Minutes of the 3rd Expert Committee Meeting for anticipated 3rd wave of COVID Pandemic held on 11.6.2021 from 5pm onwards in the Conference hall, next to Office of the Dean, Goa Medical College

The 3rd Meeting of the Expert Committee (EC) was held as per Order No. 23/20/2014-I/PHD/Part IV(a)/1098 dated 21.5.2021by Addl Secretary (Health) Shri Vikas Gaunekar, and upon the instructions conveyed by Hon. Chief Minister Dr Pramod Sawant in the State Task Force / Steering Committee Meeting held on 11.6.2021, to deliberate and decide upon the Agenda matters shown below. The Chairman Dr Bandekar welcomed all the EC Members. This was followed by adoption of the Minutes of 2nd EC Meeting which were duly circulated previously to all EC Members. The Chairman requested Member Secretary to proceed with the Agenda for the Meeting. 13 Members attended; Dr. DSa, Dr. Salkar & Dr Gauns were granted leave of absence. After detail deliberations and discussions with all the Members, the following decisions were taken unanimously:

1. **Action Taken Reports (ATRs) on decisions in previous two EC meetings:** The Chairman suggested that he is willing to propose to the State Task Force TA/DA appropriate remuneration for the IMA / IAP Members & Private Medical Practitioners who willing to take rounds / assist at Govt COVID hospitals during next Pandemic wave. Dr. Jagadish informed the Committee that 6 ATRs from HoD Pediatrics, GMC, NGDH, SGDH, IAP, IMA & Dr. Varsha Munj have been received; however they have to resubmit with Revisions & Timelines as desired in 2nd State Task Force cum Steering Committee, before forwarding the Minutes of Meeting (MoM) to the Government, as they maybe reflected before the Hon. High Court of Bombay at Goa in a Writ Petition regarding preparedness for 3rd wave. EC Members unanimously agreed to comply with the same at the earliest. (Annexures I – VII).

2. **To finalize the estimates of vulnerable <18 children for a worst case scenario during anticipated 3rd wave,** the Committee examined the GoI MoHFW Guidelines on Operationalization of COVID Care Services for Children and Adolescents (June 2021). Based on these Guidelines, EC Members representing Dept of Pediatrics GMC, NGDH & SGDH (Dr. Maria, Dr. Chetna & Dr. Ira) were requested to submit **revised list of additional requirements** towards augmenting the infrastructure, equipment, manpower, & medicines. (Annexures I - III) Dr. Jagadish cited the Introduction from the GoI Manual to highlight to the EC the need for preparedness for 3rd wave, *"... Various experts are predicting a third wave with a disproportionately high burden among the pediatric population. Re-opening of schools and colleges may contribute an increase in the infections in children. Therefore, there is a need to prepare for any future sudden surge of COVID cases in the pediatric age group. It is important to augment existing health facilities for children, particularly ICU and HDU facilities, while also strengthening community level care i.e. PHCs/ HWCs"*

3. The Committee decided to adopt the **Evidence-based Comprehensive Guidelines for Management of COVID-19 in Children (below 18 years) issued by the DteGHS MoHFW** dated 9th June 2021 (Annexure-VIII). It was unanimously agreed by the EC that it was an improvement upon AIIMS Management Protocol accepted earlier by EC on 22nd May

2021. All **EC Pediatricians were requested to develop and implement SoPs** to treat mild, moderate & severe cases uniformly across all health-care settings across State of Goa.

4. Chairman was informed that as per instructions conveyed in 2nd State Task Force / Steering Committee **an 11 Member EC Team visited the IVRS/Step 1 system** on 8.6.21. The Members were give detail explanation and site visit by the Director Smt. Ankita Anand. After discussions, the Director requested the EC Members **to submit consolidated suggestions for improvement of** IVRS Home Monitoring of children/adults with mild COVID illness. The IAP & IMA have submitted their suggestions (enclosed withAnnexure IV & V) and duly forwarded separately to the Director I/C IVRS by the Member Secretary.

5. **A.O.B**

   a. **Novo Nordisk proposal for free insulin to children with Type I DM:** EC Members were informed that the STF approved its acceptance for the same.

   b. **PORTEA Home Monitoring for mild cases:** EC Members were informed that the STF proposed to the EC Members to consider the free IVRS/Step 1 system instead.

   c. **GE Healthcare proposal:** was not yet submitted before the EC; hence not discussed.

   d. AOB:

   (i) EC agreed to permit the **Genomic surveillance study for COVID variants** / prediction of COVID strains in next wave presented by Dr. Jagadish through collaborations with the IDSP DHS, Microbiology Dept GMC & Goa University, NGDH and Centre for DNA Fingerprinting & Diagnostics, a CSIR Institute at Hyderabad and Dr. Mohanty, ICMR Goa Centre.

   (ii) Dr. Dhanesh requested that Covid appropriate behavior should be strictly maintained in EC Meetings, which was accepted. EC had no power to accept his request to include APNH, API & Association of Chest Physicians in EC which Government appoints. Dr. Dhanesh expressed that more than children, vulnerable adults will be seriously affected. He suggested greater emphasis on prevention, taking help of local doctor, local leaders like Panch members / religious leaders for awareness to ensure rapid vaccination coverage. He proposed to create positive messages through FM Radio etc using Information & Publicity Dept.

Dr. Jagadish A. Cacodcar

Member Secretary &

Professor & HOD,

Dept. of Preventive & Social Medicine

Goa Medical College,

Bambolim-Goa.

To,

All Members of the Expert Committee

C.c. to: 1. Dean, GMC 2. Director, DHS, Goa

3. OSD to Hon. Chief Minister, Govt of Goa 4. PA to Hon. Health Minister, Govt of Goa

5. Hon. Secretary (Health), PHD, Govt of Goa 6. Under Secretary (Health), Gautami Parmekar

Annexure - I

Preparedness for 3rd wave of COVID Infection
Department of Paediatrics, Goa Medical College.

(Info. For the Hon. High Court)

Date: 15/06/2021

1. **Infrastructure:**
   60 bedded critical ward is being set up in the Super Speciality Block with PICU, NICU and HDU beds

2. **Manpower :**
   Manpower requirements have been estimated and are in the process of recruitment

3. List of **Equipment** required is submitted and is in the process of procurement.

4. **Training :**
   a) Training of short post residents already started:
   Period of training: 15 days
   Timings: 9am to 5pm
   Night emergency duties:4 days
   9 to 1pm: Ward Training: complete patient care, procedures, equipment handling,
   3 to 5pm: Short lectures on: infection control, shock, dehydration, sepsis, respiratory distress, seizures, management of COVID in children, MISC, etc
   Training of short post residents will be complete by September 2021.

   b) Training of private pediatricians.
   i) List of Private Pediatricians has been submitted
   ii) Training will start from 21/06/2021
   iii) Period of training: 4 days each batch
   iv) Will complete by August 2021
   v) Topic to be covered: recognition of respiratory distress, airway management, CPAP, HFNC, Ventilation basics, COVID Specific ventilation, monitoring & trouble shooting, shock, MISC, etc.

c) Training of Nurses : started on 14/6/2021
Period of Training : 1 mth for each batch

Annexure - II

Government of Goa

ASILO HOSPITAL

District Hospital, Peddem, Mapusa, Goa - 403 507.
Tel No: (0832)2262211, 2253244, Fax: 2262211 Email:- asilohospital@gmail.com

NO: AH/Adm/ 2021-22/ 1119 Date: 15/06/2021

To,
Dr. Jagadish Kakodkar,
HOD, Department of PSM,
Goa Medical College,
Bambolim.

Sub: 3rd Wave preparedness action taken report.

Sir,

Following are the actions taken by the Department of **Pediatrics** at Asilo Hospital for 3rd wave preparedness

1. SNCU beds scaled up from 5 to 10 **DONE.**

2. Pediatric Ward 20 bedded with 13 central oxygen ports **DONE.**
   If cases build up can be scaled to 30 beds.

3 List of Equipments required for scaling up of SNCU and up gradation in Pediatric ward **submitted** to the Joint Purchase Committee, Goa Medical College and to Director DHS.
Procurement of equipment **JULY end.**

4. Staff requirements towards same for Medical officers, Nurses -**1st July.**
MTS **JULY end**
Consultants **JULY end** submitted to Director (ADM) DHS.-JULY end.

5. Training schedule for the new staff will be completed by **3rd week of July.**
6. Consumables required-will be procured by **2nd week of July.**
7. Due repairs with check of existing equipments, oxygen ports will be completed by **June end.**
8. Sentinel surveillance (serological study) among under 18 to assess percentage of children infected with COVID-19 initiated **from 01/06/2021.**
9. Pediatric COVID 19 home monitoring e-CME accredited by Goa Medical Council **conducted on 1/6/2021.** This CME was attended by 48 DHS Medical officers, Health officers besides a few private practitioners, pediatric ward nurses and DHS – FW staff totaling 83 participants. The e-CME dealt with classification of severity of pediatric COVID, monitoring parameters, red flag signs, management of mild cases and referral/hospitalization indications.
More such sessions scheduled for Medical officers, nurses.
10. Vaccination of parents of children admitted in hospital, children attending DEIC are being encouraged if not vaccinated.

Yours faithfully,

SRMulgaonkar
(Dr. Mohandas R Pednekar)
Med. Supdt cum Dy. Director
North District Hospital
Mapusa, Goa

Annexure- II

Timeline for Preparedness for 3rd Wave

Department of Paediatrics

South Goa District (COVID-19) Hospital

1) **Paediatric Intensive Care Unit**
   - 7 bedded
   - 4 multipara monitors
   - 3 pulse oximeters
   - 1 ventilator
   - 2 HFNO
   - **STATUS – FULLY READY**

2) **Sick Newborn Care Unit**
   - 12 bedded
   - Equipment to be delivered this week
   - To be fully operational by 23/06/2021

3) **Training of doctors to be completed by 19/06/2021**

4) **Training (in house) of nurses by 26/06/2021**

5) **Infection control training of MTS workers area specific to be completed by 30/06/2021.**

6) **SOP Booklet (Institution specific) to be ready by 26/06/2021.**

7) **ORACT (Occupational Risk Assessment and Counselling Therapy) to be conducted by Department of Psychology, Carmel College, on all Healthcare workers who will work in the Paediatric Department at the COVID-19 Hospital. This will be completed by 31/07/2021.**

8) **Sentinel surveillance to be completed by 15/07/2021. Sample size 1000.**

9) **MIS-C training for Paediatricians (offline) will be held on 15/06/2021.**

10) **Establishment of Paediatric Casualty in the lobby outside Paediatric Ward.**

11) **Vaccination**

a) Tie-up with local colleges to vaccinate students to increase coverage by 30/06/2021
b) Vaccination of destitute without aadhar card by 30/06/2021. Working with NGO and local administration.
c) Publicity campaign with NGO (YWCA) posters, vaccination frame, badges and bracelets (19/06/2021)

Dr. Ira Almeida
Sr. Paediatrician
Hospicio Hospital, Margao

Dr. Ira Almeida
Sr. Paediatrician
HOSPICIO HOSPITAL
MARGAO-GOA

Annexure - IV

INDIAN ACADEMY OF PEDIATRICS

GOA STATE CHAPTER

PRESIDENT
Dr Dhanesh Volvoikar
Oval Park Medical Centre,
Alto Porvorim, Goa 403352
Mob: 9422441349
Hon. Secretary
Dr Sumant Prabhudesai
Healthway Hospital,
Kadamba Plateau, Old Goa,
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Mob: 7030869226
Treasurer
Dr Siddhi Akarker
Healthway Hospital,
Kadamba Plateau, Old Goa,
Goa 403402
Mob: 7820981588
CIAP Executive Member
Dr Shivanand Gauns
Imm. Past President
Dr Arvind D'Almeida
ADVISORS
Dr Anant Kini
Dr Rosario Menezes
Dr Laxmi Gaunekar
Dr Narayan Usgaonkar
Dr Vinay Sawardekar
Dr Jitendra Nagarsekar
Dr Rajendra Dev
Dr MP Silveira
Dr Nandita D'Souza
Dr Avdhut Kossambe

State Executive Members
Dr H.P Pai
Dr Virendra Gaonkar
Dr Sushma Kirtani
Dr Nelly D'Sa
Dr Poonam Sambhaji
Dr Chetna Khemani
Dr Swapnil Usgaonkar
Dr Kamlesh Kepkar

Date: 10.06.2021

To
The Member Secretary
(Expert Committee for anticipated 3rd wave of COVID-19 in Goa)

Subject: Account of actions taken by the Indian Academy of Pediatrics Goa State Chapter, following the 2nd meeting on the Expert Committee for anticipated 3rd wave of COVID-19 in Goa

Dear Sir

After the 2nd meeting of the Expert Committee for anticipated 3rd wave of COVID-19, held at Goa Medical College on 31.05.2021, which was attended by Dr Shivanand Gauns (Executive Board Member representing Goa State, Central IAP), Dr Dhanesh Volvoikar (President, IAP Goa State Chapter) and Dr Sumant Prabhudesai (Secretary, IAP Goa State Chapter), the academy has taken the following actions:-

1. Prepared a list of Pediatricians from amongst its members practising in Goa who have agreed to undergo training or refresh their training on "Mechanical ventilation and management of critically children" and if need be, would help in the clinical management of children admitted in PICU (mentioned in Annexure I)

2. Prepared a list of Pediatricians from amongst its members practising in Goa who have agreed to undertake home monitoring of COVID positive children who are under home isolation (mentioned in Annexure II)

3. Started undertaking several public awareness initiatives wherein various academy members have made and uploaded informative videos on social media platforms and participated in media interviews (print and electronic) with the aim of educating the general public on facts related to COVID-19 and MIS-C and COVID-19 vaccination (mentioned in Annexure III). This is an ongoing initiative and such activities are likely to continue in general public interest.

Dr Dhanesh Volvoikar
President

Dr Sumant Prabhudesai
Hon. Secretary

Dr Siddhi Akarker
Treasurer
IAP GOA

IAP Goa State Chapter 2021-2022

ANNEXURE I

LIST OF PEDIATRICIANS (MEMBERS OF INDIAN ACADEMY OF PEDIATRICS, GOA) FOR TRAINING IN MECHANICAL VENTILATION

SR NO.	NAME	AREA	EMAIL	MOBILE NO.
1	DR ARVIND JULIAN D ALMEIDA	MARGAO	dr_almi@hotmail.com	9822102552
2	DR HARSHAD G KAMAT	MARGAO	harshadgkamat@yahoo.co.in	9822101905
3	DR KAMALESH ANANT KEPKAR	SALCETTE	drkamleshkepkar@gmail.com	9422390548
4	DR RYAN JOHN DIAS	MARGAO	ryanjdias@outlook.com	9130024274
5	DR SUHEL J NAGARSENKAR	MARGAO	suhelnagar1@gmail.com	9225789116
6	DR PRIYANKA R AMONKAR	MARGAO	amonkarpriyanka@yahoo.com	9823247420
7	DR SIYA JAIPRAKASH CARO	MARGAO	siya.caro@gmail.com	9637087016
8	DR KETAN KHOT	MARGAO		8655376734
9	DR VIRENDRA SADANAND GAOKAR	PANAJI	criticarevg@gmail.com	9822589394
10	DR SWAPNIL K USGAONKAR	MERCES	usgaonkarswapnil@gmail.com	9325471920
11	DR GITANJALI SUKHIJA	PANAJI	gitanjalishkhija@yahoo.com	9823114434
12	DR MANEKA J FERNANDES	PANAJI	maneka_fernandes@yahoo.com	8806634237
13	DR AKANKSHA ANJALI	PANAJI		7309267622
14	DR JIS JOLLY PALLITHANAM	SANCOALE	jisjollyp@ymail.com	9447506220
15	DR SIDDHI TULSIDAS AKARKER	GOA	sakarker03@gmail.com	9167674363
16	DR SHIVANAND Y GAUNS	MAPUSA	gaunsshivanand@gmail.com	9422437898
17	DR AMEY GAUNS	MAPUSA	gaunsshivanand@gmail.com	9422437898
18	DR NARENDRA R TARALKAR	VASCO	taralkarnarendra@yahoo.co.in	9930948675

THE INDIAN ACADEMY OF PEDIATRICS

IAP GOA

ANNEXURE II

LIST OF PEDIATRICIANS (MEMBERS OF INDIAN ACADEMY OF PEDIATRICS, GOA) FOR HOME MONITORING OF COVID POSITIVE CHILDREN

SR NO.	NAME	AREA OF RESIDENCE	EMAIL	MOBILE NO
1	DR ARVIND JULIAN D ALMEIDA	MARGAO	dr_almi@hotmail.com	9822102552
2	DR SHARAD KUMAR PAIRAIKAR	MARCELA	drpairaikar@gmail.com	9822587669
3	DR SUSHMA P KIRTANI	PANAJI	drkirtani@gmail.com	9822123198
4	DR DHANESH T VOLVOIKAR	PORVORIM	prolvoikar@yahoo.com	9422441349
5	DR PREETI SHETYE	PORVORIM		9822131858
6	DR PHILOMENA D SOUZA	PORVORIM		7769043243
7	DR POONAM SAMBHAJI	BARDEZ	drpoonamchildspecialist@gmail.com	9850476913
8	DR PREETI KAISARE	PANAJI	preetikaisare@gmail.com	9371147644
9	DR MUKUL R PAI RAITURKAR	MARGAO	mukulpairaiturkar@gmail.com	9822127526
10	DR SHILPA ASHEESH GUDE	MARGAO	shilpagude70@gmail.com	9422057191
11	DR GEETA NP KAKODE	MARGAO	geeta20@rediffmail.com	9822100952
12	DR KALPANA VAITHEESWARAN	VASCO	kalpana6293@gmail.com	9673157906
13	DR THERESA COSTA	BARDEZ	tresadcosta@yahoo.com	9623452166
14	DR UMA AVADHUT KOSSAMBE	MARGAO	dramskossambe@yahoo.co.in	9822589890
15	DR NARAYAN S USGAONKER	PONDA	drsantosh@yahoo.com	9822120955
16	DR POORNIMA USGAONKAR	PONDA	drsantosh@yahoo.com	9422437596
17	DR RAJENDRA C DEV	PONDA	devrajan23@gmail.com	9422455901
18	DR NUTAN DEV	PONDA	devrajan23@gmail.com	9422455901
19	DR SURENDRA JUWARKAR	PONDA		9423889031
20	DR JYOTI MALLYA	PONDA		9822141379
21	DR RAJDATTA S TIMBLE	MARCELA	rajdattatimble@gmail.com	9226276355
22	DR BHAKTI A SALELKAR	PONDA	b.salelkar@yahoo.co.in	9552084232
23	DR SIDDHI R NEVREKAR	MERCES	siddhi.usg@gmail.com	9822397945
24	DR SUVARNA V NAIK	NORTH GOA	suvarnanaik123@gmail.com	9049468369
25	DR GITANJALI SUKHIJA	GOA	gita_jalishkhija@yahoo.com	9823114434
26	DR HP PAI	GOA	hppaigoa@rediffmaill.com	9422060868
27	DR ALHAD M KANTAK	VASCO DA GAMA	alhadkantak@yahoo.co.in	9422061550
28	DR VN SAWARDEKAR	MARGAO	veda_virgo25@rediffmail.com	9822102546
29	DR ABHIJIT G SHANBHAG	SANCOALE	shanbhag5845@gmail.com	9579672919
30	DR JOAN MIRA COSTA	MARGAO	joanmira@yahoo.co.uk	9823084502
31	DR MARGERY ABREU SA	MARGAO	drmargery@gmail.com	9822170369

THE INDIAN ACADEMY OF PEDIATRICS

IAP GOA

ANNEXURE II

LIST OF AWARENESS ACTIVITIES UNDERTAKEN BY MEMBERS OF INDIAN ACADEMY OF PEDIATRICS, GOA STATE

Date	Time	Activity	Doctor	Remarks/ Link
03.06.2021	3:00 PM to 4:00 PM	Awareness talk on COVID in children given to 116 members of North Goa Self Help Ladies' group organised through Goa Institute of Public Administration and Rural Development (GIPARD), via digital platform	Dr Poonam Sambhaji	
03.06.2021		Talk titled: Dangerous mistakes we do while wearing mask delivered as an interview on In Goa 24x7	Dr Poonam Sambhaji	
04.06.2021	3:00 PM to 4:00 PM	Awareness talk on COVID in children given to 76 members of South Goa Self Help Ladies' group organised through Goa Institute of Public Administration and Rural Development (GIPARD) via digital platform	Dr Poonam Sambhaji	
05.06.2021		TV interview for Face to Face on Goa 365 channel related to COVID awareness, COVID appropriate behavior and COVID vaccination	Dr Poonam Sambhaji	https://m.facebook.com/story.php?story_fbid=1020517795019913&id=124218901316478&sfnsn=wiwspmo
09.06.2021		Video interview on COVID and COVID vaccination for general public uploaded on Youtube.	Dr Harshad Kamat and Dr Priyanka Amonkar	Youtube video link: https://youtu.be/tiHdV8nUPvM
18.06.2021	Planned	Talks on "Special children during COVID pandemic" and "Myths around COVID vaccination" through CARITAS, Goa for parents with special children	Dr Poonam Sambhaji	

THE INDIAN ACADEMY OF PEDIATRICS

IAP GOA

INDIAN ACADEMY OF PEDIATRICS

GOA STATE CHAPTER

GOA STATE CHAPTER

PRESIDENT
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Oval Park Medical Centre,
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Kadamba Plateau, Old Goa,
Goa 403402
Mob: 7820981588
CIAP Executive Member
Dr Shivanand Gauns
Imm. Past President
Dr Arvind D'Almeida
ADVISORS
Dr Anant Kini
Dr Rosario Menezes
Dr Laxmi Gaunekar
Dr Narayan Usgaonkar
Dr Vinay Sawardekar
Dr Jitendra Nagarsekar
Dr Rajendra Dev
Dr MP Silveira
Dr Nandita D Souza
Dr Avdhut Kossambe

State Executive Members
Dr H.P Pai
Dr Virendra Gaonkar
Dr Sushma Kirtani
Dr Nelly D'Sa
Dr Poonam Sambhaji
Dr Chetna Khemani
Dr Swapnil Usgaonkar
Dr Kamlesh Kepkar

Date: 10.06.2021

To
The Member Secretary
(Expert Committee for anticipated 3rd wave of COVID-19 in Goa)

Subject: Suggestions for improvement of IVRS/ Step 1 system for home monitoring of COVIpositive persons

Dear Sir

We would like to make the following suggestions to the Step 1 system:-

1. The automated phone calls should be replaced by personal phone calls by doctors.
2. The IVRS/ Step 1 staff who call the patient for the first time to inform them the COVID test report should give patients and their families the option of being monitored by their family physician or pediatrician. These physicians and pediatricians can be empanelled in the Step 1 system.
3. Children below 5 years should be monitored by a pediatrician. This should be done by a video call at least twice a day.
4. Children between the ages of 6 and 12 years may be monitored by a pediatrician or a physician
5. Children above 12 years upto 18 years can be monitored by a physician, dentist or paramedical staff.
6. Patient monitoring should be for a minimum of 10 days but should continue beyond this period if the patient if the patient remains symptomatic
7. If red flag signs are detected by the monitoring doctor, IVRS should be informed who in turn should arrange for a physical examination or transfer of the patient to an appropriate hospital.

IAP GOA

Dr Dhanesh Volvoikar
President

Dr Sumant Prabhudesai
Hon. Secretary

Dr Siddhi Akarker
Treasurer

ANNEXURE-V *(IMA GOA STATE BRANCH)*

IMA Members willing for IVRS participation

11/06/2021

	NAME	CELL NUMBER	Email iD	Address
	IMA CQS			
1	Dr. Vinayak Buvaji	9403566666	dr.buvaji@yahoo.com	
2	Dr. Paresh Kamat	9822134768		
3	Dr. Manoj Prabhudessai	9823574626		
4	Dr. Pradnya Kakodkar	9822127131		
5.	Dr. Rahul Velip	9404912876		
6	Dr. Deepak Lotliker	9922932365		
7	Dr. Samiksha Kudchadkar	9322979213		
	IMA PONDA			
1	Dr. Basavraj Pattanshetti	98[illegible]1723421		
2	Dr. Aaron Soares	9158025207		
3	Dr. Akshata Baliga			
4	Dr. Ameet Naik	9850726229		
5	Dr. Ashok Amshekar	8007564526		
6	Dr. Chirag Bhandare	9158648037		
7	Dr. Dattaram Dessai	9423882072		
8	Dr. Deelip Kerkar	9823447092		
9	Dr. Gajanan Naik	9823610947		
10	Dr. Madhavi Mahambrey	9423821155		
11	Dr. Rajaram Mahambrey	9422060504		
12	Dr. Manish Debsikdar	9284670218		
13	Dr. Megha Savaikar	9423889004		
14	Dr. Purva Sahakari	98[illegible]3009556		
15	Dr. Rakesh Deshmane	9028765405		
16	Dr. Sandeep Naik	9890275030		
17	Dr. Shashi Parkar	9552897167		
18	Dr. Shweta Khandeparkar	9890415520		
19	Dr. Smita Usgaonkar	9850481473		
20	Dr. Sarvesh Dubhashi	8007723987		
21	Dr. Samidha Khandeparkar	8007723987		
22	Dr. Vallabh Dhaimodkar	7507272921		
23	Dr. Ramkrishna Parkar	9822981385		

	IMA BICHOLIM			
1	Dr. Dinesh Amonkar	9422062553		
2	Dr. Kalpana Chodnakar	9422416244		
3	Dr. Sandesh Chodankar	9422062770		
4	Dr. Vishwanath Marathe	9421156006		
5	Dr. Rajeshree Marathe	9158055015		
6	Dr. Mrunal Sambhaji	7263944643		
7	Dr. Shekhar Salkar	9822485769		
8	Dr. Subodh Kansar	9422062474		
9	Dr. Vithal Mardolkar	9422057257		
10	Dr. Kaustubh Patnekar	9421248767		
11	Dr. Kashish Patnekar	9764949767		
	IMA TISWADI			
1	Dr. Brenda Menezes	9763905231		
2	Dr. Maria Agnes	9822104992		
3	Dr. Neha Dessai	7767811998		
4	Dr. Patricia Sequeira	9322122717		
5	Dr. B Subha Jyothi	9326238678		
6	Dr. Carmen Menezes	7798969849		
8	Dr. Shrikant Bhobe	9822122007		
9	Dr. Vinod Verekar	9922483244		
	IMA MARGAO			
1	Dr. Vinay Nagvekar	9422442204		
2	Dr. Babita Angle	9822130842		
3	Dr. Brennan Tavares	9823050563		
4	Dr. Almeida	9822102522		
5	Dr. Erid	8390752297		
6	Dr. Fouzia	7507803204		
7	Dr. Freddie Ferrao	9850091365		
8	Dr. Himale	9860110096		
9	Dr. Jorson Fernandes	9822101334		
10	Dr. Kadambari Kulkarni	9422057896		
11	Dr. Marian Saldhana	9922668495		
12	Dr. Venkatesh Moliyo	9823175505		
13	Dr. Jeetendra Nagarsekar	9822155779		
14	Dr. Neelam Borkar	9422062856		
15	Dr. Priti Araujo	9822127521		

16	Dr. Rahul Borkar	9767948049		
17	Dr. Rupa Valaulikar	9822483288		
18	Dr. Sarita Chandra	7588459334		
19	Dr. Sonali	9822486668		
20	Dr. Sielda Gomes	9823232286		
21	Dr. Swati Pai	8698215038		
22	Dr. Uma Kosambe	9822589890		
23	Dr. Urvashi Roy	9726858719		
24	Dr. Vijeta Naik Dessai	9422656667		
25	Dr. Yogesh Shetye	9923634099		
26	Dr. Anusuya Kane	9890423923		
27	Dr. Madhavi Gaonkar	9689915584		
28	Dr. Reshu	9923420269		
29	Dr. Saipoorthi Nayak	9850183920		
30	Dr. Suvarna Naik	9049468369		
	IMA MORMUGAO			
1	Dr. Prakash Kuncolienkar	9325023054		
2	Dr. Branda	9823730329		
3	Dr. Hema Mayenkar	9881865151		
4	Dr. Dina	9890607137		
5	Dr. Abhijit Shanbhag	9975408108		
6	Dr. Rajiv	9422059660		
7	Dr. Shreedhara	9422064718		
8	Dr. Carmen	9552617342		
9	Dr. Kalpana Vaitheeswaran	9673157906		
10	Dr. Mridula	9322130402		
11	Dr. Seema Bandekar	9822133834		
12	Dr. Rita Sequeira	9822166005		
13	Dr. Pritha	9822388963		
14	Dr. Deepak Kuvelkar	9823016392		
15	Dr. Anand Thakur	9823019733		
16	Dr. Madhuja Savaikar	9823492486		
17	Dr. H. P Pai	0422060868		
18	Dr. Vandana	7066013441		
19	Dr. Paresh	7066998068		
20	Dr.Ganapati Prabhu	8830567350		
21	Dr. Parag	9168365445		
22	Dr. Uchita	9420419990		
23	Dr. Renu	9121286586		
24	Dr. Shailesh Kamat	9822156847		

Date: 15/06/2021

SUGGESTIONS FOR IVRS

1) identify houses from last year survey data n assign to PHC/CHC to keep a close monitoring of these families including children in these families

2) those families who have children with co morbidities should register themselves with local PHC/CHC so they can be monitored closely

3) Tie up with IVRS with IMA Goa State and other associations of dental, Ayush and homeopathic so there is only one system of Teleconsultation in state

Pvt hospitals / consultants can have their own paid consultations facility.

4) IVRS facility can be availed to inform about the spo2 monitors for children's below 5 yrs should be made available in all phc/ CHC/COVID care centre/ step up facilities/ district hospitals / gmc /

5) IVRS facility can guide the caller about all COVID care centres / step up centres to avail the facility of beds reserved for children and their one parent with trained doctors and nurses to look after 5yrs and above children who are mildly symptomatic

6) IVRS can guide all moderately symptomatic children below 5 for admission through expert doctors on panel of IMA.

Dr. Vinayak Buvaji

President IMA Goa State

Date: 15/06/2021

Sir,

W.r.t. the discussions in the task force expert committee in the capacity of President Indian Medical Association I place before you the involvement of IMA Goa State Members to combat the COVID pandemic at its peak time in the best possible way.

Your office may look forward to our active participation in a similar way.

Warm Regards,

Dr. Vinayak Buvaji

President, Indian Medical Association Goa

Date: 15/06/2021

Consultants already volunteered and dedicated free services earlier in the second wave.

Dr. Rajeshwar Naik	***9822933147***
Dr. Rajesh Naik	***9822103114***
Dr. Pravin Bhat	***9822487130***
Dr. Milind Dessai	***8806381807***
Dr. Pradnya Kakodkar	***9822127131***
Dr. Jagruti Nadkarni	***9423183317***
Dr. Sakshi Nevgi	***9860169111***
Dr. SandIP Naik (Chest)	***9890275030***
Dr. Anil mEhndiratta	***9823017806***
Dr. Vinayak Buvaji	***9403566666***
Dr. Deepak Kuvelkar.	***9823016392***
Dr. Akash Deep Arora	
Dr. Suresh Kannan	***9823171015***
Dr. Kefas Quadros	***9657041521***
Dr. Banita Angle	***9822130842***
Dr. Shekhar Salkar	***9822485769***
Dr. Palav Gaurish	***8007249899***
Dr. Pranay Budkule	***9764015930***
Dr. Paresh Kamat	***9822134768***

Dr. Vinayak Buvaji

President IMA Goa State

Date: 15/06/2021

The involvement of IMA Members in the second wave of COVID pandemic.

1. ***Involvement of 21 hospitals which are run by IMA Members dedicated purely for COVID services compared to four hospitals last year from private health sector.***
2. *Consultants in the category of Physicians, Pulmonologist, Anaesthetists and General and Speciality doctors at SGDH hospital Margao, MPT Hospital Vasco, Chicalim Hospital Vasco, Step up hospital at Bicholim, SDH hospital Ponda, CHC Curchorem in terms of floor rounds, casualty work(Triage), ward management.*
3. *Dedicated Help line number "8767249828" for all people of Goa managed successfully by IMA Members distributed in seven Branches under IMA Goa State. Unlike last year this line is managed independently by IMA Members free of cost and the public is getting connected directly to this number. Documented number of free tele consultations is over 3000 till now besides doctors personal level tele consultations.*
4. *Development of a dedicated "IMACARES" app by IMA Bardez Branch for tele consultation besides help line number.*
5. *Mass awareness Audio/ Video presentations in a user friendly language by Members of seven IMA Branches.*
6. *Distribution and availability of Oxygen concentrators all over Goa (Rural and semi urban locations) as a free service.*
7. *Distribution of Oxygen masks, Pulse oxymeters and life saving medicines & antibiotics, ECG machines by IMA Members at SGDH hospital and SDH Asilo Mapusa.*
8. *13 Stretchers given by IMA Members to SGDH Hospital Margao.*
9. *Proposal to the authorities for allowing IMA Goa State to assist COVID affected officially who have lost both the parents.*
10. *Free dedicated ambulance services by IMA Mormugao.*
11. *Active participation of all IMA Members in COVID Vaccination drive all over Goa*

Dr. Vinayak Buvaji

President IMA Goa State

In view of the anticipated third wave of COVID pandemic

ASSESEMENT OF REQUIREMETNTS OF HEALTH CARE WORKERS AND PROFESSIONALS

Customized crash course training under these headings

1. Emergency Medical Technician
2. General Duty Assistant (GDA)
3. GDA- Advanced (Critical Care)
4. Home health aide
5. Medical Equipment Technology Assistant
6. Phlebotomist

Compressed training maximum of one month, then work at hospitals to fine tune the skills.

Due to shortage of these staff presently and also expansion of present infrastructure

Identify the number of skilled personnel to be trained.

The job role wise number of candidates may be uploaded directly in the skill India Portal (SIP) https;//skillindia.nsdc.india.org

EXAMPLE:

This is the approximate working for 24 hours duty and two days off of existing COVID UNIT IN SOUTH GOA FOR 15/20 BEDS. We have approximately dedicated 350 COVID beds in private sector with corporate and non corporate. In view of the need to increase the number of heath care workers in the existing centres and expansion in anticipated third covid wave approximate working is as follows.

Nursing Staff	15	For 350 beds	300
Biomedical Technician	03		55
House keeping staff	06		105
RMO,s	06		105
Front office Staff	06		105
BMW Management	01		20
Oxygen supply monitiroing staff	02		40
Counsellors for patients and realatives	02		30

ANNEXURE-VI

Dr. Rajendra M Borkar <sepiogoa@hotmail.com>
Thu 6/10/2021 7:21 AM
To: You
Sir,

With respect to the minutes of the 2nd meeting of expert committee in anticipation of third wave of COVID please find action taken for points relevant to Immunization Division, DHS.

5> Vaccination recommendations

b> Additional Groups in 18-44 years for COVID vaccination :

- Lactating mothers (post partum 45 days onwards) of child aged 2 years are eligible to get vaccinated upon production of relevant documents. They are part of the special category vaccination which began in the state of Goa from 3rd June 2021.
- Both parents of a child whose age is 15 years or less are also eligible for vaccination according to the latest guidelines upon production of relevant documents. They are part of the special category vaccination which began in the state of Goa from 3rd June 2021.
- Young adults with co-morbidities are eligible for COVID vaccination upon production of relevant documents. They are also part of the special category vaccination which began in the state of Goa from 7th June 2021.

Regards,

Dr Rajendra M. Borkar
Chief Medical Officer, District Immunisation Programme, Directorate of Health Services, Campal- Panaji, Goa

Annexure – VII

serological study on COVID in children by NCDH.

Sero-surveillance to monitor trend of SARS CoV2 infection in pediatric population in Goa

Introduction: SARS CoV2 was first reported in China in 2019 and has emerged as a pandemic which has spread to more than 200 countries. CoV 2 has been reported in all age groups. However, there have been far fewer confirmed reported cases of Covid 19 in pediatric population. The infection of SARS CoV2 appears to have milder course in children than adults. Most infected children presented with mild symptoms or were asymptomatic. However,MIS-C (Multi system Inflammatory Syndrome in Children) may present weeks after a child is infected with SARS CoV2 where the child may be asymptomatic or may have been infected from an asymptomatic contact or care giver and is unaware about the infection status.

As we are anticipating 3rd wave of Covid 19 to hit the state of Goa around July-October 2021 wherein pediatric population is likely to be affected, conducting pediatric population based sero surveillance will help to estimate and monitor the trend of infection and will guide the strategy for making further decisions.

Aims and Objectives:

To conduct assay based sero surveillance to detect anti SARS CoV 2 Immunoglobulin antibodies in order to identify past viral exposure among pediatric population.

Materials and Methods:

The initial survey would serve as a baseline to determine the sero prevalence of SARS CoV2 infection among children of heath care workers.

The subsequent round of the survey can be undertaken for high risk pediatric population which includes children with co morbidities like Juvenile Diabetes, Sickle cell disease, leukemia, congenital anomalies, cystic fibrosis etc.

The 3rd round can include children from community: rural and urban.

The approximate number of children targeted for the survey – 3000.

Study procedure:

Following details will be obtained: informed written consent from the parents, information on basic demographic details, history of exposure to laboratory confirmed covid 19 case, symptoms suggestive of covid 19 in preceding one month, clinical history and parents immunization status.

Serum samples (2-5ml) will be collected from children to detect SARS CoV2 specific antibodies by ELISA based test as per kit insert and simultaneous qualitative Lateral flow assay test will also be performed.

Analysis Plan/ Results:

Sero prevalence of SARS CoV2 will be analyzed in different rounds of sero surveillance. The trend of sero positivity will be looked to monitor with community level transmission in the pediatric population.

A sensitivity analysis will be done to determine the gaps in testing by comparing quantitative antibody test method with qualitative test method.

Ethical consideration:

All data will be stored under the Department of Pathology with a focus on maintaining confidentiality of the data. State health department and IDSP will be engaged to ensure ethical and smooth operation of the program.

Discussion:

Many of the Covid 19 pandemic affected countries have initiated community based sero surveillance screening strategies done on large scale to quantify the burden of Covid 19 by using serological tests to detect Covid 19 antibodies by ELISA and CLIA methodology and rapid tests (Lateral Flow Immunoassays). Most of the studies are targeting adult population. There is very less data available with regard to sero prevalence in pediatric population.

The strategy of sero surveillance among children of health care workers will help us to determine the burden of Covid 19 infection and trend of

transmission of CoV infection in children of health care workers who are at maximum risk of getting infected.

Sero surveillance for high risk pediatric population will directly help in monitoring and follow up of these patients and strategies can be designed for their vaccination when available.

Sero surveillance of children from urban and rural community based population will help the epidemiologist to design protocols at state and district level.

The surveillance program will guide the state to build up its capacity and customize to design and implement appropriate measures focusing to save lives and protect the vulnerable.

Budget: Rupees 4 lakhs for procurement of ELISA based Covid IgG antibody kit and rapid antibody kits.

Equipment: available at North Goa District Hospital.

Manpower: Pathology department will manage with existing manpower.

Investigating team: Dr. Varsha Munj, Senior Pathologist, North District Hospital, Mapusa

Dr. Krupa Jog, Senior Pathologist, North District Hospital, Mapusa

Dr. Shruti Shetye, Pathologist, North District Hospital, Mapusa

Along with Dr Utkarsh Bethodkar, State Epidemiologist, Directorate of Health Services, Government of Goa.

Mentors: Dr Sunanda Amonkar, Nodal Officer, North District Hospital, Mapusa

Dr. Mohandas Pednekar, Medical Superintendent, North District Hospital, Mapusa

Lab technician: Sanjay, Ankita, Dalinda, Simin.

Data Entry operators: Govind, Rohan.

EVIDENCE-BASED

Comprehensive Guidelines for Management of COVID-19 in CHILDREN (below 18 years)

Directorate General of Health Services
Ministry of Health and Family Welfare, Government of India

Annexure - VIII

Comprehensive Guidelines for Management of COVID-19 in CHILDREN (below 18 years)

- Suspected contact [RAT or RTPCR negative or not available]
- Incidentally detected [RAT or RTPCR positive]
- Take 6 min walk test in children above 12 years under supervision of parents/guardian; See **6-minute walk test – at a glance**

Home isolation (tele consultation SOS)

Mainstay of Treatment

- Infants and younger children to stay under immediate care of parents/guardians
- No specific medication required for COVID 19 infection
- Continue medications for other conditions, if any
- Promote COVID appropriate behaviour (mask, strict hand hygiene, physical distancing); please see **Children and masks guide**
- Fluids and feeds: ensure oral fluids to maintain hydration and give a nutritious diet
- Advise older children and family to stay connected and engage in positive talks through phone, video-calls, etc.
- Parent/caregivers to contact the doctor in case of deterioration of symptoms

Investigations

- No investigations are needed

- Sore throat or rhinorrhoea
- Cough with no breathing difficulty
- $SPO_2 \geq 94\%$ on room air
- Take 6 min walk test in children above 12 years under supervision of parents/guardian; please see **6-minute walk test – at a glance**
- For other symptoms, see **COVID-19 symptoms – at a glance**

Home isolation (tele consultation SOS)

Mainstay of Treatment

- Promote COVID appropriate behaviour (mask, strict hand hygiene, physical distancing); please see **Children and masks guide**
- For fever, give paracetamol 10-15mg/kg/dose; may repeat every 4-6 hours
- For cough: throat soothing agents and warm saline gargles in older children and adolescents
- Fluids and feeds: ensure oral fluids to maintain hydration and give a nutritious diet
- No other COVID-19 specific medication needed
- Antimicrobials are not indicated
- Maintain monitoring chart including counting of respiratory rate 2-3 times a day, look for chest indrawing, bluish discoloration of body, cold extremities, urine output, oxygen saturation, fluid intake, activity level, especially for young children
- Advise older children and family to stay connected and engage in positive talks through phone, video-calls, etc.
- Parent/caregivers to contact the doctor in case of deterioration of symptoms

Investigations

- No investigations are needed

- In addition to symptoms in mild cases, check for pneumonia which may not be apparent
- Rapid respiration (**age-based**): **<2 months** RR >60/min; **2-12 months**, RR >50/min; **1-5 years**, RR >40/min; **>5 years**, RR >30/min
- SpO_2 : 90-93 % on room air
- For other symptoms, see **COVID-19 symptoms – at a glance**

Admit in DCHC or COVID-19 Hospital

Mainstay of Treatment

- Initiate immediate oxygen therapy
- Maintain fluid and electrolyte balance
  - Encourage oral fluids (breast feeds in infants)
  - Initiate intravenous fluid therapy if oral intake is poor
- Corticosteroids are not required in all children with moderate illness; they may be administered in rapidly progressive disease
- Anticoagulants may also be indicated
- Exercise caution and see use of corticosteroids and anti-coagulants guide
- For fever (temperature >38°C or 100.4°F): Paracetamol 10-15mg/kg/dose; may repeat every 4-6 hours
- Anti-microbials to be administered if there is evidence/strong suspicion of superadded bacterial infection. See **anti-microbial use guide**
- Supportive care for comorbid conditions, if any

Severe

- SpO_2 < 90% on room air
- Signs of severe pneumonia, acute respiratory distress syndrome, septic shock, multi-organ dysfunction syndrome, or pneumonia with cyanosis, grunting, severe retraction of chest, lethargy, somnolence, seizure; assess for thrombosis, hemophagocytic lymphohistiocytosis (HLH)
- Please see COVID-19 symptoms – at a glance

Admit in HDU/ICU of COVID-19Hospital

Mainstay of Treatment

- Initiate immediate oxygen therapy
- Maintain fluid and electrolyte balance
- Corticosteroids therapy to be initiated
- Anticoagulants may also be indicated
- Exercise caution and see use of corticosteroids and anti-coagulants guide
- In case Acute Respiratory Distress Syndrome (ARDS) develops, necessary management to be initiated; see ARDS and Shock guide
- In case shock develops, necessary management to be initiated; see ARDS and Shock guide
- Anti-microbials to be administered if there is evidence/strong suspicion of superadded bacterial infection. See anti-microbial use guide
- May need organ support in case of organ dysfunction, e.g. renal replacement therapy

Activate the Hospital Infection Control Committee

Investigations

- Baseline lab investigations: CBC, Blood Glucose, urine routine, LFT, KFT, CRP, S. Ferritin, D-Dimer, LDH, CPK
- Repeat investigations: CRP and D-Dimer 48 to 72 hourly; CBC, KFT, LFT 24 to 48 hourly; IL-6 (subject to availability)
- Investigations may have to be repeated more frequently in ICU settings; serial CXR should be at least 48 hours apart
- HRCT chest to be done ONLY if there is worsening of symptoms, please see **rational use of HRCT imaging guide**

Comprehensive Guidelines for Management of COVID-19 in CHILDREN (below 18 years)

COVID-19 SYMPTOMS in children – at a glance

Symptoms*				**Severe**
Fever	×	+	++	+++
Cough	×	+	+	++
Rhinorrhoea	×	+	+/-	+/-
Sore throat/throat irritation	×	+	+/-	+/-
Body ache/headache	×	+	+	++
Malaise/weakness	×	+	+	++
Diarrhoea/gastro-intestinal upset	×	+/-	+/-	
Anorexia/nausea/vomiting	×	+/-	+/-	+/-
Loss of sense of smell and/or taste	×	+/-	+/-	+/-
Shortness of breath/breathlessness	×	×	++	+++
Respiratory rate/min	normal with age dependent variation	age dependent variation	rapid respiration (age based) **<2 months** >60/min; **2-12 months** >50/min; **1-5 years** >40/min; **>5 years** >30/min	rapid respiration (age based) **<2 months** >60/min; **2-12 months** >50/min; **1-5 years** >40/min; **>5 years** >30/min
Cyanosis	×	×	×	+/-
SpO_2 on room air	>94%	≥ 94%	90% – 93%	< 90%
Grunting, severe retraction of chest, ,	×	×	×	+/-
lethargy, somnolescence	×	×	×	+/-
Seizure	×	×	×	+/-

* Possible symptoms, signs and findings have been listed; patients in each category may have one or many of these

6-MINUTE WALK TEST – at a glance

- **To be used in children above 12 years under supervision of parents/guardian**
- It is a simple clinical test to assess cardio-pulmonary exercise tolerance, and is used to unmask hypoxia
- Attach pulse oximeter to his/her finger and ask the child to walk in the confines of their room for 6 minutes continuously
- Positive test: any drop in saturation < 94%, or absolute drop of more than 3–5% or feeling unwell (lightheaded, short of breath) while performing the test or at end of 6 minutes
- Children with positive 6-minute walk test may progress to become hypoxic and early admission to hospital is recommended (for observation and oxygen supplementation)
- The test can be repeated every 6 to 8 hours of monitoring in home setting; avoid the test in patients with uncontrolled asthma

Acute Respiratory Distress Syndrome (ARDS) and Shock management guide

Management/treatment of ARDS

ARDS may be classified based on Pediatric Acute Lung Injury Consensus Conference (PALICC)definition into mild, moderate and severe

- **Mild ARDS**: high flow nasal oxygen, non-invasive ventilation may be given
- **Moderate to severe ARDS**: lung protective mechanical ventilation may be initiated
    - Low tidal volume (4-8 ml/kg); peak pressure <28-30 cmH_2O; MAP <18-20 cmH_2O; driving pressure <15 cmH_2O;PEEP 6-10 cmH_2O (or higher if severe ARDS); FiO2 <60%; sedoanalgesia ± neuromuscular blockers; cuffed ETT, inline suction, heat and moisture exchange filters (HMEF), avoid frequent disconnection, nebulization/metered dose inhaler
    - Restricted fluids, calculate fluid overload percentage (FO%) and keep it <10%
    - Awake prone position may be considered in older hypoxemic children if they are able to tolerate it
    - Daily assessment for weaning and early extubation; enteral nutrition within 24 hours, achieve full feeds by 48 hours
    - Transfusion trigger Hb <7g/dL if stable oxygenation and haemodynamics and <10 g/dL if refractory hypoxemia or unstable shock
- If the child does not improve, may consider high frequency oscillatory ventilation (HFOV), extracorporeal membrane oxygenation(ECMO) if available

Management of shock

- Consider crystalloid fluid bolus 10-20 ml/kg over 30-60 minutes (fast in presence of hypotension) with early vasoactive support (epinephrine)
- Consider inotropes (milrinone or dobutamine) if poor perfusion and myocardial dysfunction persists despite fluid boluses and vasoactive drugs and achievement of target mean arterial pressure(MAP)
- Once stabilized proceed for restricted fluids and early de-resuscitation
- Hydrocortisone may be added if there is fluid refractory catecholamine resistant shock (avoid if already on dexamethasone or methylprednisolone)
- Initiate enteral nutrition; sooner the better
- Transfusion trigger Hb <7g/dL if stable oxygenation and haemodynamics, and <10 g/dL if refractory hypoxemia or unstable shock

Multisystem Inflammatory Syndrome (MIS-C) management guide

Multi System Inflammatory Syndrome in Children (MIS-C) is a new syndrome in children characterized by unremitting fever >38°C and epidemiological linkage with SARS-CoV-2. It usually occurs after 2–4 weeks of recovery from acute COVID-19

Diagnostic criteria (WHO)

- Children and adolescents 0–18 years of age with fever ≥3 days
- **And any two** of the following:
  - Rash or bilateral non-purulent conjunctivitis or muco-cutaneous inflammation signs (oral, hands or feet)
  - Hypotension or shock
  - Features of myocardial dysfunction, pericarditis, valvulitis, or coronary abnormalities (including ECHO findings or elevated Troponin/NT-proBNP)
  - Evidence of coagulopathy (PT, PTT, elevated D-Dimer)
  - Acute gastrointestinal problems (diarrhoea, vomiting, or abdominal pain)
- **And** elevated markers of inflammation such as ESR, C-reactive protein, or procalcitonin
- **And** no other obvious microbial cause of inflammation, including bacterial sepsis, staphylococcal or streptococcal shock syndromes
- **And** evidence of recent COVID-19 infection (RT-PCR, antigen test or serology positive), or likely contact with patients with COVID-19

Treatment– The child needs appropriate supportive care preferably in ICU for treatment of cardiac dysfunction, shock, coronary involvement, multi-organ dysfunction. Drugs to be used are:

- Intravenous immunoglobulin (IVIG): 2g/kg over 12 to 24 hours
- Steroids: methylprednisolone 1-2mg/kg/day
- Empirical broad spectrum antimicrobials

If the child does not improve with the above treatment or deteriorates, options include:

- Repeat IVIG
- High dose corticosteroid (methylprednisolone 10-30 mg/kg/day for 3-5 days); have to be tapered over 2 to 3 weeks while monitoring inflammatory markers
- Aspirin: 3mg/kg/day to 5 mg/kg/day, max 81mg/day (if thrombosis or coronary aneurysm score is >2.5)
- Low molecular weight heparin (Enoxaparin): 1mg/kg twice daily subcutaneously (if patient has thrombosis or giant aneurysm with absolute coronary diameter ≥ 8 mm or ≥ 10 Z score (coronary aneurysm score ≥ 10) or LVEF < 30% or D-Dimer ≥ 5 ULN); clotting factor Xa should be between 0.5 to 1 IU/ml
- Use of biologicals only after expert consultation and should be used at tertiary care only

For children with cardiac involvement, repeat ECG 48 hourly & repeat ECHO at 7–14days and between 4 to 6 weeks (and after 1 year if initial ECHO was abnormal)

Suggested proforma for monitoring in children

Name: Age: Sex: Date:

#	**Co-morbid conditions** (if any)	**Controlled** (Y/N)	**Drugs being taken**
1			
2			
3			

Record of symptoms

Time	Lethargy/malaise*	SoB**	Temperature	BP#	Respiratory rate##	Bluish nails or lips	Chest indrawing	SpO_2*** & pulse rate	Physical activity (normal or lower)
08:00 am									
12:00 noon									
04:00 pm									
08:00 pm									

*Malaise: feeling of unwellness; **SoB: shortness of breath/breathing difficulty/breathlessness; record as Yes/No
***SpO_2: oxygen levels to be measured by pulse oximeter; # measure BP if age appropriate BP cuffs are available; ## record respiratory rate in a clam or sleeping child

Take the 6-minute walk test (as detailed in the 6-minute walk test – at a glance)

INFECTION PREVENTION AND CONTROL (IPC) and WHAT-TO-DO – at a glance

IPC interventions and what-to-do				Severe
Standard precautions				✓
Droplet precautions				✓
Airborne precautions				✓
Contact precautions and hand hygiene				✓
Wear triple layer mask (for patient)^				✓
N95 mask for care givers (home/hospital)				✓
Physical distancing				✓
Cough etiquette/respiratory hygiene				✓
Well ventilated rooms				✓
Cleaning/disinfection – frequently touched surfaces				✓
Safe disposal of BMW				✓
Activation of hospital infection control committee				✓
Monitor healthcare associated infections				✓
Anti-pyretic (paracetamol)				✓
Anti-tussive (SOS)				✓
Oxygen support				✓
Monitoring (CXR/HRCT/Lab tests) *#				✓
Anticoagulation #				✓
Anti-inflammatory therapy #				✓

^ for children >12 years and for those between 6-11 years if masks can be tolerated and safely used by them; * please see detailed guidelines for HRCT
# to be done in hospital settings/as per the guidance of treating physician

ANTIMICROBIAL USE guide

COVID-19 is a viral infection, and antimicrobials have no role in prevention or treatment of uncomplicated COVID-19 infection

Asymptomatic and mild cases: antimicrobials are not recommended for therapy or prophylaxis

Moderate and severe cases: antimicrobials should not be prescribed unless there is clinical suspicion of a superadded infection; hospital admission increases risk of healthcare-associated infections with multidrug-resistant organisms

Septic shock: empirical antimicrobials (according to body weight) are frequently added to cover all likely pathogens based on clinical judgement, patient host factors and local epidemiology and antimicrobial policy of the hospital, and are usually needed when there is leucocytosis with neutrophilia, very high inflammatory markers, or raised procalcitonin (which may also be raised in severe trauma, burns, multiorgan failure, major surgery or chronic kidney disease)

Antimicrobial stewardship is a coordinated program that promotes the appropriate use of antimicrobials (including antibiotics), improves patient outcomes, reduces drug resistance, and decreases the spread of infections caused by multidrug-resistant organisms; it should be integrated into the pandemic response across the broader health system through the following:

1. **Reduce/eliminate unnecessary antimicrobial use**– through careful selection of antimicrobials as per national/hospital treatment guidelines for their empiric use in children
2. **AWaRe** (**A**ccess, **Wa**tch and **Re**serve) classification in the Essential List of Medicines is a tool for antibiotic stewardship – antimicrobials are divided into 3 categories based on their indication for common infections, their spectrum of activity and their potential for increasing antimicrobial resistance; use access group AMs for community acquired infections
3. **Strengthen microbiology laboratories to reduce turnaround time** of COVID-19 testing and other infections by improving test methods and expanding testing facilities
4. **Diagnostic stewardship** – collect blood cultures and other appropriate samples for culture before starting antimicrobials, which should preferably be administered within 1 hour of clinical assessment, with daily assessment for de-escalation and substituting IV route to oral once patient is stabilized
5. **Infection prevention and control**– implement/strictly enforce standard/transmission-based precautions, surveillance of HAI and other IPC measures
6. **Monitor trends of antimicrobial resistance and antibiotic consumption/use**, including Remdesivir, through audits/review and share/feedback of results and impact of interventions
7. **Education and training** to improve clinical competence among health workers treating COVID-19 patients – key competencies include ability to identify signs and symptoms of severe COVID-19 and those of a superimposed bacterial or fungal disease, and evaluating the need for medical devices that increase risk of healthcare associated infections (HAI)
8. **Ensure continuity of essential health services** and regular supply of quality assured and affordable antimicrobials, including antiretroviral/tuberculosis drugs and vaccines
9. **Use biocides** cautiously for environmental and personal disinfection – prioritize biocidal agents without, or with a low, selection pressure for antimicrobial resistance
10. **Address gaps in research** to ensure that antimicrobial stewardship activities become an integral part of the pandemic response and beyond; research agenda includes rapid and affordable diagnostic tests that differentiate between bacterial and viral respiratory tract infections; short- and long-term impact of wide use of biocides for environmental and personal disinfection including cross resistance to antimicrobials; and R&D for newer drugs, vaccines (COVID-19 and others) and potential alternatives to antimicrobials

These measures would reduce the emergence of untreatable multi-drug resistant infections and diseases that could potentially lead to another public health emergency

Guide for use of Remdesivir

Remdesivir (an emergency use authorization drug) is NOT recommended in children

There is lack of sufficient safety and efficacy data with respect to Remdesivir in children below 18 years of age

Guide for using Masks

- Children aged **5 years and under** should not be required to wear masks
- Children aged **6-11 years** may wear a mask depending on the ability of child to use a mask safely and appropriately under direct supervision of parents/guardians
- Children aged **12 years and over** should wear a mask under the same conditions as adults
- Ensure hands are kept clean with soap and water, or an alcohol based hand rub, while handling masks

USE of STEROIDS and ANTI-COAGULANTS guide

Steroids

- **Steroids are not indicated and are harmful in asymptomatic and mild cases of COVID-19**
- Indicated only in hospitalized moderately severe and critically ill COVID-19 cases under strict supervision
- Steroids should be used **at the right time, in right dose and for the right duration**
- Self-medication of steroids must be avoided
- **Indications and recommended dose:** Corticosteroids may be used in rapidly progressive moderate and severe cases. The recommended dose is as below: .
    - Dexamethasone 0.15 mg/kg per dose(maximum 6 mg) twice a day or equivalent dose of methylprednisolone may be used if dexamethasone is unavailable, for 5–14 days depending on clinical assessment on daily basis
- It must be remembered that steroids prolong viral shedding and hence caution is required in their use.

Anti-coagulants

Recommended dose in severe COVID-19 and MIS-C

- Aspirin: 3 mg/ kg/day to 5 mg/kg/day max 81 mg/ day (if thrombosis or Coronary aneurysm score ≥ 2.5)
- Low molecular weight heparin (Enoxaparin): 1mg/kg twice daily subcutaneously
- Clotting factor Xa should be between 0.5–1 IU/ml (if patient has thrombosis or coronary aneurysm score >10 or LVEF <30%)

RATIONAL USE of HRCT IMAGING guide

High-resolution CT (HRCT) scan of chest provides better visualization of the extent and nature of lung involvement in patients with COVID-19

However, any additional information gained from HRCT scan of chest often has little impact on treatment decisions, which are based almost entirely on clinical severity and physiological impairment

Therefore, treating physicians should be highly selective in ordering HRCT imaging of chest in COVID-19 patients

Routine HRCT imaging of chest in COVID-19 patient is NOT recommended

- Nearly two-thirds of persons with asymptomatic COVID-19 have abnormalities on HRCT chest imaging which are nonspecific, and most of them do not progress clinically
- HRCT imaging of chest done in first week of illness might often underestimate the extent of lung involvement, giving a false sense of security
- Correlation between extent of lung involvement by HRCT imaging of chest and hypoxia is imperfect; often, young individuals with extensive lung involvement will not develop hypoxia, while elderly individuals with minimal/ less extensive lung involvement are likely to develop hypoxia
- Radiation exposure due to repeated HRCT imaging may be associated with risk of cancer later in life

HRCT imaging of chest NOT be done for following situations

- Not to be done for diagnosing/screening Covid-19 infection (diagnosis of COVID-19 should be done only by using approved laboratory tests as recommended by ICMR)
- Not indicated in asymptomatic and mild cases of COVID-19
- Not needed to initiate treatment in COVID-19 patients with hypoxia and an abnormal chest radiograph
- Not needed to assess response to treatment; more often, the lung lesions show radiological progression despite clinical improvement

Indications for HRCT imaging of chest in COVID-19 patients

- Suspected or confirmed cases of moderate COVID-19 who continue to deteriorate clinically even after initiation of appropriate therapy especially with high risk of invasive fungal infection

In view of the above, treating pediatricians should exercise caution while advising HRCT imaging of chest

MUCORMYCOSIS guide

Mucormycosis is a serious fungal disease seen in patients with the underlying/predisposing factors such as immunosuppression, poorly controlled diabetes mellitus (especially diabetic ketoacidosis), misuse/overuse of steroids, cancer, organ/stem cell transplantation, and those under prolonged ICU treatment.

Mode of infection is usually through inhalation of fungal spores present in dust/air and it is not contagious; presentation is variable but usually occurs in third week after onset of COVID-19 symptoms

Signs and symptoms

Rhino-cerebral mucormycosis

- Facial pain, pain over sinuses, periorbital swelling
- Conjunctival injection or chemosis, blurring of vision/diplopia
- Paraesthesia/decreased sensation over half of face
- Blackish discolouration of skin over nasolabial groove/alae nasi; nasal crusting and nasal discharge which could be blackish, or blood tinged
- Loosening of teeth, pain in teeth and gums
- Discoloration (pale) of palate/turbinates insensitive to touch, eschar over palate
- Worsening of respiratory symptoms, haemoptysis, and chest pain; headache, alteration of consciousness and seizures etc.

Gastro-intestinal mucormycosis

- Symptoms and signs are very non specific and mimic other gastrointestinal (GI) conditions but have a progressively worsening course
- Unexplained feed intolerance, abdominal distension, GI bleeding in a child with several risk factors (shock, vasopressors, broad-spectrum antibiotics)
- Persistent elevation of serum lactate in the absence of haemodynamic instability, liver dysfunction or other known causes

Diagnosis

- KOH mount and microscopy, histopathology of debrided tissue – presence of ribbon like aseptate hyphae, 5-15 µ thick that branch at right angles
- **Positive serologic assays for Galactomannan or (1,3)-β-D-glucan** also support the diagnosis of mucormycosis
- Relevant radiological investigations e.g. contrast enhanced CT of sinuses, CT chest for suspected pulmonary involvement (presence of more than 10 nodules, reverse halo sign, CT bronchus sign, pleural effusion – are highly suggestive of mucormycosis), MRI brain etc. to see the extent of systemic involvement; unstable patients might require repeat CT/MRI scans to assess the progression of disease

MUCORMYCOSIS guide (continued)

Management

- Mucormycosis is an aggressive, life-threatening infection that needs a high index of suspicion, prompt diagnosis and early treatment (surgical debridement and antifungal therapy) by a multidisciplinary team to reduce mortality
- Don't wait for culture results to initiate therapy as mucormycosis is an emergency
- Early complete surgical debridement is the cornerstone of treatment, and may be repeated as required
- **Conventional Amphotericin B** (deoxycholate) as a prolonged IV infusion through a central venous catheter or PICC; closely monitor kidney function and electrolytes during treatment
    - Reconstitute in water for injection, and dilute in 5% dextrose (do not use normal saline/Ringer's lactate); start with test dose: 1 mg IV infusion over 20-30 min
    - Loading dose: 0.25–0.5 mg/kg IV infused over 2-6 hours; gradually increase by 0.25 mg-increments/day to reach maintenance dose: 1–1.5 mg/kg/day
- **Liposomal Amphotericin B or Amphotericin lipid complex**, if available; prolonged infusion over 2–3hours through a central venous catheter or PICC and closely monitoring KFT and electrolytes
    - Reconstitute in water for injection, and dilute in 5% dextrose (do not use normal saline/Ringer's lactate); start full dose from first day; **5 mg/kg/day** (10 mg/kg/day in case of CNS involvement)
    - Continue till a favourable response is achieved which may take 3-6 weeks following which step down to oral Posaconazole (delayed release tablets, children ≥3 years and adolescents ≤17 years: 5-7 mg/kg/dose twice daily on day 1, followed by 5 to 7 mg/kg/dose daily) or Isavuconazole (not approved below 18 years of age, however if required to be given, the dose for weight >30kg: 200 mg 1 tablet 3 times daily for 2 days followed by 200 mg daily, <30kg: half the dose for >30 kg children) may have to be taken for prolonged period as per advice of pediatrician
- **Posaconazole** should be given as salvage therapy in cases who cannot be given Amphotericin B
    - **Injection IV**
        - Children ≤11 years: loading dose: 7-12 mg/kg/dose IV twice on the first day and maintenance dose: 7-12 mg/kg IV once a day, starting on second day (max: 300 mg/dose)
        - Adolescents: 300 mg IV twice on the first day and maintenance dose 300 mg IV once a day, starting on the second day
    - **Oral delayed release tablets (100 mg) and Oral Suspension (for infants and smaller children)** To be administered with fatty food:
        - Oral delayed release tablets : **Children** 7 to 12 years: initial dose: 200 mg/dose thrice daily; maximum dose: 800 mg/day
          Adolescents: 300 mg/dose twice on day 1, followed by 300 mg/dose once daily
        - Oral suspension (for infants and children) as syrup in a strength of 40 mg/ml. The recommended dose for children with body weight <34 kg is 4.5 to 6 mg/kg/dose 4 times daily; maximum dose 800 mg/day. For those children and adolescents with body weights >34 kg the dose is 200 mg/dose 3 times daily (maximum 200 mg 4 times a day)

Treatment has to be continued until resolution of clinical signs and symptoms as well as radiological signs of active disease; and may have to be given for quite a long period of time