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**GOVERNMENT OF INDIA**  
**ALL INDIA INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION**  
**MINISTRY OF HEALTH AND FAMILY WELFARE**  
**(UNDER DIRECTORATE GENERAL OF HEALTH SERVICES)**  
**HAJI ALI, K. KHADYE MARG, MAHALAXMI,**  
**MUMBAI – 400 034.**

**ANNUAL REPORT - 2014-2015**

## **1.1 About the Institute**

All India Institute of Physical Medicine and Rehabilitation, established in 1955, is an Apex Institute in the field of Physical Medicine and Rehabilitation under the Ministry of Health and Family Welfare, Government of India.

In keeping with its mission to optimally enable Persons with Locomotor Disability to achieve their utmost social and economic independence through interventions that go beyond their medical needs, the Institute strives to create and provide comprehensive rehabilitation services for all categories of Neuro - musculo - skeletal disorders including non communicable disorders.

The interdisciplinary approach and team work in providing Rehabilitation services is the hallmark of the Institute which includes fabrication of aids and appliances duly customized for individual persons with disability.

### **Training of Rehabilitation professionals.**

Graduate and Post Graduate Courses in Medical and Paramedical Courses are conducted by a team of highly qualified and dedicated Faculty. Health functionaries at the community level are also trained.

The Institute has comprehensive facilities for research and teaching. In the field of Rehabilitation and Allied Sciences, AIIPMR is in the lead having numerous publications and presentations to its credit.

Collaboration and co-ordination with government and NGOs is done to provide consultative services to formulate, improve and monitor rehabilitation services from time to time.

## 1.2 ANNUAL STATISTICS (April 13 – March 14)

### A) MEDICAL:

#### I) OUT PATIENT DEPARTMENT:

##### Services :

Number of PWDs managed through Out Patient Department:

New Persons with Disabilities registered	-	11328
Follow-up PWD	-	18350
Total No. of PWDs	-	29678
No. of Disability Certificate issued	-	842
No. of Railway Concession issued	-	1291
No. of Driving Certification	-	884
No. of Special Certificates	-	26
No. of CP Clinics	-	466
No. of P & O Clinics	-	426
No. of Diabetic Clinics	-	72
No. of Follow up	-	16
No. of Case Conferences	-	66

#### II) IN PATIENT SERVICES:

1) Admissions in ward for reconstructive Surgery and inpatient rehabilitation.	-	846
2) Major reconstructive surgical procedure.	-	537
3) Minor Surgeries.	-	3248

#### III) AUDIOLOGY & SPEECH THERAPY DEPARTMENT:

a) No. of PWD for speech and language disorder registered in the department	-	991
b) No. of audiometry tests and other hearing tests	-	153
c) Home exercise programme and counseling	-	173
d) Cases attended Therapeutic Treatment	-	1280

**IV) PROSTHETIC & ORTHOTIC WORKSHOP:**

**(A) Registration of Supply of Orthoses to PWDs :-**

a)	Bilateral long/leg braces (KAFO/HKAFO)	-	155
b)	Unilateral long/leg braces (KAFO/HKAFO)	-	664
c)	Below/Knee Braces (A. F.O)	-	580
d)	Spinal Orthotics & Misc. appliances	-	418
e)	Special Footwear & Crutches	-	557
f)	Plastic KAFO & Splints	-	537
g)	Arch Supports & Post Shoe Inserts	-	304
h)	Knee orthoses	-	334
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		Total: -	3549

**(B) Registration of Supply of Prostheses to PWDs :-**

a)	Hip Disarticulation Prostheses	-	07
b)	Above/Knee Prostheses	-	56
c)	Below/Knee Prostheses	-	144
d)	Upper/Extremity Prostheses	-	103
e)	Miscellaneous	-	96
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		Total: -	406

**(C) Maintenance and Services of Orthotics and Prosthetics:-**

a)	Total number of Jobs Executed	-	3955
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**V) Physiotherapy Department**

a)	New Patients	-	6380
b)	Old Patients	-	9892

**VI) Occupational Therapy Department**

	Total number of PWDs	-	15784
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**Mobility Devices/Aids Delivered:-**

a)	Wheelchairs and Tricycles	-	96
b)	Walker, Modified Crutches & Cane	-	58
c)	C.P. Chairs/Corner Seats/Cut Out Tables	-	80
d)	Splints and Adaptive Devices	-	1447
e)	Total number of Mobility Devices/Aids	-	1681
f)	Endoskeletal Prosthesis	-	10 PWDs

**VII) VOCATIONAL TRAINING WORKSHOP:**

a)	Number of candidates assisted for self & Open employment.	-	135
b)	No. of physically disabled for job environment evaluation and suitability for the job.	-	80
c)	Number of physically disabled enrolled for Vocational Training in various trades	-	21
d)	Placement of the PWD's done in the various private sector with the help of NGO from New Delhi and local Employment Exchange.	-	25

**VIII) MEDICAL SOCIAL WORK DEPARTMENT :**

a)	Total donation received from individual and corporate offices.	-	₹.2,50,005/-
b)	Amount spent for subsidy for patients belonging to below poverty line.	-	₹.47,000/-
c)	Total Number of PWDs given financial assistance for medical expenses during the hospitalization, free aids and appliances i.e. special C.P. chairs, wheel chairs, crutches, walker and rollators etc. through Institute funds, social welfare funds	-	25

**IX) RADIOLOGY DEPARTMENT :**

1) No. of Digital X-Ray Investigations	-	7764
2) No. of PWD's for X-ray	-	6975
3) No. of USG and Color Doppler Investigations	-	955

**X) PATHOLOGY DEPARTMENT :**

1) Investigations in Clinical Pathology.	-	9860
2) Investigations in Bio-Chemistry.	-	11180
3) Investigations in Serology.	-	2380
4) Total number of Pathological Investigations.	-	23420
5) Average number of investigations per day	-	84

**1.3 Augmentation of capacity**

➤ **Physical Medicine and Rehabilitation (PMR)**

- PMR department is involved in patient care – both indoor & outdoor, teaching at Post Graduate level and conducting research.

➤ **Prosthetic & Orthotic Department**

- Custom Moulded Hinged Knee Orthosis for Osteo-Arthritic knee:

Osteo-Arthritis of the knee joint is a major debilitating disorder associated with obesity and lifestyle changes leading to degenerative changes in the knee joint.

It is a mechanical problem which needs a mechanical solution in the form of orthosis which mainly helps to deload the injured compartment of the knee by realignment of the knee joint. The existing orthoses in the market are very expensive and beyond the reach of the common man.

Hence an attempt was made to develop a new design incorporating locally available materials without compromising the quality and construction features.

As the results were found very promising this design was implemented and forms a standard prescription for the patients attending this Institute.

- Tone Reducing Ankle Foot Orthosis (TR-AFO):

Cerebral palsy patients with mild and moderate levels of spasticity are usually fitted with either Solid Ankle AFO or Articulated AFO which control the undesired motions at the ankle and foot and thereby alter the kinematics of the knee. These orthoses however do not help to reduce the spasticity in the Gastrocnemius and Soleus muscles as well as intrinsic muscles of the foot.

An attempt was made to develop tone –reducing AFOs with the help of Pre-Fabricated modules of the foot. The design was scientifically tested and found to be very effective in reducing the spasticity. Hence it is being routinely prescribed in the Institute.

- Prosthesis for Rotation-Plasty:

Numbers of Osteo-sarcoma cases with tumour in the femoral shaft are surgically treated with Rotation-Plasty. However there are difficulties in fitting these patients with suitable prosthesis. These patients are being routinely fitted with custom designed prosthesis, taking into consideration the needs of the individual.

- **P&O Placement Cell**

Owing to a large demand for **Prosthetic & Orthotic Professionals (Graduates)** passing out from this **Institute** for placements in **P&O Clinical Fitment Centers** as well as other **Non Govt. Organizations** all over India as well as abroad, the Institute receives numerous requests from prospective employers to conduct **Campus Interviews** prior to the culmination of the Internship Schedule every year.

In order to streamline the process of placing the candidates suitably, a **P&O Placement Cell** was formed in January 2011 comprising of,

- **Director** – **Chairman**
- **W/S Manager (Academic)** – **Member Secretary**
- **Academic In-Charge** – **Member**
- **Supdt. P&O W/Shop** – **Member.**

All such requests for holding Campus Interviews are routed through this cell and permissions are granted after holding due consultations with the Chairman.

Of the Sixteen (16) candidates who had completed their Internship this year, the prospective employers selected all the sixteen candidates for employment.

➤ **Radiology Department**

- Ultrasound and Color Doppler facilities have been extended to patients of CGHS, Mumbai also since September, 2012. No of beneficiaries for USG & Color Doppler has increased since previous year.

➤ **Occupational Therapy Department**

- i) Good number of patients are getting the benefit from the following installed equipments. These equipments have enhanced post graduate student's ability of skill building and has allowed widening of sphere of departmental services.
  - a. Computerized Automated Arm Therapy System for self-directed movement system.
  - b. Arm Ergometer.
  - c. Wrist and Hand CPM Machine.

**1.4 Special Services provided by various departments**

❖ **Physical Medicine & Rehabilitation department**

Evaluation for all types of locomotor disability consequent to disorders ranging from congenital, birth injuries, infective, metabolic, traumatic, hereditary or degenerative due to the ageing process like Cerebral Palsy, Hemiplegia, Degenerative joint diseases, Spinal Cord Injuries etc.

- Number of electro diagnostic studies – 163
- Number of Urodynamic studies – 66
- Number of foot scan studies – 72

❖ **Prosthetic and Orthotic Department**

Footwear Section in the Prosthetics and Orthotics workshop had only one Shoe Finishing and Trimming Machine procured way back in the year 1965 under UNICEF aid. This machine was used by 23 Footwear technicians. As the machine was very old it developed technical problems and the spares were not available in the market. This



section was augmented with a new state of the art **Shoe Finishing and Trimming Machine**.

Subsequent to the implementation of the report of Oversight Committee, the intake of B.P.O. students was increased from 20 to 30 with effect from the academic year 2007. This has prompted the augmentation of the laboratory facilities for B.P.O. students. The Institute procured two nos. of Hot Air Ovens for processing thermoplastics for these students.

❖ **Physiotherapy Department**

• **Gait & Motion Analysis Laboratory**

Total number of subjects assessed – 58

• **Isokinetic assessment and training muscle of performance**

Total number beneficiaries – 111

• **Balance assessment and training** – Assessment of static and dynamic balance is carried out using clinical test batteries which are indicative intervention.

Number of beneficiaries – 374

❖ **Occupational Therapy Department**

• Persons with disability are assessed for prevocational skills & isokinetic exerciser

Total assessments – 382                      Work related assessment – 191

Prevocational Testing – 191                      Work hardening – 63

Prevocational Training – 191                      Isokinetic exercises – 105

• **Myotrainer and tester** enabling identification of suitable sites in their limbs for operating Myoelectric prosthesis -

Total demonstrations – 45

Total Testing – 45

Training – 27

• PWD's having both lower limb weakness are given upper extremity strengthening exercise using 'Theravital'

Number of beneficiaries - 1673

- ❖ **Mobility Aids** – PWDs with spinal cord injury, myopathies and muscular dystrophy were assessed and prescribed for wheelchair with necessary modifications like removable arm rests, leg rests, foot rests and reclining back rests. All these wheelchairs were given through Institute fund.

Total number of wheelchairs given	– 96
Wheelchairs with removable arm rests, leg rests and foot rests	– 96
Reclining back rests	– 16
Rollators	– 26
Walkers	– 08

- ❖ **Wheelchair training track** is installed to improve patients wheelchair skills it improves upper extremity function, patients safety skills and functional performance. Patients are trained to man oeuvre wheelchair on smooth surfaces, ramps, stairs on even surfaces, foot paths and speed breakers as encountered outdoor to promote community living skills among the wheelchair bound.

Total No. of Patients – 76

- **Dynamic stair trainer** used for giving functional training to the PWD's for climbing stairs or ramps – 427.
- Therapeutic Park to provide sensory motor inputs through outdoor experiences for the differently abled children who are usually deprived to these opportunities.

Assessment – 313

Therapy – 293

- Children with Autism, Learning disability and Attention Deficit Hyperactive disorders have high frequency of sensory processing disorders using sensory integration therapy imparted to these children in the department opportunities for enhanced sensation and

active involvement in meaningful activity are created. Vestibular, tactile, proprioceptive and other sensory stimulations are effectively used for this purpose.

Number of LD's – 12

Number of ADHD's – 22

Number of Autism disorders – 30

Number of patients with Sensory Issues – 79

- Children with cerebral palsy who have delayed developmental milestones are routinely taken for developmental therapy and early activity system is used to hasten their delay in sitting, rolling and head holding.

No. of children – 2303.

Similarly, these children have oral motor issues resulting into poor nutritional intake.

Therapy is concentrated on giving oral motor stimulation to improve on these issues.

No. of children – 1145.

- ❖ **Speech Therapy Department** – The Audiology and Speech Therapy Department is providing services to the people with impaired communication skills, due to speech, language and hearing problems through speech evaluation and therapy including hearing aid trial and guidance.

- ❖ **Medical Social Work Department**

Provides the psycho socio economic services for Persons with multiple and locomotor disabilities attending the Institute by involving and mobilizing the inherent potential resources within the patient, family and the community through the Interdisciplinary Team Approach.

## 1.5 **Research and Development**

### **Various research activities done / underway at this Institute are :**

- a) Epidemiological study of children with cerebral palsy.
- b) Improvement in bladder compliance after initiation of clean intermittent catheterization in Spinal cord injury patients with spastic bladder.

- c) Ultrasound guided Supra-scapular nerve block versus intra-articular shoulder joint injection in painful frozen shoulder.
- d) Ultrasound guided Supra-scapular nerve block in hemiplegic shoulder pain a randomized control trial.
- e) Comparative study between injection Depomedrol and autologous platelet rich plasma in relieving pain in plantar facilities.

f) Pressure Mapping System for Trans-Tibial Prosthesis:

An attempt was made to design and develop a pressure mapping system in order to quantify the pressure generated on account of body weight and ground reaction force between the stump and the Patellar Tendon Bearing (PTB) type of socket commonly used for trans-tibial prostheses in India.

The system thus developed can be used as a diagnostic tool for measuring body weight distribution and taking remedial action if found exceeding the specified limits. It can also be used as a tool for training of Prosthetics and Orthotics students pursuing education at UG and PG levels.

g) Correction of CTEV by Serial AFOs using Ponseti Methodology:

It was observed that this method of correction of deformity was very much useful in the orthotic treatment of CTEV.

h) Adjustable KAFO as a Measuring Tool:

This was a novel concept designed for the purpose of assessment, measurement and to check the ambulatory potential of the patient. This project involved designing of the orthosis wherein it could provide linear as well as circumferential adjustment in the femoral as well as the tibial sections of the orthosis.

During the course of the project it was observed that the orthosis could be used as a post-operative device to maintain the corrections obtained after surgery for a short term basis.

i) Patient Lifting Hoist:

Transfer of patients is a major concern in patients with higher levels of spinal cord injuries and has always remained a challenge for the care-givers. Usually special purpose hoists are used for shifting these patients from bed to wheelchair and wheelchair to the vehicle/ commode. However they are very expensive and an average user cannot afford to buy them.

An attempt was made in this Institute to locally manufacture this hoist making use of locally available materials and technology. The patient lift uses motor controlled pulley mechanism to vertically lift the patient from bed to chair or other similar resting places.

**1.6 Academic Activities:**

- During the Academic year 2013-14 a total number of 139 students were enrolled to the various courses and 30 students successfully completed their courses.
- **Diploma in Hearing Languages and Speech Programme** is ongoing training programme on video conference mode. 5 students enrolled for the Academic year 2013-14. 4 students successfully completed their courses.

**Details of Students for the year 2013-14**

Sr. No	Name of Course	Recognized by/Course affiliated to	Eligibility	Commencement	Duration	Intake Capacity(A/Y) April 13-March 14	Student on Roll(April 13 – March 14)		Passed out student (April 13- Mar 14)
1	MD(Physical Medicine & Rehabilitation) MD(PMR)	MUHS, Nashik	As per MUHS/MCI guide lines	March	3 years	2	1 <sup>st</sup> year	1	02
							2 <sup>nd</sup> year	1	
							3 <sup>rd</sup> year	3	
2	Diplomate of National Board of Examination (Physical Medicine & Rehabilitation) DNB(PMR)	NBE, New Delhi	As per NBE guide lines	January	3 years	3	1 <sup>st</sup> year	0	02
							2 <sup>nd</sup> year	1	
							3 <sup>rd</sup> year	2	
3	Master of Physiotherapy (MPTh)	MUHS, Nashik	Bachelor degree in Physiotherapy Therapy with six month internship	August	3 years	6	1 <sup>st</sup> year	6	05
							2 <sup>nd</sup> year	4	
							3 <sup>rd</sup> year	4	
4	Master of Occupational Therapy (MOTh)	MUHS, Nashik	Bachelor degree in Occupational Therapy with six month internship	August	3 years	6	1 <sup>st</sup> year	0	02
							2 <sup>nd</sup> year	2	
							3 <sup>rd</sup> year	4	
5	Master of Prosthetics & Orthotics (MPO)	MUHS, Nashik/RCI	Bachelor of Prosthetics & Orthotics with six month internship	August	2 years	4	1 <sup>st</sup> year	4	03
							2 <sup>nd</sup> year	4	
6	Bachelor of Prosthetics & Orthotics (BPO)	MUHS, Nashik/RCI	10+2, or HSC, with PCB/PCM	August	4 years	30	1 <sup>st</sup> year	33	16
							2 <sup>nd</sup> Year	29	
							3 <sup>rd</sup> year	18	
							4 <sup>th</sup> year	07	
							Internee	16	
7	Fellowship Course in Rehabilitation Physiotherapy	MUHS, Nashik	Bachelor degree in Physiotherapy Therapy with six month internship	—	1 Year	15	Affiliation has been received from University however the permission from Ministry of Health and Family Welfare is awaited.		
8	Fellowship Course in Rehabilitation Occupational Therapy	MUHS, Nashik	Bachelor degree in Occupational Therapy with six month internship	—	1 Year	15			

### 1.7 Implementation of Right to Information Act. (RTI)

Institute is responding to information sought by the applicants. Nominated Central Public Information Officer (CPIO) duly assisted by the committee members provides such information.

### 1.8 Scientific Publications & Research

Sr. No.	Department	Staff Guided Research				
		Papers Presented	Papers Published	Dissertation Completed	Invited Lecturers	Conference / Workshop / Seminars / Attended
1	Medical					
	a) PMR	03	02	--	--	10
	b) Radiology	--	--	--	--	01
2	Physiotherapy Department	04	--	12	--	04
3	Occupational Therapy	03	01	07	--	--
4	Prosthetic & Orthotic	12	--	11	--	07

Institute is taking initiative in building up capacity further by building up infrastructure and manpower by starting satellite center in the District hospitals so as to reach large number of Person with disabilities.

Sd/-

निदेशक / DIRECTOR

**Government of India**  
**ALL INDIA INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION**  
Haji Ali, K. Khadye Marg, Mahalaxmi, Mumbai – 400 034.

**CHECK LIST (Annual Report 2014-15)**

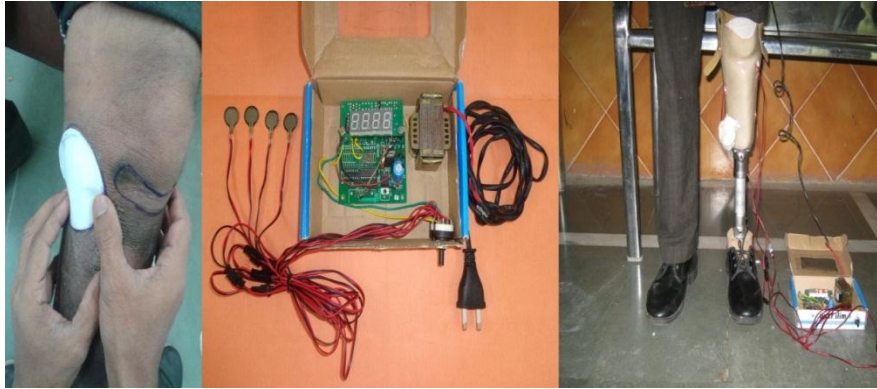
(i)	Whether the material is approved by the JS/AS concerned	N.A.
(ii)	Whether the soft copy (only in MS word form) of material has been sent through e-mail / CD also along with hard copy.	Yes / <del>No</del>
(iii)	Whether material for the introduction to be given by secretary (H&FW) has been enclosed.	<del>Yes</del> / No
(iv)	Whether photographs with caption enclosed.	Yes / <del>No</del>
(v)	Whether the material in respect of North-Eastern States enclosed.	<del>Yes</del> / No
(vi)	Whether the material in respect Gender Issue enclosed.	<del>Yes</del> / No
(vii)	Whether ATNs in respect of the audit observations have been enclosed in the prescribed format.	<del>Yes</del> / No
(viii)	Whether Annexures enclosed.	<del>Yes</del> / No
(ix)	Whether the material is in MS word format [.doc file; font size:12; font type: Times New Roman]	Yes / <del>No</del>

Sd/-  
(Dr. Rajendra Sharma)  
Director



## PHOTOGRAPHS OF IMPORTANT ACTIVITIES OF THIS INSTITUTE

### Pressure Mapping System for Trans-Tibial Prosthesis



### Correction of CTEV by Serial AFOs using Ponseti Methodology



### Patient Lifting Hoist



Tone Reducing Ankle Foot Orthosis (TR-AFO)



Custom Moulded Hinged Knee Orthosis for Osteo-Arthritic knee

