

Department of Orthopaedics and Joint Replacement Center

Department of Orthopaedics and Joint Replacement Center at JRH is the most advance center in the country. All types of complicated Orthopaedic cases are referred from western and other Zonal railway and treated with excellent results. Joint replacement center at JRH has earned the reputation at National and International level. Total Joint Replacement operations like Total Hip Replacement (THR), Total Knee Replacement (TKR), which are highly sophisticated and technically demanding operations are regularly performed since last 26 years. It has now established as center of excellence in the country and cases are referred from all over Indian railways and outside. This center is well equipped with most modern and highly sophisticated equipment required for even most complicated primary and revision Total Knee and Hip Replacement surgeries. This center has been recognized as learning center in the field of joint replacement surgeries for surgeons from India and abroad.

State-of-the-art Orthopaedic and Joint Replacement operation theatre complex of international standard was developed in the year 2002 is in regular use which is first of its kind in the country. The work done and the facility have been appreciated by surgeons from India and abroad.

BED STRENGTH IN THE DEPT.

Total No. beds - 38
Male - 20
Female - 16
ICU - 02

MANPOWER IN THE DEPARTMENT

IRMS: Dr B Nataraj (ACHD),

Dr A K Mehta (ACHD),

Honorary Visiting Specialist (HVS): One (1)

Visiting Specialist (Case to case basis): Seven (7)

Resident Doctors (CPS Diploma): Two (2)

Resident Doctors (House Surgeon): One (1)

SERVICES OFFERED BY THE DEPARTMENT

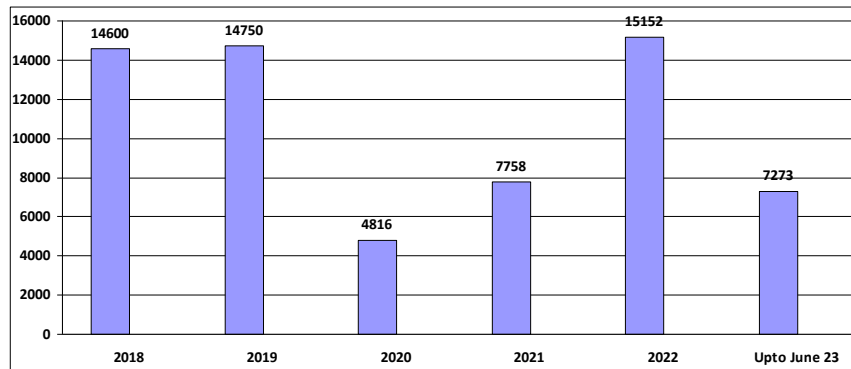
Approximate 4600 total knee and hip replacements have been performed till date with excellent results. It has **saved approximate. Rs. 76 crores of railway revenue** as compared to if these cases are referred outside.

Other advance procedures like management of various kinds of fractures and complicated trauma cases are treated by modern AO techniques, Arthroscopic surgeries, High Tibial

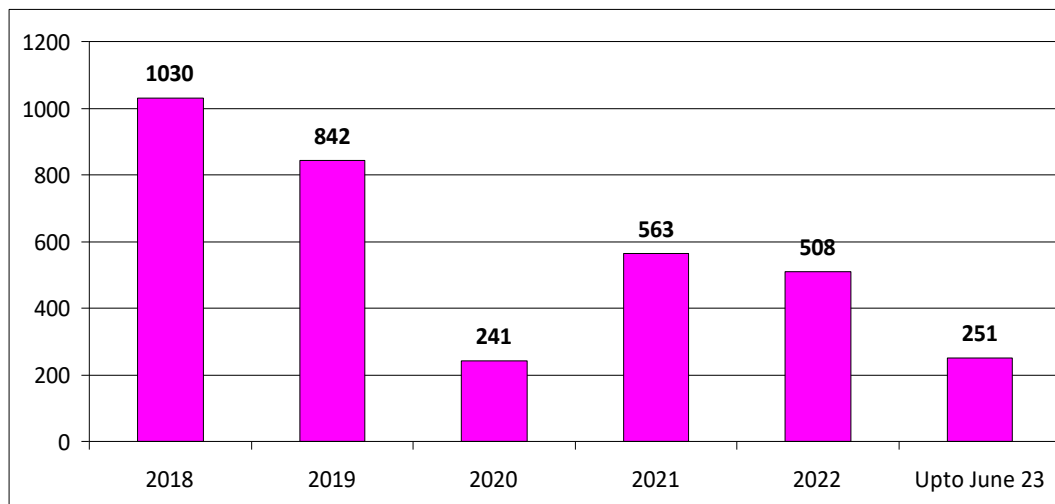
Osteotomy by Hemicallotasis, Illizarov's technique, Limb reconstruction surgeries by LRS and other surgeries are performed regularly.

WORKLOAD OF THE PAST 5 YEARS IN GRAPH PATTERN

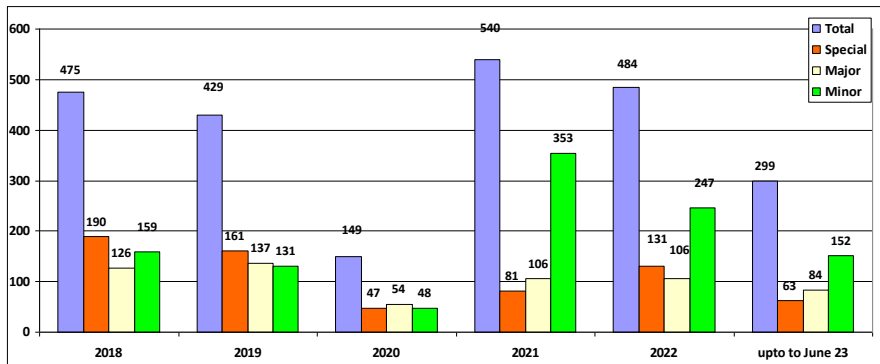
Orthopaedic OPD (2020-1st wave & 2021-2nd wave – Covid, so less no.)



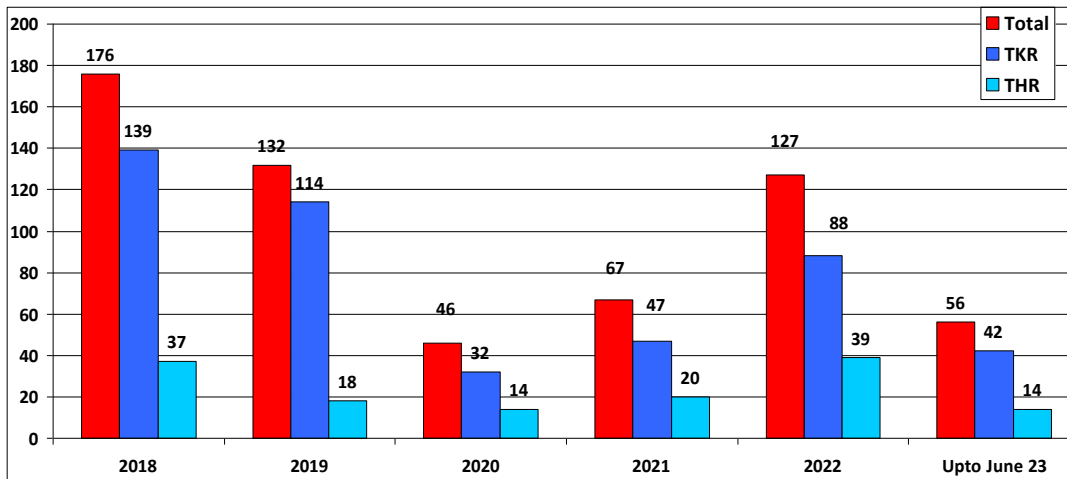
Indoor Admissions (2020-1st wave & 2021-2nd wave – Covid, so less no.)



Ortho Operations (2020-1st wave & 2021-2nd wave – Covid, so less no.)



Total Knee and Hip Replacement (2020-1st wave & 2021-2nd wave – Covid, so less no.)



SCHEDULE OF OPERATING MANUAL FOR WORKING IN DEPT. OF ORTHOPAEDICS

OUT PATIENT DEPARTMENT

OPD is conducted three days a week on Tuesday, Friday and Saturday. All old & new cases are seen. Approx. 80 to 160 cases are seen on each OPD day.

INDOOR FACILITIES

Indoor cases are seen every day. Detailed round is taken on Tuesday, Wednesday, Thursday, Friday and Saturday.

EMERGENCY SERVICES

Emergency cases are seen round the clock. Medical officers and House surgeons are available attending the cases and emergency operations.

OPERATION THEATRE WORKING

Two OT are utilized 3 days a week Monday, Wednesday and Thursday. We have requested the administration to continue OT days on all the 5 days including Tuesday and Friday as was being done previously to avoid long waiting list.

TEACHING FACILITIES FOR PG STUDENTS

Dept. is recognized for PG – Diploma (D. Orth.) courses by college of physicians and surgeons (CPS) of Bombay and MCI (Medical council Of India). Regular teaching is done in OPD, indoor rounds, OT & special clinic and journal club once a week.

PATIENT EDUCATION PROGRAMME

Education on various Orthopaedic conditions especially on arthritis and total joint replacement is given in the form of audio-visual and by education literature.

PUBLICATION OF ORTHOPAEDIC TEXTBOOKS FROM THE DEPARTMENT OF ORTHOPAEDICS

1. **A Practical Operative Guide for Total Knee and Hip Replacement (Second edition, 2015)** – Published by Jaypee Brothers Medical Publishers (P) Ltd., New Delhi, London, Philadelphia, Panama (ISBN: 978-93-5152-482-3). Authored by Dr. Ajit Kumar Mehta, ACHD (Ortho)/JRH/BCT/W. Rly.

2. **Step by Step High Tibial Osteotomy by Hemicallotaxis (First edition, 2012)** - Published by Jaypee Brothers Medical publishers (P) Ltd., New Delhi, Panama City, London (ISBN: 978-93-5025-646-6). Authored by Dr. Ajit Kumar Mehta, ACHD (Ortho)/JRH/BCT/W. Rly.

ACHIEVEMENTS -

Modern and sophisticated equipment and implants are procured regularly. High tech. equipment for fracture treatment, joint replacement surgery, arthroscopy, high tibial osteotomy, spinal surgeries, Ilizarov's technique, limb reconstruction by LRS are available.

Modernization of Physiotherapy Dept. with latest physiotherapy equipment have been done.

MACHINERY IN THE DEPARTMENT OF ORTHOPAEDICS –

Details of Ortho OT Equipment -

Sr. No	Name of Equipment	Brand/ Make	Date of procurement	Cost in Rs.	Performance	Warranty/ AMC/ CMC
1	AO Universal Nailing Set	Synthes	26.07.1997	9,25,780/-	Working	No
2	AO Radiolucent Drive	Synthes	13.01.1998	1,96,528/-	Working	No

3	AO Bending Press	Synthes	12.12.2007	1,52,757/-	Working	No
4	Operating Microscope for spine	Toshbro	30.03.2009	30,90,635/-	Working	No
5	A. O. MIPO instrument set	Synthes	14.10.2009	18,55,296/-	Working	No
6	Ultrasonic Cement Removal System	Orthosonic Ltd.	11.10.2010	40,55,159/-	Working	No
7	Schaerer Electro hydraulic OT table	Arcus 501	30.07.2012	40,36,250/-	Working	CMC
8	A.O. Battery Oscillator	Synthes	14.06.2017	9,16,170/-	Working	CMC
9	A.O. battery Reamer/Drill	Synthes	14.06.2017	9,24,242/-	Working	CMC
10	Electro Surgical Cautery Machine	Conmed	30.10.2017	5,76,800/-	Working	CMC
11	Surgical Helmet system	Stryker	07.07.2018	6,61,880/-	Working	CMC
12	Power Drill Saw system	Conmed	16.10.2018	12,88,000/-	Working	CMC
13	C- Arm Image Intensifier	Allengers	02.02.2019	11,98,288/-	Working	CMC
14	A.O. TRS Modular Drive System for Drill/ Reamer with Accessories	Synthes	21.03.2020	11,83,777/-	Working	Warranty
15	A.O. TRS Battery Operated Sagittal Saw System with Accessories	Synthes	21.03.2020	10,86,581/-	Working	Warranty
16	Ethicon Megadyne Electrosurgical Cautery	Synthes	29.09.2020	8,01,024/-	Working	Warranty
17	Electronic Tourniquet System	Zimmer	09.12.2020	4,50,000/-	Working	Warranty
18	Sagittal saw attachment long for TRS	Synthes	22.06.2020	1,66,845/-	Working	Warranty
19	Smoke Evacuator	J & J	30.01.2021	5,57,480/-	Working	Warranty
20	Storz OT Light	Karl Storz	14.01.2021	32,50,079/-	Working	Warranty

21	Suction Machine with foot pedal	Medela Switzerland	05.04.2021	5,12,960/-	Working	Warranty
22	Arthroscopy Set	Arthrex	17.11.2022	48,77,600/-	Working	Warranty

REHABILITATION FACILITY

Physiotherapy is an integral part in the management of orthopaedic patients and other medical and surgical patients. Post-operative physiotherapy to patients undergone various orthopaedic operations, total hip and total knee replacement surgeries and others is extremely important for faster and better recovery. At present, there is one physiotherapist with one vacant post and one occupational therapist who look after all the patients of JRH including of other departments. The dept. has well equipped and modern physiotherapy and occupational therapy units to provide faster rehabilitation for post-operative cases and various orthopaedic problems.

Physiotherapy department covers a broad spectrum of age from paediatric to geriatric population. It aims at functional rehabilitation of a person to its pre ailment or disease status through use of physical agents like heat or cold, or sound waves or electromagnetic radiations or electrical stimulation in order to relieve pain and maintain or improve musculoskeletal strength with help of graded exercise programme designed to suit individual needs.

DETAILS OF PHYSIOTHERAPY DEPARTMENT EQUIPMENTS

S. No.	Name of Equipment	Brand/ Make	Date of procurement	Cost in Rs.	Performance
1	Un weighing system	Indian Oceanic fitness	31.10.2019	280,000.00	Under warranty
2	Upright ergometer	Spirit/USA Bionics	04.11.2019	247,210.00	Under warranty
3	Recumbent ergometer	Spirit/USA	28.11.2019	336,000.00	Under warranty
4	3 section treatment table Two units	Bio-Tech	18.12.2019	117,600.00	Under warranty
5	Magnetic shoulder wheel	Taiwan Akshar Marketing	06.09.2019	49,560.00	Under warranty
6	Wireless professional	USA Bionics	26.11.2019	140,000.00	Under warranty
7	CPM	USA Bionics	14.08.2019	308,000.00	Under warranty
8	SWD	India Akshar marketing	05.07.2019	61,600.00	Under warranty
9	Two Channel electrotherapy and Ultrasound Combo Unit	Enraf nonius Akshar Marketing	16.01.2019	313,600.00	Under Warranty

10	Continuous pulsed SWD	Cosmogamma /Itally	29.05.2006	416,832.00	Working
11	Lumbar Traction	USA/Chattanooga	09.09.2009	483,750.00	Working
12	Laser	Bio Remember /Itally	21.05.2004	145,000.00	Working
13	Lumbar Traction	X ray & electromedical	07.02.1998	26,936.00	Working
14	Paraffin wax bath	Delta/India	13.06.2016	17,750.00	Working
	Two units				
15	Muscles stimulator with TENS (Two units)	Delta	24.01.2019	11,200.00	Working
16	Cervical Traction	Bio-Tech	28.02.2008	13,000.00	Working
	Two units				
17	Infrared lamp	Delta	04 04.2016	12,600.00	Working
18	Infrared lamp	Delta	07.09.2018	12,600.00	Working
19	Infrared lamp	Delta	05.02.2019	12,600.00	Working
20	Infrared lamp	Delta	13.11.2019	13,440.00	Working
21	Ultrasound	Electro medical control	29.03.2017	9,200.00	Working
22	CPM Two units	Electro medical control	29.03.2017	27,000.00	Working

M & P/T & P ITEMS OF ORTHO OT UNDER PROCESS –

1. OT Light
2. OT table
3. Electronic Tourniquet system
4. High speed microdrill system

IMPLANTS – Annual indent of Orthopaedic implants – knee, hip and trauma implants are procured regularly but trauma implants are delayed and it should be streamlined for regular and timely procurement.

FUTURE PLAN –

1. Establishment of Occupation therapy Dept. with necessary equipment
2. DNB/CMP – 2