

有關「冠病毒肺炎」快速測試的常見問題

問 1. 現在有多少種有關「冠病毒肺炎」的測試？那種測試最為有效？

答 1. 由香港大學醫學院微生物學系發展的測試有兩種，包括：

1. 「病毒基因測試」(即「快速測試」) - 「病毒基因測試」所測試的是病人身上是否帶有冠狀病毒，由於病人身上的病毒數量於病發後的一至兩日最多，所以「病毒基因測試」適用於病發初期(病發後的一至兩日)。
2. 「病毒抗體測試」 - 「病毒抗體測試」所測試的是病人有否產生冠狀病毒的抗體。患者體內對病毒產生的抗體數量則於病發後的七至十四日為最多，因而「病毒抗體測試」於病發後期(病發後的七至十四日)最為有效。

問 2. 有報導指曾染上「冠病毒肺炎」的病人在「快速測試」卻中呈陰性反應，出院後才被証實染病，這是否表示「快速測試」並不準確？陽性反應又會否有錯誤的情況？

答 2. 「快速測試」的目的為測試病人有否感染冠狀病毒，如病人在有關測試中呈陽性反應，肯定該病人已受冠狀病毒的感染。

「快速測試」並不是診斷「冠病毒肺炎」的單一指標，斷症必須要配合臨床觀察及其他測試。現時的「快速測試」大多數以病人的鼻咽分泌物作為樣本，該等分泌物所含的病毒數目在病發期間會有不同，一般在病發的一至兩日後，病毒會增至最多的數目，若在抽取樣本時病人鼻咽分泌物所含病毒數目太少，或於抽取樣本時未能深入鼻咽，因而所取得的不是鼻咽分泌物，在這些情況下，「快速測試」的結果將有所偏差，改善這些錯誤的未來方向包括：

1. 在不同時間於同一病人身上抽取多次樣本以作比較，這跟其他的細菌測試，如測試痰涎內的肺結核菌或測試糞便裡的大腸桿菌的原則是一樣的，即是要以同一病人的多個不同時間的樣本作測試來提高獲得準確的陽性反應的機會；
2. 由於已發現「冠病毒肺炎」病人的糞便、小便及血清內均含有病毒，所以病人的糞便、小便或血清亦可作為測試的樣本，減低抽取樣本過程中所引致的偏差。

問 3. 如果我曾與「冠病毒肺炎」患者有緊密接觸，我可否進行測試？測試又可於什麼地方進行？

答 3. 曾與「冠病毒肺炎」患者有緊密接觸的人士(緊密接觸包括「與患者同住」、「曾經照顧患者」或「曾經接觸患者的分泌物」),應立即看醫生,並由醫生診斷及決定有否需要作「快速測試」。在一般的情況下,醫生大多建議發燒達 38°C 兩日,並曾與「冠病毒肺炎」患者有緊密接觸的人士進行「快速測試」,但最終決定應以醫生的臨床決定為準。

懷疑染上「冠病毒肺炎」的人士,在往看私家或公立醫生後,將被轉介往醫管局轄下的醫院,如主診醫生認為該患者有必要進行「快速測試」,會為病人抽取樣本,並將樣本送往港大/瑪麗醫院、衛生署或其他醫管局轄下有進行測試的醫院,「快速測試」一般可於八小時內得出結果。

問 4. 我已持續發燒達 38°C 兩日,我是否應立即進行「快速測試」?

答 4. 如果你已發燒達 38°C 兩日,你應立即去看醫生,並盡量將自己的其他病徵,以及曾接觸病患者的可能性告訴醫生,由醫生根據臨床觀察決定有否需要作「快速測試」。

問 5. 一般相信,及早治療可治癒「冠病毒肺炎」的比率非常高,請問「快速測試」可否及早確定患有「冠病毒肺炎」,並進行治療?

答 5. 診斷「冠病毒肺炎」必須以臨床觀察,配合「快速測試」及「抗體測試」。對於有明顯病徵,並曾與「冠病毒肺炎」患者有緊密接觸的病人,醫生不一定需要先以「快速測試」確定病人是否感染病毒,亦可施行治療;但對經「快速測試」確定感染冠狀病毒的病人,醫生可提早使用針對性的治療。

問 6. 我是一名証實患有「冠病毒肺炎」的病人,現時病情已好轉,並準備出院回家,卻擔心仍然帶菌而把病毒傳染給家人,請問「快速測試」可否確定我仍否帶有該病毒?

答 6. 根據「肺結核病」的經驗,在病人三個連續的痰涎樣本中不能驗出病菌,病人的傳染力已非常低,並可出院。理論上,如「冠病毒肺炎」的病人曾於病發初期的「快速測試」中呈陽性反應,病情好轉後的樣本在「快速測試」中又呈陰性反應,其體內病毒的數目應已降至極低水平,其傳染力應亦已降低,「快速測試」應可用作確定該「冠病毒肺炎」病人於痊癒後是否仍然帶有病毒,但由於現時已進行的「快速測試」數目不多,故仍然需要作進一步研究並累積數據來確立此用途。

問 7. 「快速測試」是否可於病發前確定懷疑感染人士是否已受冠狀病毒感染？

答 7. 在潛伏期中，冠狀病毒會在受感染人士的鼻咽繁殖，在病發前一至兩日的病毒數目應可在「快速測試」中檢驗出來；以「淘大花園」事件為例，港大微生物學專家曾以「快速測試」証實十六名未病發的 E 座居民受冠狀病毒感染，衛生署因而可為該批患者提供藥物。若要為懷疑感染人士進行甄別的「快速測試」，將需要更多測試數據輔助，因此必須較長時才可利用「快速測試」作甄別用途。

“Rapid test” for Coronavirus Pneumonia (CVP)

Frequently asked questions

Q1. What are the tests available for Coronavirus Pneumonia(CVP)? Which test is more effective?

A1. There are currently two tests for CVP developed by the Department of Microbiology of the Faculty of Medicine of the University of Hong Kong. The tests are:

1. “Genetic test” (also referred as the “Rapid test”) – “Genetic test” is used to test whether the suspected patients are infected by Coronavirus. Since the virus level increases to a threshold level in 1 to 2 days after the onset of symptoms, “DNA test” is more useful in the early stage (one to two days after the onset of symptoms) of the illness.
2. “Antibody test” – “Antibody test” is used to test whether the suspected patients have any antibody of Coronavirus. The antibody level will increase to a threshold level in 7 to 14 days after the onset of symptoms, “Antibody test” is more useful in the later stage (7 to 14 days after the onset of symptoms) of the illness.

Q2. It was reported that there had been cases whereby patients, having negative results of the “Rapid test” and discharged from hospitals, were subsequently confirmed of suffering from CVP. Do these cases imply that the “Rapid test” is not reliable? Do positive results have similar errors?

A2. “Rapid test” is a molecular biological test of Coronavirus in patients’ clinical specimens. If a patient’s specimen shows a positive result, it can be confirmed that the patient is infected by Coronavirus.

“Rapid test” is not the only tool for CVP diagnosis. An accurate CVP diagnosis must be coupled with clinical observations and other laboratory tests. Currently specimens are mainly taken from patients’ nasopharyngeal aspirates. The virus level will also change during the course of the illness and it will increase to a threshold level in 1 to 2 days after the onset of symptoms. If specimens are taken when the aspirates contain very few virus particles or the specimens are taken from an area not deep enough to obtain nasopharyngeal aspirates, the “rapid test” accuracy will be seriously affected. To rectify these errors, improvements could be made on the following aspects:

1. If different specimens are taken from the same patient on different days, the test result will be more definitive. Based on the same principle for TB test on sputum specimens and E-Coli test on stool specimens, different specimens taken on different days will increase the possibility of obtaining accurate positive results.
2. Since it is confirmed that CVP patients’ stools, urines and serums contain Coronavirus, these can be used as specimens for the “Rapid test”. Using these materials as specimens will reduce the error arising from sampling skills.

Q3. If I have had close contacts with a CVP patient, should I do the “Rapid test” and where can I have the test done?

A3. If you have had close contacts with a CVP patient (***“close contacts” is defined as “living together in the same household”, “having taken care of the patient” and “having contacts with the patient’s secretions”***), you should consult a doctor immediately. Under general circumstances, doctors will advise their patients to do the

“Rapid test” if the patients have had close contacts with confirmed CVP patients and have a sustained fever over 38°C for 2 days. However, doctors will make the final decision on clinical grounds.

Anyone suspected to have acquired CVP will be referred to one of the hospitals of the Hospital Authority (HA) after consulting a private or a government doctor. If a doctor decides that a patient need to do the “Rapid test”, specimens will be taken from the patient and sent to the University of Hong Kong, Queen Mary Hospital, Department of Health and HA’s hospitals that are doing the test. The test result is usually available in 8 hours.

Q4. I have a sustained fever of 38°C for 2 days. Should I do the test immediately?

A4. If you have a sustained fever of 38°C for 2 days, you should consult a doctor immediately. Tell the doctor as comprehensive as possible your symptoms and any possible contacts with confirmed or suspected CVP patients. The doctor will decide, based on all the information provided and clinical observations, whether you need to do the “Rapid test”.

Q5. It is generally believed that early treatment provides a very good chance of recovery for CVP patients. Does the “Rapid test” confirm the illness at an early stage so that early treatment is possible?

A5. CVP diagnosis needs clinical observation coupled with “Rapid test” and “Antibody test”. For those who have salient symptoms, treatment can be applied as soon as possible even without confirmation by the “Rapid test”. If the “Rapid test” shows a positive result for a patient, the doctor can apply CVP treatment at an early stage.

Q6. I am a confirmed CVP patient. I am now recovering and will soon be discharged and return home. I am concerned that I may still carry Coronavirus and will infect my family members. Can the “Rapid test” confirm whether I still carry any Coronavirus?

A6. Based on the experience of treating TB, if negative results are obtained for three consecutive sputum specimens, the bacteria level in the patient is very low and should not be infectious. The patient can then be discharged. Theoretically, a CVP patient’s “Rapid test” results will change from positive in the early stage to negative in three consecutive specimens taken during the recovery stage, the level of Coronavirus inside the patient should be very low and no longer infectious. With further research and more test data collected, the “Rapid test” can be used for testing of discharging patients in future.

Q7. Can the “Rapid test” be used for screening of suspected CVP patients?

A7. During the incubation period, Coronavirus will grow inside the nasopharyngeal. The virus will grow to a level that can be tested by the “Rapid test” in 1 to 2 days before the onset of symptoms. In the “Amoy Garden” incident, HKU’s microbiological experts confirmed that 16 Block E residents had been infected before the onset of symptoms and made it possible for the Department of Health to provide these residents with appropriate medicine. Again, more studies need to be done and more data need to be collected before the “Rapid test” can be used for a screening purpose.