



SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES



OSUDU, AGARAM VILLAGE, KUDAPAKKAM POST, PUDUCHERRY - 605502.

Date 28.12.2021

From  
DR. BALAJI SUBRAMANIYAN,  
Professor and Head,  
Department of dentistry,  
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES  
BHARATH INSTITUTE OF HIGHER EDUCATION AND RESEARCH,  
Chennai.

To  
The Dean,  
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES  
Bharath Institute of Higher Education and Research,  
Chennai.

**Sub: Permission to conduct value-added course: Tempero Mandibular Joint Disorders**

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **Tempero mandibular joint Disorders** on 3.1.2022. We solicit your kind permission for the same.

Kind Regards

DR. BALAJI SUBRAMANIYAN

**FOR THE USE OF DEANS OFFICE**

Names of Committee members for evaluating the course:

The Dean: DR. JAYALAKSHMI

The HOD: DR. BALAJI SUBRAMANIYAN. R

The Expert: DR. GNANANANDHAR

The committee has discussed about the course and is approved.

Dean

DEAN

SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES  
OSUDU, AGARAM VILLAGE,  
KODAPAKKAM POST,  
PUDUCHERRY - 605 502

Subject: Expert  
DEPARTMENT OF DENTISTRY  
Sri Lakshmi Narayana Institute of Medical Sciences  
PONDICHERRY - 605 502

Dr. R. BALAJI SUBRAMANIYAN  
Associate Professor  
Department of Dentistry  
Sri Lakshmi Narayana  
Institute of Medical Sciences  
Osudu, Agaram, Puducherry.



OFFICE OF THE DEAN

**Sri Lakshmi Narayana Institute of Medical Sciences**  
OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,  
PUDUCHERRY - 605 502.

[ Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME ( P -II ) dt. 11/07/2011 ]  
[ Affiliated to Bharath University, Chennai - TN ]

**Circular**

30.12.21

**Sub: Organising Value-added Course: Tempero mandibular joint disorders reg**

With reference to the above mentioned subject, it is to bring to your notice that ,**Bharath Institute of Higher Education and Research**, is organising “ Tempero mandibular joint disorders \_on 3 ”. The course content and registration form is enclosed below.”

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before 2.1.22. Applications received after the mentioned date shall not be entertained under any circumstances.

Dr. G. JAYALAKSHMI, BSC., MBBS., DICO., M.D.,  
DEAN  
Sri Lakshmi Narayana Institute of Medical Sciences  
Osudu, Agaram, Kudapakkam Post,  
Villianur Commune, Puducherry - 605502.

Dean

Encl: Copy of Course content and Registration form.

# COURSE PROPOSAL

**Course Title: Tempero mandibular joint disorders**

**Course Objective: To enlighten students about Tempero mandibular joint disorders**

**Course Outcome: In depth knowledge about TMJ**

**Course Audience: MBBS STUDENTS**

**Course Coordinator: Dr. Jayalakshmi**

**Course Faculties with Qualification and Designation:**

**1. DR. GANANANANDAR M.D.S & ASSISTANT PROFESSOR**

**Course Curriculum/Topics with schedule (Min of 30 hours)**

SINo	Date	Topic	Time	Hours
1	3.1.22	Applied anatomy of TMJ	4PM-7PM	3 hrs
2	11.1.22	TMJ Dysfunction	4pm-7 pm	3hrs
3	10.1.22	TMJ ankylosis	5pm-8pm	3 hrs
4	29.1.22	TMJ Subluxation	4pm-7pm	3hrs
5	3.2.22	bruxism	5pm-8pm	3 hrs
6	13.2.22	Facial asymmetry	5pm-8pm	3 hrs
7	24.2.22	Trismus	4pm-7pm	3 hrs
8	3.3.22	TMJ Fractures	5pm-8pm	3 hrs
9	13.3.22	Lock jaw	5pm-8pm	3 hrs
10	22.3.22	Management of TMJ INJURIES	4pm-7pm	3 hrs
			Total Hours	30

**REFERENCE BOOKS: (Minimum 2)**

**1.CYNTHIA PETERSON TEXT BOOK OF TMJ**

**2.TANAKA TMJ DISORDERS**

## ABSTRACT

Temporomandibular joint (TMJ) is one of the most intricate and complicated loading joints found in humans. TMJ is also called the mandibular joint; it is an ellipsoid variety of the left and right synovial joints which form a bicondylar articulation. The components of this joint are a fibrous capsule, a disk, synovial membrane, fluid, and tough adjacent ligaments. The mandible and the cranium are mechanically two different components; therefore, the appropriate term for this joint is the craniomandibular articulation. It is not possible to understand the accurate points of occlusion without a thorough knowledge of the biomechanics, physiology, and anatomy of TMJ. The primary necessity for successful occlusal treatment is steady and comfortable TMJ. This understanding of the TMJ is the foundation to diagnosis and treatment of almost everything a dentist does.

The part where the articulation of the temporal bone of the cranium and the mandible occurs is called the temporomandibular joint (TMJ), definitely one of the intricate joints in the body. The articular disk is fibrous tissue that is present between the TMJ and acts as a buffer. Mastication and speech are the main functions of the TMJ and are of at most interest to dentists, clinicians, and radiologists. TMJ provides hinging movement in one plane, therefore known as ginglymoid joint and at the same time it provides gliding movements, which is known as arthrodiar joint; therefore, it is known as ginglymoarthrodial joint Pecularity of TMJ • Bilateral diarthrosis. Only joint in the human body that has a rigid end point due to closure of the teeth making occlusal contact. The surface that articulates is covered by fibrous cartilage instead of hyaline cartilage. Compared to other diarthrodial joints, TMJ develops the last (7th week indexed universal life [IUL]).

TMJ is formed from distinct blastema. Development of TMJ It develops from first pharyngeal arch, innervated by fifth cranial nerve, and develops from mesenchyme between the temporal and condylar blastemas 7th–8th weeks IUL - By this time the primary cancellous bone is first seen in the temporal mesenchyme and by 8th week it is seen in ramal mesenchyme. • 9th-week IUL - The rudimentary mandible is formed by intramembranous ossification. • 10th-week IUL - The condylar cartilage is first seen. First sign of lower TMJ space is seen when a cleft is formed between the condylar process and the temporal component.

# TMJ disorders

## Overview

The temporomandibular (tem-puh-roe-man-DIB-u-lur) joint (TMJ) acts like a sliding hinge, connecting your jawbone to your skull. You have one joint on each side of your jaw. TMJ disorders — a type of temporomandibular disorder or TMD — can cause pain in your jaw joint and in the muscles that control jaw movement.

The exact cause of a person's TMJ disorder is often difficult to determine. Your pain may be due to a combination of factors, such as genetics, arthritis or jaw injury. Some people who have jaw pain also tend to clench or grind their teeth (bruxism), although many people habitually clench or grind their teeth and never develop TMJ disorders.

In most cases, the pain and discomfort associated with TMJ disorders is temporary and can be relieved with self-managed care or nonsurgical treatments. Surgery is typically a last resort after conservative measures have failed, but some people with TMJ disorders may benefit from surgical treatments.

## Symptoms

Signs and symptoms of TMJ disorders may include:

- Pain or tenderness of your jaw
- Pain in one or both of the temporomandibular joints
- Aching pain in and around your ear
- Difficulty chewing or pain while chewing
- Aching facial pain
- Locking of the joint, making it difficult to open or close your mouth

TMJ disorders can also cause a clicking sound or grating sensation when you open your mouth or chew. But if there's no pain or limitation of movement associated with your jaw clicking, you probably don't need treatment for a TMJ disorder.

## Causes

The temporomandibular joint combines a hinge action with sliding motions. The parts of the bones that interact in the joint are covered with cartilage and are separated by a small shock-absorbing disk, which normally keeps the movement smooth.

Painful TMJ disorders can occur if:

- The disk erodes or moves out of its proper alignment
- The joint's cartilage is damaged by arthritis
- The joint is damaged by a blow or other impact

## **Risk factors**

Factors that may increase the risk of developing TMJ disorders include:

- Various types of arthritis, such as rheumatoid arthritis and osteoarthritis
- Jaw injury
- Long-term (chronic) grinding or clenching of teeth
- Certain connective tissue diseases that cause problems that may affect the temporomandibular joint

- ◆ Temporomandibular joint and muscle disorders, commonly called "TMJ," are a group of conditions that cause pain and dysfunction in the jaw joint and the muscles that control jaw movement.
- 2.
  - ◆ 1 Myofascial pain involves discomfort or pain in the muscles that control jaw function.
  - ◆ 2 Internal derangement of the joint involves a displaced disc, dislocated jaw, or injury to the condyle.
  - ◆ 3 Arthritis refers to a group of degenerative/ inflammatory joint disorders that can affect the temporomandibular joint.
- 3. AETIOLOGY
  1. TRAUMA 2. BAD BITE- CLENCHING, GRINDING 3. HORMONAL 4. GENETIC
- 4. A. Muscle disorders may include spasm of the masticatory muscles, most frequently involving the lateral pterygoid B. Fibromyalgia or myofascial pain syndrome C. Emotional stress/tension which may lead to bruxism D. Postural dysfunction, namely forward head posture, may also lead to muscle pain in the jaw from repetitive stress
- 5.
  - ◆ Disc displacement is the most common TMJ arthropathy and is defined as an abnormal relationship between the articular disc and condyle.
  - ◆ Clinically, this popping sound or clicking is regarded as an initial symptom of the temporomandibular joint internal derangement (TMJ-ID).
  - ◆ If the displaced disc returns to its normal position when the mouth is opened, accompanied by a popping sound, it is referred to as disc displacement with reduction
  - ◆ If the displaced disc does not return to the normal position and acts as an obstacle during attempted mouth opening, the joint appears as locked. This is referred to as disc displacement without reduction
- 6. ◆ DISC DISPLACEMENT
- 7. ◆ Subluxation or hypermobility in the temporomandibular joint is defined as the clinical condition with repeated episodes of partial dislocation of the jaw. ◆ It is a self-reducing incomplete dislocation of the jaw which generally follows stretching of the ligaments and the capsule surrounding the temporomandibular joint.
- 8. Management of TMJ disorder
- 9. ◆ Moist heat ◆ Ice application ◆ Soft diet ◆ Jaw exercise ◆ Relaxation techniques ◆ Sleep on one side
- 10. ◆ 1. Pharmacologic Agents The non steroidal anti-inflammatory drugs (NSAID) are the mainstays in the pharmacological treatment of musculoskeletal disorders where pain and inflammation are prominent features ◆ Low dose tricyclics are effective in controlling pain from nighttime bruxism, when doses are adjusted to provide improved sleep. ◆ After psychiatric consultation, if it is determined that clinical depression is an

aggravating factor, antidepressant medication can be helpful as part of the treatment.

- 11. Dental splints
- 12. ♦ Injections ♦ Injections of tender muscles, trigger areas, and/or joint spaces with local anesthetic solution is used for diagnosis and relief of symptoms. ♦ Corticosteroid injection can be effective in reducing capsulitis ♦ The use of Botox to eliminate muscle spasm and reduce strength of contraction, while retaining voluntary control
- 13. Physical therapy
- 14. ♦ Self-Care Physical therapy is often used by TMD patients to keep the synovial joint lubricated, and to maintain full range of the jaw motion. ♦ One such exercise for the jaw is to open the mouth to a comfortable fully-open position and then to apply slight additional pressure to open the mouth fully. ♦ Another exercise includes stretching the jaw muscles by making various facial expressions
- 15. ♦ Behavior Modification ♦ Behavior modification is intended to help patients understand and avoid stress-related lifestyle habits, such as clenching, bruxism, and excessive gum chewing ♦ Psychological consultation may be indicated for stress management.
- 16. ♦ ARTHROCENTESIS ♦ ARTHROSCOPY ♦ ARTHROTOMY ♦ TMJ IMPLANTS
- 17. ♦ Discectomy ♦ Discectomy is a surgical treatment, which is often performed on individuals with severe TMD, to remove the damaged and very often dislocating articular disc without going to a more extreme treatment such as a joint prosthetic. ♦ However, removal of the painful pathologic disc causes the TMJ reduced absorbency and increased loading during articulation
- 18. Tmj implants



VALUE ADDED COURSE

Temporo mandibular joint disorders

**DI-5**

**List of Students Enrolled**

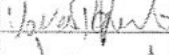

**Jan- 2022**

<b>MBBS Student</b>		
<b>Sl. No</b>	<b>Name of the Student</b>	<b>Roll No</b>
<b>1</b>	UMMU SALMA. A.B	U14MB339
<b>2</b>	VAISHNAVI. R	U14MB340
<b>3</b>	VEERA RADHA KUMARI. M	U14MB341
<b>4</b>	VENKATESH. M	U14MB342
<b>5</b>	VIGNESH. A	U14MB343
<b>6</b>	VIGNESH. K	U14MB344
<b>7</b>	VIGNESH. V	U14MB345
<b>8</b>	VIGNESHWARA.N	U14MB346

Bharath Institute of Higher Education and Research

SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Participant list of Value added course: Temporomandibular joint disorders

Sl.No	Reg.No	Name of the candidate	Signature
1	U14MB339	UMMU SALMA. A.B	
2	U14MB340	VAISHNAVI. R	
3	U14MB341	VEERA RADHA KUMARI. M	
4	U14MB342	VENKATESH. M	
5	U14MB343	VIGNESH. A	
6	U14MB344	VIGNESH. K	
7.	U14MB345	VIGNESH. V	
8.	U14MB346	VIGNESWARA.N	



**SRI LAKSHMI NARAYANA INSTITUTE OF HIGHER EDUCATION  
AND RESEARCH**

**Temporo mandibular joint disorders**

**QUESTIONS**

**Course Code: DI-5**

**I. ANSWER ALL THE QUESTIONS**

1. Tmj crepitus?
2. Mention the actions of Masseter Muscle?
3. Classify the Tmj disorders?
4. Management of lock jaw?
5. Write a note on Trismus?

32/2  
50

## Temporo mandibular Joint disorders

Definition:

Temporo mandibular joints and muscle disorder, commonly called "TMD" are a group of condition that cause pain and dysfunction in the jaw joint and muscles that control the jaw movement.

Myofascial pain involves discomfort or pain in the muscles that control jaw function.

Internal derangement of the joint involves a displaced disc, dislocated jaw or injury to the condyle.

Arthritis refers to a group of degenerative / inflammatory joint disorders that can affect the TMD.

MPDS: Myofascial pain dysfunction syndrome.

- Muscle disorders may include spasm of the masticatory muscles, most frequently involving the lateral pterygoid.
- Fibromyalgia.
- Emotional stress / tension may be a factor.
- Postural dysfunction.

## Disc displacem.

- Disc displacement is the most common TMJ disorder and is defined as an abnormal relationship between the articular disc and condyle.

## TMJ dislocation:

Subluxation or hypermobility in the TMJ is defined as the clinical condition with repeated episodes of partial dislocation of the jaw.

## Symptoms:

- Headache.
- Sinus/nigraine.
- Pressure in sinuses.

Neck region - Neck pain / Stiffness.

- Lack of mobility.

- Shoulder and backache.

Teeth - Clenching / grinding teeth.

Jaws - Popping, clicking and grating noises.

- Jaw locks or sticks.

- Difficulty in yawning, chewing or opening wide.

## TMJ Disorder:

common.

clicking / cracking noises are very



# Sri Lakshmi Narayana Institute of Medical Sciences

Affiliated to Bharath Institute of Higher Education & Research  
(Deemed to be University under section 3 of the UGC Act 1956)



## CERTIFICATE OF MERIT

This is to certify that VAISHNAVI.R has actively participated in the  
Value Added Course on Tempero mandibular joint disorders held on JAN 2022  
Organized by Sri Lakshmi Narayana Institute of Medical Sciences,  
Pondicherry- 605 502, India.

Dr. Ganananandar  
RESOURCE PERSON

Dr. Jayalakshmi  
COORDINATOR

## Student Feedback Form

Course Name: TEMPEROMANDIBULAR DISORDERS

Subject Code: DT-5

Name of Student: VAISHNAVI R Roll No.: U14MB340

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear			✓		
2	Course contents met with your expectations		✓			
3	Lecturer sequence was well planned			✓		
4	Lectures were clear and easy to understand				✓	
5	Teaching aids were effective			✓		
6	Instructors encourage interaction and were helpful			✓		
7	The level of the course			✓		
8	Overall rating of the course	1	2	✓ 3	4	5

\* Rating: 5 - Outstanding; 4 - Excellent; 3 - Good; 2 - Satisfactory; 1 - Not-Satisfactory

Suggestions if any:

Date:

  
Signature

## COURSE COMPLETION

Date: 22.3.22

From  
DR.BALAJI SUBRAMANIYAN.R  
Department OF dentistry,  
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES  
Bharath Institute of Higher Education and Research,  
Chennai.

Through Proper Channel


To  
The Dean,  
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES  
Bharath Institute of Higher Education and Research,  
Chennai.

**Sub: Completion of value-added course: Tempero mandibular joint disorders**

Dear Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled: **Tempero mandibular joint disorders** on 22.3.2022. We solicit your kind action to send certificates for the participants, that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

  
Dr. R. BALAJI SUBRAMANIYAN  
Associate Professor

Dr. BALAJI SUBRAMANIYAN.R  
Sri Lakshmi Narayana  
Institute of Medical Sciences  
Osudu, Agaram, Puducherry.

**Encl: Certificates**

**Photographs**



