APPENDIX 6. RECOMMENDATIONS BY APPLICATION (KEY USE CASES)

Incubation: Screening asymptomatic patients/ Monitoring contacts

ID document	Recommendation
	WHO-CDCs
226 (118)	2. Appropriate scenarios for use of COVID-19 Ag-RDTs include the following: ii) To support outbreak investigations (e.g. in closed or semi-closed groups including schools, care-homes, cruise ships, prisons, work-places and dormitories, etc.) In NAAT-confirmed COVID-19 outbreaks, Ag-RDTs could be used to screen at-risk individuals and rapidly isolate positive cases (and initiate other contact tracing efforts) and prioritize sample collection from RDT-negative individuals for NAAT.
226 (118)	2. Appropriate scenarios for use of COVID-19 Ag-RDTs include the following: v) Testing of asymptomatic contacts of cases may be considered even if the Ag-RDT is not specifically authorized for this use, since asymptomatic cases have been demonstrated to have viral loads similar to symptomatic cases (17), though in that situation, a negative Ag-RDT should not remove a contact from quarantine requirements.
164 (111)	For asymptomatic contacts of patients with COVID-19, WHO suggests not using chest imaging for the diagnosis of COVID-19 (Conditional recommendation, based on expert opinion)
255 (120)	Rapid antigen tests perform best when the person is tested in the early stages of infection with SARS-CoV-2 when viral load is generally highest. They also may be informative in diagnostic testing situations in which the person has a known exposure to a con rmed case of COVID-19.
	Scientific Societies
224 (78)	Based on an assessment by a physician responsible for communicable diseases, a sample for COVID-19testing may be taken also from asymptomatic persons with exposure to COVID-19 and in situations associated with increased transmission risk or where the risk of the disease spreading is high and/orthe consequences of the infections would be serious.
98 (91)	COVID-19 testing is indicated in patients incidentally found to have findings suggestive of COVID-19 on a CT scan
98 (91)	Imaging is not routinely indicated as a screening test for COVID-19 in asymptomatic individuals
91 (90)	In the course of an epidemic, mass serological testing with rapid tests “on request”, especially for detecting IgM class antibodies, can be used to identify asymptomatic infections once other means of reducing the epidemic have been exhausted.
40 (82)	Se sugiere realizar pruebas serológicas IgG/IgM a personas asintomáticas con historia de contacto estrecho con casos sospechosos o confirmados de COVID 19, como mecanismo de gestión de riesgo, al cumplir los 14 días de aislamiento o cuarentena, donde estas se encuentren disponibles. (Débil a favor)
102 (92)	The IDSA panel recommends direct SARS-CoV-2 RNA testing in asymptomatic individuals with no known contact with COVID-19 who are being hospitalized in areas with a high prevalence of COVID-19 in the community (i.e., hotspots) (conditional recommendation, very low certainty of evidence).
102 (92)	The IDSA panel suggests against SARS-CoV-2 RNA testing in asymptomatic individuals with no known contact with COVID-19 who are being hospitalized in areas with a low prevalence of COVID-19 in the community (conditional recommendation, very low certainty of evidence).
102 (92)	The IDSA panel suggests SARS-CoV-2 RNA testing in asymptomatic individuals who are either known or suspected to have been exposed to COVID-19 (conditional recommendation, very low certainty of evidence).
	Government agencies
48 (85)	COVID-19 real-time RT-PCR may be performed for the purposes of: Screening asymptomatic individuals in close contact with confirmed COVID-19 patients
48 (85)	Specimen selection/ Asymptomatic or mild patients: The collection of both nasopharyngeal swabs and oropharyngeal swabs is recommended; these should be placed together in the same viral transport medium (VTM) to increase the sensitivity [14, 19]. However, the currently available VTM-swab systems are often designed for one swab. Therefore, specimen packaging and shipping should be conducted carefully, as there is a risk of leakage during transportation. When collecting only one specimen, a nasopharyngeal swab is recommended first. It may be necessary to collect lower respiratory tract specimens, such as sputum; however, sputum induction is not indicated.

Symptomatic illness: Screening symptomatic cases

ID document	Recommendation
	WHO-CDCs
226 (118)	2. Appropriate scenarios for use of COVID-19 Ag-RDTs include the following: iv) Where there is widespread community transmission, RDTs may be used for early detection and isolation of positive cases in health facilities, COVID-19 testing centres/sites, care homes, prisons, schools, front-line and health-care workers and for contact tracing. Note that the safe management of patients with RDT-negative samples will depend on the RDT performance and the community prevalence of COVID-19 (see Annex). A negative Ag-RDT result cannot completely exclude an active COVID-19 infection, and, therefore, repeat testing or preferably confirmatory testing (NAAT) should be performed whenever possible (Figure 1), particularly in symptomatic patients.
	Scientific Societies
40 (82)	Se recomienda en personas con contacto estrecho noprotegido que presenten síntomas durante los 14 días iniciales de aislamiento, realizar algoritmo diagnóstico (RT PCR o serología IgG/IgM). Si esta es positiva debe ir a 14 días más de aislamiento si presenta síntomas leves o 28 días si presenta síntomas moderados a severos. Si es negativa se descarta caso.(Fuerte a favor)
102 (92)	The IDSA panel recommends a SARS-CoV-2 nucleic acid amplification test (NAAT) in symptomatic individuals in the community suspected of having COVID-19, even when the clinical suspicion for COVID-19 is low (strong recommendation, very low certainty of evidence).
153 (108)	CT should not be performed as a screening test in patients with mild or no symptoms.
159 (110)	Computed tomography should not be used to routinely screen patients for possible COVID-19.
	Government agencies
222 (80)	Screening and triage to screen and isolate all patients with suspected COVID-19 at the firstpoint of contact with the health care system (such as the emergency department oroutpatient department/clinic). Consider COVID-19 as a possible etiology in patientspresenting with acute respiratory illness and place all patients suspected to have COVID19under Droplet and Contact Precautions, with the addition of Airborne Precautions ifperforming any aerosolgenerating medical procedures. Triage patients using standardizedtriage tools and manage initial presentations accordingly.

Symptomatic illness: Diagnosis

ID document	Recommendation
	WHO-CDCs
131 (104)	In the current time laboratories should NOT attempt viral isolation and culture from samples collected from patients suspected to have COVID-19.
131 (104)	Negative RT-PCR results must be interpreted in correlation with clinical findings, history, and other diagnostic procedures.
131 (104)	Positive RT-PCR for COVID-19 indicate infection with SARS-CoV-2. However, it does not rule out co-infection with other viruses.
131 (104)	Repeat testing should be performed if initial testing is negative and there is a high index of suspicion. Patients should be retested using a lower respiratory sample or, if not possible, repeat collection of a nasopharyngeal sample.
131 (104)	Samples to be collected: a. Lower respiratory tract samples: including endotracheal aspirate, bronchoalveolar lavage fluid or sputum. b. Upper respiratory tract samples: i. Nasopharyngeal swab (with or without oropharyngeal swab) in viral transport medium in a single tube. ii. Nasopharyngeal wash/aspirate
131 (104)	To provide diagnostic testing for COVID-19, the laboratory should perform RT-PCR testing using confirmatory test approved by the National Health Laboratory.
149 (106)	SARS-CoV-2 antibody tests are not recommended for diagnosis of current infection with COVID-19.
149 (106)	We recommend, for all suspect cases, collection of upper respiratory tract (URT) specimens (nasopharyngeal and oropharyngeal) for testing by reverse transcription polymerase chain reaction (RT-PCR) and, where clinical suspicion remains and URT specimens are negative, to collect specimens from the lower respiratory tract (LRT) when readily available (expectorated sputum, or endotracheal aspirate/bronchoalveolar lavage in ventilated patient).

156 (109)	Serologic testing can be offered as a method to support diagnosis of acute COVID-19 illness for persons who present late.* For persons who present 9-14 days after illness onset, serologic testing can be offered in addition to recommended direct detection methods such as polymerase chain reaction. This will maximize sensitivity as the sensitivity of nucleic acid detection is decreasing and serologic testing is increasing during this time period.

ID document	Recommendation
156 (109)	Serologic testing should be offered as a method to help establish a diagnosis when patients present with late complications of COVID-19 illness, such as multisystem in ammatory syndrome in children.
164 (111)	For symptomatic patients with suspected COVID-19, WHO suggests not using chest imaging for the diagnostic workup of COVID-19 when RT-PCR testing is available with timely results (Conditional recommendation, based on low certainty evidence)
164 (111)	For symptomatic patients with suspected COVID-19, WHO suggests using chest imaging for the diagnostic workup of COVID-19 when: (1) RT-PCR testing is not available; (2) RT-PCR testing is available, but results are delayed; and (3) initial RT-PCR testing is negative, but with high clinical of suspicion of COVID-19 (Conditional recommendation, based on low certainty evidence)
226 (118)	1. SARS-CoV-2 Ag-RDTs that meet the minimum performance requirements of ≥80% sensitivity and ≥97% specificity compared to a NAAT reference assay1 can be used to diagnose SARS-CoV-2 infection in a range of settings where NAAT is unavailable or where prolonged turnaround times preclude clinical utility. To optimize performance, testing with AgRDTs should be conducted by trained operators in strict accordance with the manufacturer's instructions and within the first 5-7 days following the onset of symptoms.
229 (77)	At this time, WHO does not recommend the use of saliva as the sole specimen type for routine clinical diagnostics. If nonstandard collection methods are intended to be used to diagnose other respiratory pathogens, the detection of these pathogens needs to be part of the validation procedure.
229 (77)	Careful interpretation of weak positive NAAT results is needed, as some of the assays have shown to produce false signals at high Ct values. When test results turn out to be invalid or questionable, the patient should be resampled and retested. If additional samples from the patient are not available, RNA should be re-extracted from the original samples and retested by highly experienced staff. Results can be confirmed by an alternative NAAT test or via virus sequencing if the viral load is sufficiently high.
229 (77)	From the second week after symptom onset and onwards, NAAT can be considered for faecal specimens in cases where URT and LRT are negative and the clinical suspicion of a COVID-19 infection remains [126]. When testing faeces, ensure that the intended extraction method and NAAT has been validated for this type of sample.
229 (77)	If negative NAAT results are obtained from a patient in whom SARS-CoV-2 infection is strongly suspected, a paired serum specimen could be collected. One specimen taken in the acute phase and one in the convalescent phase 2-4 weeks later can be used to look for seroconversion or a rise in antibody titres. These two samples can be used retrospectively to determine whether the individual has had COVID-19, especially when the infection could not be detected using NAAT.
229 (77)	One or more negative results do not necessarily rule out the SARS-CoV-2 infection [40, 42, 58, 66-74]. A number of factors could lead to a negative result in an infected individual, including: - poor quality of the specimen, because it contains too little patient material; - the specimen was collected late in the course of the disease, or the specimen was taken from a body compartment that did not contain the virus at that given time; - the specimen was not handled and/or shipped appropriately; - technical reasons inherent in the test, e.g. PCR inhibition or virus mutation.
229 (77)	Serology should not be used as a standalone diagnostic to identify acute cases in clinical care or for contact tracing purposes. Interpretations should be made by an expert and are dependent on several factors including the timing of the disease, clinical morbidity, the epidemiology and prevalence within the setting, the type of test used, the validation method, and the reliability of the results.
229 (77)	Specimens to be collected: The optimal specimen depends on clinical presentation and time since symptom onset. At minimum, respiratory specimens should be collected.
229 (77)	The decision to test should be based on both clinical and epidemiological factors. See the interim guidance clinical management of COVID-19 [99], investigations of clusters [6] and public health surveillance [7].
229 (77)	Virus isolation is not recommended as a routine diagnostic procedure. All procedures involving viral isolation in cell culture require trained staff and BSL-3 facilities. A thorough risk assessment should be carried out when culturing specimens from potential SARS-CoV-2 patients for other respiratory viruses because SARS-CoV-2 has been shown to grow on a variety of cell lines [183].
229 (77)	Virus neutralization assays are considered to be the gold standard test for detecting the presence of functional antibodies. These tests require highly skilled staff and BSL-3 culture facilities and, therefore, are unsuitable for use in routine diagnostic testing.

229 (77)	When performance is acceptable, antigen RDTs could be implemented in a diagnostic algorithm to reduce the number of molecular tests that need to be performed and to support rapid identification and management of COVID-19 cases. How antigen detection would be incorporated into the testing algorithm depends on the sensitivity and specificity of the antigen test and on the prevalence of SARS-CoV-2 infection in the intended testing population. Higher viral loads are associated with improved antigen test performance; therefore test performance is expected to be best around symptom onset and in the initial phase of a SARS-CoV-2 infection.
229 (77)	Wherever possible, suspected active SARS-CoV-2 infections should be tested with NAAT, such as rRT-PCR. NAAT assays should target the SARS-CoV-2 genome. Since there is currently no known circulation of SARS-CoV-1 globally, a sarbecovirus-specific sequence is also a reasonable target. For commercial assays, interpretation of results should be done according to the instructions for use. Optimal diagnostics consist of a NAAT assay with at least two independent targets on the SARS-CoV-2 genome, however, in areas with widespread transmission of SARS-CoV-2, a simple algorithm might be adopted with one single discriminatory target.
255 (120)	Antigen tests are immunoassays that detect the presence of a speci c viral antigen, which implies current viral infection. Antigen tests are currently authorized to be performed on nasopharyngeal or nasal swab specimens placed directly into

ID document	Recommendation
	the assay's extraction bu er or reagent. The currently authorized antigen tests are not restricted to use on persons of a certain age. See Table 2 for additional information about antigen tests.
	Scientific Societies
36 (79)	As an interim measure, until more widespread COVID-19 testing is available, some medical practices are requesting chest CT to inform decisions on whether to test a patient for COVID-19, admit a patient or provide other treatment. The ACR strongly urges caution in taking this approach. A normal chest CT does not mean a person does not have COVID-19 infection - and an abnormal CT is not specific for COVID-19 diagnosis. A normal CT should not dissuade a patient from being quarantined or provided other clinically indicated treatment when otherwise medically appropriate. Clearly, locally constrained resources may be a factor in such decision making
36 (79)	CT should be used sparingly and reserved for hospitalized, symptomatic patients with specific clinical indications for CT. Appropriate infection control procedures should be followed before scanning subsequent patients.
36 (79)	CT should not be used to screen for or as a first-line test to diagnose COVID-19
36 (79)	Facilities may consider deploying portable radiography units in ambulatory care facilities for use when CXRs are considered medically necessary. The surfaces of these machines can be easily cleaned, avoiding the need to bring patients into radiography rooms.
39 (81)	b. Exámenes para el diagnóstico etiológico (debe cumplir definición de caso): i. Muestras respiratorias obtenidas por hisopado nasofaríngeo y orofaríngeo para búsqueda 2019-nCoV por RPC específica y secuenciación, en cualquier momento de evolución de la enfermedad, especialmente durante la fase inicial; ii. Otras muestras factibles de evaluar caso a caso: LBA, aspirado endotraqueal; iii. En caso de fallecimiento, obtener muestras de tejidos (biopsia o autopsia): incluyendo pulmón. iv. Las muestras de pacientes sospechosos deben ser rotuladas indicando sospecha de 2019 n-CoV
40 (82)	Las pruebas invasivas recomendadas para el diagnóstico de la infección por SARS-CoV-2/COVID-19 serán mini lavado bronquial y aspirado traqueal a ciegas con sistema cerrado.(Fuerte a favor)
40 (82)	Punto de buena práctica: Se sugiere restringir la broncoscopia y solo realizarla cuando los resultados no son concluyentes, se sospeche un diagnóstico alternativo o se espera que los resultados permiten modificar la conducta.
40 (82)	Se recomienda antes del día 10 de síntomas realizar pruebas moleculares (RT-PCR), para el diagnóstico de infección por SARS-CoV-2 (Fuerte a favor)
40 (82)	Se recomienda después del día 10 de síntomas realizar pruebas moleculares (RT-PCR), si estas son negativas realizar al día 14 pruebas de detección de IgM/IgG (ELISA o Inmunocromatográficas). En este escenario sería un caso probable de infección por SARS-CoV-2 (Fuerte a favor)
40 (82)	Se recomienda la realización de RT- PCR de SARS-CoV-2/COVID-19 para hacer diagnóstico de COVID-19 a personas sintomáticas. (Fuerte a favor)
40 (82)	Se recomienda la realización de RT-PCR de SARS-CoV-2/COVID-19 a muestras de aspirado traqueal o aspirado nasofaríngeo u orofaríngeo, o hisopado nasofaríngeo u orofaríngeo.(Fuerte a favor)
40 (82)	Se recomienda la realización de una segunda prueba de RT-PCR a las 48 horas (según disponibilidad), en pacientes con la primera prueba negativa con alta sospecha de neumonía por SARS Cov2 / COVID-19 (Fuerte a favor)
40 (82)	Se recomienda no usar el uso del esputo inducido por el alto riesgo de formación de aerosoles (Fuerte en contra)
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Imaging: · not necessary
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Diagnostics: Swabs for bacterial infections in upper respiratory tract (avoid aerosol-generating procedures - risky for the personnel)

91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Diagnostics: Swabs for bacterial infections in upper respiratory tract (avoid aerosol-generating procedures - risky for the personnel)
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Diagnostics: Swabs for bacterial infections in upper respiratory tract (avoid aerosol-generating procedures - risky for the personnel)
91 (90)	Real-time PCR (RT PCR) is the basis for the diagnosis of active SARS-CoV-2 infection. Persons meeting the criteria of the COVID-19 suspected case (see 4.1) should be tested for the detection of virus genetic material.
98 (91)	Imaging is not indicated for patients with mild features of COVID-19 unless they are at risk for disease progression (Scenario 1)
102 (92)	The IDSA panel suggests a strategy of initially obtaining an upper respiratory tract sample (e.g., nasopharyngeal swab) rather than a lower respiratory sample for SARS-CoV-2 RNA testing in hospitalized patients with suspected COVID-19 lower respiratory tract infection. If the initial upper respiratory sample result is negative, and the suspicion for disease remains high, the IDSA panel suggests collecting a lower respiratory tract sample (e.g., sputum, bronchoalveolar lavage fluid, tracheal aspirate) rather than collecting another upper respiratory sample (conditional recommendations, very low certainty of evidence).
102 (92)	The IDSA panel suggests collecting nasopharyngeal, or mid-turbinate, or nasal swabs rather than oropharyngeal swabs or saliva alone for SARS-CoV-2 RNA testing in symptomatic individuals with upper respiratory tract infection (URTI) or influenza like illness (ILI) suspected of having COVID-19 (conditional recommendation, very low certainty of evidence).
102 (92)	The IDSA panel suggests performing a single viral RNA test and not repeating testing in symptomatic individuals with a low clinical suspicion of COVID-19 (conditional recommendation, low certainty of evidence).
102 (92)	The IDSA panel suggests repeating viral RNA testing when the initial test is negative (versus performing a single test) in symptomatic individuals with an intermediate or high clinical suspicion of COVID-19 (conditional recommendation, low certainty of evidence).

ID document	Recommendation
102 (92)	The IDSA panel suggests that nasal and mid-turbinate (MT) swab specimens may be collected for SARS-CoV-2 RNA testing by either patients or healthcare providers, in symptomatic individuals with upper respiratory tract infection (URTI) or influenza like illness (ILI) suspected of having COVID-19 (conditional recommendation, low certainty of evidence).
103 (93)	Broncoscopia: La toma de muestras del tracto respiratorio superior (nasofaríngea y orofaríngea) mediante el frotis con hisopo es el método diagnóstico primario y de elección en la infección por COVID-19.
103 (93)	Broncoscopia: Si finalmente se precisa broncoscopia para la toma de muestras de COVID-19, se tomarán al menos 2-3 mL de un BAS o un mini-BAL con o sin catéter telescopado, mejor que un BAL reglado, debido al alto riesgo para el personal sanitario.
103 (93)	Broncoscopia: Solamente si resultan negativas 2 muestras y persiste la sospecha clínica se tomarán las muestras del tracto respiratorio inferior para COVID-19 por RT-PCR y tinciones/cultivos bacterianos (esputo expectorado, aspirado endotraqueal [BAS] o lavado broncoalveolar [BAL] no reglado)7.
103 (93)	Broncoscopia: No se recomienda el esputo inducido por el mayor riesgo de transmisión de aerosoles.
104 (94)	2. In patients suspected of having COVID-19 infection, we suggest that a nasopharyngeal specimen be obtained first. In the setting of severe or progressive disease requiring intubation, if additional specimen is needed to establish a diagnosis of COVID-19 or other diagnosis that will change clinical management, lower respiratory specimens from endotracheal aspirate or bronchoscopy with Q11 bronchoalveolar lavage (BAL) can be performed (Ungraded Consensus-Based Statement).
113 (95)	Chest CT is the most valuable imaging tool for the clinical diagnosis of early stage COVID-19 pneumonia when patients' symptoms are aspecific, especially in Wuhan with insufficient PCR tests in the early pandemic period
113 (95)	Chest X-ray examination is convenient and fast, and has been proven effective in diagnosing other coronaviruses, such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) [23-26]. However, the sensitivity and specificity for mild type patients are relatively low [27]. It is not recommended for patients with early COVID-19 stage.
113 (95)	It is recommended to use volume CT with a maximum acquisition slice thickness of 5 mm (≥16 slice multi-detector CT) and a reconstruction slice thickness of 1.0 to 1.5 mm[30]. Multi-planar reformats (transverse, sagittal, and coronal planes) are beneficial for the early detection of lesions in patients with negative nucleic acid tests[9].
114 (96)	If bronchoscopy is performed for diagnostic reason, tracheobronchial lavage using a few milliliters or bronchoalveolar lavage (BAL) only is recommended. No other diagnostic procedures such as transbronchial biopsy or needle aspiration should be performed in the same procedure.
114 (96)	The indication for bronchoscopy in the case of confirmed or suspected COVID-19 disease should be made very strict and should only be considered if: Diagnostic reason: the nasopharyngeal smear is negative two times and clinically there is still diagnostic uncertainty of COVID-19 infection.

123 (100)	Broncofibroscopía: este procedimiento genera una gran cantidad de aerosoles por lo que se debe restringir su realización, en caso de necesidad debe realizarse sólo en pacientes con intubación endotraqueal. Sólo podría evaluarse su realización en las siguientes situaciones: · Cuando pruebas menos invasivas son inconclusas para COVID-19 en pacientes con necesidad de confirmación diagnóstica.
123 (100)	De tener un Caso Sospechoso: · Realizar toma de muestra para diagnóstico de COVID-19 mediante: Hisopado nasofaríngeo para detección de SARS-CoV-2 mediante rt-PCR u otra prueba aceptada
123 (100)	Para la hospitalización se debe realizar lo siguiente: Obtener Tomografía de Tórax basal en todos los casos; Radiografía de Tórax basal; Pruebas de Laboratorio basales: o Gases arteriales: Para valoración objetiva del estado oxigenatorio y ventilatorio. o Hemograma: puede encontrarse leucopenia, linfopenia y trombocitopenia. o Glucosa. o Urea. o Creatinina. o Proteína C reactiva. o Perfil hepático: TGO, TGP, GGTP, FA, Bilirrubinas totales y fraccionadas. o Proteínas totales y fraccionadas. o Deshidrogenasa Láctica. o Dímero D. o Ferritina sérica. o Procalcitonina. o Electrolitos séricos. o Electrocardiograma (ECG).
123 (100)	Ultrasonografía torácica: puede realizarse al ingreso hospitalario y como medio de monitoreo no invasivo de las lesiones pulmonares (al menos cada 48 horas).
130 (103)	A positive RT-PCR test for SARS-CoV-2 confirms the diagnosis of COVID-19 although falsepositive and false negative tests are possible. If initial testing is negative but the suspicion for COVID-19 is high, it is recommended to resample and analyze specimen from multiple respiratory tract sites as above.
130 (103)	Bronchoscopy should have a limited role for the diagnosis of COVID-19 and is preferably performed when another diagnosis is being considered (eg, suspected super-infection like Pneumocystis jirovecii or invasive aspergillosis).
130 (103)	Chest CT should not be performed routinely and considered only if there is expected change in clinical management also keeping in consideration the risks of infection spread during patients' transport to radiology department.
130 (103)	Diagnosis of COVID-19: After initial evaluation of patients who meet the criteria for suspect cases, the following diagnostic interventions should be considered: Complete Blood Count (CBC), Serum Biochemistry & Inflammatory Markers (lactate dehydrogenase (LDH) and ferritin levels, aminotransferase levels, renal functions, CRP and procalcitonin levels, D-dimer, prothrombin time)
130 (103)	Diagnosis of COVID-19: After initial evaluation of patients who meet the criteria for suspect cases, the following diagnostic interventions should be considered: SARS-CoV-2 RNA detection by reverse-transcription polymerase chain reaction (RT-PCR): Can be done in any of the following respiratory specimens: a) Nasopharyngeal swab specimen (preferable as viral RNA levels may be higher in nasal compared with oral specimens). b) Oropharyngeal swab can be

ID document	Recommendation
	collected but is not essential; if collected, it should be placed in the same container as the nasopharyngeal specimen. c) Sputum collected only from patients with productive cough. d) Tracheal aspirate/bronchial washings/bronchoalveolar lavage: Can be evaluated from patients who are admitted in critical care and require intubation. Specimen can also be utilized to diagnose concomitant infection by other viruses/bacteria/fungi.
153 (108)	Chest radiography is not sensitive for the detection of ground glass opacities, which are the main imaging features of COVID-19 pneumonia. It should not be used as the first-line technique and should be restricted to the follow-up of patients admitted to intensive care units, who are too fragile to be sent for CT
153 (108)	In the case of an initially negative RT-PCR and CT changes highly suggestive of COVID-19, the RT-PCR should be repeated to determine if it had been a false-negative result.
159 (110)	A chest X-ray is not recommended in individuals presenting with mild symptoms because imaging is often normal2 and this may be falsely reassuring.
159 (110)	In a patient with concerning symptoms, when the RTPCR assay is not yet available, a chest radiograph is useful. Although the imaging features of COVID-19 pneumonia are nonspecific, when present, they increase the pretest probability of the patient having the disease. Findings suggestive of an alternative diagnosis (pneumothorax, large pleural effusions, lung mass, etc) that requires treatment are also extremely useful.
159 (110)	Lung ultrasound should not be used to diagnose or exclude COVID-19 pneumonia.
171 (123)	Bronchoscopy should only be performed in exceptional cases and only for differential diagnostic purposes
171 (123)	Chest X-ray should be performed in all patients admitted with suspicion of COVID-19.
171 (123)	Hospitalized patients should be monitored, from arrival at the hospital with Early Warning Score (vitals including blood pressure, pulse rate, respiratory rate, oxygen saturation, temperature and responsiveness score) and a thorough physical examination must be performed.
171 (123)	The diagnosis of COVID-19 with new coronavirus SARS-CoV-2 is obtained by a Reverse Transcription Polymerase Chain Reaction (RT-PCR) analysis of a pharyngeal swab.
211 (119)	The IDSA panel makes no recommendation either for or against using IgM antibodies to detect evidence of past SARSCoV-2 infection (conditional recommendation, very low certainty of evidence).

211 (119)	The IDSA panel makes no recommendation for or against using capillary versus venous blood for serologic testing to detect SARS-CoV-2 antibodies (knowledge gap).
211 (119)	The IDSA panel suggests against using IgA antibodies to detect evidence of past SARS-CoV-2 infection (conditional recommendation, very low certainty of evidence).
211 (119)	The IDSA panel suggests against using IgM or IgG antibody combination tests to detect evidence of past SARS-CoV-2 infection (conditional recommendation, very low certainty of evidence).
211 (119)	The IDSA panel suggests against using serologic testing to diagnose SARS-CoV-2 infection during the first two weeks (14 days) following symptom onset (conditional recommendation, very low certainty of evidence).
211 (119)	The IDSA panel suggests using IgG antibody to provide evidence of COVID-19 infection in symptomatic patients with a high clinical suspicion and repeatedly negative NAAT testing (weak recommendation, very low certainty of evidence).
211 (119)	When SARS-CoV-2 infection requires laboratory confirmation for clinical or epidemiological purposes, the IDSA panel suggests testing for SARS-CoV-2 IgG or total antibody three to four weeks after symptom onset to detect evidence of past SARS-CoV-2 infection (conditional recommendation, very low certainty of evidence).
224 (78)	Acute COVID-19 infection is diagnosed with a PCR test of a nasopharyngeal sample. Antibody tests allowinvestigation of patient's immunity. Both PCR tests and antibody tests are associated with sources of errorthat always must be taken into account when interpreting the results.
224 (78)	An acute COVID-19 infection is diagnosed with a PCR test of a nasopharyngeal sample. The sensitivity of the PCR test is not particularly good. Many nasopharyngeal samples will yield falsenegative results. Sources of error include, among others, deficient specimen collection techniqueand the virus not occurring in the area where the sample is taken from.
224 (78)	COVID-19 testing (criteria applied in Finland, by the National Institute for Health and Welfare): A sample for COVID-19 testing is taken from all persons with symptoms fitting coronavirus infection or in whom, based on an assessment by a health care professional, there is a reason to suspectcoronavirus infection. *A patient seeking emergency care in a hospital, or having been referred to a hospital, with a respiratory infection or other symptoms that fit coronavirus infection.* Primary care patients: all patients with an acute respiratory infection or other symptoms fittingcorona virus infection. * Based on infection tracing, the close contacts of individuals with coronavirus infection. Consult thephysician responsible for infectious disease control in the area and other relevant infectious diseasespecialists, as required.
224 (78)	Initially, a specimen to confirm coronavirus infection and, based on clinical consideration, other specimensrequired in the differential diagnosis to detect also other possible infections should be collected andrelevant examinations performed (sputum, blood, acute and convalescent serums, urine, chest x-ray).
224 (78)	Tests to detect antibodies against coronavirus in the blood cannot be used to diagnose an acuteinfection, due to the delay between the onset of the infection and the formation of antibodies. Instead,they aim at providing an answer to the question whether a person has had a COVID-19 infection.Problems include false negative results (sensitivity) when the level of antibodies in a patient is low, aswell as false positive results (specificity), when the prevalence of the infection in a population is low.
234 (116)	A base do diagnóstico para novos vírus é o teste da reação em cadeia da transcriptase reversa-polimerase (RT-PCR) usado para identificar material genético em muitas amostras clínicas.

ID document	Recommendation
247 (114)	Actualmente el método de elección para la detección del SARS-CoV-2 continúa siendo la reacción en cadena de polimerasa con transcriptasa reversa en tiempo real (rtRT-PCR, por sus siglas en inglés).
247 (114)	Deben solicitarse las siguientes pruebas diagnósticas en todos los pacientes con enfermedad grave: • Gasometría arterial (indicada para detectar hipercapnia o acidosis). • Biometría hemática completa. • Perfil metabólico completo. • Pruebas de coagulación. • Marcadores de inflamación (procalcitonina sérica y proteína C reactiva). • Troponina sérica. • Lactato deshidrogenasa en suero. • Creatina-cinasa en suero.
247 (114)	Toma de muestras. Es importante que el médico conozca que el tipo de muestreo más utilizado para establecer el diagnóstico inicial de infección por SARS-CoV-2 por medio de RT-PCR ha sido el hisopado nasofaríngeo o, bien, hisopado orofaríngeo o nasal anterior, cuando no es posible obtener el nasofaríngeo. Se recomienda tomar muestra tanto nasofaríngea como orofaríngea y colocar ambas muestras en un solo tubo que contenga medio de transporte viral universal, medio de transporte Amies o solución salina estéril.
260 (121)	Bronchoscopy could be employed in certain situations, including highly suspected SARS-CoV-2 infection with the repeated negative results of upper respiratory tract specimens, clinical outcomes being dissatisfied, or other pulmonary diseases even emergencies affecting the treatment decision of COVID-19 being suspected.
260 (121)	Bronchoscopy is not a routine sampling method for testing SARS-CoV-2, and less invasive diagnosis specimens are recommended to be tested first in suspected COVID-19 patients.
	Governmental agencies

44 (84)	Dessa forma, recomenda-se realizar investigações iniciais e o exame físico para verificar as condições fisiológicas do paciente, de forma a dar o suporte adequado (19,83–85):● avaliação do padrão respiratório: tosse e/ou dispneia; ● aferição de temperatura axilar, frequência cardíaca, frequência respiratória e oximetria de pulso; ● ausculta pulmonar: presença de estertores inspiratórios ou expiratórios, respiração brônquica ou dificuldade respiratória em pacientes com pneumonia; e ● avaliação de sinais de cianose e hipóxia. O paciente com a forma grave da doença requer internação em unidades hospitalares (e UTIs se necessário) com terapia e monitoramento precoces de suporte.
44 (84)	Exame Físico: Os pacientes podem apresentar febre (com ou sem calafrio), tosse e/ou dificuldade para respirar. A auscultação pulmonar pode revelar estertores inspiratórios, estertores e/ou respiração brônquica em pacientes com pneumonia ou dificuldade respiratória. Pacientes com dificuldade respiratória podem apresentar taquicardia, taquipneia ou cianose acompanhada de hipóxia (17,62–64). Dessa forma, recomenda-se que o exame físico seja composto de: • Avaliação do padrão respiratório: tosse e/ou dispneia; • aferição de temperatura axilar; frequência cardíaca, frequência respiratória e oximetria de pulso; • auscultação pulmonar: presença de estertores inspiratórios, estertores e/ou respiração brônquica em pacientes com pneumonia ou dificuldade respiratória, e • avaliação de sinais de cianose e hipóxia.
44 (84)	Os testes imunológicos para identificação de anticorpos IgM e IgG contra o SARS-CoV-2, aplicados como testes rápidos ou processados em laboratório, não são recomendados para a confirmação diagnóstica de pacientes com sintomas de início recente (há menos de sete dias), mas apenas para finalidade de vigilância por meio de estudos de inquéritos populacionais e também como auxílio diagnóstico (18).
44 (84)	Testes diagnósticos: O teste recomendado para o diagnóstico laboratorial de COVID-19 é o teste PCR (Polymerase Chain Reaction), que amplifica sequências de RNA do vírus, possibilitando sua identificação
48 (85)	Among the reagents with EUA, some kits with three target genes use one target gene for the screening test and the other two target genes for the confirmatory test. For these kits, the confirmatory test result is deemed positive only if both confirmatory genes are detected. If one gene is not detected, the result cannot be interpreted as positive.
48 (85)	As of March 11, 2020, KSLM and the KCDC recommend a positive result determination only when all the genes are detected, even for tests using different genes from those mentioned in the above two guidelines. This recommendation is based on the opinions of numerous experts who observed nonspecific and weak amplification in the clinical specimens of patients who received final results of COVID-19 as negative.
48 (85)	As the current knowledge on COVID-19 is limited, it is difficult to rule out infection based on a single negative test result, especially when the test is performed using an upper respiratory tract specimen. Even if the upper respiratory tract specimen tests negative, the collection and testing of lower respiratory tract specimens are strongly recommended, especially in cases of severe or progressive disease
48 (85)	COVID-19 real-time RT-PCR may be performed for the purposes of: Confirming cases of suspected COVID-19
48 (85)	COVID-19 real-time RT-PCR may be performed for the purposes of: Differential diagnosis of cases with unknown respiratory syndromes
48 (85)	Criteria for final test interpretation: All kits currently available in Korea can detect two or more genes. According to the interpretation criteria of some manufacturers, detection of only one of multiple genes is interpreted as COVID-19 positive. However, based on results from actual clinical specimens, KSLM recommends a determination of a positive result only when all genes are detected. When only one gene is detected, retesting or consulting the reference laboratory is recommended.
48 (85)	If a patient with an epidemiological correlation and COVID-19 symptoms repeatedly tests negative, the tested specimen should be submitted to the KCDC for further testing.
48 (85)	If the upper respiratory tract specimens test negative, lower respiratory tract specimens should be collected and tested.
48 (85)	Patient specimens, a positive control, and a negative control should be examined together, and internal controls should be examined and verified together in all reactions.

ID document	Recommendation
48 (85)	Repetitive testing may be necessary to confirm COVID-19 in suspected cases or PUIs. As the clinical significance of coinfection caused by the causative agent of COVID-19 and other infectious diseases remains unclear, the collection of a sufficient quantity of clinical specimens with proper methods is recommended.
48 (85)	Specimen selection/ Patients referred for additional testing by a physician (e.g., patients who tested negative using nasopharyngeal or oropharyngeal swabs, but show an indication of pneumonia): Lower respiratory tract specimens, such as sputum, bronchoalveolar lavage, and tracheal aspirates, should be collected.
48 (85)	Specimen selection/Patients with severe symptoms, patients with a productive cough, and intubated patients: Lower respiratory tract specimens, such as sputum, bronchoalveolar lavage, and tracheal aspirates, should be collected. If possible, the collection of nasopharyngeal and oropharyngeal swabs can be considered.
48 (85)	The collection of specimens for diagnosis is recommended within seven days of symptom onset.

84 (88)	Novel coronavirus nucleic acid can be detected in nasopharyngeal swabs, sputum, lower respiratory tract secretions, blood, feces and other specimens using RT-PCR and/or NGS methods. It is more accurate if specimens are obtained from lower respiratory tract (sputum or air tract extraction). The specimens should be submitted for testing as soon as possible after collection
88 (89)	En el caso de que se determine que se cumplen los criterios de realización de test diagnóstico para la detección de infección por SARS-CoV-2 es necesaria la toma de las siguientes muestras: - Tracto respiratorio superior: exudado nasofaríngeo/orofaríngeo. o - Tracto respiratorio inferior: esputo (si es posible) o aspirado endotraqueal, lavado broncoalveolar, o broncoaspirado, especialmente en pacientes con enfermedad respiratoria grave.
88 (89)	La indicación de TC torácico debe individualizarse. La realización de TC tórax de baja dosis para la detección de infección por SARS-CoV-2 puede valorarse, especialmente en las áreas geográficas más afectadas por el COVID-19, y para pacientes con radiografía de tórax normal con elevada sospechosa clínica.
88 (89)	Si al paciente es preciso realizarle una radiografía de tórax (con proyecciones postero-anterior y lateral) se utilizará un aparato portátil para evitar traslados. El aparato deberá estar protegido por plásticos desechables y lavado posteriormente con una solución de hipoclorito de sodio al 1% o del desinfectante aprobado para superficies en su centro.
88 (89)	Si las pruebas iniciales son negativas en un paciente con una alta sospecha clínica y epidemiológica (especialmente cuando solo se han recogido muestras de tracto respiratorio superior o la muestra recogida inicialmente no estaba tomada adecuadamente) se repetirá el diagnóstico con nuevas muestras del tracto respiratorio.
88 (89)	Tras la confirmación del caso se enviarán también las siguientes muestras: Dos muestras de suero: la serología es útil para la confirmación de la respuesta a la infección por coronavirus. La primera muestra debe recogerse durante la primera semana del cuadro clínico (fase aguda) y la segunda muestra entre 14-30 días después.
119 (97)	1, It is recommended to choose imaging methods for known / suspected COVID-19 infection differentially, in accordance with the available equipment and human resources of the medical organization, as well as the structure and number of patients examined.
119 (97)	4. Laboratory diagnostics general (additional): General (clinical) blood test with determination of the level of erythrocytes, hemoglobin, hematocrit, leukocytes, platelets, leukocyte formula. Biochemical blood test (urea, creatinine, electrolytes, glucose, alanine aminotransferase, aspartate aminotransferase, bilirubin, albumin, lactate, lactate dehydrogenase, troponin, ferritin). Hormonal research: procalcitonin, brain sodium uretic peptide - NT-proBNP / BNP. Coagulogram in volume: activated partial thromboplastin time (APTT), prothrombin time, prothrombin ratio, fibrinogen, D-dimer (by quantitative method).
119 (97)	All signs detected by radiation studies, including CT symptoms, are not specific for any type of infection and do not allow establishing an etiological diagnosis. Outside of a clinical (epidemic) situation, they do not allow the identified changes to be attributed to COVID-19 pneumonia and to differentiate them with other pneumonias and non-inflammatory diseases. Radiation data does not replace SARS-CoV-2 RNA test results. The absence of changes in CT does not exclude the presence of COVID-19 and the possibility of developing pneumonia after the study.
119 (97)	In case of signs of lower respiratory tract disease, if a negative result is obtained in smears from the mucous membrane of the nasopharynx and oropharynx, sputum (if any) or bronchial washings obtained during fibrobronchoscopy (bronchoalveolar lavage), (endo) tracheal, nasopharyngeal aspirate are additionally examined. In intubated patients (in patients on mechanical ventilation), in order to detect SARS-CoV-2, it is recommended to obtain and study an aspirate of the contents of the trachea
119 (97)	It is not recommended to use methods of radiation diagnostics in the absence of ARI symptoms in patients with positive results for SARS-CoV-2 RNA, as well as in the presence of epidemiological data indicating the possibility of infection.
119 (97)	Laboratory examination for SARS-CoV-2 RNA is recommended for all persons with signs of ARI. As a preliminary screening examination, it is recommended to use the test for the determination of the SARS-CoV-2 antigen in nasal / oropharyngeal swabs by immunochromatography.
119 (97)	The use of radiation methods in patients with ARVI symptoms of mild severity and a stable patient's condition is possible only for specific clinical indications, including in the presence of risk factors, subject to sufficient technical and organizational capabilities. The method of choice in this case is CT of the lungs according to the standard protocol without intravenous contrast enhancement or RG with limited availability of CT. The use of ultrasound in these cases is inappropriate.
120 (98)	Real time or Conventional RT-PCR test is recommended for diagnosis.

ID document	Recommendation
120 (98)	SARS-CoV-2 antibody tests are not recommended for diagnosis of current infection with COVID-19.

125 (101)	Diagnósticos consignados en COVID-19: a) Diagnóstico clínico: El cuadro clínico más frecuente está caracterizado por un síndrome gripal, que inicia con fiebre leve, con evolución progresiva de la temperatura, y persistencia entre 3 a 4 días, con un posterior descenso, como ha sido observado en casos de influenza9. El diagnóstico depende de la evaluación clínica-epidemiológica y del examen físico. Se recomienda que en todos los casos con síndrome gripal se pregunte por el antecedente de viaje en el interior y exterior del país, así como contacto cercano con personas que haya viajado, dentro de los 14 días antes del inicio de síntomas. Esta información debe escribirse en la historia clínica para una eventual investigación epidemiológica.
125 (101)	Diagnósticos consignados en COVID-19: b) Diagnóstico laboratorial: Se realiza a través de la identificación del virus SARSCoV-2 por técnica de Reacción en Cadena de la Polimerasa en tiempo real (RT-PCR), mediante el secuenciamiento parcial o total del genoma viral.
129 (102)	1. For diagnostics on SARS-CoV-2 (www.rki.de/covid-19-diagnostik): - Detect the pathogen by means of PCR from a deep nasopharyngeal / oropharyngeal smear, (possibly induced) sputum and / or tracheobronchial secretion, if necessary, repeat if the result is negative and persistent suspicion (see above), if necessary, additional stool diagnostics
129 (102)	3. Further diagnostics: - Regular blood sampling with differential blood count, clinical chemistry depending on the course of the disease with control of CRP, LDH, kidney and liver function parameters, electrolytes, and, depending on the course of the disease, procalcitonin, troponin, D-Dimer, IL-6
129 (102)	The serological test options do not play a role in the initial diagnosis, but can be useful as additional information in the later course of the disease and should be further investigated in terms of their significance, e.g. also for epidemiological questions.
140 (105)	Nucleic acid testing is the preferred method for diagnosing COVID-19. In our country viral nucleic acid is detected by RTPCR.
140 (105)	Supportive investigations: CBC, CRP and procalcitonin, Blood culture, Liver and Renal function test, Arterial blood gas analysis. Serum Ferritin, S.LDH, D-dimer (D-dimer levels and Ferritin are significantly elevated in severe cases, which is a potential risk factor for poor prognosis). Treating clinician may order other relevant investigations if required.
140 (105)	Testing for COVID-19: Whom to test: All Suspected cases (according to the case definition). Detection of virus ➢ Specimen- Specimen type include: Upper airway specimens: Oropharyngeal swabs, nasal swabs, nasopharyngeal secretions, • Lower airway specimens: sputum, bronchoalveolar lavage fluid, airway secretions
173 (112)	Routine confirmation of COVID-19 cases is based on real-time reverse transcription polymerase chain reaction (rRT-PCR) with a NAAT test to detect specific sequences of virus RNA and, if necessary, verify by nucleic acid sequence analysis.
173 (112)	serological tests cannot be used for diagnosis in the early period of the disease
173 (112)	Thorax computed tomography (CT) is a sensitive diagnostic approach in the early period in PCV test negative COVID-19 patients. Thorax CT is recommended to support the faster triage of these patients.
173 (112)	When a negative result is obtained from a patient with a high suspicion of COVID-19, additional samples containing lower respiratory tract samples should be obtained and studied, if possible, especially if only the upper respiratory tract samples have been collected.
215 (99)	The Panel Recommends against the use of serologic testing as the sole basis for diagnosis of acute SARS-CoV-2 infection (AIII).
215 (99)	The Panel recommends that a molecular or antigen test for SARS-CoV-2 should be used to diagnose acute SARS-CoV-2 infection (AIII).
222 (80)	Collect specimens for COVID-19 testing as recommended by your local or provincial public health laboratory.
222 (80)	SARS-CoV-2 antibody tests are not recommended for diagnosis of current SARS-CoV-2infection, but they may be useful in post-infectious syndromes.
231 (104)	A single positive PCR test is sufficient proof of COVID-19 infection. Repeat “confirmatory” PCR testing on asymptomatic patients who test positive is not indicated, as PCR-based tests have excellent specificity, and asymptomatic and presymptomatic COVID-19 patients are now well described26.
231 (104)	Clinical specimens should be collected as soon as possible after onset of symptoms, ideally within 7 days. If a patient presents ≥7 days from symptom onset and is still symptomatic, respiratory samples should be collected.
231 (104)	Currently, we do not recommend using antibody-based (serological) tests for the diagnosis of acute COVID-19.
231 (104)	From the moment that COVID-19 is considered as a diagnostic possibility, persons under investigation should be isolated, and infection control measures should be implemented. Specimens should be collected and transported urgently (same day as collection) for SARS-CoV-2 testing.
231 (104)	If a high clinical suspicion for COVID-19 persists despite an initial negative test, repeat testing should be considered in consultation with an infectious diseases expert, particularly in hospitalised patients for whom management might be significantly altered. However, it is equally important to maintain a broad differential diagnosis and to always consider alternative diagnoses26.

231 (104)	Lower respiratory tract samples are the preferred specimen type because the lower respiratory tract is the primary site of infection and they are likely to contain the highest viral loads (based on experience with MERS-CoV) and therefore have a better yield. For severe cases, collection of both lower and upper airway specimens for SARS-CoV-2 testing is recommended.
ID document	**Recommendation**
231 (104)	Routine confirmation of cases of COVID-19 is based on amplification and detection of unique SARS-CoV-2 viral nucleic acid sequences by real-time reverse-transcription polymerase chain reaction (rRT-PCR). Testing for SARS-CoV-2 is performed using any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA30,31. Testing for SARS-CoV-2 must be performed in appropriately equipped laboratories by staff trained in the relevant technical and safety procedures. Initial processing of specimens (before inactivation) should be done in a biological safety cabinet. Molecular testing should be conducted in a BSL-2 laboratory.
231 (104)	Viral culture and isolation should only be performed by properly trained and competent personnel in a BSL-3 laboratory. Appropriate PPE must be worn by all laboratory personnel handling SARS-CoV-2 specimens.
232 (83)	Currently, we do not recommend using antibody-based (serological) tests for the diagnosis of acute COVID-19. These tests are insufficiently sensitive early in the disease course (before sufficient antibodies have been produced).
232 (83)	For patients with severe disease who require admission, appropriate tests may include: § HIV test (if status unknown); § Full blood count + differential; § Blood culture; § Nasopharyngeal and/or oropharyngeal swabs for detection of viral and atypical pathogens; § Chest radiography; § Sputum for MCS and Mycobacterium tuberculosis detection (GeneXpert MTB/RIF Ultra); § Urine for lipoarabinomannan (LAM) if HIV positive; § Beta-D-glucan and expectorated sputum/tracheal aspirate for PJP if HIV positive and clinically suspicious of PJP (don't induce sputum though)
232 (83)	If a high clinical suspicion for COVID-19 persists despite an initial negative test, repeat testing should be considered in consultation with an infectious diseases expert, particularly in hospitalised patients for whom management might be significantly altered.
232 (83)	Testing for acute COVID-19 infection should be by means of polymerase chain reaction (PCR) assays. Samples to be sent are: · Upper respiratory tract samples – A sample from the upper respiratory tract should be sent from all patients. A single site is sufficient. Currently, a nasopharyngeal swab is the preferred specimen, but in patients where this is not possible (e.g. recent nasal surgery, or severe coagulopathy), an oropharyngeal, nasal mid-turbinate, or anterior nares swab can be collected instead. Lower respiratory tract samples – send when available. Lower respiratory tract samples may have a higher sensitivity than upper respiratory tract samples.25, 30 Sputum, tracheal aspirates, or bronchoalveolar lavage fluid are all acceptable samples to send. Sputum induction should not be performed however.
243 (115)	Virus detection can be done with (real-time) reverse transcription (RT) PCR for viral RNA detection . Of course, for optimal detection of the virus, independent of the technique, the sample collection - nasopharynx (nose) what and oropharynx (throat) what - must be done correctly. SARS-CoV-2 is more detectable in nasopharyngeal smears than in oropharyngeal smears in patients with COVID-19. It remains important to collect both, as there are patients who are only positive at one of the two sites. Therefore, for SARS-CoV-2 diagnostics, always submit a nasopharyngeal swab, in addition to an oropharyngeal swab and, if possible, a sputum sample or bronchoalveolar lavage fluid (Yang 2020).

Symptomatic illness: competitive diagnosis

ID document	**Recommendation**
	WHO-CDCs
149 (106)	In addition, testing for other respiratory viruses and bacteria should be considered when clinically indicated.
149 (106)	Depending on local epidemiology and clinical symptoms, test for other potential etiologies (e.g. malaria, dengue fever, typhoid fever) as appropriate.
149 (106)	For COVID-19 patients with severe or critical disease, also collect blood cultures, ideally prior to initiation of antimicrobial therapy (3).
229 (77)	If required for case management, patients should also be tested for other pathogens, as recommended in local clinical management guidelines, but this should never delay testing for SARS-CoV-2 [99, 100].
	Scientific Societies

39 (81)	a. Exámenes generales a casos sospechosos:i. Hemograma y VHS y Proteína C reactiva (PCR); ii. Hemocultivos periféricos; iii. Muestra de hisopado o aspirado nasofaríngeo para la detección de virus respiratorios con la finalidad de descartar los principales virus respiratorios circulantes, panel molecular de virus respiratorios si está disponible; iv. Radiografía de tórax en dos proyecciones.; v. Oximetría de pulso, gases arteriales; vi. Serologías para Chlamydia pneumoniae, Mycoplasma pneumoniae (si están disponible); vii. Antígeno urinario para Streptococcus pneumoniae y Legionella pneumophila. (si están disponible)
40 (82)	Punto de buena práctica: Se recomienda la realización de TC de tórax simple en los siguientes escenarios: pacientes con presentación severa de la enfermedad, con sospecha de neumonía por COVID-19 y radiografía de tórax normal o con alteraciones radiológicas inespecíficas a quien se desea descartar un diagnóstico alterno. (Fuerte a favor)
40 (82)	Se recomienda realizar hemocultivos en pacientes con enfermedad grave que presenten SDRA, sepsis o choque séptico.(Fuerte a favor)

ID document	Recommendation
40 (82)	Se recomienda realizar PCR múltiple anidada en todos los pacientes con neumonía grave, SDRA, sepsis o choque séptico.para evaluar diagnóstico diferencial de SARS- CoV-2/COVID-19 e identificar coinfecciones virales o bacterianas (Fuerte a favor)
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Diagnostics:Examination for influenza and/or other pathogens responsible for upper respiratory tract infections
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Diagnostics: In case of persistent fever >38°C, perform blood cultures test
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Diagnostics: · Examination for influenza and/or other pathogens responsible for upper respiratory tract infections.
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Diagnostics: Examination for influenza and/or other pathogens responsible for upper respiratory tract infections.
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Diagnostics: In case of persistent fever >38°C, perform blood cultures test
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Imaging: Echocardiography indicated in case of suspected acute heart failure due to respiratory failure
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Diagnostics: Examination for influenza and/or other pathogens responsible for upper respiratory tract infections.
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Diagnostics: In case of persistent fever >38°C, perform blood cultures test
103 (93)	Indicaciones de realización de broncoscopia: 1. Cuando hay una sospecha diagnóstica alternativa o a˜nadida que tenga relevancia clínica o terapéutica para el paciente. Esta circunstancia puede ocurrir especialmente en pacientes inmunocomprometidos.
114 (96)	The indication for bronchoscopy in the case of confirmed or suspected COVID-19 disease should be made very strict and should only be considered if: Diagnostic reason: Other diagnoses are considered that would significantly change clinical management.
130 (103)	If a patient with initial stability or with chronic symptoms over few days develop new onset clinical deterioration and chest radiological abnormalities suspected of bacterial superinfection, two sets of blood cultures and sputum Gram stain and culture should be considered.
171 (123)	Chest CT is rarely indicated in the initial phase of the disease unless other pathology, requiring CT, is suspected.
171 (123)	Consider: ● Pharyngeal swab for Influenza A/B and RS virus PCR: ● Pharyngeal swab for Mycoplasma/Chlamydia PCR
247 (114)	De manera breve hay que señalar que en buena medicina hay que considerar solicitar pruebas para el diagnóstico de influenza A y B, cultivo de expectoración cuando sea posible, hemocultivos, procalcitonina, lactato, dímero D, interleucina 6 e, incluso, algunos autores consideran solicitar pruebas para el diagnóstico de tuberculosis
	Government agencies
44 (84)	Culturas de sangue e escarro: Recomenda-se coletar amostras de sangue e escarro para cultura em todos os pacientes para descartar outras causas de infecção do trato respiratório inferior, especialmente em pacientes com histórico epidemiológico atípico.
88 (89)	En caso de neumonía y, por su implicación en el manejo, conviene considerar: - Realización de cultivos de muestras de vías respiratorias que ayuden a descartar otras causas de infección, coinfección o sobreinfección, como PCR para virus respiratorios comunes (incluida la gripe) o cultivos bacterianos y/o fúngicos.

119 (97)	To carry out differential diagnosis in all patients, studies are carried out with the use of IASC for causative agents of respiratory infections: influenza viruses type A and B, respiratory syncytial virus, parainfluenza viruses, rhinoviruses, adenoviruses, human metapneumoviruses, MERS-CoV. It is recommended to conduct microbiological diagnostics (culture) and / or PCR diagnostics for Streptococcus pneumoniae, Haemophilus influenzae type B, Legionella pneumophila, as well as other pathogens of bacterial respiratory infections of the lower respiratory tract
120 (98)	Dual infections with other respiratory infections (viral, bacterial and fungal) have been found in COVID-19 patients. Depending on local epidemiology and clinical symptoms, test for other potential etiologies (e.g. Influenza, other respiratory viruses, malaria, dengue fever, typhoid fever) as appropriate.
120 (98)	For COVID-19 patients with severe disease, also collect blood cultures, ideally prior to initiation of antimicrobial therapy
129 (102)	2. For differential diagnostic bacteriological examination:- Collection of several blood cultures (each aerobic + anaerobic) on E + R; - Sputum, BAL, tracheobronchial secretion on E + R; - Urine diagnostics on pneumococci, legionella
222 (80)	Collect blood cultures for bacteria where clinically indicated based on the presentingsyndrome, for example, sepsis or severe pneumonia, ideally before antimicrobial therapy. Donot delay antimicrobial therapy to collect blood cultures. Blood cultures should be done inchildren if clinically indicated.
231 (117)	As the role of co-infections is not yet clearly understood, identification of a conventional respiratory pathogen does not rule out SARS-CoV-2 infection.
231 (117)	Patients with severe illness should also undergo routinely available laboratory tests as clinically indicated according to the clinical guidance above and local management guidelines for community-acquired pneumonia to determine the presence of other potential primary aetiologies of pneumonia (e.g Streptococcus pneumoniae, Haemophilus
ID document	**Recommendation**
	influenzae, Mycoplasma pneumoniae, Legionella pneumophila, Mycobacterium tuberculosis and respiratory viruses including influenza, and respiratory syncytial virus (RSV)).

Symptomatic illness: Staging/grading severity

ID document	Recommendation
	WHO-CDCs
164(111)	For patients with suspected or confirmed COVID-19, not currently hospitalized and with mild symptoms, WHO suggests using chest imaging in addition to clinical and laboratory assessment to decide on hospital admission versus home discharge (Conditional recommendation, based on expert opinion)
164(111)	For patients with suspected or confirmed COVID-19, not currently hospitalized and with moderate to severe symptoms, WHO suggests using chest imaging in addition to clinical and laboratory assessment to decide on regular ward admission versus intensive care unit (ICU) admission (Conditional recommendation, based on very low certainty evidence)
	Scientific Societies
40 (82)	En pacientes con alteración de signos vitales, de la oxigenación y/o con factores de riesgo, se recomienda la realización de hemograma, Proteína c reactiva, enzimas hepáticas, bilirrubinas, función renal, LDH, CK, troponinas, EKG y dímero D con sospecha de infección o infección confirmada por SARS-CoV-2 para definir criterio de gravedad y definir hospitalización.(Fuerte a favor)
40 (82)	Punto de buena práctica: Se considera que la presencia de opacidades parenquimatosas (vidrio esmerilado / consolidación) de distribución periférica y predominio basal pueden sugerir el diagnóstico de neumonía por COVID-19, en un contexto clínico apropiado.
40 (82)	Se considera que la presencia de anormalidad en el hemograma (Linfocitos < 800, Neutrófilos >10.000, plaquetas < 150.000) linfopenia, neutrofilia o trombocitopenia al ingreso del paciente con sospecha e infección confirmada por SARS-CoV-2 en pacientes con factores de riesgo permite definir hospitalización (Fuerte a favor)
40 (82)	Se considera que la presencia de anormalidad en la función renal al ingreso del paciente con sospecha e infección confirmada por SARS-CoV-2/COVID-19 que tengan factores de riesgo permite definir hospitalización.(Fuerte a favor)
40 (82)	Se recomienda en los pacientes con sospecha clínica de neumonía por SARS-CoV-2/COVID-19 realizar una radiografía portátil de tórax.(Fuerte a favor)
40 (82)	Se recomienda evitar el uso rutinario de procalcitonina para evaluar severidad ni para definir inicio de antibioticoterapia ante la sospecha de coinfección bacteriana (Fuerte en contra)
40 (82)	Se recomienda no solicitar exámenes de apoyo en ausencia de alteración de signos vitales o de la oxigenación y sin factores de riesgo.(Fuerte en contra)

40 (82)	Se recomienda solicitar gases arteriales al ingreso al servicio de hospitalización y en el seguimiento del paciente con infección por SARS-CoV-2 en el contexto de índices de oxigenación y score de severidad (CURB 65, qSOFA, SOFA).(Fuerte a favor)
40 (82)	Se sugiere que un nivel de LDH > 350 ui/L en paciente con sospecha o infección confirmada por SARS-CoV-2 con factores de riesgo permite definir necesidad de hospitalización (Débil a favor)
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Imaging:Lung X-ray is the basis for identification of lung lesions and can be performed with the use of portable devices.
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Imaging: in case of persistent coughing and/or symptoms indicating lung occupation, a routine lung X-ray or lung CT scan is advised.
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Imaging:Computer tomography (without contrast) has a high sensitivity to detect interstitial lesions, valuable together with the assessment of the acid-base balance in predicting deterioration.
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Imaging:Lung Xray is the basis for identification of lung lesions and can be performed with the use of portable devices.
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Imaging:Pulmonary ultrasound can be an easy method for early detection of pneumonia directly at the Admissions Room.
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Imaging: Computer tomography (without contrast) has a high sensitivity in detecting interstitial lesions and evaluating their dynamics. It should be performed for every patient at this stage of the disease. Contrast radiology should only be performed in case of differentiation (e.g. with pulmonary embolism).
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Imaging: Pulmonary ultrasound can be an easy method for early detection of pneumonia directly at the Admissions Room.
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Imaging: Computer tomography (without contrast) has a high sensitivity in detecting interstitial lesions and evaluating their dynamics. It should be performed for every patient at this stage of the disease. Contrast radiology should only be performed in case of differentiation (e.g. with pulmonary embolism).
ID document	**Recommendation**
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Imaging: Echocardiography indicated in case of suspected acute heart failure due to respiratory failure
98 (91)	Imaging is indicated for patients with COVID-19 and evidence of worsening respiratory status (Scenarios 1, 2, and 3)
98 (91)	Imaging is indicated for patients with moderate to severe features of COVID-19 regardless of COVID-19 test results (Scenarios 2 and 3)
98 (91)	In a resource constrained environment where access to CT is limited, CXR may be preferred for patients with COVID-19 unless features of respiratory worsening warrant the use of CT (Scenarios 2 and 3)
130 (103)	Chest CT, low dose non-contrast,may be helpful in making the diagnosis/follow-up and can also reveal presence of complications like ARDS and pleural effusions. No finding can completely rule in or rule out the possibility of COVID-19 pneumonia.
151 (107)	QUESTION 3: Is there a place for the thoracic CT scan in a symptomatic patient suspected of Covid-19 or proven? UNCHANGED RECOMMENDATIONS The chest scanner is the only recommended imaging test, to be performed only for moderate to severe respiratory symptoms. The use of a systematic angiogram is not validated. In pauci-symptomatic patients without the need for oxygenation and without risk factors (obesity, hypertension, immunosuppression), there is no place for chest imaging.
153 (108)	CT allows evaluation of disease extent at baseline, which may help to predict a poor outcome and the need for ventilation. If supplementary oxygen is needed in patients with limited disease extension, other diagnoses, especially pulmonary embolism, should be suspected and an additional contrastenhanced CT acquisition may be indicated.
153 (108)	CT allows for the identification of signs of pulmonary oedema, raising the suspicion of COVID-19 related myocarditis, in which case troponin measurement and echocardiography may be required.
153 (108)	CT is indicated after the clinical evaluation of patients with respiratory symptoms such as dyspnoea and desaturation, the degree of severity justifying investigation being left to clinical judgement and depending on local resources.
159 (110)	If a patient with an initial negative RT-PCR result returns to the emergency department with worsening symptoms, a chest X-ray may be useful to detect COVID-19 pneumonia and complications. As the number of days increases from initial symptom onset, the chest radiograph has an increased likelihood of being abnormal
159 (110)	In patients presenting with moderate to severe symptoms, CXR, if available, may be useful in addition to clinical judgment to determine whether there is a need for additional assessment in a hospital setting.

159 (110)	Similar to CXR, CT should only be performed if the results are expected to influence patient management (…) The following is a list of potential indications or clinical scenarios for which CT chest may be warranted (Figure 5). It is not meant to be prescriptive.: a) Detection of Intrathoracic Complications; b) Immunosuppressed or High-Risk Patients With Suspected Respiratory Infection and a Negative Chest Radiograph; c) Initial Negative RT-PCR Result but Ongoing High Clinical Suspicion or Clinical Deterioration After a Normal Chest Radiograph; d)
	Governmental agencies
44 (84)	Raio-X do tórax: Recomenda-se solicitar radiografia de tórax em todos os pacientes com suspeita de pneumonia. Infiltrados pulmonares unilaterais são encontrados em 25% dos pacientes e infiltrados pulmonares bilaterais em 75% dos pacientes (17,73).
44 (84)	Tomografia computadorizada (TC) do tórax: • Recomenda-se solicitar uma tomografia computadorizada do tórax em todos aqueles pacientes com acometimento do trato respiratório inferior (Figura 1). Achados anormais de tomografia computadorizada do tórax foram relatados em até 97% dos pacientes (17,62–64).
88 (89)	Se recomienda una valoración analítica completa para valorar la función de órganos y detectar sepsis: - Hemograma y Hemostasia. - Bioquímica que incluya función renal, hepática. - Si se sospecha insuficiencia respiratoria, gasometría arterial y lactato.
119 (97)	It is recommended to conduct radiation examination for patients with moderate, severe and extremely severe ARI for the purpose of triage, assessing the nature of changes in the chest cavity and determining the prognosis of the disease: - performing CT of the lungs without intravenous contrast enhancement in inpatient conditions or in outpatient settings - with indications for hospitalization; - performing RG of the lungs in two projections, if CT is not possible in a given medical organization / clinical situation.
140 (105)	CT is better than Chest Xray for diagnosis early. Bilateral pneumonia is a common finding of COVID-19 pneumonia

Symptomatic illness: Monitoring

ID document	Recommendation
	WHO-CDCs
164 (111)	For patients with suspected or confirmed COVID-19, currently hospitalized and with moderate to severe symptoms, WHO suggests using chest imaging in addition to clinical and laboratory assessment to inform the therapeutic management (Conditional recommendation, based on very low certainty evidence)
	Scientific Societies
40 (82)	Se sugiere la realización de TC de tórax simple para la valoración de pacientes con curso clínico no esperado, para detectar complicaciones y se considera que debería implicar cambios en la conducta terapéutica. (Débil a favor)
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Clinical monitoring in the place of isolation: · Physician advice at least once a day (can be by phone),· General clinical evaluation and temperature measurement by nurse at least twice a day.
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Virological monitoring: If the first control test is negative, a second control test is carried out after at least 24 hours.
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Virological monitoring: · Nose and throat swab testing for SARSCoV-2 with the use of RT PCR after at least 14 days from the onset of symptoms, and in asymptomatic patients after at least 14 days from collecting the swab signalling initial infection.
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Clinical monitoring: Clinical evaluation and assessment of vital signs (temperature, blood pressure, heart rate, respiratory count, Glasgow scale) 2-3 times a day
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Clinical monitoring: Evaluation of the acid-base balance, especially on day 5-7 after the occurrence of symptoms or in case of a sudden deterioration of the clinical condition.
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Clinical monitoring: Pulse oximetry 2-3 times a day; the objective is to maintain SpO2 >94%.
91 (90)	5. Clinical image: 5.2. Stable case with respiratory and/or systemic symptoms (MEWS score <3, Table 1): Virological monitoring: as per asymptomatic and mild conditions
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Clinical and laboratory monitoring:Close clinical monitoring and evaluation of vital signs (temperature, blood pressure, heart rate, respiratory count, Glasgow scale, SpO2)

91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Clinical and laboratory monitoring:Evaluation of the acid-base balance, especially on day 5-7 after the occurrence of symptoms or in case of a sudden deterioration of the clinical condition.
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Clinical and laboratory monitoring:Monitoring of D-dimers, ferritin, fibrinogen, C-reactive protein, triacylglycerol, lactate dehydrogenase, IL6.
91 (90)	5. Clinical image: 5.3. Patient with respiratory failure, clinically unstable: Virological monitoring: as per asymptomatic and mild conditions
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Clinical and laboratory monitoring: Evaluation of the acid-base balance, especially on day 5-7 after the occurrence of symptoms or in case of a sudden deterioration of the clinical condition.
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Clinical and laboratory monitoring: Monitoring of D-dimers, ferritin, fibrinogen, C-reactive protein, triacylglycerol, lactate dehydrogenase, IL6.
91 (90)	5. Clinical image: 5.4. Patient in critical condition (ARDS)(MEWS classification: score>4, table 1): Clinical and laboratory monitoring: Nose and throat swab testing for SARS-CoV-2 with RT PCR technique until negative.
98 (91)	Daily chest radiographs are NOT indicated in stable intubated patients with COVID-19
103 (93)	Broncoscopia: En pacientes hospitalizados con COVID-19 confirmado, se pueden recoger muestras repetidas de vía aérea superior e inferior para demostrar el aclaramiento viral, cuya frecuencia dependerá de las características y los recursos de la epidemia local10
103 (93)	Indicaciones de realización de broncoscopia: 2. Si se presenta una atelectasia lobar o pulmonar total. 3. Ante una hemoptisis crítica con inestabilidad hemodinámica que precise maniobras endoscópicas para controlar la hemorragia. 4. Para la extracción de un cuerpo extra˜no. 5. Para el tratamiento de una obstrucción, de origen benigno o maligno, de la vía aérea central grave que sea sintomática o dificulte el manejo terapéutico del paciente. 6. Como ayuda a las medidas de soporte ventilatorio, como son la necesidad de una intubación endotraqueal o la realización de una traqueotomía percutánea y el manejo de sus complicaciones. 7. La ocupación pleural sintomática, bien por aire —como complicación por iatrogenia o espontánea— o por líquido pleural. 8. El resto de las indicaciones, cuando no exista repercusión clínica ni dificulte o imposibilite el manejo terapéutico del paciente, se debe de posponer a que el paciente esté libre de la enfermedad.
130 (103)	ECG is required for all hospitalized patients to measure baseline QT interval as some subjects may require drugs like chloroquine and/or azithromycin which may cause QT interval prolongation and cardiovascular events.
ID document	**Recommendation**
151 (107)	QUESTION 6: For which patient and with what delay should a control image be made to a patient who has had Covid19? 1 / Patient who is no longer symptomatic: 1.1 / For those who have made a "light" Covid-19 (ambulatory forms), the control scanner is not indicated. 1.2 / For those who have had a larger Covid-19 with the need for hospitalization, a chest CT scan without injection is useful, in search of a fibrotic evolution. It should not be done too early: recommendation around 3 months. This point remains to be clarified, however, because the data are non-existent. 2 / Patient who remains or becomes symptomatic again: Imaging is recommended, to be decided between non-injected CT and angiography, depending on the clinic and biology, and knowing that a threshold of D-dimers a little higher than usual can probably be tolerated in these patients.
153 (108)	Chest radiography is not sensitive for the detection of ground glass opacities, which are the main imaging features of COVID-19 pneumonia. It should be restricted to the follow-up of patients admitted to intensive care units, who are too fragile to be sent for CT
153 (108)	Chest ultrasound does not allow differentiation between bacterial and viral pneumoniae, nor between pulmonary oedema and infection. Ultrasound is used at the bedside to diagnose complications such as a pneumothorax under mechanical ventilation or pleural effusions and can help in adjusting mechanical ventilation or monitoring pulmonary fluid load.
159 (110)	Chest X-rays are useful in clinically worsening patients, but daily chest X-rays in stable patients are not necessary and may increase the risk of viral transmission6,7 to health care workers.
171 (123)	Focused lung ultrasound and general lung ultrasound (F-LUS/ LUS) is useful to monitor disease progression and to diagnose complications at the bedside with minimal exposure of disease to fellow patients and health-care personnel.
	Government agencies
119 (97)	6. Intravenous contrast enhancement at CT in patients with known / suspected viral (COVID-19) pneumonia is carried out with suspicion of diseases and pathological conditions, the diagnosis of which is impossible without the use of contrast media (PE, cancer, etc.). A sudden increase in the concentration of D-dimer in blood tests and clinical suspicion of PE are important criteria for performing CT angiopulmonography, provided that its positive result may have an impact on treatment and patient management.

119 (97)	9. Assessment of the dynamics of the course of identified pneumonia COVID-19 is carried out according to clinical indications using the following imaging methods: - optimal: performing CT examination of the lungs according to the standard protocol without intravenous contrast enhancement; - Possibly: RG in two projections in the X-ray room; - possible: performing ultrasound of the lungs (as an additional study) if it is impossible to assess the dynamics using CT and RG, subject to the availability of initial information about the true volume and cause of lung damage and trained medical personnel.
173 (112)	in cases of clinical deterioration, CT imaging is recommended to assess COVID-19 progression, secondary cardiopulmonary abnormalities such as pulmonary embolism or bacterial pneumonia attached to it, or heart failure secondary to possible COVID-19 myocardial damage

Convalescence: De-isolation

ID document	Recommendation
	WHO-CDCs
61 (86)	Guidance on discharge and ending isolation in the context of widespread community transmission: Critical infrastructure responders (e.g. heathcare workers, law enforcement, firefighters etc.). End isolation after resolution of fever for at least three days AND after eight days from the onset of symptoms have passed. Healthcare workers can return to work immediately after that, using a surgical mask during work hours until 14 days after the onset of symptoms have passed*. · If testing capacity allows, for a clinically recovered patient, two negative RT-PCR tests from respiratory specimens at 24 hours interval, at least eight days after onset of symptoms. Critical infrastructure responders, especially HCWs, should be considered a priority group for testing during the pandemic.
61 (86)	Guidance on discharge and ending isolation in the context of widespread community transmission: Family members and other categories of contacts of COVID-19 patients: This category refers to: · Partners and spouses · Family members and other persons sharing housing or taking care of COVID- 19 patients: For guidance on household care of a COVID-19 case, refer to the relevant ECDC guidance [28]. Caretakers of COVID-19 patients should self-quarantine for 14 days after last contact with sick spouse/relative. Caretakers or family members that develop symptoms in the 14-day quarantine period, should stay in home isolation for eight days after onset of symptoms AND until resolution of fever for at least three days AND clinical improvement of other symptoms, or seek medical care, if symptoms worsen.
61 (86)	Guidance on discharge and ending isolation in the context of widespread community transmission: Hospitalised suspected or confirmed COVID-19 cases: This category refers to: · Patients who are hospitalised with suspected or laboratory confirmed COVID-19 (mild, severe and critically ill) [27] · Confirmed COVID-19 patients discharged early, due

ID document	Recommendation
	to clinical improvement. If testing and hospitalisation capacity allows, · For a clinically recovered patient, two negative RT-PCR tests from respiratory specimens at 24 hours interval at least eight days after onset of symptoms [4] If limited/no testing capacity, · Patient can be discharged based on clinical criteria, per evaluation of the treating physician, AND · the discharged patient should self-isolate at home or in a safe place until resolution of fever for at least three days and clinical improvement of other symptoms AND · until eight days after the onset of symptoms for mild cases or for 14 days (severe cases) if these criteria have not been fulfilled in hospital. · Follow-up visits, or monitoring via phone or other electronic device can be considered. · These patients should be prioritised for testing.
61 (86)	Guidance on discharge and ending isolation in the context of widespread community transmission: Immunocompromised patients: Self-isolation should last until all of the following criteria are fulfilled: at least 14 days after symptom onset AND resolution of fever for at least three days AND clinical improvement of symptoms other than fever.
61 (86)	Guidance on discharge and ending isolation in the context of widespread community transmission: Mild suspected or confirmed COVID-19 cases: This category refers to: · Confirmed COVID-19 patients never hospitalised due to mild symptoms or asymptomatic presentation · Suspected or probable COVID-19 patients in the community, who adhered to the stay-at-home advice by the national authorities. These patients can end self-isolation eight days after the onset of symptoms AND resolution of fever AND clinical improvement of other symptoms for at least for three days.
131 (104)	Criteria for Recovery and Discontinuing Isolation: For symptomatic confirmed patients: At least 3 days have passed since recovery (resolution of the fever without using fever reducing medication and respiratory symptom resolution (cough and SOB) AND followed by 2 negative respiratory samples ≥ 24 hours apart.

131 (104)	Criteria for Recovery and Discontinuing Isolation: For symptomatic confirmed patients: If PCR test not feasible, resolution of the fever without using fever reducing medication and respiratory symptom resolution for at least 3 days AND at least 10 days have passed since symptom first appeared (exclude HCWs and sever cases from this approach).
149 (106)	Criteria for discharging patients from isolation (i.e., discontinuing transmission-based precautions) without requiring retesting: • For symptomatic patients: 10 days after symptom onset, plus at least 3 additional days without symptoms (including without feverii and without respiratory symptoms) • For asymptomatic casesiv: 10 days after positive test for SARS-CoV-2. Countries can choose to continue to use a laboratory testing algorithm as part of the release criteria in (a subset of) infected individuals if their risk assessment gives reason to do so.
164 (111)	For hospitalized patients with COVID-19 whose symptoms are resolved, WHO suggests not using chest imaging in addition to clinical and/or laboratory assessment to inform the decision regarding discharge (Conditional recommendation, based on expert opinion)
	Scientific Societies
39 (81)	Condiciones para el alta: a) Clínica: Mejoría del estado general: i. Evolución sin fiebre por al menos 48 horas. ii. Gasometría normal, y sin necesidad de 02 adicional; b) Resultados de Laboratorio: (en normalización si previamente estuvieron alterados) i. Recuento de leucocitos y linfocitos ii. Recuento de plaquetas iii. CK iv. Función hepática v. Sodio plasmático vi. Proteína C reactiva. vii. Radiografía de tórax: mejoría de imágenes radiológicas
39 (81)	Seguimiento post alta de casos: i. Indicar control de temperatura dos veces al día. Si se presenta alza en más de dos mediciones reportar inmediatamente al centro donde estuvo hospitalizado.
39 (81)	Seguimiento post alta de casos: iii. Si el paciente persiste con tos en su domicilio deberá usar mascarilla quirúrgica hasta la resolución del síntoma o en su defecto sus contactos domiciliarios.
39 (81)	Seguimiento post alta de casos: iv. Control a los 7 días de alta con radiografía de tórax, hemograma y exámenes de laboratorio si se mantuvo alguno alterado al alta. De acuerdo con condición del paciente indicar nuevos exámenes en 7 días.
40 (82)	Se recomienda para pacientes inmunocomprometidos, hemato-oncológicos, y receptores y donantes de trasplantes, mantener el aislamiento de pacientes infectados con SARS-CoV-2/COVID-19 hasta la obtención de dos (2) RTPCR para SARS-CoV-2/COVID-19 negativas consecutivas. (Fuerte a favor)
40 (82)	Se recomienda que los pacientes con infección SARSCoV- 2/ COVID-19 pueden ser dados de alta y continuar aislamiento en casa si cumplen los siguientes criterios: ► Ausencia de fiebre >48 horas sin antipiréticos y ► Mejoría clínica de los síntomas respiratorios y la hipoxemia y ► No requiere hospitalización por otras patologías y ► Tolerancia a la vía oral (Fuerte a favor)
40 (82)	Se sugiere, en caso de disponibilidad, mantener el aislamiento de pacientes infectados con SARS-CoV-2/COVID- 19 hasta la obtención de una (1) RT-PCR para SARSCoV-2/COVID-19 negativa.(Fuerte a favor)
40 (82)	Si no es posible controlar con RT-PCR, se recomienda extender el aislamiento de pacientes infectados con SARS-CoV2/COVID-19 confirmados hasta completar el periodo máximo registrado de diseminación viral de 14 a 28 días, de acuerdo con la gravedad de los síntomas y la resolución de estos. (Débil a favor)
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Virological monitoring: After a double negative result, the patient can be released from isolation or hospitalisation if his/her clinical condition permits.
91 (90)	5. Clinical image: 5.1. Asymptomatic or mild type: Virological monitoring: If any of the two control results is positive, the test should be repeated at intervals of 7 days until negative.
98 (91)	CT is indicated in patients with functional impairment and/or hypoxemia after recovery from COVID-19

ID document	Recommendation
123 (100)	SEGUIMIENTO HOSPITALARIO Y VALORACIÓN DE ALTA: Evaluar resultados de hisopado nasofaríngeo: 1. Resultado positivo: mantener hospitalización y manejo de COVID-19 establecido. 2. Resultado negativo: evaluar según sospecha clínica de infección COVID-19: · Sospecha clínica alta: repetir hisopado nasofaríngeo. · Sospecha clínica baja: suspender terapia para COVID-19 y valorar posibilidad de alta precoz. 3. Segundo resultado negativo: ampliar evaluación sobre todo en pacientes ingresados en cuidados críticos: · Repetir tomografía de tórax. · Evaluar la posibilidad de toma de tercera muestra por aspirado bronquial o lavado broncoalveolar de ser necesaria la confirmación diagnóstica para cambio de conducta terapéutica.
123 (100)	Valorar Alta hospitalaria: Considerar los siguientes parámetros previos al Alta: 1. Mejora clínica evidente. 2. Ausencia de fiebre por más de 72 horas. 3. Retiro completo de soporte ventilatorio. 4. Baja o ninguna necesidad de soporte oxigenatorio. 5. Ausencia de necesidad de control de comorbilidades.
224 (78)	A patient with COVID-19 infection with mild symptoms may be cared for at home. Home isolation iscontinued for at least 14 days. If the patient still has symptoms after these 14 days, he/she should remainat home until he/she has been asymptomatic for at least 2 days (48 hours). No control testing isnecessary.
224 (78)	If the patient is discharged directly to home , home isolation is continued until the patient has beenasymptomatic for 2 days (48 hours) and at least 14 days have passed from the onset of symptoms.

224 (78)	If the patient is discharged to another care facility for further care or rehabilitation , control testing is notnecessary, provided that the patient has been asymptomatic for 2 days (48 hours) and at least 14 dayshave passed from the onset of symptoms. If the patient is transferred before 14 days have passed fromthe symptom onset, the unit providing further care is informed about the continuation of isolation andprecautionary measures.
224 (78)	In a convalescent patient, the end of infectiousness can be ensured by control specimens or by allowing anadequately long time to pass after clinical recovery.
224 (78)	In a hospital ward, isolation and precautionary measures are continued throughout the whole hospitalstay. If needed, discontinuing isolation and precautionary measures may be considered if the patient hasnot had symptoms fitting COVID-19 infection for 2 days (48 hours) and at least 14 days have passed fromthe onset of symptoms.
	Governmental agencies
48 (85)	COVID-19 real-time RT-PCR may be performed for the purposes of: Deciding on the release of confirmed COVID-19 patients from quarantine
84 (88)	1.Discharge criteria: 1) Body temperature is back to normal for more than three days; 2) Respiratory symptoms improve obviously; 3) Pulmonary imaging shows obvious absorption of inflammation, 4) Nuclei acid tests negative twice consecutively on respiratory tract samples such as sputum and nasopharyngeal swabs (sampling interval being at least 24 hours). Those who meet the above criteria can be discharged.
88 (89)	Los casos probables y confirmados que han requerido ingreso hospitalario podrán recibir el alta si su situación clínica lo permite aunque su PCR siga siendo positiva, pero deberán mantener aislamiento domiciliario con monitorización de su situación clínica al menos 14 días desde el alta hospitalaria o hasta que se obtenga un resultado de laboratorio negativo. Los casos ingresados que al alta tengan un resultado de laboratorio negativo podrán ir a su domicilio sin aislamiento.
140 (105)	Discharge criteria: 1. Resolution of fever without the use of fever-reducing medications e.g paracetamol for at least 3 (three) days and 2. Significant improvement in the respiratory symptoms (e.g., cough, shortness of breath) for 3 days, and 3. After discharge, continue home or facility isolation for the duration which extends from the day of symptom onset to 21th day for hospitalized patients. 4. For severe or critical patients – physician's discretion
145 (122)	Si es caso sospechoso o confirmado de COVID 19, se encuentra en grupo de riesgo no tiene síntomas/signos de gravedad, se recomienda solicitar servicios médicos a través del 1-7-1 o 9-1-1, aislamiento domiciliario por 14 días posteriores a la resolución de los síntomas o hasta obtener dos pruebas negativas tomadas con 24 horas de diferencia, en una vivienda con ambiente bien ventilado y tratamiento sintomático a base de paracetamol evitando AINES (1,4), manteniendo estrictas medidas de bioseguridad, monitoreo de posible deterioro clínico y exploración exhaustiva de los factores de riesgo.
145 (122)	Si es caso sospechoso o confirmado de COVID-19, no se encuentra en grupo de riesgo y no tiene síntomas/signos de gravedad, se recomienda aislamiento domiciliario por 14 días posteriores a la resolución de los síntomas o hasta obtener dos pruebas negativas tomadas con 24 horas de diferencia, en una vivienda con ambiente bien ventilado y tratamiento sintomático a base de paracetamol evitando AINES (1,4), manteniendo estrictas medidas de bioseguridad y monitoreo clínico.
174 (113)	Consequently, the HCSP recommends the lifting of containment: 1. In the general population: • From the 8th day from the onset of symptoms; • AND at least 48 hours from the disappearance of the fever verified by a rectal temperature below 37.8 ° C (measured with a thermometer twice a day, and in the absence of any antipyretic intake for at least 12 hours) ; • AND at least 48 hours from the disappearance of a possible dyspnea (respiratory rate less than 22 / min at rest); The disappearance of the cough is not a good criterion since an irritant cough may persist beyond healing. Within 7 days of the lifting of containment, it is recommended to avoid close contact with persons at risk of severe form.
231 (117)	It is not necessary to repeat PCR testing in order to de-isolate a patient. Patients can be de-isolated 14 days after the onset of their symptoms (in mild cases), 14 days after achieving clinical stability (in severe cases), or 14 days after the positive test (in asymptomatic cases).
232 (83)	Asymptomatic patients can be de-isolated 10 days after their test.
ID document	**Recommendation**
232 (83)	Hospitalised patients with moderate-severe disease (who require hospitalisation due to Covid- 19) can be de-isolated 10 days after achievement of clinical stability (i.e. from when they are not requiring supplemental oxygen and are otherwise clinically stable).
232 (83)	Repeat PCR testing is NOT required in order to de-isolate a patient and is not recommended.
232 (83)	Symptomatic patients with mild disease (not requiring hospitalisation for Covid-19) can be deisolated 10 days after the onset of their symptoms, provided their fever has resolved and their other symptoms are improving.

Other recommendations

ID document	Recommendation
	WHO-CDCs
69 (87)	WHO does not currently recommend the use of antigendetecting rapid diagnostic tests for patient care, although research into their performance and potential diagnostic utility is highly encouraged.
69 (87)	WHO does not recommend the use of antibody-detecting rapid diagnostic tests for patient care but encourages the continuation of work to establish their usefulness in disease surveillance and epidemiologic research
226 (118)	2. Appropriate scenarios for use of COVID-19 Ag-RDTs include the following: i) To respond to suspected outbreaks of COVID-19 in remote settings, institutions and semi-closed communities where NAAT is not immediately available. Positive Ag-RDT results from multiple suspects is highly suggestive of a COVID-19 outbreak and would allow for early implementation of infection control measures. Where possible, all samples giving positive Ag-RDT results (or at least a subset) should be transported to laboratories with NAAT capability for confirmatory testing.
226 (118)	2. Appropriate scenarios for use of COVID-19 Ag-RDTs include the following: iii) To monitor trends in disease incidence in communities, and particularly among essential workers and health workers during outbreaks or in regions of widespread community transmission where the positive predictive value and negative predictive value of an Ag-RDT result is sufficient to enable effective infection control.2
226 (118)	5. Use of Ag-RDTs is not recommended in settings or populations with low expected prevalence of disease (e.g. screening at points of entry, blood donation, elective surgery), especially where confirmatory testing by NAAT is not readily available. Such use will not be possible until there are more data from high-quality studies confirming high specificity (>99%) of one or more of the commercialized Ag-RDT test kits.
226 (118)	Situations where SARS-CoV-2 Ag-RDTs should not be used, based on currently available information: In individuals without symptoms unless the person is a contact of a confirmed case; Where there are zero or only sporadic cases; Appropriate biosafety and infection prevention and control measures (IPC) are lacking; Management of the patient does not change based on the result of the test; For airport or border screening at points of entry; In screening prior to blood donation
229 (77)	Serological assays that detect antibodies produced by the human body in response to infection with the SARS-CoV-2 can be useful in various settings. For example, serosurveillance studies can be used to support the investigation of an ongoing outbreak and to support the retrospective assessment of the attack rate or the size of an outbreak
255 (120)	Rapid antigen tests can be used for screening testing in high-risk congregate settings in which repeat testing could quickly identify persons with a SARS-CoV-2 infection to inform infection prevention and control measures, thus preventing transmission. In this case, there may be value in providing immediate results with antigen tests even though they may have lower sensitivity than RT-PCR tests, especially in settings where a rapid turnaround time is required.
	Scientific Societies
40 (82)	Se sugiere realizar pruebas serológicas IgG/IgM siguiendo los patrones de seroconversión conocidos hasta el momento, al menos cada 4 semanas en aquellas personas con resultado inicial negativo y según evaluación individual de riesgo.(Débil a favor)
102 (92)	The IDSA panel suggests against SARS-CoV-2 RNA testing in asymptomatic individuals without a known exposure to COVID-19 who are undergoing a time-sensitive aerosol generating procedure (e.g., bronchoscopy) when PPE is available (conditional recommendation, very low certainty of evidence).
102 (92)	The IDSA panel suggests SARS-CoV-2 RNA testing in asymptomatic individuals without a known exposure to COVID-19 who are undergoing a time-sensitive aerosol generating procedure (e.g., bronchoscopy) when PPE is limited, and testing is available (conditional recommendation, very low certainty of evidence).
	Governmental agencies
48 (85)	Other specimens: If necessary, additional specimens, such as blood, urine, and feces, may be collected on consultation with the physician taking care of the patient and a laboratory physician. However, the diagnostic value and clinical utility of these specimens remain unclear. The collection of blood specimens may be considered for public health purposes, such as serological surveys
119 (97)	Testing for antibodies to the SARS-Cov-2 virus is recommended for use in the following cases: - as an additional method for diagnosing an acute infection (taking into account the seronegative period) or when it is impossible to study smears by the method of amplification of nucleic acids, including during hospitalization in a hospital for somatic pathology; - to identify individuals with an asymptomatic form of infection; - to establish the fact of a previous infection when examining risk groups and conducting a mass survey of the population to assess the level of population immunity; - for the selection of potential donors of immunocompetent plasma.
215 (99)	The Panel Recommends against the use of serologic testing to determine whether a person is immune toSARS-CoV-2 infection (AIII).
232 (83)	We do not currently recommend point of care antigen-based tests, due to concerns about poor sensitivity and specificity

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