

Neuro Physiotherapy

Advances in Neurophysiotherapy - (Part I)

This paper will focus on advances in theory and practices in paediatric neurological conditions

1. Gross and fine motor development skills, posture and gait examination and functional performance.
2. Facilitation of development using appropriate skills in a neurologically disabled child.
3. Congenital and acquired disorders affecting growth and development of child.
4. Advanced skills in assessment of paediatric neuropathological, neuropsychological and neurosurgical conditions.
5. Advanced Physiotherapy approaches – Neurophysiological principles, skills of handling in various approaches and rationale for effective management.
6. Clinical decision making and evidence based practice to formulate effective assessment and treatment program
7. Theories of motor control and learning, perceptuomotor and sensory issues in children
8. Early identification of paediatric neurological disorders and early intervention skill.
9. Role of Physiotherapy in progressive paediatric neurological conditions, management of terminally ill child
10. Role of Physiotherapy in Neonatal intensive care units
11. Social integration of child in school and community – measures to ensure – attitudinal, environmental, manpower, assistive technology, legislation and support
12. Assessment, clinical reasoning and management, of Integumentary and other system impairments due to neuromusculoskeletal dysfunction.
13. Pharmacotherapeutics in neurological conditions and its relevance in physiotherapy

Advances in Neurophysiotherapy (Part II)

This paper will focus on advances in theory and practices in adult neurological conditions

1. Neurodevelopment and neurophysiological approaches in Adult neurological conditions
2. Advance skills in assessment of adult neuro-pathological, neuropsychological and neurosurgical conditions

3. Various outcome measures and assessment methods used in geriatric & adult neurological conditions
4. Clinical decision making and evidence based practice to formulate effective assessment and treatment program
5. Advanced Neuro-therapeutic skills for management
6. Role of Physiotherapy in progressive neurological conditions, management of terminally ill patient.
7. Facilitation and coping up with problems associated with ageing.
8. Prevention of age related complications
Social integration in community – measures to ensure – attitudinal, environmental, manpower, assistive technology, legislation and support
9. Pharmacotherapeutics in neurological conditions and its relevance in physiotherapy

CLINICAL POSTING

Second year

Neonatal and Acute care and Rehabilitation of neuromedical and surgical disorders:

Adult Neuro-medical, neurosurgical and OPD,

Pediatrics Neuro-medical, neurosurgical and OPD,

Early intervention.

Examination Pattern: All papers to be set and evaluated by speciality teachers. Topics from Applied Physiotherapeutics Paper I & II can be subject to application as per speciality

Theory Examination

- There shall be four theory papers of 100 marks
- Each paper shall be of three hours duration

Paper I - Applied Physiotherapeutics Paper I (Applied biomechanics & clinical kinesiology, exercise physiology and nutrition, Electrophysiology and Electrodiagnosis)

Paper II - Applied Physiotherapeutics Paper II (Physiotherapy Diagnosis and Clinical Decision Making, Evidence Based practice and Advanced Physiotherapeutics)

Paper III – Advances in Physiotherapy (Speciality)- I

Paper IV- Advances in Physiotherapy (Speciality)- II

Question paper pattern :

Q. No.	Nature of question	Distribution of marks	Total marks
1.	Long Answer question answer any one	1 x30	30 marks
2.	Long Answer question answer any one	1x30	30 marks
3.	Solve any four out of five SAQ	4x10	40 marks

Practical 400 marks

Long Case I – Speciality – Paper I – 150 marks

Long Case I – Speciality – Paper II – 150 marks
Short Case – Allied – 50 marks
Dissertation & Research Viva- 30 marks
Presentation of Teaching Skills - 20 marks

BOOKS & JOURNALS OF NEURO PHYSIOTHERAPY

- 1) Text book of clinical neuroanatomy by Vishram Singh (Elsevier 2007)
- 2) Clinical Neuroanatomy for Medical Students by Richard S Snell, 5th Edition (Lippincott Williams & Wilkins, 2001)
- 3) Neurophysiology by RHS Carpenter, 4th edition (Arnold 2003)
- 4) Pathophysiology of the motor systems: Principles and Clinical presentations by Christopher M. Fredericks and Lisa K. Saladin (F.A. Davis Company 1996)
- 5) Brain's diseases of the nervous system by John Walton, 12th edition (Oxford University press)
- 6) A physiological approach to clinical neurology by James W. Lance and James G. McLeod, 3rd edition (Butterworth's 1981)
- 7) Muscle and its diseases: An outline primer of basic science and clinical methods by Irwin M. Siegel (Year book medical publishers 1986)
- 8) Neuroscience fundamental for rehabilitation by Laurie Lundy Ekman (W.B Saunders 1998)
- 9) Illustrated neurology and neuro surgery by Kenneth Lindsay and Ian Bone (Churchill Livingstone, 2004)
7. Basic neurology by John Gilroy (Elsevier)
- 10) Hand book of neurologic rating scales by Robert M. Herndon, 2nd edition, (Demos publications 2005)
2. Bickerstaff's neurological examination in clinical practice by John Spillane, 6th edition (Blackwell science limited 1996)
- 11) Physical rehabilitation laboratory manual: Focus on functional training by Susan B O Sullivan and Thomas J Schmitz. (F.A. Davis Company)
- 12) The development of the infant young child: Normal and Abnormal by R.S. Illingworth, 9th edition (Churchill Livingstone 1996)
- 13) Functional Movement Reeducation – A contemporary model for stroke rehabilitation by Susan Ryerson and Kathryn Levit (Churchill Livingstone and Elsevier, 1997)
- 14) Pediatric Physical Therapy, Jan Stephen Tecklin, 3rd (1999) and 4th (2008) editions, Lippincott Williams & Wilkins.
- 15) Physical Therapy for Children, Suzann K. Campbell, 3rd edition, 2006, Saunders Elsevier.
- 16) Physiotherapy for Children, Teresa Pountney, 2007, Butterworth Heinemann Elsevier.
- 17) Meeting the Physical Therapy Needs of Children, Susan K. Effgen, 2005, F.A. Davis Company, Philadelphia.
- 18) Physiotherapy in Pediatrics, Roberta B. Shepherd, 3rd edition, 1995, Butterworth Heinemann.
- 19) Neurologic Intervention for Physical Therapist Assistant, Martin Kessler, 1st & 2nd Edition, 2008, W.B. Saunders Company Ltd.
- 20) Physiotherapy and the growing child, Yvonne R Borns & Julie MacDonald, 1996, W.B. Saunders Company Ltd.
- 21) Pediatric Rehabilitation, Gabriella E. Molnar, 3rd edition, 1999. Hanly & Belfus, Philadelphia.
- 22) Treatment of Cerebral Palsy & Motor Delay, Sophie Levett, 4th edition, 2004. Blackwell Publishing.
10. Pediatric Therapy, A Systems Approach, Susan Miller Porr, 1999, F.A. Davis Company.
- 23) Reflex and Vestibular Aspects of Motor Control, Motor Development and Motor Learning, R. Barnes, Carolyn A Crutchfield, 1990, Stokesville Publishing Company.
- 24) Neurological Rehabilitation, Darcy A. Umphred, 4th & 5th edition, 2007, 2001, MOSBY Elsevier.
- 25) Physical Rehabilitation, Susan B. O Sullivan, 4th & 5th editions, 2007, Jaypee Brothers.
- 26) Cash's Textbook of Neurology for Physiotherapists, Patricia A. Downie, 4th edition, 1992, Jaypee Brothers.
- 27) Cardiovascular & Pulmonary Physical Therapy evidence & practice, Elizabeth (Dean & Donna Frownfelter, 3rd (1996) & 4th (2006) editions, MOSBY Elsevier.

- 28) Pediatric Physical Examination, Karen G.Dunderstadt, 2006, MOSBY Elsevier.
- 29) Clinics in Physical Therapy Assessment in Early Infancy, Edited by Irmaj. Wilhelm, 1993,Churchill Livingstone.
- 30) Motor Assessment of the Developing Infant , Martha Copier, 1994, Saunders
- 31) Neurological rehabilitation by Darcy A.Umphred, 5th Edition, 2007 (Mosby ElsevierPublication.)
- 32) Physical management in neurological rehabilitation by Maria Stokes (Elsevier Mosbypublication 2004)
- 33) Physiotherapy in neuro conditions by Gladysamual raj (Jaypee brothers 2006)
- 34) Spinal cord injury functional rehabilitation by Martha Freeman Somers, 2nd edition (Prentice Hall publication)
- 35) Physiotherapy in disorders of the brain : A clinical guide by Janet H.Carr and Roberta B. Shepherd (William Heinemann medical books limited)
- 36) Cash textbook of Neurology for physiotherapists by Patricia Downie, 4th edition (Jaypee Wolf1992)
7. Neurologic interventions for physical therapy by Suzanne Tink Martin and Mary Kessler, 2nd edition (Saunders Elsevier)
- 37) Functional neurorehabilitation through the life span by Dolores B. Bertoti (F.A. Davis Company2004)
- 38) Brunnstrom's movement therapy in hemiplegia: A neurophysiological approach by Kathryn A.Sawner and Jeanne M. La Vigne, 2nd edition (Lippincott Company 1992)
- 39) Motor control: Translating research into clinical practice by Anne Shumway - Cook AndMarjorie Woollacott, 3 edition (Lippincott Williams and Wilkins)
- 40) Neuro developmental treatment approach : theoretical foundations and principles of clinical practice by Janet M. Howle (NDTA2002)
- 41) PNF in practice: Susan Adler
- 42) Vestibular rehabilitation by Susan J.Herdman, 2nd edition (F.A. Davis Company 2000)
- 43) Mobilization of the nervous system by David S.Butler (Churchill Livingstone 1996)
- 44) Myofascial Release Manual
- 45) Stroke Rehabilitation: Guidelines for exercise and training to optimize motor skill By Janet Carrand R. Shepherd (Elsevier, 2003)
- 46) Neurological Rehabilitation, Optimizing motor performance by Janet Carr and R. Shepherd (Butterworth and Heinemann Ltd, 2004)
- 47) Functional Movement Reeducation – A contemporary model for stroke Rehabilitation by Susan Ryerson and Kathryn Levitt (Churchill Livingston and Elsevier, 1997)
- 48) A Motor Relearning Programme for Stroke by Janet Carr and R. Shepherd (Butterworth and Heinemann Ltd, Oxford Publication)
- 49) Recent advance in clinical neurology by Kennard, Churchill living stone
- 50) Stroke, by Wade D.T. & Others, Champan Halt
- 51) Neurology secrets by Rolak L.A., Jaypee Brothers
- 52) Physiological Approach to Clinical Neurology by Lance & Mcleod ,Butterworths
- 53) Stem cell therapy in neurological disorders by Sharma Alok, Neuro institute
- 54) Illustrated manual of neurology diagnosis by Douglas, J B Lipincoet company
- 55) Neurological examination made easy by Fuller Grant , Churchill Living stone
- 56) Principles of Neurology by Maurice Victor & Allan H Rapper, McGraw hill
- 57) Nerve and nerve injury by Sydney Sunderland, Churchill living stone
- 58) Neruological physiology by Edwards Susan, Elsevier
- 59) Neurological differential diagnosis by John Patten, Springler
- 60) Electromyography & Neuromuscular disorders by Preston David, Elsevier
- 61) Right in the middle by Davis Patricia, Springler
- 62) Steps to follow by Davis Patricia, Springler
- 63) Stroke rehabilitation : A functional approach by Gillen , Elsevier

Journals

- 1) Pediatric Physical Therapy
- 2) Journal Of Neurological Sciences
- 3) Indian Journal Of Cerebral Palsy.
- 4) Stroke.
- 5) Developmental Medicine & Neurology
- 6) Journal Of Neurosciences
- 7) Journal Of Neurological Physical Therapy
- 8) Journal of Paediatric Neurosciences

