

SLMA 247 COVID Helpline

Patient Management Companion

A Brief Compendium of Cases Presenting at First Contact Care Level



Sri Lanka Medical Association
2022



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List of Abbreviations

CI Confidence Interval

COVID-19 Coronavirus Disease of 2019

DM Diabetes Mellitus

FAQs Frequently Asked Questions

HT Hypertension

IDH National Institute of Infectious Diseases (NIMH)

IHD Ischemic Heart Disease

IPC Infection Prevention and Control

LRH Lady Ridgeway Hospital for Children

LSCS Lower (uterine) Segment Caesarean Section

MIS-A Adult Multisystem Inflammatory Syndrome

MOH Medical Officer of Health

NCDs Non-Communicable Diseases

NSAID Non- Steroidal Anti-Inflammatory Drugs

PCM Paracetamol

PCR Polymerase Chain Reaction

POA Period Of Amenorrhea

RAT Rapid Antigen Test

SLMA Sri Lanka Medical Association

SOB Shortness Of Breath

SpO₂ Oxygen saturation

WHO World Health Organization

Message from the President, SLMA

It gives me immense pleasure to share with you the product of the most recent project undertaken by the SLMA Doc Call 247 Team. This book titled "SLMA 247 COVID Helpline - Patient Management Companion - A Brief Compendium of Cases Presenting at First Contact Care Level" is the latest publication on one of the key sustainable telemedicine consultation platforms in Sri Lanka. SLMA Doc Call 247 has served the nation at critical phases of the COVID-19 pandemic. Commenced in early 2021, SLMA Doc Call 247 in collaboration with Mobitel Sri Lanka aimed to facilitate triaging of Covid-19 patients, provide appropriate advice and guidance to the public and minimize unnecessary burdening of the curative healthcare sector.

Since inception, this fantastic telemedicine service has completed more than 75000 calls to date. The SLMA Doc call 247 has contributed in a seminal way to reduce oversaturation of hospital bed occupancy and facilitated home-based-care management of patients. It should be highlighted that the team went beyond providing COVID-19 related health advice and looked into social, cultural and psychological concerns of the patients.

This book encompasses many cases of significant educational value, dealt with by the service and the actions warranted during this telemedicine exercise. I believe that it is a very valuable compilation of information for future medical professionals and serves as point of reference in a case of national disaster or pandemic, as it shed light on conducting a telemedicine service. I congratulate the Expert Committee of the SLMA Doc Call 247 on their hard work and wish them all success in their future work.

Prof. Samath Dharmarathne
President, Sri Lanka Medical Association, 2022

A Note from Editors-in-Chief

SLMA 247 COVID Helpline - Patient Management Companion is a brief compendium on patient management based on the experience of the SLMA 247 COVID-19 Helpline.

The Sri Lanka Medical Association (SLMA) introduced the Doc Call 247 COVID-19 Helpline in August 2021, when the country was experiencing an unprecedentedly challenging number of patients when the healthcare system was reaching its tipping point. As of now, Doc call 247 has attended to over 70,000 telephone conversations. Each call often addressed problems of more than one patient in a family, with the average being 4. Out of the 70,000 calls received, only around 1,500 patients needed urgent care and hospitalization. The system functions as a virtual toll-free healthcare facility with the volunteer involvement of renowned medical specialists, medical officers and medical students. The system was so organised as to facilitate medical professionals operating within the 247 hotline being able to get specialist opinion on patient management whenever required through a dedicated social media platform.

This Patient Management Companion covers a range of topics including rapid identification of critically ill patients, management of patients at home, management of COVID in children, during pregnancy and among the elderly. It also discusses areas such as post COVID concerns, FAQs regarding isolation, quarantine and vaccination. A section on iatrogenic complications is based on discussions at 247 expert groups.

This publication will be a quick reference guide for doctors serving in the COVID-19 frontline. Further, this will provide documentary evidence on how an epidemic could be managed with patients being cared for at home. We do hope that it will be very useful for managing future epidemics as well.

Compiling this publication within a short time span of a month or so amounted to an immense amount of hard work. We thank the Editorial Committee, all the volunteer doctors and medical students for their dedication, hard work and commitment. This endeavour would not have been possible without the top-level support and contribution from the Council of the Sri Lanka Medical Association, Ministry of Health, Mobitel Sri Lanka, Suwaseriya 1990 ambulance service, all other mobile telephone service providers and the National Operations Centre for Prevention of COVID-19 (NOCPC). The nation is grateful to all of you.

Prof. Indika Karunathilake & Dr. B.J.C. Perera Editors-in-Chief

Introduction

The Sri Lanka Medical Association (SLMA) introduced the Doc Call 247 COVID-19 Helpline in August 2021, when our country was down on its knees, experiencing an unprecedentedly challenging number of COVID-19 patients. The patient load was so intense that the healthcare system was reaching its tipping point.

The SLMA Doc Call 247 service focuses on providing advice to patients directly when they are in need. Those who require immediate medical attention are identified and singled out by an over-the-phone triage process and directed to emergency medical services via the Suwaseriya 1990 Ambulance Service. Those with early or mild symptoms are provided with guidance and medical advice. As an adjunct arm of the service, it also deals with social and psychological aspects of patient care. The medical officers operating within the 247 hotline are able to get specialist opinion on patient management whenever required through a dedicated social media platform. As the number implies, it is a twenty-four hour seven days of the week service, made available in all three national languages used in Sri Lanka; Sinhala, Tamil and English. All medical professionals render services completely free on a volunteer basis.

To date, Doc call 247 has attended to over 70,000 patients. Very often, each call addressed the problems of more than one patient in a household, the average being 4. Of the 70,000 calls received, only around 1,500 patients needed urgent care and hospitalization, which too was arranged through the system. The entire endeavour functions as a virtual toll-free healthcare facility with the volunteer involvement of renowned medical specialists, medical officers and medical students.

An article in a national newspaper described this initiative of the SLMA as "*a labour of love*" towards the people of our country.

Overview of the current situation

A rapid spread of COVID-19 disease has been currently observed. Symptoms are milder in those who are fully vaccinated. Incubation period and disease progression time may be shorter and those with mild symptoms recover within a few days. Many can be managed at home with simple measures such as rest, hydration, nutrition and symptomatic treatment. Those who had taken just two vaccine doses also tend to show a milder clinical picture in most cases. The majority of those who are in an oxygen dependent state and those who are quite ill have not taken the booster vaccine.

Yet for all that, the situation should not be taken lightly, for faster spread of the new variant Omicron could lead to larger numbers needing hospital care. Although only a small percentage of patients need hospitalization, as the total numbers of patients go up, this low percentage can reflect quite a large raw number, even in the range of thousands. Hence, early detection and admission of patients who are ill with the disease will become crucial in management.

The symptom profile of patients can vary as there can be both Delta and Omicron variants in the community. Symptoms alone cannot determine the infecting variant in the absence of viral sequencing on each and every individual. However, in February 2022, the Ministry of Health stated that laboratory investigations have confirmed that over 95% of current COVID-19 cases are due to the Omicron variant. It is possible that the presenting symptoms may have slight variations. For example, we notice that loss of smell, a cardinal symptom associated with the Delta variant, is not experienced by those who are positive and called us through the Doc Call 247 service during the January and February 2022. It is also clearly evident that only the unvaccinated and under-vaccinated patients present with severe symptoms.

Important red flag symptoms that need to be inquired into in the Doc call 247 Service

These are warning symptoms or signs that warrant immediate action such as further evaluation and/or admission to hospital

- Unremitting very high fever making the patient feel quite ill and unable to even get out of bed.
- Any shortness of breath at rest or central chest pain at rest, particularly in those over 60 years of age and those with significant co-morbidities such as diabetes mellitus, hypertension, ischaemic heart disease, obesity, chronic lung disease, chronic renal and hepatic disease, those with cerebral disorders, those on immunosuppressant drugs etc.
- Any exertional shortness of breath and any significant drop in oxygen saturation on exertion as measured by a pulse oximeter.
- Haemoptysis of any degree.
- Marked abdominal symptoms, particularly severe pain at rest, and pain on pressing the abdomen, abdominal distension, significant diarrhoea and persistent vomiting.
- Accompanying skin rashes and redness of the eyes, particularly in children, adolescents and young adults.
- Inability to eat or drink.
- Persistent delirium and confusion
- Reduced urine output

It is important to note that the above is not a comprehensive list of all red flag symptoms. It is also important to take into account the social and home circumstances when decisions are made regarding home-care as opposed to hospital care.

Management at first contact care level

Early detection, testing, adequate rest, avoiding physical exertion, adequate hydration, proper nutrition, fresh air and simple symptomatic treatment, adhering to Infection Prevention |Control (IPC) measures are important, especially during the initial four days of the illness as the fundamental strategies in standard management. Red flag symptoms such as difficulty in breathing on mild exertion, high fever with fatigue and muscle pains should be identified early and referred to hospital as it is the key for saving lives.

The following are some excerpts from our experience gained from the Doc Call 247 Service

- **◆ Case:** A COVID positive 55-year-old patient complains of shortness of breath. Her symptoms are graded as severe as she cannot even complete a sentence.
- This patient needs urgent admission due to severe shortness of breath. She can be advised to rest and to be in propped up position till the ambulance arrives.
- **せ Case:** An elderly obese patient with a history of hypertension and bronchial asthma, has tested positive for COVID about a week ago. He now complains of intermittent shortness of breath and central chest pain of one-day duration.
- Multiple risk factors including age, obesity and bronchial asthma are present. Two red flags, shortness of breath and chest pain, are present. Needs urgent admission
- **◆ Case:** A 55-year-old COVID positive obese female, develops sudden onset of severe dyspnoea (seems to be tired even when talking) and severe back pain with headache. No pulse oximeter at home.

- If it's a sudden onset and severe back pain which may actually be the back of the chest, need to exclude pulmonary embolism.
- **せCase:** An elderly COVID positive patient with poorly controlled diabetes, complains of shortness of breath and chest tightening.
- Age and poorly controlled diabetes are risk factors. Needs urgent admission.
- **せCase:** A 42-year-old female who has been exposed to a COVID-19 patient recently, has high fever, shortness of breath, chest pain and diarrhoea (5 times a day). Fever does not respond to paracetamol. She's weak and finds it difficult to get out of bed and walk.
- This patient has multiple red flags. Needs urgent admission.
- **⊕ Case:** A 40-year-old female who tested COVID positive 10 days ago, complains of a tightening chest pain radiating to left arm. She is experiencing palpitations over the last 1 hour, which has started after doing some household work. O₂ saturation is 98%, and no comorbidities.
- Chest pain on exertion radiating to the left arm along with palpitations is worrying. Although no comorbidities, will need to rule out a cardiac cause for symptoms. We cannot take a chance on such a case and will need urgent assessment in a hospital.
- **◆ Case:** A 31-year-old female with diabetes and high cholesterol, has tested positive for COVID two days ago. She complains that she is having shortness of breath while speaking. She seems to be anxious while talking.
- If she has dyspnoea at rest or during slight exertion, she needs immediate admission. If it is not entirely due to anxiety, SOB on talking will need urgent admission.

Use of a pulse oximeter at home

Use of a pulse-oximeter at home is quite effective for early identification and admission of patients with red flag symptoms. Pulse oximeter readings, if available, will be invaluable in detecting hypoxia. It is, when used judiciously, a lifesaving game changer.

You can watch the following video demonstration of how to use a pulse-oximeter at home

Sinhala language

https://www.youtube.com/watch?v=p_qMyf0Unk8&t=261s

Tamil language

https://www.youtube.com/watch?v=PCTB5NARf5A&t=8s

The following scenarios that we experienced in the Doc Call 247 Service demonstrates the usefulness of pulse oximeter readings in making urgent decisions

- **Case:** An elderly patient who tested positive for COVID-19, seven days ago, complains of mild shortness of breath. His SpO₂ is 91%.
- aution should be exercised when interpreting symptoms of elderly patients. The degree of difficulty in breathing may not always correspond to the drop in oxygen saturation. It is important to keep the occurrence of "silent hypoxia" in the backs of our minds.
- **◆ Case:** An elderly, bed-ridden diabetic patient is having shortness of breath, chest pain and fever with SpO₂ of 92%. Patient is unable to talk.
- This patient has multiple red flags. Needs urgent admission. The degree of difficulty in breathing may not correspond to the drop in oxygen saturation among elderly who are bed-bound.

- **◆ Case:** A 50-year-old COVID positive patient with diabetes, has shortness of breath even while walking a few steps. The pulse oximeter saturation level is in the 70s. (To verify the accuracy of the oximeter, the saturation of his son was checked and it was 98%.)
- Middle aged patients too can present with severe hypoxia. There is no doubt about the pulse oximeter reading. Shortness of breath on mild exertion warrants admission.
- **◆ Case:** 64-year-old known patient with hypertension, dyslipidaemia and diabetes, who has undergone stenting in 2018, has COVID and has developed mild SOB. His oxygen saturation fluctuates between 75% and 99% within short intervals.
- Check the saturation with an asymptomatic person to verify the oximeter. Proper technique must be followed and the reading should be taken. Red flags present; COVID /SOB/low saturation /HT/DM/IHD. Needs immediate hospital admission)
- **◆ Case:** A 45-year-old female has shortness of breath on mild exertion, resting SpO₂ of 85%, decreasing further with bouts of coughing and on slight exertion. She has not been tested for COVID-19. Not vaccinated.
- lacktriangle Middle aged and young patients too can present with severe hypoxia. It may be possible that the patient has ignored the illness during the early phase. The hypoxia needs to be assessed. Should be admitted urgently as the SpO₂ is quite low.

- **せCase:** A 23-year-old male living alone in his flat, has shortness of breath for 5 days and now his saturation is dropping from the initial values of around 98%. The last reading made just before the call to Doc Call 247 was 87%.
- Even young patients can present with severe hypoxia, especially if they have ignored the illness during the initial period. There is no question here. He needs urgent admission.
- **◆ Case:** A 20 year-old female, without any comorbidities, complains of difficulty in breathing at rest, which exacerbates at night. Now the pulse oximeter reading is 89%.
- Assuming the reading is correct, an urgent ambulance is needed. Make sure they check again and check on a family member to see whether the device is in working order. COVID can give low saturation levels even without SOB, the so-called "SILENT HYPOXIA".

The need for rest, hydration and good nutrition

Rest, hydration and good nutrition are essential during the initial viraemia with fever, and during recovery stages. This applies to any febrile illness. This simple strategy reduces the chances of developing severe hypoxia and cardio-respiratory complications, improves the speed of recovery (from any stage of the illness) and minimises post-COVID symptoms as well. Rest is needed to overcome any illness and it should include both physical and mental rest. Some young people ignore this need for rest.

- ⊕ Case: A 32-year-old person working in Mannar, was feeling fatigued after playing cricket, and tested positive for COVID-19 the next day. He was admitted and discharged one day later with cetirizine, paracetamol and vitamin C.
- Needs to consume adequate fluids, have proper nutrition and good rest. Sports and workouts should not be recommenced for about a month or even longer if the patient does not feel fit. Those activities should be recommenced slowly and increased gradually.
- ⊕ Case: A 17-year-old male, symptom onset 3 days ago, complains
 of left sided chest pain and difficulty in breathing. Mild fever and
 cough. History of heavy exertion a few days ago.
- Young patients presenting with a history of heavy exertion should never be ignored. In this situation, the possibility of myocarditis needs to be excluded. He should be evaluated in a hospital.

It is important to monitor for signs of desaturation such as shortness of breath on exertion and chest tightness.

Comparison of symptoms due to different variants

Unlike Delta, the Omicron variant of COVID-19 mainly infects the upper respiratory tract, and some patients present with a severe sore throat. Home management remedies such as frequent sips of lukewarm water for symptomatic relief and for preventing dryness of the throat will be helpful in these patients. Lemon juice with bees' honey may also help. With Omicron, loss of sensation of smell is seen less compared to Delta and an irritative cough similar to laryngitis/pharyngitis is seen with noisy breathing especially during sleep. Patients with a wheeze can be prescribed bronchodilator inhalers to be used on a short-term basis.

Generally, "Enga gehenawa ($\phi_l \otimes \mathcal{O}_l \otimes \mathcal{O}_l \otimes \mathcal{O}_l$ " is used to describe chills as well as rigors. Chills are experienced without follow-up fever at times. Some refer to this as feeling cold. Palpitations occurring before the onset of fever too may be described in this way. The chills can be unbearable so that the patient is unable to do anything but wrap up in a sheet or blanket and sleep.

Tightness of the chest is also a common complaint. It may be extreme, like being strangled.

- **Case:** A 33-year-old female, COVID positive 3 days. Complains of tightening chest pain and mild difficulty in breathing. O₂ saturation is 98% and pulse rate approximately 60bpm. No NCDs.
- Patient is young and free of comorbidities. So, can watch and wait. Reassure and reduce anxiety. Give general advice such as to take paracetamol, steam inhalation, drinking warm water and adequate fluid intake and rest. Follow-up regularly for a few days.

- **⊕ Case:** A 29-year-old lady with symptoms suggestive of COVID (spouse tested positive), complains of tightening of the chest starting from below and more severe over mid chest. No radiation, no sweating.
- A young patient without any comorbidities. Unlikely to be ischaemic chest pain. Watch and wait while following up. Provide the usual general advice and reassure,
- **▼ Case:** A 20-year-old female became positive for COVID-19. She gets a sensation of choking when she swallows.
- Throat pain is a common complaint in COVID patients. Ask the patient to gargle with warm saltwater a few times a day and sip warm fluids regularly. Follow-up for a few days.

Patients presenting with cough

For the common complaint of a cough, we can suggest simple remedies for symptomatic relief.

- Warm salt water gargling (one level teaspoon of salt in one tea cup of water)
- No forceful throat clearing
- Sips of warm fluids/bees' honey/lemon
- If antihistamines are needed, rupatadine 10mg (adult dose) can be suggested.
- If still persisting, may need medical assessment

Only paracetamol and an antihistamine (chlorpheniramine or rupatadine preferred to cetirizine/loratadine/desloratadine), guided by symptoms are needed. Advise saltwater gargling. There is already some evidence on its effects as reported by the ongoing ELVIS trial on saltwater gargling in COVID-19 by the University of Edinburgh. If suggestive of a secondary infection the patient needs medical assessment and may need antibiotics/referral.

- Case: Wife calls regarding husband who is a diabetic and hypertensive. He is having purulent sputum and difficulty in breathing. Their son too is having wheezing.
- As the patient is having comorbidities and symptoms/signs of a secondary infection with difficulty in breathing, it's better to admit for further medical assessment.
- **◆ Case:** A 58-year-old heavy smoker. Sputum is green from the onset of symptoms and it is now day 5th from onset. Fever resolved after 3 days. No difficulty in breathing.
- This patient should be assessed for red flags. If SOB or any other red flag present, it is better to admit to a hospital. If not, can ask to get an antibiotic <u>after</u> consulting the family doctor..

Children Presenting with Fever with COVID-19

The symptoms of children are generally mild and hardly ever last beyond 72 hours. Mild sore throat, mild fever and diarrhoea, which are not complicated, are the commonest symptoms reported in the current wave caused by the Omicron variant. Fever not responding to paracetamol within the first 48 hours is a commonly experienced feature among children affected by COVID and by itself is not a major cause for concern.

Some examples:

- **◆ Case:** Mother calls about a 5-month-old baby with continued crying and fever for one day. Two other children tested positive three days ago.
- This baby is less than one-year-old and is crying continuously. Hence, needs to be assessed in-person by a doctor. The baby may need admission to a hospital for assessment.
- **◆ Case:** A 18-month- old child with fever, a household contact of a COVID patient.
- Need to assess other symptoms. If no red flags, can be managed at home while giving the correct dose of paracetamol 6 hourly and adequate fluids. If fever continues may need admission to a hospital for assessment.
- **◆ Case:** A two-year-old has had high fever since yesterday evening. Has a history of febrile fits. The mother tested positive for COVID-19 yesterday.

- Can reassure parents while explaining the pathophysiology of febrile fits which has no relationship to the degree of fever. Also need to provide advice on how to manage a simple febrile seizure. Ask to give the correct dose of paracetamol 6 hourly and do tepid sponging and fanning. If fever is not subsiding or parents are anxious, better to admit to a hospital.
- **▼Case**: A nine-years old with mild fever, but severe headache not responding to paracetamol. Mother was COVID positive 5 days ago.
- Possible COVID with fever not responding to paracetamol and severe headache. May need admission to hospital if the severe headache persists.
- **Case**: Five-year-old child having fever for 4 days. Father is COVID positive.
- Asses verbally using all possible red flags. If the fever remains high, best to admit to a hospital.
- **◆ Case:** A three and half-year-old child, (father antigen positive and mother having symptoms), has fever since yesterday, not responding to paracetamol. Poor feeding
- Possible COVID. Poor feeding and fever not responding to paracetamol warrants admission. Ask parents to continuously give oral fluids till the patient is admitted.

Recommendations for management;

- Paracetamol 15mg/kg/dose (standard dose) orally
- Per rectal Paracetamol in situations where oral therapy cannot be tolerated.

- No place for cold wet sponging as it may increase the core temperature. Tepid sponging could be helpful.
- Loosening clothes and fanning
- No NSAIDs such as ibuprofen, mefenamic acid and diclofenac. THIS IS VERY IMPORTANT.
- Maintain good hydration
- Good nutrition
- Well ventilated room

Reassure, as usually the temperature control takes place within 24-48 hours sometimes with a dramatic response. If not responding after 48 hours, seek medical advice.

Difficulty in breathing and feeding due to runny nose in children

Difficulty in breathing and feeding problems due to runny nose or nasal mucous secretions are observed among infants with COVID-19.

- ⊕ Case: 9-month-old child, fever for 2 days. Not responding to paracetamol. Poor feeding. Difficulty in feeding due to blocked nose. Very anxious mother.
- Saline nasal solution could be used for infants. However, there are research findings indicating that it has only limited usefulness. In some studies, it has been shown to irritate infants.

Will need support with feeding with expressed breast milk using a cup and spoon <u>but not a feeding bottle</u> for those young infants who have difficulty with feeding.

For infants over 6 months, antihistamines may help when runny nose and sneezing are troublesome

WATCH FOR THESE RED FLAG FEATURES IN CHILDREN

- 1. High fever / re-appearing fever, especially beyond two days
- 2. Less active / more sleepy
- 3. Markedly reduced feeding
- 4. Abdominal pain which disturbs normal activity
- 5. Too frequent vomiting / diarrhoea
- 6. Reduced urine output
- 7. Cold peripheries
- 8. Worsening cough
- 9. Difficulty in breathing
- 10. High breathing rate
- 11. Chest pain
- 12. Red eyes / red lips
- 13. Fits
- 14. Any other pre-existing conditions

Pregnancy, lactation and COVID

Majority of COVID -19 infection in pregnancy will be asymptomatic or have mild to moderate symptoms. However, some women may develop severe disease with pneumonia and respiratory failure, requiring intensive care and ventilatory support. Due to the physiological changes in pregnancy, pregnant women are more susceptible to severe infection and respiratory compromise particularly in the latter half of pregnancy. Compared to pregnant women without COVID-19, symptomatic pregnant women with COVID-19 requiring hospitalization have worse maternal outcomes and increased ICU admission.

Risk of increased amongst women with:

- Advanced maternal age > 35 years
- Obesity
- Co morbidities

RED FLAGS

- 1. High fever
- 2. Tachycardia
- 3. Hypotension
- 4. Tachypnoea
- 5. $SpO_2 < 96\%$
- 6. Confusion
- 7. Reduced urine output

Further, pregnant women with COVID -19 are more likely to develop mental health problems such as anxiety and depression.

Based on the SLCOG Guideline on Management of COVID-19 in Pregnancy

Most pregnant women have mild symptoms. However, the most recent guidelines advise patients to get admitted regardless of POA, and be evaluated under guidance of a Consultant Obstetrician.

- **▼ Case:** A 32-year-old POA, 34 weeks. Has not taken the booster. Mild COVID symptoms, fever, headache and sore throat.
- All pregnant women with symptoms need admission and assessment by a Consultant Obstetrician.
- **◆ Case**: A 34-year-old lactating mother is positive for COVID. She only has a mild cough and runny nose. Her 5-month-old exclusively breast-fed baby has no symptoms at all, is well and active at the moment. Mother is inquiring whether the baby should be separated.
- As baby is well and has no symptoms, breast feeding should be continued. Separating baby will do more harm than good. As baby is always with mother there is a high possibility of getting COVID. Both mother and child could be then admitted to a hospital if baby develops symptoms.
- **♥ Case:** A 32-year-old POA, 20 weeks. Tested positive for COVID-19. Will it affect the baby?
- Women attending antenatal clinic following recovery from COVID-19 infection should be offered an ultrasound scan in minimum two weeks once infection settled to assess foetal growth. The risk of fetal complications is not yet definitely known, but there is no current evidence of teratogenicity, still birth or foetal growth restriction. There is insufficient evidence to comment on miscarriage. Symptomatic COVID-19 infection amongst pregnant women is

associated with increased risk of preterm birth (mainly iatrogenic) and foetal distress. Vertical transmission of COVID -19 infection is uncommon.

- **Case:** A 27-year-old POA, 40 weeks. Tested positive for COVID-19. Delivered the baby via LSCS. Should the baby be separated?
- There is currently no evidence that a woman with a known COVID-19 infection who has recently given birth should be separated from her baby. (Neonatal infection rate 5.6 per 10 000 live births 95% CI 4.3-7.1).

She should avoid contact with other mothers and infants. Appropriate precautions such as hand washing before contact with baby, breast pumps, wearing a face mask during feeding and contact with the baby should be adopted. Avoid coughing, sneezing over the baby. Babies should not wear face masks as there is risk of suffocation.

- **€ Case:** A 27-year-old POA, 40 weeks. Tested positive for COVID. Delivered the baby via LSCS. What is the advice on breast feeding?
- COVID-19 infection in mother is not a contraindication for breastfeeding. Benefits of breastfeeding outweigh any potential risks of viral transmission through breast milk. A systematic review showed no evidence of COVID-19 in breast milk. Therefore, mothers should be encouraged to breastfeed. If the mother is not well enough to breastfeed expressed breast milk can be given.

Elderly Patients with COVID

Elderly patients are at higher risk for morbidity and mortality due to multiple reasons, including comorbidities, compromised immunity and lack of social support.

Elderly patients with significant symptoms need admission to a hospital. In most elderly patients, complications due to co-morbid conditions are common. They may need urgent admission. Lack of social and family support can further compromise their situation.

- **せCase:** A 67-year-old male patient with chronic kidney disease has developed dyspnoea since morning. He is having headache and sneezing. He is a diagnosed "heart patient" as well.
- Needs urgent medical care because he is 67 years and SOB is a significant factor. If he has dyspnoea on top of his background issues, he needs review. Urgency depends on how bad the dyspnoea is and the duration it has been there for. End stage renal disease patients are at a higher risk of developing complications)
- **◆ Case:** A 74-year-old male, who tested positive for COVID 11 days ago, complains of 3-4 episodes of vomiting. The vomitus is black in colour, later has developed abdominal distension. He is a known asthmatic and a known patient with urinary tract obstruction, on medication. His oral intake is poor as he is having difficulty in swallowing.
- This patient could have either upper GI bleeding with coffee ground vomitus, or a bowel obstruction. The latter is possible because of abdominal distention. Patient needs to be hospitalised.

- **◆ Case:** A 73-year-old COVID positive male presents with excessive vomiting and lethargy.
- He is an elderly person and lethargy could be due to dehydration. He should be admitted soon for assessment and IV fluids.
- **せCase:** A 75-year-old COVID infected female has refused to eat or drink anything for the past 3 days. She is weak and not responding.
- These are elderly frail patients with poor intake and having multiple comorbidities. Requires urgent admission.

After infection

Even after the isolation period, it is important to give the body enough time to recover. Activities that require physical exertion should be taken up only gradually. (Example - exercising).

Post COVID symptoms

Some people can retain symptoms such as cough, breathlessness, fatigue, loss of appetite, muscle weakness, joint stiffness, mood changes, and sleep disturbances etc., for variable periods of time.

Those who retain symptoms for a longer period should seek medical attention. People who retain respiratory symptoms can get the services of any respiratory clinic run by a Respiratory Physician.

Patients who have persistent loss of smell can go to the nearest ENT clinic.

Post-COVID or Long COVID Presentations

Patients present with fatigue, mild body pains, cough, dizziness, chest pain and headache. Most only need education, symptomatic management and reassurance.

- **⊕ Case:** A 28-year-old lady. COVID five months ago feels fatigue, inability to concentrate on work.
- Can ask her to take adequate nutrition and more fluids. Some meditation and physical activities with a group could help her. It is also important to get good adequate sleep.
- **Case:** A 78-year-old male COVID patient diagnosed one month ago, with a history of hypertension, is unable to swallow liquids and solid food.
- It is always better to refer the patient to a specialist to exclude any sinister cause for the dysphagia

Patients with COVID re-infection

Re-infection is more common with the Omicron variant. Several healthcare workers too have got re-infections. Symptoms are generally mild.

- **◆ Case:** A father is concerned about a 19-year-old daughter who has developed COVID for the second time.
- Reassure him and explain the pathophysiology in simple terms
- **◆ Case:** A 40-year-old female, who had a positive PCR test two months back, now presents with the whole family complaining of symptoms and being PCR positive again. Symptoms are mild. They have not taken the booster. Both husband and wife have had 2 doses of the Sinopharm vaccine.
- Reassure them and guide them to take the booster after one month after the current infection.
- **◆ Case:** Both husband and wife, 46 years old, positive for COVID for the 2nd time. Wife has severe gastritis and a history of wheezing. The first attack of COVID was six months ago. The 2nd dose of the vaccine was taken after the first infection. The booster dose was not taken.
- an be treated symptomatically. If cough or wheezing is present, it is better to advice to seek medical attention. They can take the booster one month after test positivity.

Iatrogenic complications

Misuse of antibiotics, steroids and many other medications including NSAIDs are very common, with patients getting unnecessary side effects and risking drug resistance. For example, azithromycin, which is a reserved antibiotic for the treatment of some multi-drug resistant infections, is commonly misused.

Steroids such as dexamethasone and prednisolone should not be used in the early phase as it will blunt immunity.

The paracetamol-codeine combination is commonly misused. Because it contains codeine, 2 tablets, 6 hourly, is quite a high dose of codeine. It can cause constipation and drowsiness especially in the elderly. Unless there is severe pain, paracetamol is usually adequate for fever and body aches. Reassurance of recovery also helps in these instances.

The point that we need to highlight is that all medicines have adverse effects and we need to consider benefits vs risks when prescribing and taking them. When an antibiotic or any other medication is prescribed for a valid reason we take the risk and prescribe as benefits outweigh the risks. When there is no rationale for an antibiotic, it is only the risks that may occur, with no benefits.

Most patients are told that this is a different virus (not COVID) and prescribed antibiotics ranging from amoxicillin, co-amoxyclav, azithromycin, clarithromycin, cephalexin, levofloxacin etc. This makes people believe that antibiotics are necessary for viral infections. They then go and buy antibiotics over the counter for anybody with fever. If left alone, most patients recover from fever within 24-48 hours and this is generally erroneously attributed to medicines given by the doctor. Some doctors do listen to lungs and if

there are lung signs prescribe antibiotics in the early stages. Several microbiologists have noted that secondary bacterial infections have been found to be common with Omicron.

⊕ Case: A doctor has prescribed the following medicines for a COVID-19 patient, (vitamin C 500mg, vitamin D 5000mg, fexofenadine 120mg, Piriton (chlorpheniramine) 4mg, Solmux (carbocisteine) 500mg, theophylline SR 150mg, pantoprazole 20mg, clarithromycin 500mg.

Look for the symptoms. Accordingly, ask the patient to continue with only one antihistamine (and vitamins if they wish). No need for antibiotics. Do not criticise the doctor who had prescribed. Encourage more fluids, saltwater gargling, nutrition and rest.

Uncommon Presentations

COVID and dengue: As dengue cases have also been on the rise, quite a few cases of co-infection of dengue and COVID-19 have been seen. A more pronounced leaking phase of dengue has been reported in these patients compared to patients with dengue alone.

⊕ Case: A 20-year-old female, has been COVID positive for 3 days. She has developed high fever, vomiting and intermittent faintness.

When patients are managed at home the initial 2-3 days can be managed as a viral fever. If fever lasts over 48 hours, it is advisable to get a full blood count (and a Dengue Antigen Test if needed) to exclude co-existing dengue infection

Common skin manifestations: Skin manifestations can present during COVID or in the post COVID period. Common signs are:

Morbiliform rash Urticaria

Macular erythema Vesicular rash

◆ Case: An entire family including an 11-month-old child, develop an itchy rash on the whole body, 10 days after testing COVID positive. No history of allergies.

⊕Case: A 30-year-old female, COVID positive day three, complains of an itchy rash in the upper body. Not responding to Cetrizine. No history of allergies. There has been infrequent body washing due to fear of increasing cough.

Poor hygiene due to myths and misconceptions can lead to a sweat rash. It can present as small red spots in places where sweat collects, such as the armpits, back, under the breasts, chest, groin, back of the knees, and the waist. Allergy to some medications too can cause rashes.

Other uncommon presentations

- **◆ Case:** A 50-year-old nursing officer with diabetes mellitus and COVID had severe left sided headache with eye pain. She has taken diclofenac sodium. And the pain has reduced. Since then, she complains of blurred vision on the same side.
- **◆ Case:** A 48-year-old COVID positive male (day 11) has developed pain on the left side of the abdomen, left flank, and left testicular region. Pain is not relieved by changing the position, but to a certain extent is relieved by walking.
- **せCase:** An adult male, became positive on 26th January 2022. He has severe lower abdominal pain extending to the scrotum
- In such cases, it is important to remember that abdominal pain is the commonest symptom in adult multisystem inflammatory syndrome (MIS-A)
- **◆ Case:** A 74-year-old woman complains of inability to control her tongue and numbness in both hands and feet. She is on treatment for dyslipidaemia and found to have a high blood pressure during the last clinic visit.
- **Case:** A COVID patient is complains of temporary blindness in one eye, lasting for a few seconds. He now has a mild headache.
- **◆ Case:** An 18-year-old boy, tested COVID positive 3 days ago and is currently having abnormal behaviour and confusion. He has had a severe headache and has been treated by a GP. He does not have any comorbidities. Three of his family members have tested positive for COVID.

All these need evaluation in a hospital.

Vaccination

A marked reduction in symptoms is seen among patients who have been fully vaccinated with two COVID vaccines and with the booster. Furthermore, there is some reduction in test positivity among people who have had the booster dose. Fever, cough and difficulty in breathing are common symptoms in hospitalised patients. However, disease severity is much less when compared to the previous wave with oxygen dependency being significantly less as well. Many oxygen dependent patients who are admitted have received the last COVID vaccine at least six months ago and have not taken the booster dose. Shortness of breath on exertion is the main symptom in admitted persons and most of the patients may not have fever.

Research worldwide has clearly demonstrated that the available, safe and effective vaccines lower of the risk of developing COVID-19 and most escape serious disease progression, including hospitalisation and death.

However, current data indicates that acceptance of COVID-19 vaccine booster dose is inadequate amongst the general public and even doctors and other healthcare workers. Myths, misinformation and disinformation have caused a lower acceptance for the booster. As noted above, most oxygen dependent patients are either unvaccinated or have not taken the booster dose.

According to the current international guidelines, children between 12-15 years will receive a single dose of 30 micrograms of the Pfizer vaccine and those between 16-19 years are recommended two Pfizer doses, each of 30 micrograms, with a three-month gap. Children are considered fully vaccinated two weeks after completion of the recommended schedule. The $2^{\rm nd}$ dose for the 16-19 year age group is approved, but the process is yet to start in Sri Lanka.

Age category	Criteria for fully vaccinated status		
1. 20 years and above	a) Should have taken two doses of a recommended COVID-19 vaccine and completed 2 weeks after the second dose. Fully vaccinated status will be valid until 3 months from the second dose.		
	After 3 months of the second dose of the COVID-19 vaccine, individuals are not considered fully vaccinated if the booster dose is not taken. The booster dose should be taken 3 months after the second dose to consider as fully vaccinated for COVID-19.		
	c) If infected with COVID-19 after being vaccinated with two doses of the recommended COVID-19 vaccines, the booster dose can be administered after 1 month of infection* provided the person has completed 3 months after the second dose. They should be considered fully vaccinated with the booster dose. *from date of test positivity or onset of symptoms		
2. Children aged 16 -19 years	Should have taken two doses and completed 2 weeks after the second dose.		
3. Children aged 12 — 15 years	Should have taken a single dose and completed two weeks after the single dose		

- **Case:** 78-year male had Astra-Zeneca first dose in 2021 March, and not obtained the second dose. He developed COVID-19 in August, and three months post-COVID was diagnosed with pneumonia again.
- As 10 months have elapsed since the first dose, it may not be counted. There is some data for the 2nd dose given 45 weeks after the 1st dose, however evidence is limited. In that case, the Pfizer

vaccine would be a suitable option for a 2nd dose. Two doses of the Pfizer vaccine, 4 weeks apart is the best option. This should be followed by the booster dose.

- **Case**: A 15-year-old child has recently recovered from dengue, and needs to take the COVID vaccine.
- There are no contraindications according to the guidelines. It is better to wait for 1 or 2 weeks to allow the immune system to recover.
- **◆ Case:** A 35-year-old man has received his 2nd dose of vaccine 6 months back. He became COVID Rapid Antigen Test positive one week ago. When can he take the booster dose?
- According to the current guidelines, he is eligible to receive the 3rd dose after 1 month after becoming PCR or antigen positive. Therefore, he can take the booster in another 3 weeks.
- **◆ Case**: A 90-year-old male on the 8th day from vaccination is unconscious for two days. He is not tested for COVID or a first line contact.
- This patient needs urgent admission and assessment.

⇔ Daily updates on vaccination centres can be obtained from the link below

http://www.health.gov.lk/moh final/english/news read more.php?id=977

Vaccination - Frequently Asked Questions (FAQs)

any other vaccine.

1. Can I get the COVID-19 vaccine at the same time as other vaccines?

You usually need a two week gap between COVID vaccination and

2. If I don't have any side effects, does that mean that the vaccine will work less effectively for me?

No. Effectiveness of the vaccine and the immunity you have after vaccination is not determined by whether you have any side effects or not.

3. Can COVID vaccines causes infertility or any issues related to the reproductive system?

No, there's NO scientific evidence whatsoever to suggest COVID vaccines cause infertility. This is a rumour related to many different vaccines and there is no truth to this at all.

4. Can someone get COVID-19 from the vaccine?

No. None of the vaccines contain live viruses. So, it is not possible to be infected with COVID from the vaccine. If you have been already exposed to COVID and are infected, without your knowledge at the time of taking the vaccine, you can then get COVID. However, this is not because of the vaccine, but because you have been already infected, or get infected before you get fullest possible protection after full vaccination (2 doses).

5. If I have already had COVID-19 infection, do I still need to get vaccinated?

Yes, you need to be vaccinated regardless of whether you already had COVID-19. That is because experts do not know if you are protected from getting sick again through natural infection of COVID-19. Even if you have already recovered from COVID-19, it is possible, though rare, that you could be infected with the virus that causes COVID-19 again. Studies have shown that vaccination provides a strong boost in protection in people who have recovered from COVID-19.

6. Am I safe from COVID-19 infection immediately after vaccination?

No. It typically takes at least 2 weeks after vaccination for the body to build adequate protection (immunity) against the virus that causes COVID-19.

7. Can I take the vaccine if I am pregnant?

Pregnant women aged 18 years and above in any trimester can receive the vaccine. Those who are pregnant can currently obtain any of the COVID vaccines available in Sri Lanka EXCEPT Sputnik V.

8. Can I take the vaccine if I am breastfeeding?

Yes, you can get the vaccine and do not need to stop breastfeeding for any length of time. You can take any of the COVID vaccines available while breastfeeding.

9. How long should I wait before getting the vaccine if I get the COVID infection?

You have to wait one month from the test positive date.

Isolation and Quarantine

When can the;

- 1. Affected person
- 2. Household people

Get back to work after becoming positive?

For asymptotic positives: one week from the date of the positive test.

Fully vaccinate contacts: no quarantine, others, one week.

Fully vaccinated status - remember as 1, 2, 3

- 12-16 years- 2 weeks after one dose
- 16-19- 2 weeks after 2 doses
- Over 20 2 week after 2 doses, then booster in 3 months (if infected 1-month gap too)

1.1 Admitted to a Treatment Facility

If the COV1D-19 patient has improved from mild / moderate symptoms and fever free for 48 hours without antipyretics, they can be released from isolation 7 days after the date of the Rapid Antigen Test (RAT) positivity or PCR positivity (or from the date of onset of symptoms). Exit PCR or RAT is not required*

1.2 Under Home Care Management System

Persons can be released from home isolation 7 days after the date of RAT/PCR positivity (or from the date of onset of symptoms), if they have improved from mild / moderate symptoms and fever free for 48hrs without antipyretics. Exit PCR or RAT is not required.

Those who have not improved after mild / moderate symptoms and having no fever for more than 48hrs should contact the Medical Officer of Health of the area for medical advice on further management

2. Close contacts of COVID-19 Patients

- **2.1.** Fully vaccinated close contacts, will not be quarantined if they do not have symptoms of COVID- 19. They can continue to work if employed. However, if they develop COVID- 19 symptoms, should perform RAT/PCR.
- **2.2.** All partially vaccinated or unvaccinated close contacts can be released from home quarantine after completion of 7 days from the date of RAT/PCR positivity (or from the date of onset of symptoms).

If they develop COVID-19 symptoms during the quarantine period, should perform RAT/PCR. If the RAT/PCR report is positive, need to inform area Medical Officer of Health (MOH).

Video education material / patient information video material

♣ 5 Things to avoid by COVID-19 Patients Receiving Home-care

Sinhala - https://www.youtube.com/watch?v=z3B6ClyoyZs
English - https://www.youtube.com/watch?v=DpS0ptBAhFA

Positions to facilitate comfortable breathing for COVID-19 patients

Sinhala - https://www.youtube.com/watch?v=NBxndowmTjQ
English - https://www.youtube.com/watch?v=Ec-TAQE7cYI

Five Golden Rules for COVID-19 patients receiving home care

Sinhala - https://www.youtube.com/watch?v=nkhf0ci-eps
English - https://www.youtube.com/watch?v=XNtl18wWoFM

Home based management of COVID 19 patient – contribution by Doc call 247

https://www.youtube.com/watch?v=AzQ4DP00b3o

Important contact numbers

Vaccination Details	1906
National Mental Health Helpline	1926
COVID-19 Response Alert	1999
National Hospital of Sri Lanka	0112 691 111
Colombo South Teaching Hospital - Kalubowila	0112 763 262
Colombo North Teaching Hospital - Ragama	0112 959 262
National Institute of Infectious Diseases (IDH)	0112 411 224
Castle Street Hospital for Women	0112 696 231
De Soysa Hospital for Women	0112 662 619
Army Hospital (Narahenpita)	0112 697 218
Lady Ridgeway Hospital for Children (LRH)	0112 693 711
Teaching Hospital Peradeniya	0812 388 001
Teaching Hospital Anuradhapura	0252 222 261
Teaching Hospital - Karapitiya	0912 232 250
Teaching Hospital - Jaffna	0212 223 348
Sarvodaya number for social services	0720 101010
ENT Clinic Kalubowila (for loss of smell post COVID	074 0322302
COVID	

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Unseen heroes of 247

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Prof. Indika Karunathilaka	1423
Dr. Thanuja Herath	1401
Dr. Shanika Vitharana	1324
Dr. Asela Thivanka Munasinghe	978
Dr. M.K. Ragunathan	903
Prof. Piyusha Atapattu	828
Prof. Antoinette Perera	820
Dr. Samantha Waidyanatha	668
Dr. Y.R.S. De Silva	621
Dr. Lakmali Amarasiri	584
Dr. Rukshana Batcha	584
Dr G.P.N. Pathirana	550
Dr. S.V Rabel	518
Dr. Sarath Gamini	512
Dr. H T Deepaka Sanath	507
Dr. Roshani Poddalgoda	489
Dr. Jayanthi jayawardana	450
Dr. Neelamani Rajapaksa Hewageegana	426
Dr. Samantha Perera	408
Dr. G.L.R Sampath	390
Prof. Chandrika Wijeyarathne	326

Dr. Anoma Weerawardane	323
Dr. Kumarangi Withanage	319
Dr. Yasintha Costa	312
Dr. A.R.M Sanooz	309
Dr. A.C.K Thanaweeraarachchi	306
Mr. Dasith de Silva	1093
Mr. Sasika Nipun Samarakkodi	1012
Ms. Ayodya Yasasvi	762
Ms. Prasadini Ravihari	761
Mr. Vidusha Adithya	584
Ms. Ashini Siriwardana	522
Ms. Thisuri Wijeweera	517
Ms. Sanjana Navarathna	452
Mr. Sandun Wikumsara Bandara	467
Ms. Hashini Jayakody	378
Ms. Kushni Dilumka	361
Ms. Lakini Gunawardana	347
Ms. Hirushi Mahagamage	347
Ms. N.T. Jayalath	344
Ms. Thalatha Ratnayaka	334
Ms. Melani Chandrasekara	328
Ms Risafa Jawahir	327

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Dr. Kelum
Deshapriya
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Dr. Achintha
Dissanayake

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Asitha Dias	Hospital Medicine	Minnesota, USA
B. Samanthika Swaris	General Practice/Genitourinary Medicine	Doncaster, United Kingdom
Chadmika Yahampath	Family medicine	Michigan USA
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Mihitha Ariyapperuma	Oncology	Perth , Australia
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Heshan Kavinda

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Malki de Silva

Mithasara Dhanushka

Ruvin Vindula

Sachintha Kumarasinghe

Sanduni Miranda

Tharuka Hasarali

Tharushi Liyanage

Theja Jayaweera

Thimodhi Jayasinghe

Unseen heroes of Sri Lanka Mobitel

Marketing and Operational

Madura Hewage Senior Manager – Digital Services Isuru Senadeera Senior Product Executive – Digital

services

Shashika Weeratunga Executive - Customer Experience

Saminda Patrick Account Manager - Enterprise Business

Upeksha Kathriarachchi Senior Brand Executive

Charitha Udawatta Senior Manager - Network Planning and

Operations

Marketing and Operational Technical

Dhamitu Kirtisinghe Senior Manager - Product Development

Thiranga Nonis Manager Product Development
Harsha Weerasena Tech Lead - Product Development
Ahamed Lebbe Dilshana Tech Lead - Product Development

Arith Hewathenna Assistant Manager - Enterprise Risk and

Information Security



