



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]

Date :07.04.2018

From
DR. Vijayaragavan,
Associate Professor and Head,
Department of orthopaedics,
SLIMS,
Bharath Institute of Higher Education and Research,
Pondicherry.

To
The Dean,
SLIMS,
Bharath Institute of Higher Education and Research,
Pondicherry.

Sub: Permission to conduct value-added course:Examination of hip joint.

Respected Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **Examination of hip joint** on 25.05.2018. We solicit your kind permission for the same.

Kind Regards

Dr. E. YASHWANTH KUMAR, M.B.B.S. |
Reg. No. 00413 |
Senior Professor Orthopaedics |
Sri Lakshmi Narayana Institute of Medical Sciences |
Osudu, Villianur, Puducherry-605 502

DR. Vijayaragavan

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean:DR.Jayalakshmi

The HOD:DR.Vijayaragavan

The Expert:Dr.Boblee james



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The committee has discussed about the course and is approved.

Dean

Dr. C. JAYALAKSHMI, BSC, MDS, DNB, MD,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram Village, Villianur Commune, Post,
Villianur Commune, Puducherry-605 502.

Subject Expert

Department of Orthopaedics
Sri Lakshmi Narayana Institute of Medical Sciences
Puducherry - 605 502.

HOD

Dr. R. YOGANANANDAN, M.B.B.S.,
M.D., MCh, FRCR
Head, Department of Orthopaedics
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram Village, Villianur Commune, Puducherry-605 502.



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Circular

07.06.2020

Sub: Organising Value-added Course: EXAMINATION OF HIP JOINT

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 organizing **EXAMINATION OF HIP JOINT.30 HRS& MAY18-AUG18**

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 MAY18-AUG18. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

Dr. G. JAYALAKSHMI, BSC, MDS, DNB, MD,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram Pochampattinam, Post,
Villanur Commune, Puducherry-605 502.



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VALUE ADDED COURSE

1. Name of the programme & Code

Examination of HIP JOINT – OR08

2. Duration & Period

30 hrs & may 2018 – august 2018

3. Information Brochure and Course Content of Value Added Courses

Enclosed as Annexure- I

4. List of students enrolled

Enclosed as Annexure- II

5. Assessment procedures:

Multiple choice questions- *Enclosed as Annexure- III*

6. Certificate model

Enclosed as Annexure- IV

7. No. of times offered during the same year:

1 MAY 2018– AUGUST 2018

8. Year of discontinuation: 2019

9. Summary report of each program year-wise



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Value Added Course- MAY- AUG 2018					
Sl. No	Course Code	Course Name	Resource Persons	Target Students	Strength & Year
1	OR08	EXAMINATION OF HIP JOINT	Dr. Vijayaragavan	THIRD YEAR ^t MBBS	24 (MAY 2018 – AUG 18)

10. Course Feed Back *Enclosed as Annexure- V*

RESOURCE PERSON
DR.VIJAYARAGAVAN

Dr. E. VIGNAN SINGHIAN, M.B.B.S.
Reg. No. 69412
1998 Postgraduate
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram Village, Villianur Commune,
Kudapakkam Post, Puducherry-605 502.

COORDINATOR
DR.JAYALAKSHMI

Dr. G. JAYALAKSHMI, M.B.B.S., M.D., M.S.
SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES
OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE,
KUDAPAKKAM POST, PUDUCHERRY-605 502.



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EXAMINATION OF HIP JOINT

25/05/2018

EVALUATION OF HIP JOINT

Particulars	Description
Course Title	EXAMINATION OF HIP JOINT
Course Code	OR08
Objective	<ul style="list-style-type: none">•HISTORY•GAIT•LOCAL EXAMINATION



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	•SPECIAL TESTS
Further learning opportunities	To examine other joints
Key Competencies	On successful completion of the course the students will have skill to examine hip joint
Target Student	Pre final yearStudents
Duration	30hrs MAY 18- AUGUST 2018
Theory Session	10hrs
Practical Session	20hrs
Assessment Procedure	Short notes

HISTORY:

CHIEF COMPLAINTS

1. PAIN

2. SWELLING :

3. DEFORMITIES

4. STIFFNESS

5. LIMP

PAST HISTORY:

•TRAUMA

•TB

•MEDICAL DISORDERS

•NEUROLOGICAL DISORDERS

•SURGERIES AROUND HIP



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GAIT:

Normal gait is rhythmical bipedal biphasic walking in which the lumbar spine, hip and legs move in unison.

Limping is the most common abnormality, can be defined as abnormality of rhythmical normal biphasic walking.

TYPES OF ABNORMAL GAIT:

- Antalgic gait
- Trendelenburg gait
- Waddling gait
- Circumduction gait
- Gluteus Maximus gait
- High stepping Gait

ANTALGIC GAIT:

- In painful condition,
patient walks with
reduced stance phase
on affected side

TRENDELENBERG GAIT:

Trendelenburg gait pattern
(or gluteus medius lurch) is an



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abnormal gait (as with walking)

caused by weakness of the

abductor muscles of the lower

limb, gluteus medius and gluteus

minimus.

WADDLING GAIT

•Both abductors of hip

paralyzed

•The patient bends his

trunk towards the stance

phase

CIRCUMDUCTION GAIT:

• Patient rotates the hip sideways

during swing phase due to hip

flexor tightness

•Absence of heel strike

GLUTEUS MAXIMUS GAIT:

• If paralyzed, posterior tilting.

• Centre Of Gravity shifts towards to

stance hip.



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- So while walking, forward and backward movement of the trunk occurs is called as 'rocking horse gait'

HIGH STEPPING GAIT

- High stepping (Neuropathic gait) is a form of gait abnormality characterised by foot drop due to loss of dorsiflexion. The foot hangs with the toes pointing down, causing the toes to scrape the ground while walking.

LOCAL EXAMINATION

- INSPECTION
- PALPATION
- MEASUREMENT
- MOVEMENT

INSPECTION:

STANDING: FRONT

- PELVIC TILTING
- MUSCLE WASTING
- DEFORMITY

SIDE :



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LORDOSIS

BACK:

- SCOLIOSIS
- GLUTEAL MUSCLE

WASTING

- SINUS SCARS

ATTITUDE:Fracture of the neck

of the femur:

Elderly patient lying

on the bed with externally

Rotated, lower limb

Anterior dislocation

of the hip:

Young patient lying with

externally rotated, slightly

abducted and

Flexed lower limb

Posterior dislocation

of the hip:

Young patient with flexed,

adducted and

Internally rotated lower limb

PALPATION



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- LOCAL RISE OF TEMPERATURE
- JOINT TENDERNESS
- FEMORAL PULSE
- SWELLING EXAMINATION

FEMORAL PULSE EXAMINATION

- In congenital dislocation, the head of the femur is dislocated and this bony support is missing.
- So there will be great difficulty in feeling femoral artery.
- This is known as 'Vascular sign' of Narath

MOVEMENTS:

FLEXION

- With the knee extended up to 90°
- With the bent knee the hip joint can be flexed up to 120°

EXTENSION

Up to 30

ABDUCTION

(0-40°)

ADDUCTION

(0-30°)

ROTATIONAL MOVEMENTS



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INTERNAL ROTATION

(UPTO 30°)

EXTERNAL ROTATION

(UPTO 45°)

LIMB LENGTH

- APPARENT LIMB LENGTH

- Measured from

xiphisternum or umbilicus

to medial malleolus

- TRUE LENGTH

- Measured from ASIS TO

medial malleolus

INTERPRETATION:

TRUE SHORTENING =

APPARENT SHORTENING=NO COMPENSATION

TRUE SHORTENING >

APPARENT SHORTENING=DEFORMITY IS

COMPENSATED BY

PELVIS TILT

TRUE SHORTENING <

APPARENT SHORTENING=FIXED DEFORMITY

WITHOUT ANY

COMPENSATION



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SPECIAL TESTS

THOMAS TEST

- This test is used to diagnose fixed flexion deformity of the hip.
- The examiner blocks the pelvis by bringing the contralateral sound hip into maximal flexion.
- This eliminates lumbar lordosis that can be used to compensate for the hip flexion contracture of the affected hip.
- The leg to be examined is then brought into maximal extension with the hip in neutral adduction and rotation.

TRENDELENBERG TEST

- This test examine the strength of the abductor mechanism of the hip.
- Normally, in a one legged stance, the pelvis is raised up on the unsupported side. If the weight bearing hip is unstable, the pelvis drops on the unsupported side, to avoid falling the patient has to throw his or her



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body towards the loaded side.

- The patient stands on the unaffected lower

limb first, the buttock on the affected side

automatically rises. Next the patient stands

on the affected side, the pelvis on the

opposite (normal) side sinks as shown by

gluteal folds and iliac crest..

- It indicates a defect in the Osseo-muscular mechanism between the pelvis and the femur.

Causes for positive TRENDELENBERG TEST are

1. Weak abductors as in poliomyelitis, muscle dystrophies , MND
2. Congenital or Pathological dislocation of hip
3. Fracture neck of femur,
4. Coxa vara
5. Perthes' disease
6. Arthritis of hip joint.

BRYANT'S TRIANGLE.

- The patient lies in the dorsal position.

- A line is drawn vertically downwards from the ASIS.

- Another from the tip of the same spine to the tip of the



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greater trochanter and lastly a

horizontal line is drawn from

the tip of the greater

trochanter to the first line.

INTERPRETATION OF BRYANTS TRIANGLE

- Diminution in the length of the last line or

the horizontal line in comparison to the

other side denotes an upward elevation

of the greater trochanter, the commonest

cause of which being the transcervical or

subcapital fracture of the neck of the

femur or separation of the upper femoral

epiphysis.

- Diminution or increase in the length of

the second line indicates the anterior or

posterior displacement of the greater

trochanter accordingly

NELATONS LINE

- The patient lies on his sound

side. A line is drawn or a

measuring tape is placed from

the most prominent part of the

ischial tuberosity to the tip of



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the ASIS.

- Normally, this line touches the tip of the greater trochanter and upward displaced of trochanter can be easily demonstrated.

SCHOEMAKER'S LINE

- The line from the tip of greater trochanter to the anterior superior iliac spine prolonged anteriorly will reach the umbilicus of the patient.

This is called Schoemaker's line.

- If the greater trochanter is elevated the line will cross the midline below the umbilicus.

CHIENE'S TEST

- A tape joining the tips of the greater trochanters is parallel to another joining the two anterior superior iliac spines.
- When a trochanter is raised, these two lines converge towards the affected side.

Morris 'BiTrochanteric Test

It measures the distance between the GT and pubic symphysis on both sides

Reduced in hip dislocations



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OTHER EXAMINATION

- LYMPH NODES— Palpation of lymph nodes in inflammatory conditions
- OTHER JOINTS like lumbosacral spine, sacroiliac joints, knee joints..
- PER RECTAL EXAMINATION

Done in tuberculous arthritis if an intrapelvic abscess is suspected



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VALUE ADDED COURSE

EXAMINATION OF HIP JOINT OROS

4. List of Students Enrolled MAY 2018 – AUG. 2018

1 st Year MBBS Student			
Sl. No	Name of the Student	Roll No	Sign
1	AARTHIA	U16MB251	Aarthi
2	ABHILASHA K	U16MB252	Abhilasha
3	ABITHA BAJLINS	U16MB253	Abitha
4	ADAPALA PRIYANKA	U16MB254	Adapala
5	ADHITHAYA RAJ N	U16MB255	Adithaya
6	AJAY N	U16MB256	Ajay
7	AKSHYA B	U16MB257	Akshya
8	ALLARI KARTHIK ABHIROOP	U16MB258	Allari
9	AMAL ASHOK	U16MB259	Amal
10	AMIKTHAVARSHINI B	U16MB260	Amiktha
11	ANANYA SHARMA	U16MB261	Ananya
12	ANGALAKUDURU DEEPCHAND	U16MB262	Angalaku
13	ANJAN BANERJEE	U16MB263	Anjan
14	ANWESHA CHATTERJEE	U16MB264	Anwisha
15	ARCHANA A	U16MB265	Archana
16	ARCHITHA A	U16MB266	Architha
17	ARIVUMATHI B	U16MB267	Arivumathi
18	ARJUN S	U16MB268	Arjun
19	ASHVANTH KUMAR A	U16MB269	Ashvath
20	ASMITHA S V	U16MB270	Asmita
21	AVIDI VENKATA SAISUSHMA	U16MB271	Avidi
22	AVIRAL PATPATIA	U16MB272	Aviral

RESOURCE PERSON
DR. VIJAYARAGAVAN

COORDINATOR
DR. JAYALAKSHMI



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Course/Training Feedback Form

Course: examination of hip joint

Date: 22/8/18

Name: balaji

Reg NO.

Department: ORTHO

Q 1: Please rate your overall satisfaction with the format of the course:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 2: Please rate course notes:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 3: The lecture sequence was well planned

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 4: The lectures were clear and easy to understand

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 5: Please rate the quality of pre-course administration and information:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 6: Any other suggestions:

Comments:

Thank you for taking the time to complete this survey, your comments are much appreciated.

OPTIONAL Section: Name _____

Signature _____

Date _____



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Thomas's Test → Late joining of greater trochanter at parallel to another joining the two ASIS

Length of lateral limb → Measured from ASIS to Medial malleolus

Special Test of Hip Joint

TRENDELENBERG'S TEST

→ Tests the abductor mechanism of the hip & does the stability of hip

→ Principle: When a person stands on two legs the body weight is distributed equally on both lower limbs. But when the person chooses to stand only on one leg, automatically the lower limb tries to align the whole body wt of the trunk

→ Procedure: if Ask pt to stand on floor, stand normal pt
if Ask pt to stand on one leg of normal side
if then on affected side

if Pathologic Trendelenberg: On normal side, standing pathological side leg Non affected side's weight is not elevated



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Measurements of Hip Joint.

MOVEMENT :

i) Flexion - Extension : Normal 0° to 130° - 0° to 15°
Thomas test for Flexion/Extension deformity of hip

ii) Abduction - Adduction : Normal 0° to 45° - 0° to 35°
Test for Femoral Abduction/Adduction deformity
Abductor in flexion of hip

iii) External - Internal Rotation : Normal 0° to 40° - 0° to 30°
Rotation = hip extended
Rotation = hip flexed
Rotation in prone

MEASUREMENT :

i) Bryant's Triangle : Check for : Transversion/Subluxation of neck of femur
Separation of acetabulum
Hippocampus

ii) Nelaton's Line : Check for : Upward displacement of Trochanter

iii) Shearwater's Line : The line from AS front to trochanter to ASIS if prolonged and, neither vertical of H.

iv) Horner's ASi Trochanter Line : Medial or lat displacement of Trochanter



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c. Palpation of Bony Landmarks

- Greater trochanter: Size, Shape, Surface, Level, Induror, Transmitted motion
- ASIS: Level, Induror
- Iliac Tuberosity: Plain lat border, Side to be examined facing forwards, knee flexed @ 90°. Palpated at bony hard prominence mid way 1/2 way back border of trochanter by lower sacrum and coccyx, at the level of "gluteal fold".
- Iliac crest: Position, depth, induror
- PSIS: Level induror (line from foramen)

d. Soft tissue palpation

- Abductor muscle: Pt. recline, standing on affected side of knee, partially with thigh = distal based, usually of latrally. by palpate muscle = proximal hand
- Femoral pulse
- Inguinal lymph node
- Iliac fossa
- Gluteal region
- Sciatic point



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PALPATION OF HIP JOINT

a. Temperature - Palpate & dorsum of fingers of
right hand, compare & comment on the
temperature of over the femoral
triangle
My order - feel on normal side,
then on affected (pathological) side,
finally again a normal side

b. Tenderness - Look at patient's face, & palpate -
i) Ant. Hip Point (normal) - 1.5 cm below & lateral
to mid inguinal point.
ii) Mid point of dist. l/w ASIS
& Symphysis pubis, just below
femoral artery pulsation

It should be trochanteric - Pl. infero, place both
hand over both trochanters,
so that base of hand area
contact & centre of the
trochanteric prominence

Tenderness seen in - Central dislocation,
Acetabulum,
Femoral neck, Trochanter
trochanteric prominence
ITB hitch
AVN
Pott's disease



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①

Q1. Inspection of Hip Joint
Q2. Palpation of Hip Joint
Q3. Measurements & movements of Hip Joint.
Q4. ~~Special tests~~ special tests for Hip Joint.

ANSWERS

16 / 20

① INSPECTION OF HIP JOINT

a) With Patient Standing -

i) from front - Level of shoulders; Anterior Superior Iliac Spine
+ Iliac fossa - groin fold; Pubis, foot

ii) from Side - Lumbar Lordosis: Abnormal protrusion of abdomen / buttocks; supra + infra trochanteric depression

iii) from Back - Scapula, Central furrow over spine (scapula)
Posterior Superior Iliac Spine (Dimple of Venus)
Iliac folds - Iliac fossa - Hicel.

b) With patient sitting: significance of scoliosis from the back

c) With patient sitting: Attitude of lower limb of Pelvis, shortening of lower limb

d) With patient prone: For patients who cannot stand for ~~long~~ bed sores

+ GAIT. 1



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Cause of positive Trendelenburg sign

i) Iliac fossa fracture

ii) Iliac screw fracture

iii) Abductor muscle fracture

iv) ~~Patellar def~~

(4)



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CERTIFICATE OF MERIT

This is to certify that BALAJIS has actively participated in the Value Added
Course on *examination of hip joint* held during MAY 2018 – AUG 2018 Organized by Sri
Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr. Vijayaragavan
RESOURCE PERSON

Dr. Jayalakshmi
COORDINATOR



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Student Feedback Form

Course Name: Examination of hip joint

Subject Code: OR08

Name of Student: Arjun S Roll No: VI6MB268

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

S. 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: 22/8/18

Arjun S
Signature



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Date:22.08.2018

From
DR.Vijayaragavan,
Department of orthopaedics,
SLIMS,
Bharath Institute of Higher Education and Research,
Pondicherry.

Through Proper Channel

To
The Dean,
SLIMS,
Bharath Institute of Higher Education and Research,
Pondicherry.

Sub: Completion of value-added course: Examination of hip joint

Respected Sir,

With reference to the subject mentioned above, the department has conducted the value-added course titled: **Examination of hip joint** on 22.08.2018. 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.VIJAYARAGAVAN

Dr. E. VIJAYA RAGAVAN, (M.B.B.S.)
MBBS (M.D.)
Senior Professor Orthopaedics
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Villianur, Puducherry-605 502

Encl: Certificates

Photographs



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