

THE BATTLE AGAINST COVID-19 PANDEMIC

**1523 COVID POSITIVE CASES
TREATED IN ORTHOPAEDIC
HOSPITAL, EASTERN RAILWAY,
HOWRAH UPTO 30.06.2021.**



Orthopaedic Hospital, Howrah

Orthopaedic Hospital, Howrah was designated to be a dedicated Level 2 COVID Hospital in April 2020 and started admitting cases from 27/04/2020. Upto 30/06/2021, this hospital has admitted and treated 1523 Covid- Positive patients.

During the initial phase of the COVID-19 Pandemic Lockdown in 2020, Medical Department of Howrah Division, Eastern , ably supported by PCMD/ER & DRM/HWH and other Departments of Howrah Division, had come forward in providing medical help, readying the hospital to be equipped to face the challenges of the COVID-19. Special effort to augment availability of adequate Oxygen supply was ensured. Till 30.06.2021 a **total of 1523 COVID-19 positive cases have been admitted in this hospital out of which 1298 cases have been treated successfully and discharged after recovery and more are on way to recovery.**

The dedicated team of Health Care Workers can be looked upon as the brave **COVID Warriors** at the frontline, with great support from the administrative heads.

Preparedness was organized by the Medical team led by CMS/HWH, ably supported by DRM/HWH and his team.

Preparedness :

1. A preparatory meeting was held in Orthopaedic Hospital with senior Medical Officers, ANO, and AHO.
2. Health Care Workers (HCW) were made aware of precautions for personal protection and **proper use of Personal Protective Equipment (PPE).**
3. In the initial month, **multiple training sessions** have been conducted throughout to prepare the Health Care Workers to face up to the challenge of COVID-19 Pandemic.
4. The central AC of wards were switched off to prevent potential infection spread and substituted with Exhaust and Pedestal Fans. Subsequently nursing stations have been provided with split ACs.
5. **Adequate sanitization and disinfection** of medical equipments and various areas of the Hospital was done on regular basis.
6. Awareness drives for patients, relatives and other railway beneficiaries were organized.
7. **Leaflets and posters were distributed to Health Units.** Awareness posters, DOs & DON'Ts were displayed at prominent places in the Hospital and all Health Units.
8. Though the regular hospital services for non-COVID cases were suspended, **OPD services of the Hospital for regular patients were shifted to DRM Building**

Health Unit and patients needing in-patient care were referred to BRSH, Sealdah.

9. **Aarogya Setu App** to fight against COVID -19 downloaded and made compulsory.



Poster being displayed in Azimganj Health Unit



Training of HA and Ayah on COVID 19



Training of HCW on Indoor Care and Treatment of COVID-19 Patients



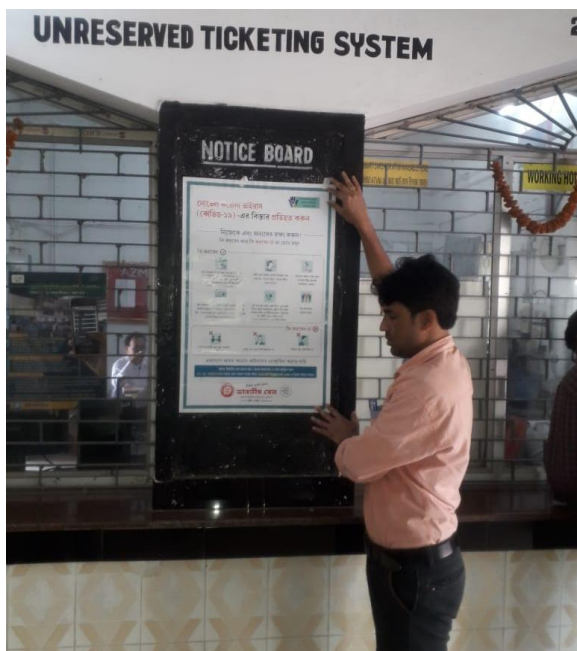
In-house Preparation of Hand Sanitizer at Hospital QC Laboratory



Nodal Officer, addressing a Covid-19 awareness program



Portable X-Ray Machine being placed in the Isolation Ward



Azimganj Station

Awareness Programmes for Railway Employees of Other Departments:

Awareness sessions had been organized for staff of other departments at their respective workplace. Selected representatives nominated by the departments participated.

The number of participants was limited to ensure adherence to Social Distancing Protocol. Where the staff exceeded the venue capacity, 2 consecutive sessions were held so that all the interested

participants could attend without violating the need to maintain prescribed distance between attendees.



Awareness at EMU Car-shed, Howrah



Awareness at PBRC Hall, DRM Building, Howrah



Awareness at CDO/Complex, Tikiapara

Corona Virus Control-room was also established:

Nodal Officers:

Eastern Railway Zonal: Dr. A Sett, ACMD/H&FW,

Howrah Division (Railway): Dr. A. K. Singh

Howrah (State) CMOH (Nodal Officer) & and Dy. CMOH, Howrah



Zoom Conference on Use of Ventilators organized by MoHFW



Isolation Wards equipped with Portable X-Ray Machines, Oxygen Cylinders and Oxygen Concentrators

Special **Fever Clinic** was started in the DRH at HWH for proper screening of suspected COVID-19 cases.



Health Care Workers (HCW):

HCW are at the fore front warriors in the battle against the Covid Pandemic. Adequate man power planning, training and duty roster was prepared for efficient service.

Training of Health Care Workers - Repeated training sessions have been held periodically over the last 15 months for upgrading knowledge of the HCW about COVID 19. **Aspects covered include latest information about the virus, modes of transmission, testing and treatment protocols as well as infection control, bio-medical waste disposal etc.** Participation in online webinars from MoHFW were also encouraged.



Anaesthetist training HCW



**Training of HCW in use of
Cardiac Defibrillator**

Medical Gadgets:

Prior to COVID, Orthopaedic Hospital, Howrah was a secondary level hospital for basic specialties and a tertiary level referral centre for Orthopedics. Stock of existing essential medical equipments was increased where existing stock was found to be insufficient to cope up with the possible predicted high number of admissions of cases with severe respiratory illness. Newer gadgets for better management of COVID-19 patients were procured.

It was ensured that the following equipments were in sufficient numbers to treat Covid patients:

Equipment	Existing Stock
Invasive Ventilator	04
BiPAP machine	03
High Flow Nasal Oxygen (HFNO) machine	05
Multiparameter Monitors	44
Automated Defibrillators	8
B-Type Oxygen Cylinders	205
D-Type Jumbo O2 Cylinders	73
Oxygen Concentrators	50
Finger-tip Pulse Oximeters	75
ABG Machines	4
ECG Machines	24
Syringe Infusion Pumps	50
Infrared Thermal Scanners	20
Portable X-Ray Machines	3
Suction Machine	42



High Flow Nasal Oxygen



ABG (Arterial Blood Gas Analyzer Machine in use by Doctor during morning rounds

PPE Kits:

The best PPE Sets available in the market as per guidelines of SITRA approval and approval by the Ministry of Textiles and MoHFW was obtained by the Hospital.

HCW at Orthopaedic Hospital, Howrah are using an 8 item PPE Kit consisting of:

Coverall, Bouffant Cap, Inner Latex gloves, Outer Nitrile Gloves, N95 Masks, Shoe Covers, Face Shields and Bio-hazard Bag

Apart from PPE Kit Sets, N95, 3-Layer Masks, Disposable Face Shields, Hood, Shoe Covers, Viral Barrier Gowns are used as and when necessary following ICMR Guidelines.



Testing of PPE Kits by Doctor



Inspection of PPE Kit Samples by Senior Medical Officer

Oxygen Supply :

Initially adequate number of B Type Oxygen Cylinders were urgently procured to ensure that necessary stock was readily available. Consumables related to delivery of Oxygen like Nasal Cannula & Mask, Venturi Mask and NRBM Masks were provided.

Subsequently Centralized Medical Gas Pipeline System (CMGPS) was installed in August 2020 covering a total of 67 Beds. D-Type Jumbo Cylinders were utilized to provide oxygen.

A Liquid Medical Oxygen (LMO) Storage System was commissioned by PCMD/ER on 16.06.2021. This has been integrated with the CMGPS.

Proposal for further installation of 115 points under CMPGS to cover all remaining Hospital Beds has been processed and expected to be completed by 15.10.2021.



Oxygen Cylinders ready for refilling



Ward with Central Gas Pipeline

Distribution of Gas points:

Unit	Gas	Number of Outlet Points
OT Complex 4 OTs Recovery Room	Oxygen Nitrous Oxide	8 (O ₂), N ₂ O (4), Air (4), Vacuum (8)
ICU (Med)	Air Suction	12 (O ₂), Air (6), Suction (5)
ICU (Surg)		10 (O ₂), Air (5), Suction (6)
M4-5 Ward	Oxygen	10
M2-3 Ward	Oxygen	20
F1,2-3 Ward	Oxygen	25
Cabins	Oxygen	3



Fully Automated Manifold for CMGPS



LMO Storage System



Commissioning of LMO Storage System by PCMD/ER on 16.04.2021

Test for Covid 19: RT PCR

A total of **2046 RT-PCR test samples** have been drawn at DRH HWH and sent to **NICED** for testing till 30. 06. 2021.

Rapid Antigen Test for Covid-19 has also been utilized to screen cases coming to Traige for admission. **A total of 1104 tests have been performed.**



Sample Collection (Naso and Oro-pharyngeal swabs) for RTPCR & RAT

Patient Care:

Regular personalized care for all Indoor patients has been given a priority and Medical Officers and other HCW regularly monitor all patients and decide on appropriate management.

Smartphones has been provided at wards for better management of patients. ECG, X-Rays, lab investigation reports etc. are communicated through smart phones and an opinion from a panel of expert Medical Team is taken, if necessary at all hours of day and night.

Wards have been kept scrupulously clean and adequate distance between beds have been ensured.

From 01.04.2021 2nd Floor of Indoor block was segregated to re-start admission of complicated Orthopaedic cases by opening up 50 beds for non-COVID patients. Several special surgeries are being performed each week.



**Wards & Cabins for COVID
maintaining adequate bed spacing**



3 Bedded Medical Intensive Care Unit



**Utmost care for the Covid patients
with a touch of humanity**



Nasal Oxygen cannula being fixed



Awake prone position for better delivery of oxygen to lungs and improving V/P ratio (Ventilation:Perfusion Ratio)



Supervising the Lunch



Monitoring treatment for Covid Patients



Care for Patients admitted



Routine Rounds by a team of Doctors



Doctor examining a Covid Positive patient



Recording of Blood Pressure



Male COVID Ward



Adjusting the Monitor Leads following admission



Humane care of Patients by HCW

Kitchen:

Delivery of nutritious cooked food arrangement have been made for patients thrice a day from the Hospital kitchen. The food is given to patients in **disposable containers** to maintain proper hygiene.



Food for Hospital Indoor patients in Disposable Utensils

Total kCal/day	3,400
Protein/day	109.5 gm
Carbohydrates/day	584 gm

UV and RO water dispensers have been arranged for staff and patients.

Sanitization:

Regular Sanitization is being carried out in the following target areas using **1% Sod. Hypochlorite solution** and other disinfectants, including use of **Mist Sprayers and Fogging Machines.**

Hospital: Sanitization done by Staff belonging to ANO sanitizing Red and Green zones usually twice/day.

Colonies: Sanitization done Health Inspector staff ..2-3 times/week

Residences of Covid positive patients: Sanitization done by H&MI staff, on detection of a Positive case.

Ambulances: Sanitization done by ANO Staff



Sanitization of the Hospital



Ambulances are regularly sanitized



Sanitization of HCW Accommodation

Hospital Waste Disposal:

Special care has to be taken on waste disposal from a covid designated Hospital.

Intimation to **the Sr. Environment Engineer, West Bengal pollution Control Board & M/S GreenTech Environment Management Pvt Ltd** was made on 2/5/2020 following functioning of DRH, HWH as a Covid Hospital



Segregated wastes in double layered disposal plastic bags

Bio-Medical Waste Disposal is being carried out as per guidelines of WBPCB with valid authorization and consent to operate. The waste is removed by Pollution Control Board approved Common Bio-Medical Waste Treatment Facility.



Wastes from the Wards being transported to the Waste Disposal Vehicles

All items, including PPE kits, are thoroughly disinfected with 1% Sodium Hypochlorite solution before packing into Disposal Bags. All bags are **double-layered, labeled and directly disposed off** from the Wards to the designated CBWTF Vehicle

Transport Facilities:

For Covid patients: Two Ambulances for Covid patients on Contractual basis

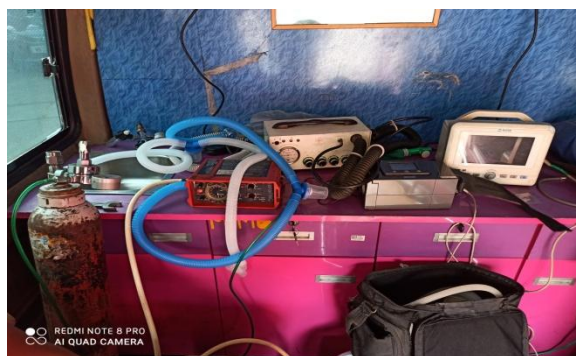
For Non-Covid Patients: 5 Ambulances



Advance Life Support Ambulance

Advance Life Support Ambulance with intensive care facilities have been introduced. This Ambulance is used for transport of serious patients accompanied by HCW to higher referral centres.

This Ambulance is equipped with Normal Oxygen Cylinder, Jumbo Cylinder, Transport Ventilators, Multipara Monitor, Syringe Infusion pumps, Pulse Oximeters and other life support systems.



Interior of the ICCU Ambulance