

# Eleven things you need to know NOW about COVID-19

(As of September 2022)

## Number of cases and virulence of COVID-19

1. How many people have been diagnosed with COVID-19 in Japan?
2. How many people will become very sick or die after being diagnosed with COVID-19?
3. Who is at higher risk for developing severe COVID-19 illness ?
4. Is the number of individuals diagnosed with COVID-19 higher in Japan than in other countries?

## Infectivity of COVID-19

5. How long does a person with COVID-19 remain infectious?
6. Does everyone with COVID-19 infect others?
7. What precautions should we take to prevent the spread of COVID-19?

## Testing and Treatment for COVID-19

8. What tests are being used to diagnose COVID-19?
9. What are the treatment options for COVID-19?
10. Which COVID-19 vaccine is used, and how far along is the vaccination process in Japan?

## Variants of COVID-19

11. What is known about the COVID-19 variants?

# 1. How many people have been diagnosed with COVID-19 in Japan?

As of 0:00 September 1<sup>st</sup> 2022, **18,917,782** people have been diagnosed with **COVID-19 in Japan**. This accounts for **15.0 %** of the total population.

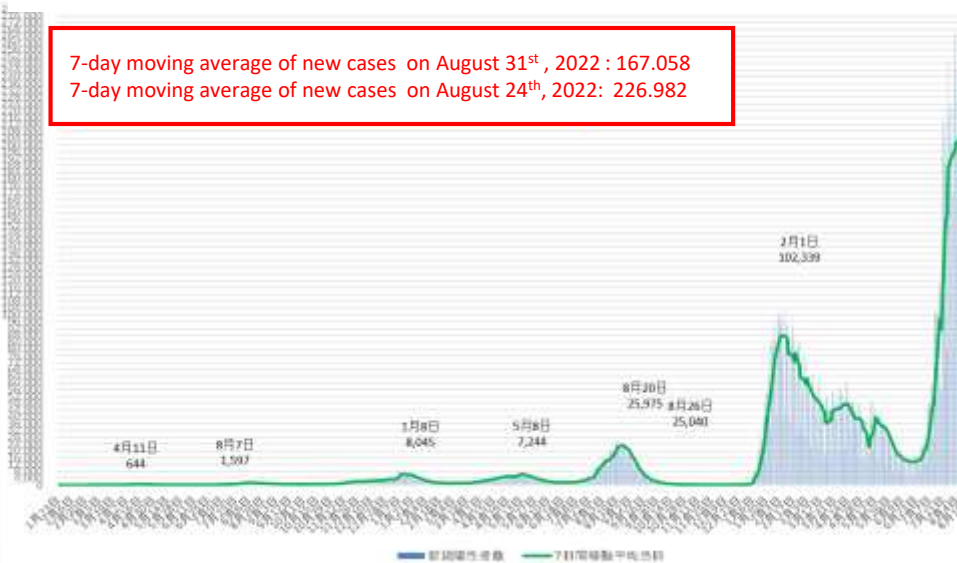
For latest updates, please refer to the following link:

<https://www.mhlw.go.jp/stf/covid-19/kokunainohasseijoukyou.html>

\*The number of cases include only those who tested positive. Therefore it may miss those people who were actually infected but without symptoms and therefore did not seek medical care.

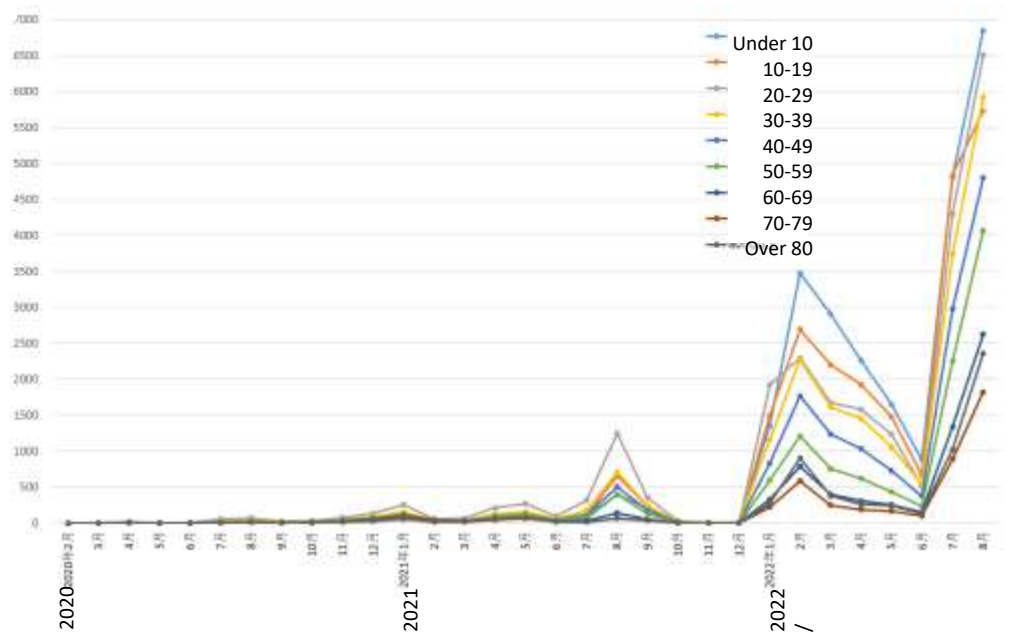
Number of newly confirmed cases per 100,000 population

7-day moving average of new cases on August 31<sup>st</sup>, 2022 : 167.058  
7-day moving average of new cases on August 24<sup>th</sup>, 2022: 226.982



■ ... Newly confirmed cases    ■ ... 7-day moving average of new cases

Number of newly confirmed cases per 100,000 population by age group

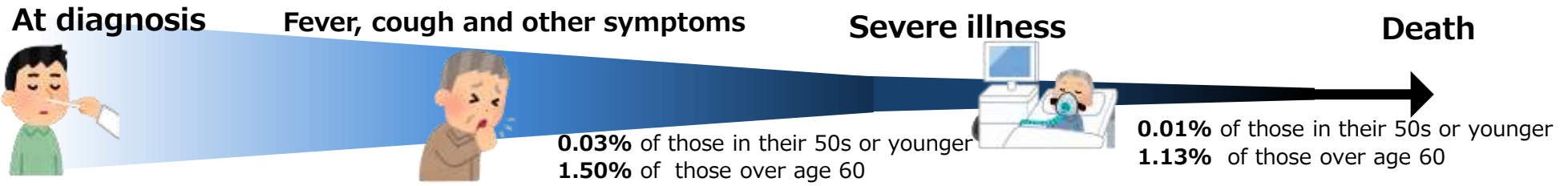


## 2. Among those diagnosed with COVID-19, how many people will get very sick or die?

Proportion of individuals getting severely ill or death differs by age; **older tend to higher and younger tend to be lower**. Overall **severity and case death rates seem to have been in declining trends** in the past, and among those diagnosed with COVID-19 from March to April 2022 when **the Omicron strain was the mainstay of the epidemic**,

- The rate of severity rate is 0.03% in age 50 or younger, 1.50% in those over 60s.
- The rate of case death rate is 0.01% in age 50 or younger, 1.13% in those over 60s.

\* "Severe illnesses" include either one or more of followings: admission to the Intensive Care Units, use of respirators, or deaths.



Severity rates among diagnosed cases (%)

	0 - 9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-
July-Oct,2021	0.05	0.05	0.01	0.31	1.04	2.25	3.62	4.43	9.17	12.68
Jan-Feb,2022	0.02	0.00	0.00	0.01	0.05	0.12	0.58	2.03	4.25	6.48
Mar-Apr,2022	0.02	0.00	0.00	0.02	0.03	0.16	0.32	1.54	3.10	4.32

Death rates among diagnosed cases(%)

	0 - 9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-
July-Oct,2021	0.00	0.00	0.00	0.06	0.08	0.42	0.86	2.35	6.21	11.97
Jan-Feb,2022	0.00	0.00	0.00	0.00	0.02	0.03	0.29	1.23	3.67	6.21
Mar-Apr,2022	0.00	0.00	0.00	0.00	0.01	0.05	0.10	0.94	2.67	4.05

Death rates from 2022/6/1 to 2022/8/30

	0 - 9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-
2022/6/1 ~ 8/30	11	4	13	25	80	163	373	1,212	2,828	2,279

Using data from Ishikawa, Ibaraki, and Hiroshima prefectures that provided cooperation, we tentatively calculated the severe disease and fatality rates by age group and vaccination history infected with COVID-19 during the period. The number of death cases includes those who were COVID-19 positive and died of any cause. Data for July-Oct 2021, Jan-Feb 2022, and Mar-Apr 2022 are based on the status of the patient end of the treatment and hospitalization period or at least 2 month after notification, and as of 3/31 and 5/31. The number of severity ad death cases may increase in the future.

### 3. Among those diagnosed with COVID-19, who is at increased risk for severe illness and death ?

Among those diagnosed with COVID-19, **the elderly, those with underlying medical conditions, and some pregnant women in their third trimesters are more likely than others to develop severe illness or die.**

Comorbidities known to cause more severe illness include:

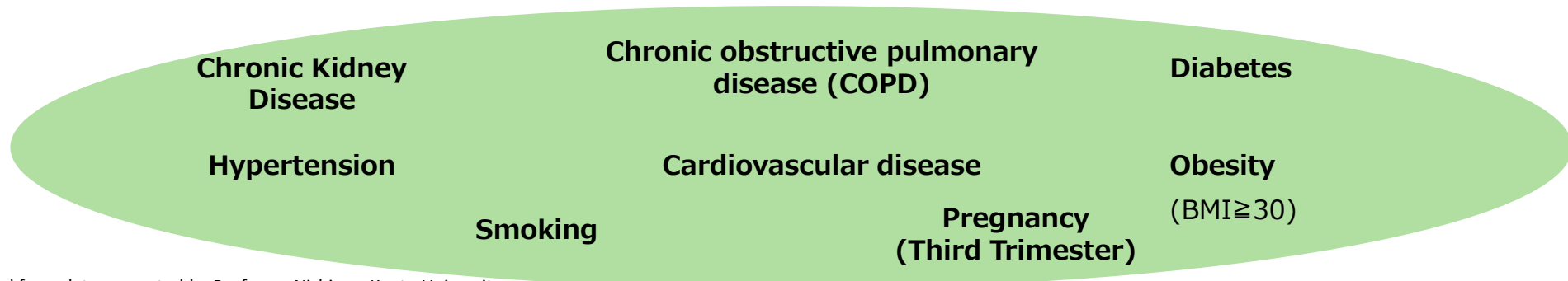
**Chronic Obstructive Pulmonary Diseases (COPD), Chronic Kidney Diseases, Diabetes, Hypertension, Cardiovascular diseases, Obesity, and Smoking.**

Full vaccination (two doses) is effective in preventing severe illness.

Proportion of individuals becoming severely ill by age group  
(shown as a relative risk when the risk of those in their 30s is considered as a reference (1.00))

Age	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90+
Severity rates	0.5	0.2	0.3	1	4	10	25	47	71	78

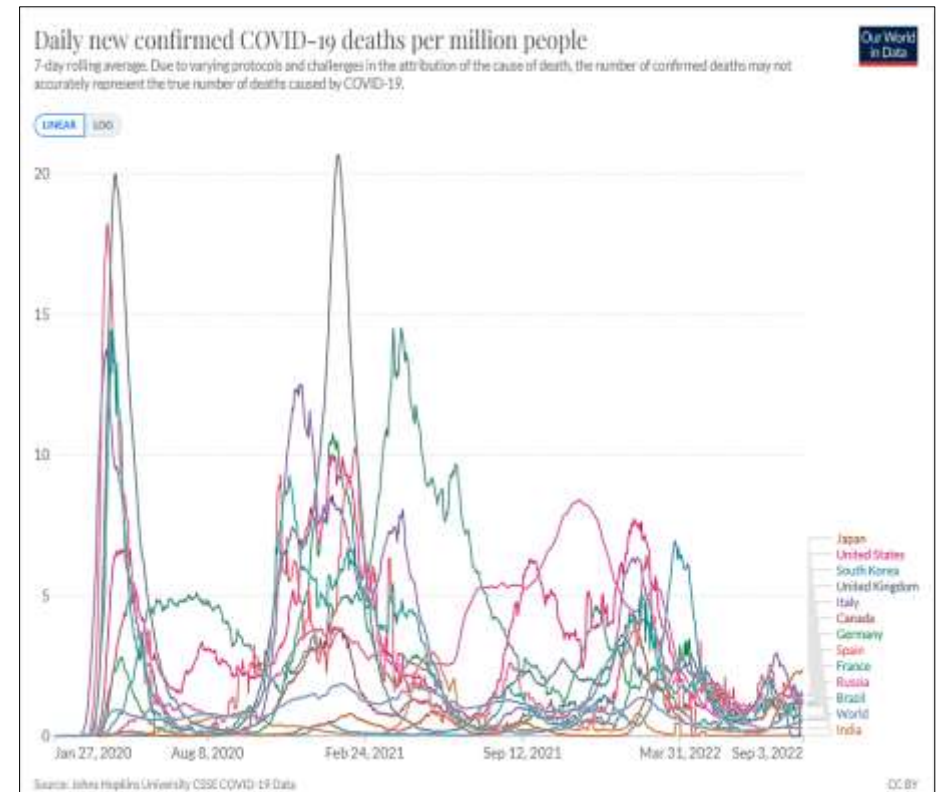
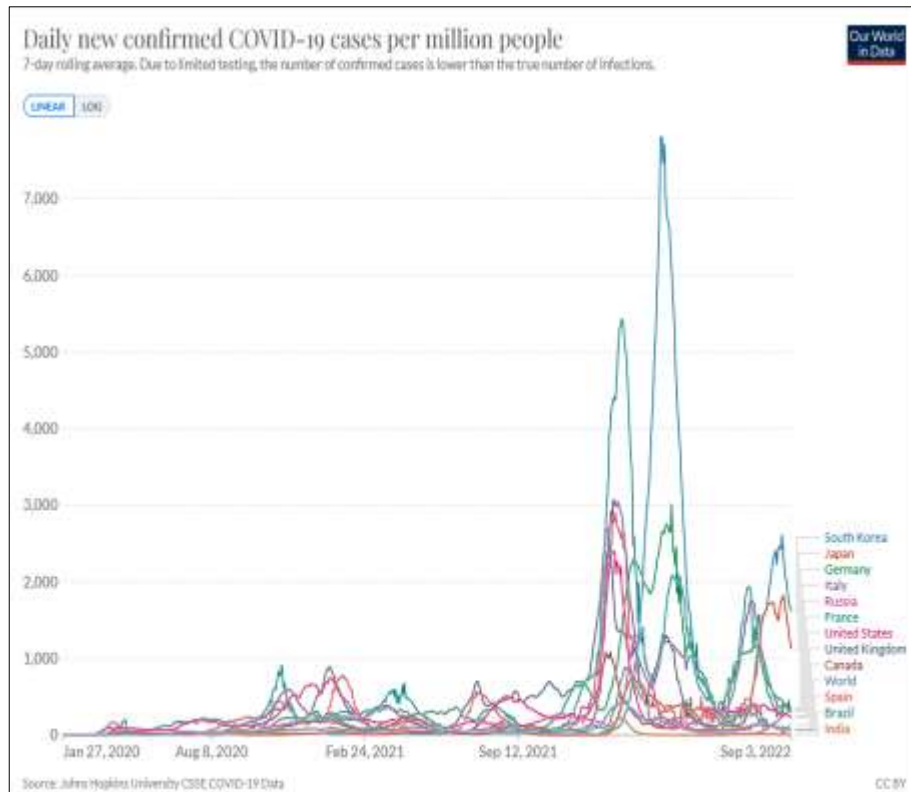
#### Comorbidities known to cause more severe illness:



\*Table created from data presented by Professor Nishiura, Kyoto University, and from the "Clinical Management of Patients with COVID-19" Version 6.2

## 4. Is the number of individuals diagnosed with COVID-19 higher in Japan than in other countries ?

The number of confirmed cases of infection and deaths per 1 million population in Japan is higher than in the major countries. (This difference should be understood with caution, as each country has the different methods of reporting the number of infections and deaths.)



## 5. How long does someone with COVID-19 remain infectious?

Individuals with COVID-19 become infectious from **2 days prior to until approximately 7 to 10 days** after the onset of symptoms.\*Viral shedding is believed to be particularly high around the time of symptom onset.

Therefore, individuals diagnosed with COVID-19 should **refrain from going out for non-urgent reasons, regardless of symptoms, to stop the spread of infection.**

\* From "Clinical Management of Patients with COVID-19." Version 6.2

## 6. What proportion of individuals with COVID-19 ends up infecting others?

**Less than 20% of individuals diagnosed with COVID-19 infect others**, while others do not. Therefore, unless a super-spreading event where an individual with COVID-19 infect many others in an environment like 3Cs without proper precautions happens, spread of SARS-CoV-2 (which causes COVID-19) could be controlled. You are strongly encouraged to take precautions such as not going out for non-urgent purposes when you are sick, and wearing a mask when meeting with others.

\*Wearing masks reduce the amount of virus inhaled by individuals in close proximity to those with COVID-19. (By 60-80% when worn by individuals with COVID-19, and by 20-40% when worn by someone contacting with individuals with COVID-19).

Ueki, H., Furusawa, Y., Iwatsuki-Horimoto, K., Imai, M., Kabata, H., Nishimura, H., & Kawaoka, Y. (2020). Effectiveness of Face Masks in Preventing Airborne Transmission of SARS-CoV-2. *mSphere*, 5(5), e00637-20.

## 7. What precautions should we take to prevent the spread of COVID-19?

Situations such as social gatherings, long feasts in large groups, having conversation without masks, living together in small limited spaces, and switching locations increase the risk of infection and should be avoided. This is why the risk of infection increases in a 3Cs (Closed spaces, Crowded places, Close-contact settings) environment. Please aim at No 3Cs.

### "5 situations" that increase the risk of infection

#### Situation ① Social gatherings with drinking alcohol

- Drinking alcohol improves mood and at the same time decreases attention. In addition, hearing is dulled and it leads to speaking in a louder voice.
- The risk of infection increases when large numbers of people are in a small space for a long time.
- In addition, sharing glasses and chopsticks increases the risk of infection.



#### Situation ② Long feasts in large groups

- Long-term meals, dinner receptions, drinking alcohol at night increase the risk of infection compared to a short meal.
- The risk of infection is increased by eating and drinking in a large group of people, for example, 5 or more people, because in groups you have to talk louder and droplets of saliva spread more often.



#### Situation ③ Conversation without a mask

- Talking at close range without a mask increases the risk of airborne or micro-droplet infection.
- Cases of infection without masks were observed during gatherings in karaoke machines.
- Please be careful when traveling by car or bus.



#### Situation ④ Living together in a small limited space

- Living together in a small limited space increases the risk of infection because the enclosed space is shared by several people for a long time.
- There have been reports of suspected infections in common areas such as dormitory bedrooms and bathrooms.



#### Situation ⑤ Switching locations

- When you move to another location, such as when you take a break in a workplace, the risk of infection may increase due to the feeling of relaxation and changes of the environment.
- Suspicious cases of infection were identified in breaking rooms, smoking areas and changing rooms.



## 8. What tests are being used to diagnose COVID-19?

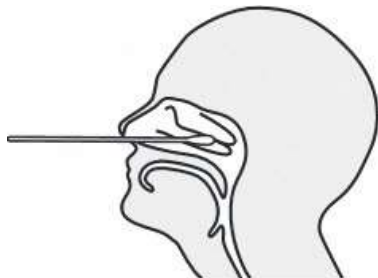
Tests for diagnosing COVID-19 include Nucleic acid detection tests (including PCR test), qualitative antigen test, and quantitative antigen test. These tests are all designed to detect SARS-CoV-2 virus (which causes COVID-19) in one's body and therefore can be used to see if someone is currently infected with the virus. Recent development of new method has enabled use of saliva and nasal cavity swab samples in selected situations and selected patient groups.

Antibody tests are only used to see if a person has previously been infected with SARS-CoV-2 (virus that causes COVID-19). Antibody tests are not for use to diagnose acute infection.

Intended to use for...		Nucleic acid detection tests (including PCR test)			Antigen test (Quantitative)			Antigen test (Qualitative)		
		Nasopharynx	Nasal cavity	Saliva	Nasopharynx	Nasal cavity	Saliva	Nasopharynx	Nasal cavity	Saliva
Symptomatic Individuals	Within 9 days of symptom onset	○	○	○	○	○	○	○	○	○ *3
	10 days or more from symptom onset	○	○	×	○	○	×	△ *1	△ *1	×
Asymptomatic individuals		○	○	○	○	×	○	×	×	×

\* 1 Additional Nucleic acid detection tests (e.g. nasopharyngeal PCR tests) is advised when tested negative. \*2 Not advised to use for confirmatory tests. Can be used as screening tests in limited settings such as hospitals or nursing homes in disease spreading areas on condition that preventive measures should still be continued for individuals tested negative. \*3 Applicable to products with regulatory approval for saliva specimens.

### Example of Specimen Collection for Qualitative Antigen Test



Nasopharyngeal specimen collection

Insert a swab through the nose and rub the nasopharynx several times  
(Performed by a healthcare provider, only)



Nasal cavity Specimen collection

Insert a swab about 2 cm from the nose, rotate it 5 times, and let it stand for about 5 seconds.  
(Self specimen collection is possible)



## 9. What are the treatment options for COVID-19?

Most patients with mild COVID-19 recover without any specific treatment. So only supportive therapy such as antipyretics would be provided when necessary. Patients who are at risk of severe illness are encouraged to receive neutralizing antibody drugs or oral antivirals for prevention. In case of respiratory failure, oxygen therapy along with antivirals, steroids(to control inflammation), immunomodulators, and neutralizing antibodies will be given. And if not responding well enough, intensive care with mechanical ventilation might be an option.

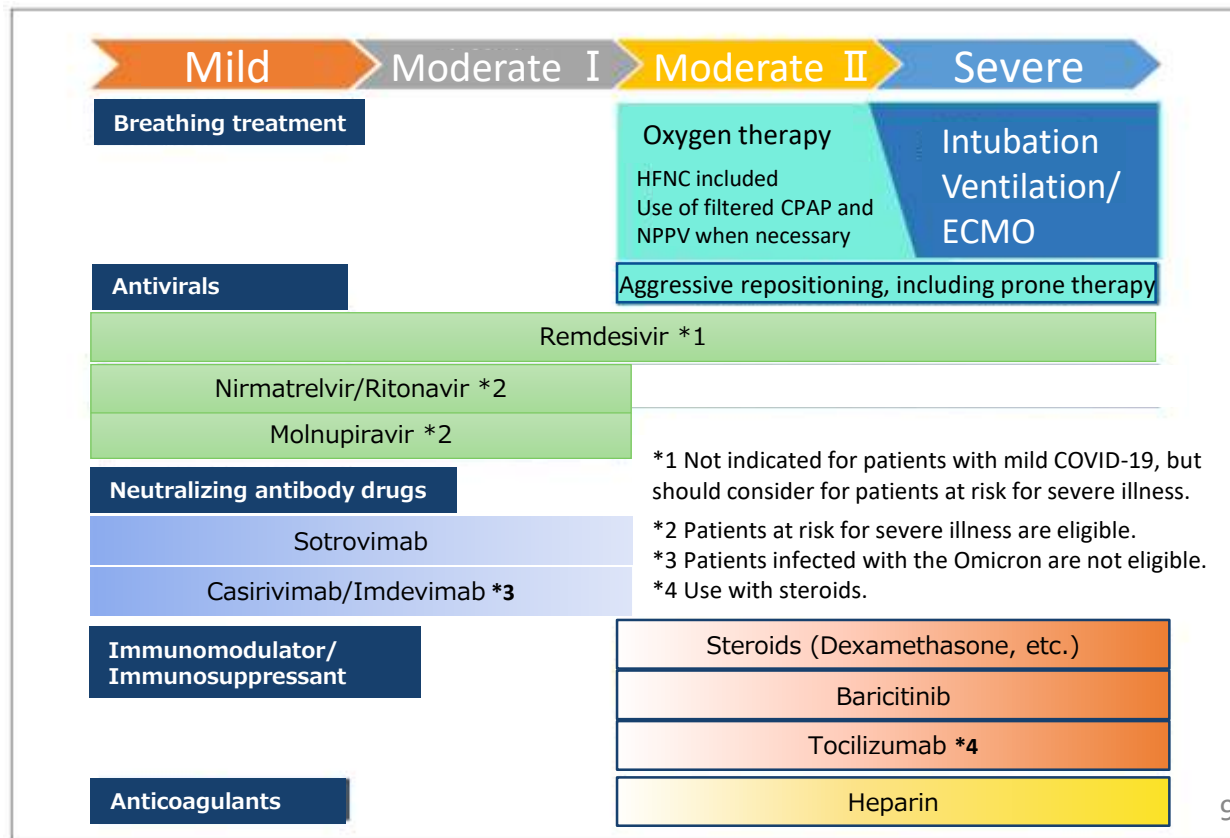
Establishment of treatment options described above seems to have resulted in low case fatality rates for the hospitalized COVID-19 patients. Be sure to consult your GP or nearby clinic in case you have fever, cough or symptoms suggestive of COVID-19.

### Drugs approved for the treatment of COVID-19 in Japan

- Remdesivir (Veklury®)
- Molnupiravir (LAGEVRIO®)
- Nirmatrelvir/Ritonavir (Paxlovid®)
- Sotrovimab (XEVDY®)
- Casirivimab/Imdevimab (Ronapreve®)
- Tixagevimab/Silgavimab (Evusheld®)
- Dexamethasone
- Baricitinib (olumiant®)
- Tocilizumab (ACTEMRA®)

(As of September 9<sup>th</sup>, 2022)

\* From "Clinical Management of Patients with COVID-19." Version 6.2



## 10. Which COVID-19 vaccine is used, and how far along is the vaccination process?

**<Primary series>** Pfizer Inc., Takeda/Moderna Inc., AstraZeneca plc., and Takeda/Novavax are approved, as of July 1<sup>st</sup>,2022.

The Pfizer, which are messenger RNA vaccines, are given to people over 5 years old. The Takeda/Modena vaccine is given to over 12 years old. The AstraZeneca, which is a viral vector vaccine, is generally given to people over 40 years old (individuals over 18 years old may also be eligible for this vaccine in some cases). Takeda/Novavax vaccine is given for people aged 18 and older.

**<Booster shot>** Booster shots are available for those who received two doses of COVID-19 vaccine. Pfizer's vaccine is approved for people over 18 years old, and Takeda/Moderna and Novavax vaccine are for over 18 years old. The forth dose is approved to those 60 years old and 18 years and younger who have an underlying medical condition or are high risk of Severe illness from May 25<sup>th</sup>, 2022.

○ **Efficacy** : The efficacy in preventing the onset of disease has been reported to be approximately 70-95% (\*) over a certain period of time after inoculation. Studies have also shown that the infection-preventive and disease-preventive effects of initial vaccination against omicron strains decline over time after the second vaccination, but temporarily recover with additional vaccinations. The effect of initial vaccination against Omicron strains in preventing hospitalization decreases over time after the second vaccination, but is maintained compared to the effect in preventing the onset of disease, and furthermore recovers with additional vaccinations.

○ **Safety** : Localized pain in the injected sites, fatigue, headache, muscle and joint pain, chills, diarrhea, and fever can be seen, and most of these symptoms subside within a few days.

### Vaccination status in Japan (As of September 7st ,2022)

Source: Webpage of Prime Minister's Office of Japan

Vaccination Rate	5~11	12~19	20's	30's	40's	50's	60~64	65~69	70's	80's	90's	Over 100
More Than Once	20.0%	76.4%	82.2%	82.0%	84.8%	90.6%	92.3%	90.5%	94.4%	96.4%	97.2%	93.2%
Two Doses	18.4%	75.6%	81.4%	81.5%	84.4%	90.4%	92.1%	90.3%	94.2%	96.1%	96.7%	92.2%
Third Doses	—	39.7%	50.8%	54.8%	63.5%	77.2%	85.0%	86.2%	91.0%	92.3%	91.9%	86.6%

Number of Vaccinations	5~11	12~19	20's	30's	40's	50's	60~64	65~69	70's	80's	90's	Over 100
Population	7,317,297	8,887,053	12,680,325	14,065,328	17,965,890	17,245,283	7,378,055	7,770,002	16,284,498	9,382,746	2,404,985	86,607
More Than Once	1,460,567	6,792,810	10,422,912	11,534,924	15,232,744	15,628,978	6,808,927	7,030,818	15,369,083	9,043,871	2,336,673	80,682
Two Doses	1,347,296	6,716,448	10,326,082	11,457,515	15,164,384	15,582,845	6,794,869	7,017,070	15,336,584	9,013,128	2,324,421	79,880

## 11. What is known about the SARS-CoV-2 (virus that causes COVID-19) variants?

Viruses usually mutate and change gradually over time as they grow or spread, and is believed to show approximately one base mutation in two weeks. Currently variants of SARS-CoV-2 (B.1.1.529 lineage, called Omicron variant) have been reported mainly from around the world and **we still have to be vigilant against such new variants.**

In response to this, the Ministry of Health, Labour and Welfare (MHLW) has been conducting a nationwide genomic sequencing of the SARS-CoV-2 to monitor for the variants. The MHLW communicates closely with the World Health Organization (WHO) and experts to analyze and characterize variants, and is strengthening the national surveillance system. The MHLW also strengthens its testing capacity and epidemiological investigation (tracing) when cases of such variants are reported to prevent further spread.

**Preventive measures such as avoiding the “3Cs” (and "Five situations" that increase the risk of infection), wearing masks, and washing hands remain as effective against the variants.** Therefore individuals are **strongly encouraged to continue taking these precautions.**

### ■ COVID-19 Variants

[https://www.mhlw.go.jp/stf/covid-19/kokunainohasseijoukyou.html#h2\\_1](https://www.mhlw.go.jp/stf/covid-19/kokunainohasseijoukyou.html#h2_1)

### ■ 81th~ COVID-19 Control Advisory Board

[https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000121431\\_00348.html](https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000121431_00348.html)

### ■ National Institute of Infectious Diseases

<https://www.niid.go.jp/niid/ja/2019-ncov/2551-cepr/10745-cepr-topics.html>