

Exercise therapy-Lesson Plan -2024

1. The aims of Exercise Therapy, The techniques of Exercise Therapy, Approach to patients Problems, Assessment of patient's condition – Measurements of Vital parameters, Starting Positions – Fundamental positions & derived Positions, Planning of Treatment (T-3 hrs)

- Practical: vitals, posture, observation and interview (2 hours)
- 2 hours: Physiopedia
- Faculty: Bhavithra
- PGs: Vrushali, Sradha,Alisha

Recommended books:

- Therapeutic exercise – Carolyn Kisner,
- Therapeutic exercise – William D Bandy, Barbara Sanders ,P.No : 2 – 9

Reference books:

- Therapeutic exercise – Carrie M. Hall- P No :1 –4, 2nd edition
- Therapeutic exercise treatment planning for progression, Frances E Huber.

METHODS OF TESTING

1. Anthropometric Measurements: Measurement of Limb Length: true limb length, apparent limb length, segmental limb length, functional limb length, girth measurement, vernier calliper, BCA, BMI, waist hip ratio, chest measurements.

- Faculty: Bhavithra
- PGs: Siraj, Amrutha, Jomin
- (2 hrs P + 1hrT)

Recommended books:

- Body space – P.No :15 -30, 2nd edition.
- Physiological assessment of human fitness: First Edition: Peter J Maud/ Carl Foster : 174-185
- Cardio pulmonary physical therapy-Hillegass & Sadowsky (2nd edition) 631-635

Reference books:

- Orthopedic Physical Assessment. P.No 1057 - 1059. 5th Edition
- Physiological Assessment of Human Fitness-Peter J Maud Carl Foster 174-185

ANGULAR MEASUREMENTS

1. Goniometry (includes pelvic inclination, ROM using different methods, reasoning using reliability and accuracy, MCID) (total 6 hrs)
 - T- Sandeep (3 hours)
 - Practical: 3 hours: 3 group: Avani, Kalyan, Athira

Recommended books:

- Measurement of joint motion – Cynthia C Norkin- entire book to be referred.
- Therapeutic exercises –Michael Higgin Pg 57-60 Therapeutic exercise treatment & planning Frances.E.Huber
- Measurement of joint motion – Cynthia C Norkin . P. No : 24-25,312 – 327, 334 - 363,252, 192, 67 . 3rdEdition

Reference books:

- Occupational therapy for physical Dysfunction (4th edition) Catherine A trombly,page no:73-106
- Chris.L.Wells-pg 68 – pg 74
- Practical manual page no 8-9

2. Cognitive screening, ANS, screening, sensation, tone (total 2 hours)

- Faculty: Sruti (1 hour T)
- Practical: (1hr) (same PGs of goniometry)

Recommended books:

- Physical Rehabilitation O’Sullivan, Page no: 123-132
- Merits Neurology (12th edition)pg no:93-96
- Adams and Victors principle of neurology, page no:505-535

3. Strength and endurance

- MMT (T 3 hrs)- Faculty: Kalasree
- Practical: MMT, instrumental muscle testing, Functional muscle testing, power, endurance, RM testing (6 hours)
- PGs: Raghavi, Deepti, Ramya

Recommended books:

- Manual of Sports Medicine –Marc.R.Safran&Dougali Page no:84-88
- Daniel’s & Worthingham ’s muscle testing (Hislop)
- Muscle testing and function- Florence Peterson Kendall
- Therapeutic exercise – Carolyn Kisner ,page no- 87,232,891
- Physiology of sports & exercise –Jack H Wilmore (4th edition)pg no:190- 197,223-245,393
- Exercise Physiology – Katch&Katch (2nd edition) Pg no:311-312,376

Reference books:

- Practical manual page no 10-20
- Physiological Assessment of Human Fittnes-Peter J Maud Carl Foster 115-133
- Physiology of sports & exercise –Jack H Wilmore, pg no39,222,285,286
- Exercise Physiology – Katch&Katch (2nd edition) Pg no:181-195

4. Agility, Speed, Isokinetic and Isoinertial

- T: Vijay (2 hrs)
- PGs: Raghavi, Deepti, Ramya (Practical: 2hrs)

Recommended books:

- Physiology of sports & exercise –Jack H Wilmore, pg no39,222,285,286
- Exercise Physiology – Katch&Katch (2nd edition) Pg no:181-195

5. Exercise capacity (T-3 hrs+ P2 hrs)

- Practical includes: treadmill based and field test
- Faculty: Naresh
- PGs: Subendu, Aswin, Varsha H

Recommended books:

- Physiology of sports & exercise –Jack H Wilmore, pg no39,222,285,286
- Exercise Physiology – Katch&Katch (2nd edition) Pg no:181-195

6. Function evaluation (T3 hrs+ P 3 hrs) (observational, scales, analysis)

- Faculty: Sandeep
- PGs: Amrutha, Siraj, Jomin

Recommended books:

- FIM Manual (standardized test)

7. Coordination, balance, posture (orthostatic hypotension), gait, walking aids: (T 3hrs+ P 3hrs)

- Faculty : Sruti
- Pgs: Aswini, Suraksha, Ayushi

Recommended books:

- Therapeutic exercise treatment planning progression: Francis Huber:126-211
- Therapeutic exercise techniques for interventions:Wiliambandy;239-263
- Physical rehabilitation : Susan B O Sullivan :

Reference books:

- Therapeutic exercise moving towards function: Carry M Hall 149-166

8. Health behaviour, quality of life, patient reported outcome measures (1 hr)

(I pack, physical activity questionnaire)

- Pgs: Deekshitha, Jerome, Venus

Recommended books:

9. IADL (Activities like eating, writing – assessment of motor control and learning)

- Faculty : Bhavithra
- PGs: Anagha, Pallavi, Preritha

Recommended books:

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(FIRST INTERNAL – MARCH)

TREATMENT

1. 4. Passive Movements [4 Hours] (2 HR T+2 hrP)

Causes of immobility, Classification of Passive movements, and Specific definitions related to passive movements, Principles of giving passive movements, Indications, contraindications, effects of uses, Techniques of giving passive movements.

- Faculty :Bhavithra
- PGs: Mansi, Lhari, Jomol

Recommended books:

- Therapeutic exercise Foundations and techniques. No 43 -64. 5th Edition
- Therapeutic exercise theory from theory to practice. Michael Higgins. P.No : 57 – 77
- Therapeutic exercise techniques for intervention: William Bandy:13-36

Reference books:

- Therapeutic exercise for musculoskeletal injuries, Peggy A Houghlam, P. No: 88 – 119
- Therapeutic exercise: Francis E Huber: Page number 78-82

2. Active Movements [6 hours] (2 hrs T+3 hrs P)

Definition of strength, power & work, endurance, muscle actions. Physiology of muscle performance: structure of skeletal muscle, chemical & mechanical events during contraction & relaxation, muscle fiber type, motor unit, force gradation. Causes of decreased muscle performance. Physiologic adaptation to training: Strength & Power, Endurance.

Types of active movements: Free exercise: Classification, principles, techniques, indications, contraindications, effects and uses. Active Assisted Exercise: principles, techniques, indications, contraindications, effects and uses. Assisted-Resisted Exercise: principles, techniques, indications, contraindications, effects and uses. Resisted Exercise: Definition, principles, indications, contraindications, precautions & techniques, effects and uses. Types of resisted exercises: Manual and Mechanical resistance exercise, Isometric exercise, Dynamic exercise: Concentric and Eccentric, Dynamic exercise: Constant versus variable resistance, Isokinetic exercise, Open-Chain and Closed-Chain exercise.

- Faculty :Bhavithra
- PGs:Mansi, Lhari, Jomol

Recommended books:

- Therapeutic exercise Foundations and technique:es.P. No 43 -64. 5th Edition
- Therapeutic exercise theory from theory to practice. Michael Higgins. P.No : 57 – 77
- Therapeutic exercise techniques for intervention: William Bandy:13-36

Reference books:

- Therapeutic exercise for musculoskeletal injuries, Pegg y A houghlam, P. No: 88 – 119
- Therapeutic exercise: Francis E Huber: Page number 78-82

3. Specific exercise regimens

Isotonic: de Lormes, Oxford, MacQueen, Circuit weight training

Isometric: BRIME (Brief Resisted Isometric Exercise), Multiple Angle Isometrics

Isokinetic regimens

Recommended books:

- Therapeutic exercise: Michael Higgins: 157- 185

4. Functional Re-education [4 hours](1hrT+2hrP)

Lying to sitting: Activities on the Mat/Bed, Movement and stability at floor level; Sitting activities and gait; Lower limb and Upperlimb activities.

- Faculty: Sandeep
- PGs: Jomon, Athira, Kalyan

Recommended books:

- Practical exercise therapy : Margaret hollis : 248-260
- Functional neuro Rehabilitation : Dolores B Bertoti

Reference books:

- Susan O' Sullivan. (523-560)

5. 11. Aerobic Exercise [4 Hours](1 hr T+2hrP)

Definition and key terms; Physiological response to aerobic exercise, Examination and evaluation of aerobic capacity – Exercise Testing, Determinants of an Exercise Program, The Exercise Program, Normal and abnormal response to acute aerobic exercise, Physiological changes that occur with training, Application of Principles of an Aerobic conditioning program for patients – types and phases of aerobic training.

- Faculty : Naresh
- PGs: Jomon, Sreelakshmi, Adwithya

Recommended books:

- Exercise Physiology McArdle Katch&Katch
- Jones clinical exercise testing : 4th edition: 65-167

Reference books:

- ACSM- guidelines Practical manual page no 30-31

6. Stretching [3 Hours](1Hr T+1HrP)

Definition of terms related to stretching; Tissue response towards immobilization and elongation. Determinants of stretching exercise, Effects of stretching, Inhibition and relaxation procedures. Precautions and contraindications of stretching. Techniques of stretching.

- Faculty: Kalashree
- PGs: Alun, Avyash, Jomol

Recommended books:

- Therapeutic exercise by Karolyn kisner: 6th edition
- Travel and Simmons

Reference books:

- Facilitated stretching : Robert e Mcatee/ Jeff charland- 2nd edition

7. Manual Therapy & Peripheral Joint Mobilization [5 Hours] (2HrT+3HrP)

Schools of Manual Therapy, Principles, Grades, Indications and Contraindications, Effects and Uses – Maitland, Kaltenborn, Mulligan

Biomechanical basis for mobilization, Effects of joint mobilisation, Indications and contraindications, Grades of mobilization, Principles of mobilization, Techniques of mobilization for upper limb, lower limb, Precautions.

- Faculty: Mukund
- PGs: Ronika, Radhika, Sanchitha

Recommended books:

- Therapeutic exercise-carolyn Kisner-pg-120-155

- Peripheral Manipulations GD maitland pg no-9,20,47,129-221-297

Reference books:

- Therapeutic exercise for musculoskeletal injuries, Pegg y A houghlam, P. No: 154 – 196
- Practical manual page-22-23

8. Balance and coordination exercises

- Faculty: Sruthi
- Pgs: (first year neuro PGs)

Recommended books:

- Therapeutic exercise treatment planning progression: Francis Huber:126-211
- Therapeutic exercise techniques for interventions:Wiliambandy;239-263
- Physical rehabilitation : Susan B O Sullivan :

Reference books:

- Therapeutic exercise moving towards function: Carry M Hall 149-166

9. Posture, walking Aids [6Hours](2hr T+4hrsP)

Definition, Active and Inactive Postures, Postural Mechanism, Patterns of Posture, Principles of re-education: corrective methods and techniques, Patient education. Walking aids Revision.

Application: Pre crutch Training and crutch gaits.

- Faculty: Kalasree
- Pgs: Batul,Pallavi, Ramya

Recommended books:

- Therapeutic exercise techniques for intervention : William D Bandy:263- 294

Therapeutic exercise moving towards function: Carrie m hall: 167-184

- Practical exercise therapy : Margaret hollis : 167-184

10. Individual and Group Exercises [3 Hours](1 hr T+2hrP)

Advantages and Disadvantages, Organisation of Group exercises, Recreational Activities and Sports.

- Faculty: Kalasree
- Pg: Avani, Athira , Kalyan

Recommended books:

- Practical exercise therapy : Margaret hollis : 165-175

(SECOND INTERNAL-JUNE)

MISCELLANEOUS

1. Hydrotherapy, Massage, Proprioceptive Neuromuscular Facilitation, Relaxation (12 Hrs)

- Faculty: Bhavithra, Sruti(PNF)
- PGs:

Recommended books:

- Principles and practices of therapeutic massage. Akhoury gowrang Sinha 1-101
- Practical exercise therapy. Margret Hollis
- Massage therapy. Richard Jackson.

Reference books:

- Therapeutic exercise technique for Intervention. William D Bandy (295- 332)
- Therapeutic exercise foundation and techniques. Carolyn Kisner.
- Therapeutic exercise moving towards function. Carrie M Hall (P.No:330-348)
- Therapeutic massage, Elizabeth Holey.
- PNF in practice. An illustrated guide. 2nd edition. Susan S. Adler. Practical exercise therapy. Margaret Hollis. (202- 247).
- Practical exercise therapy. Margaret Hollis (58- 62)
- Relaxation Techniques: Payne Rosemary: 1st edition

2. Instrumented exercise therapy

- Biofeedback
- HHD
- GYM
- CPM
- Traction
- BWS
- Foam roller , Swiss blade , kettle bell , dumbbells etc
- Volumeter
- Air splints
- Orthotics

Faculty: Sandeep /Vijay

PGs: Sports and community pgs

3. YOGA

- Combined class (T and P)
- Faculty: Ayurveda college

EXERCISE THERAPY TEXT BOOK IN LIBRARY

Sl no	Title	Author		Edition	Year	No of copies
		First	Second			
1	Practical Exercise Therapy	Hollis Margaret		4th	2007	05
2	Therapeutic Exercise Foundation and Techniques	Kisner Caroyln	Calby Lynn Allen	3rd	1996	07
				4th	2004	02
				5th	2007	03
3	Hydrotherapy Principles and Practice	Campion Margaret Reid				01
4	Daniels and Worthing Hams Muscle Testing	Hislop Helen J	Avers Dale etal	6th	1999	03
			Montgomar Jacqueline	7th	2002	03

				8th	2010	02
				9th	2017	05
5	Principles of Manual Therapy	Sebastin Deepak		1st	2005	02

6	Massage for Therapists	Hollis Margaret				02
7	Principles of Exercise Therapy	Gardener Dena		4th	2005	08
8	Principles and Practice of Therapeutic Massage	Sinha Akhoury		2nd	2010	02
		Gowrang				
9	Muscle Testing and Function	Floraence	Creasy MC	4th	1993	04
		Kendall	etal			
10	Kinesiology Movement in Context of Activity	Greene David	Robert Susan	1st	2005	01
		Paul	L			
11	Relaxation Techniques	Payne Rosemary		1st	1998	01
		A				
12	Vertebral Manipulation	Maitland GD		6th	2002	01
13	Peripheral Manipulation	Maitland GD		3rd	2003	01
14	Muscle Energy Techniques	Chaitow Leon		2nd	2001	01
				3rd	2007	01
15	Closed Kinematic Chain exercise	Ellenbeck erTodd.S.		1st	2001	01

16	Water Exercise :Safe and Effective Exercise for Fitness and Theory	White Martha D		1st	1995	01
17	Therapeutic Exercise Techniques For Intervention	Bandy D William				01
18	Bourdillons Spinal Manipulation	Edward Issacs		6 th	2002	01
19	Therapeutic Exercise for Lumbo-pelvic Stabilization	Carolyn Richardson	Hodges Paul	2 nd	2004	01
20	Textbook of Therapeutic Exercise	S Lakshmi Narayan		1 st	2005	04
21	Clinical Exercise Testing	Jones Norman L		4 th	1997	01
22	Kinesiology Movement in the Context of Activity	Greene David				01
23	Joint mobilization and manipulation	Susan Edmond L		1 st	1993	01
				2 nd	2006	01
24	Therapeutic exercise for musculoskeletal injuries	Houghlum, Peggy A				01
25	Therapeutic Massage	Holey Elizabeth	Cook Ellien	1 st	2000	03
		A				

26	Exercise Therapy Prevention and Treatment Diseases	John Gromley	Hussey Juliette	1 st	2005	04
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27	Muscle Energy Techniques	Chaitow , Leon	Delany Judith	1 st	2005	01
28	Jumpping into Plyometrics	Deneold A Chu		2 nd	1998	01
29	Deep Tissue Massage-A Visual Guide to Technique	Riggs Art		1 st	2002	01
30	Manual Therapy of PelvicComplex	Mohanty		1 st	2010	01
		Umasankar				
31	Myofacial Release Manual	Mahein J Carol		3 rd	Not menti oned	01
32	Physiology of Sports & Exercise	Willmore Jack H	Hostill David L	3 rd	2004	01
33	Jones Clinical Exercise Testing	L Jones		4 th	1997	01
34	Principles of Exercise testing & Interpretation- Including Pathophysiology & Clinical Applications	Karlman Wasserman	E Hansen James etal	5 th	2002	01