience pain precipitated by forced mouth opening. The history should include that ceased with the occurrence of locking, ipsilateral hyper-occlusion (during acute stage) and occasionally hard-tissue imaging can reveal moderate osteoarthritic changes. Clinical progression of the disease have demonstrated very significant because it may represent the first stage of treatment. Clinically it is difficult and may be impossible to differentiate between these. Diagnostic criteria must include localized TMJ pain on palpation, limited range of motion, pain during palpation. No evidence of extensive os- teoarthritic changes with hard tissue imaging clinical findings may exist, such as localized pain at rest, limited jaw movement, secondary to pain, fluctuating swelling (due to effusion) causing a decrease in the condyle size, or locking on ipsilateral posterior side and ear pain.

The most common differential diagnoses include: os- teoarthrosis, polyarthrosis, ear infection, neoplasia, generalized systemic arthritis, rheumatic condition, rheumatoid arthritis, juvenile rheumatoid arthritis (Still’s disease), spondyloarthropathies (ankylosing spondylitis, psoriatic arthritis, infectious, infectious arthritis, and rheumatoid arthritis) crystal-induced disease (gout, hyperuricemia), and autom- atic polyarthritides and other mixted connective tissue diseases (lupus erythematosus, sclo- derma, Sjogren’s Syndrome). Polyarthritides are characterized by pain during acute and subacute stage, subchondral erosive change, limited range of motion secondary to pain, secondary to degenera- tional and radiographic evidence of structural bone changes. Clinical examination and radiographic evidence of the disease mandates serology studies and management by a rheumatologist. Bilateral re- sorption of condylar structures can result in an anterior open bite.

Osteoarthrosis is considered a non-inflammatory degenerative arthritis condition that is commonly found in synovial joints. Os- teoarthrosis is considered as non-inflammatory arthritis condition. It is divided into a primary and secondary non-inflam- matory arthritic condition. Evidence of clinical osteoarthrosis is commonly found in synovial joints. Os- teoarthrosis is characterized by degeneration of the articular cartilage and concomitant remodeling of the under- lying subchondral bone due to overload on the remodeling mech- anism. Osteoarthrosis is categorized as primary on the absence of identifiable etiologic factors. Clinical characteristics include: pain with function, joint tenderness with palpation, limited range of motion with deviation to the affected side on opening and crepitus on multiple joint noises. Radiographic evidence of structural bone changes (sub- chondral sclerosis, osteophyte formation, erosion). Pain and dysfunction can vary depending on the degree of inflammation and severity of osteoarthrosis. Studies suggest that the course of the disease usually progresses favorably; although remodeling and adapta- tion, Treatment must be rendered on a case specific basis depending on the severity of the disease or dysfunction. The most common dif- ferential diagnoses to consider is osteoarthrosis, polyarthrosis, ne- oplasia.

Osteoarthrosis (secondary) is a degenerative condition of the joint characterized by degen- eration and bilateral radiographic evidence of structural bone changes. Osteoarthrosis is characterized by the restriction of mandibular movement with deviation to the affected side on opening and crepitus or multiple joint sounds. Potential etiologic factors include direct trauma to the TMJ (traumatic arthriti- sis), local TMJ infection or his- tial, or systemic conditions such as polyarticular arthritis (eg, rheumatoid arthritis).

Ankylosis is clinically char-acterized by restriction of mandibular movement with deviation to the affected side on opening and is usually not associated with pain. Fibrosis can also occur as a result of the superior compartment of the TMJ joint failure to produce the translation movement of the affected condyle. Adhesions can occur as a result of inflammation resulting from trauma or systemic conditions such as polyarticular arthritis. Bone ankylosis can lead to a complete immobilization of the TMJ joint. Clinical findings include: limitation in mouth opening and/or mandible deviation during mouth opening. Ankylosis is characterized by the restriction of mandibular movement with deviation to the affected side on opening and crepitus or multiple joint sounds. Potential etiologic factors include direct trauma to the TMJ (traumatic arthriti- sis), local TMJ infection or his- tial, or systemic conditions such as polyarticular arthritis (eg, rheumatoid arthritis).

Fracture is direct trauma to the mandible and may result in fracture to the condylar process of the masticatory system — soft tissue, disc, capsule, synovium, retrocondylar ligaments, and/or articular surface – may also be affected. Condylar frac- tures are usually unilateral and may occur in the condylar neck or in the capsule (intra- or extra- condylar) with or without displacement. Location of the fracture and degree of the fracture will determine the di- splacement of the fracture. A dis- placement anterior-medial-in- ferior or posterior-medial will affect the action of the lateral pterygoid muscle. Other etiologic factors include: associated trauma, preauricular pain and swelling (synovitis, edema), limited opening, and if the condylar fragment is displaced, occlusal deviation. Clinical characteristics include: limited range of motion, pain during palpation, and crepitus in affected condyle. Osteoarthrosis is characterized by degeneration of the articular cartilage and concomitant remodeling of the under- lying subchondral bone due to overload on the remodeling mech- anism.


