SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

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

Date: 28.9.21

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: FACIAL FRACTURES

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **FACIAL FRACTURES** on 3.10.2021 . 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	Subject Expert	HOD
(Sign &Seal)	(Sign &Seal)	(Sign &Seal)

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

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

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]
[Affliated to Bharath University, Chennai - TN]

Circular

29.9.2021

Sub: Organising Value-added Course: FACIAL FRACTURES reg

With reference to the above mentioned subject, it is to bring to your notice that SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES, **Bharath Institute of Higher Education and Research**, is organising **"FACIAL FRACTURES"**. 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 1.10.2021. Applications received after the mentioned date shall not be entertained under any circumstances.

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

Dean

COURSE PROPOSAL

Course Title: FACIAL FRACTURES

Course Objective: To enlighten students about facial fractures

Course Outcome: In depth knowledge about facial fractures

Course Audience: MBBS STUDENTS

Course Coordinator: DR.JAYALAKSHMI

Course Faculties with Qualification and Designation:

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

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

SlNo	Date	Topic	Time	Hours
1.	3.10.21	Applied anatomy of facial skeleton	4PM-7PM	3 hrs
2.	13.10.21	Mid facial fractures	4pm-7 pm	3hrs
3.	26.10.21	Orbital fractures	5pm-8pm	3 hrs
4.	3.11.21	Fracture maxilla	4pm-7pm	3hrs
5.	13.11.21	Le forte I fracture	5pm-8pm	3 hrs
6.	24.11.21	Mandibular fracture	5pm-8pm	3 hrs
7.	30.11.21	TMJ fractures	4pm-7pm	3 hrs
8.	3.12.21	Examination of fracture pts	5pm-8pm	3 hrs
9.	13.12.21	Investigations in fracture pts	5pm-8pm	3 hrs
10.	20.12.21	Treatment modalities for facial fractures	4pm-7pm	3 hrs
			Total Hours	30

REFERENCE BOOKS: (Minimum 2)

1. KILLEY'S FRACTURE OF MAXILLA AND MMANDIBLE

2. TEXTBOOK OF ORAL SURGERY, B.SRINIVASAN

ABSTRACT

In patients with facial trauma, multi detector computed tomography is the first-choice imaging test because it can detect and characterize even small fractures and their associated complications quickly and accurately. It has helped clinical management and surgical planning, so radiologists must communicate their findings to surgeons effectively. In Le Fort fractures, there is a breach between the pterygoid plates and the posterior maxilla. These fractures are classified in three basic patterns that can be combined and associated with various complications. Conceptualized when low-speed trauma was predominant, the Le Fort classification system has become less relevant giving more importance on maxillary occlusion-bearing segments. The classification of naso-orbito-ethmoid depends on the extent of injury to the attachment of the medial canthal tendon, with possible complications like nasofrontal duct disruption.

Displaced fractures of the zygomaticomaxillary complex often widen the angle of the lateral orbital wall, resulting in increased orbital volume and sometimes in enophthalmos. Severe comminution or angulation can lead to wide surgical exposure. In orbital fractures, entrapment of the inferior rectus muscles can lead to diplopia, so it is important to assess its positioning and morphology. Orbital fractures can also result in injuries to the globe or infraorbital nerve. Frontal sinus fractures that extend through the posterior sinus wall can create a communication with the anterior cranial fossa resulting in leakage of cerebrospinal fluid, intracranial bleeding. It is essential to categorize fracture patterns and highlight features that may affect fracture management in radiology reports of facial trauma.

FACIAL FRACTURE

A facial fracture is a broken bone in the face. The face has a complex bone structure. The facial skeleton consists of the:

Frontal bone (forehead).

Zygomas (cheekbones).

Orbital bones (eye sockets).

Nasal bones.

Maxillary bones (upper

jaw). Mandible (lower jaw).

There are many other bones that are found deeper within the facial structure. Muscles required for chewing, swallowing and talking are attached to these bones.

Nasal fractures (broken nose) are the most common. Fractures to other facial bones can also occur. You might only have one fracture, or you might have several broken bones. Multiple fractures are more likely to occur during a motor vehicle accident or other high- impact accident. Fractures may be unilateral (occurring on one side of the face) or
bilateral (occurring on both sides of the

face. TYPES OF FACIAL BONE

FRACTURES

There are several main types of facial fractures.

Nasal bones (broken nose): Nasal bone fractures are the most common type of facial fracture. The nasal bone is made up of two thin bones. It takes less force to break the nasal bones than other facial bones because they are thin and prominent. Usually, the nose looks deformed or feels sore to the touch after a fracture. Swelling in the area might make it more difficult to assess how much damage has occurred. Nosebleeds and bruising around the nose are common symptoms of a nasal fracture.

Frontal bone (forehead) fractures: The frontal bone is the main bone in the forehead area. A high- impact injury to the head can cause a fracture of the frontal bone and floor of the sinuses. The fracture is mostly likely to occur in the middle of the forehead. That' s where the bone is the thinnest and weakest. An injury may cause the bone to be indented (pushed inward). Substantial force is required to fracture the frontal bone, so often other injuries to the face and skull or neurological trauma may be present. Associated problem

may include leakage of the cerebrospinal fluid, eye injuries and damage to the sinus ducts.

Zygomaticomaxillary fractures (broken cheekbone/upper jaw): The zygomas (cheekbones) are attached at several points to the upper jaw (maxilla) and bones of the skull. Fractures to the cheekbone(s) might also involve breaks in other facial bones nearby.

Orbital fractures (eye socket): There are three main types of orbital fractures.

Orbital rim fracture: The outer rim is the thickest part of the eye socket. It requires a lot of force to break the bone. Many other injuries may accompany an orbital rim fracture, such as damage to the optic nerve.

Blowout fractures: The orbital rim remains intact in this case, but a crack forms in the thin bone at the lower part of the eye socket. The eye muscles and other structures can
become entrapped in the break and prevent the eyeball from moving normally.

Direct orbital floor fracture: This is a rim fracture that extends into the lower socket.

Mid- face (Le Fort fractures): Blunt force trauma tends to cause fractures along three lines of weakness in the mid- face. One characteristic of all types of Le Fort fractures is the fracture of the pterygoid processes, part of the sphenoid bone. There are three main types of Le Fort fractures, but there may be individual variations.

Le Fort I: The fracture extends above the upper jaw (maxilla).

Le Fort II: The fracture extends from the lower part of one cheek, below the eye, across the bridge of the nose, and to the lower part of the other cheek.

Le Fort III: The fracture extends across the bridge of the nose and the bones surrounding the eyes.

Mandible (lower jaw): The mandible holds the lower teeth in place and moves when you are talking or chewing. Fractures of the lower jaw affect the sections of the lower jaw that supports teeth (called the body), the part where

the jaw curves upwards into the neck (the angle) or the knob- shaped joint at the top of the jaw bone (the condyle) or the point where the two sides of the lower jaw are joined (the symphysis). If you have a break in the lower jaw, you may also have broken or loose teeth.

W hat causes facial fractures?

You can break the bones in your face in many ways, including:

High- impact accidents, such as motor vehicle

accidents. Sports injuries.

Workplace accidents.

Falls.

Interpersonal trauma like fighting or domestic

violence. W hat are the symptoms of a facial

fracture?

Symptoms of a fracture to the face may include pain as well as bruising, swelling or tenderness.

Symptoms of a nose fracture may include:

Purplish patch on skin caused when blood leaks from broken blood vessels (also called bruising or ecchymosis).

Discoloration under the eyes (“ black eyes”).

Blockage of one or both nostrils or a deviated

septum. Twisted or crooked nose or indented

bridge.

Nosebleed.

Symptoms of an orbital fracture may include:

Blurry, decreased or double vision (diplopia).

Difficulty in moving eyes left, right, up or down.

Swollen forehead or cheek or swelling under the

eyes. Flatness of the cheeks.

Sunken or bulging eyeballs.

Facial numbness near the

injury.

Blood or discoloration in the white part of the

eye. Symptoms of upper or lower jaw fractures:

Trouble with chewing, eating, or

speaking. Loose, broken or missing teeth.

Teeth not fitting together properly.

Cheek pain when opening the mouth.

How are facial fractures diagnosed?

Your provider might order a series of plain X- rays if the nose is broken. However, you might not need X- rays if:

The tenderness and swelling are confined to the bony bridge of the

nose. You can breathe through each nostril.

Your nose is straight, and no blood clot is found at the septum. The septum is the piece of cartilage in the middle of the nose that divides the nostrils.

If a fracture is suspected, your healthcare provider may order a computer tomography scan (CT scan) to determine the exact location and type of the fracture or fractures. A basic series of X- rays may be sufficient in some cases to assess the fracture if a CT scan can' t be performed or if there' s no indication of a midface or maxillary fracture.

In cases where there are complex fractures of the midface (LeFort fractures), your provider might order two- dimensional face CT scans and three-dimensional
reconstructive scans. These images may be needed for a correct diagnosis or before facial reconstructive surgery to improve the outcome.

How are facial fractures treated?

Your healthcare provider may prescribe pain- relieving drugs as well as oral

steroids to ease swelling. Your provider will prescribe antibiotics if there' s a high risk of infection.

In general, fractures may be treated by performing a closed reduction (resetting the broken bone or bones without surgery) or an open reduction (surgery that requires an incision to reposition the fractured bones). For a complex fracture with multiple broken bones, you will need reconstructive surgery.

The type of treatment will depend on the location and extent of the injury. The aim of treatment for facial fractures is to restore the normal appearance and function of the injured areas.

Life- threatening conditions, such as blockage of the airways, cardiovascular problems, or brain or nervous system injuries, must be treated immediately.

How can facial fractures be prevented?

There' s no way to completely prevent facial fractures. However, you can take some steps to reduce the extent of injuries.

W ear a seat belt when driving a motor vehicle or riding in one. W ear a helmet and other protective gear if you are operating a motorcycle or all-terrain vehicle.

W ear the correct protective equipment, such as a helmet and/or a face mask, when playing sports.

Follow safety guidelines at work and wear protective head gear if your job

requires it. You should get medical help right away if you have any of the

following:

Open wounds where you can see the

bone. Bloody or clear fluid discharge

from your nose.

Blurred or double vision, or problems moving your

eyes. Trouble swallowing or breathing.

Displaced jaw or nose.

Upper and lower jaw that don't meet properly, or pain when you move your jaw. Loose teeth.

Pain and swelling in the face.

VALUE ADDED COURSE

Facial Fractures

DI-4

MBBS Student		
Sl. No	**Name of the Student**	**Roll No**
1	SURYA NARAYANA. S	U14MB332
2	SWATHI . S	U14MB333
3	SWATHI. S D/O SHANMUGAM	U14MB334
4	SWATHY. M	U14MB335
5	THAMARAI SELVI. K	U14MB336
6	THAMEENA FATHIMA.A	U14MB337
7	THOMAS GIDEON RUSSEL.A	U14MB338
8	THULASI. N	U14MB339

Bharath Institute of Higher Education and Research

SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Participant list of Value added course: **FACIAL FRACTURES**

Sl.No	Reg.No	Name of the candidate	Signature
1	U14MB332	SURYA NARAYANA. S	
2.	U14MB333	SWATHI .S	
3.	U14MB334	SWATHI. S D/O SHANMUGAM	
4.	U14MB335	SWATHY. M	
5.	U14MB336	THAMARAI SELVI. K	
6.	U14MB337	THAMEENA FATHIMA.A	
7.	U14MB338	THOMAS GIDEON RUSSEL.A	
8.	U14MB339	THULASI. N	

NAME: SWATHI.S
ROLL NO: 01 4MB33

Facial Fractures

35/50

Causes for facial injuries:

- Accidents - 70 %
- Fights/Assaults
- Falls
- Sports
- Industrial accidents
- Gunshot wounds.

Face is divided into five anatomic area.

- Nasal.
- orbital
- Zygomatic
- Maxillary
- Mandibular.

Waller's view — also known as occipitomental view.

Caldwell view - AA view

- Lateral view

Naso-orbital ethmoid fractures

Involved are the medical Vertical buttresses and the upper transverse maxillary buttress.

Orbital fractures:

posterior blow out fractures. The posterior floor cortex is absent on the left at the arrow in this Caldwell view.

Zygomatic maxillary Complex fracture

- Zygomatic maxillary Complex fracture also known as tripod, tetrapod, quadripod, malar or trimalar fractures are seen in the setting of traumatic injury to the face.

They comprise fractures of the.

- Zygomatic arch.
- Inferior orbital rim and anterior and posterior maxillary sinus wall.
- Lateral orbital rim

Le fort fractures.

Le fort fractures are fractures of the midface, which collectively is the seperation of all or a portion of the midface from the skull base.

Lefort type 1 - Horizontal maxillary fracture, seperating the teeth from the upper jaw.

- Fracture line passes through the lower nasal septum, inferior nasal sinus.

Lefort type 2: Pyramidal fracture, with the teeth at the pyramid base and nasofrontal suture at the apex

Lefort type 3: craniofacial dysjunction

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 SWATHY. M has actively participated in the Value Added Course on *Facial Fractures* held during OCT 2021 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr. GANANANDHAR
RESOURCE PERSON

Dr. JAYALAKSHMI
COORDINATOR

Student Feedback Form

Course Name: FACIAL FRACTURES

Subject Code: DI - 4

Name of Student: SWATHI. S Roll No.: U14MB333

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:

Signature

Date:

COURSE COMPLETION

Date 1.12.21

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: FACIAL FRACTURES

Dear Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled: _**FACIAL FRACTURES** on 20.12.21. 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.BALAJI SUBRAMANIYAN.R

Encl: Certificates

Photographs