

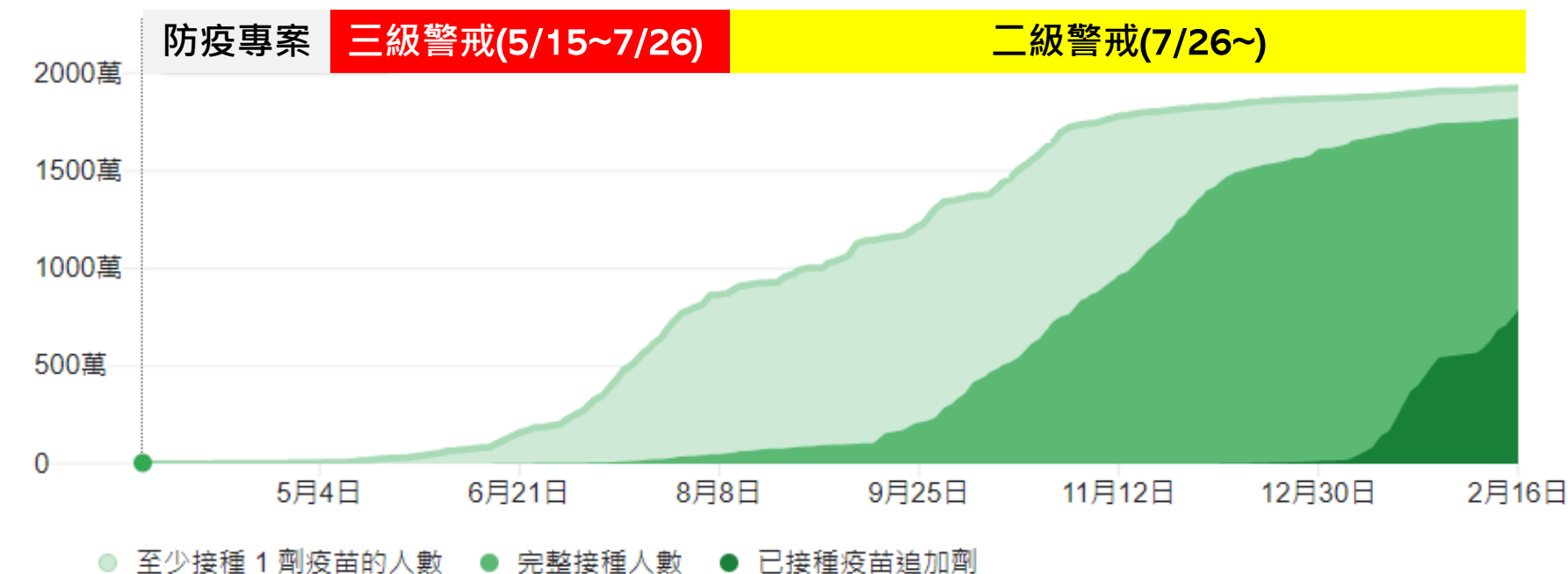


來自真實世界的聲音： 民眾對COVID-19疫苗的擔憂與問答

成大醫院 陳品豪 藥師

台灣新冠疫苗接種情形

82.52 % 已施打第一劑；76.04 % 已完成兩劑接種

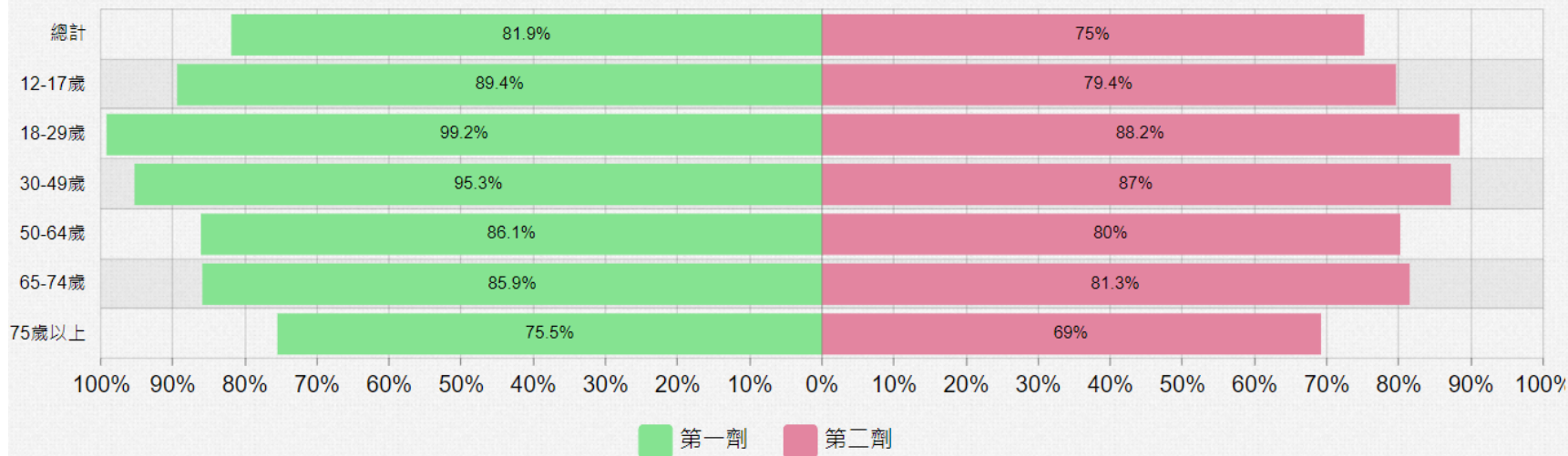


台灣新冠疫苗接種情形

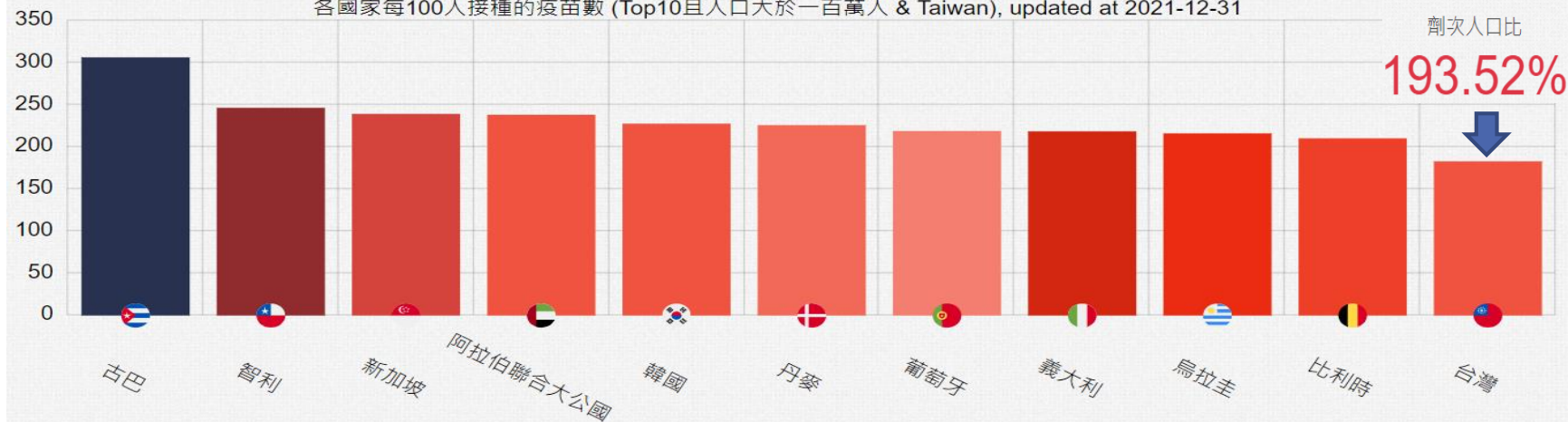
涵蓋率以18-29歲最高；75歲以上最低

全國 COVID-19 公費疫苗各年齡涵蓋率(%) Updated on 2022-02-07

(左側) 第1劑疫苗涵蓋率 (右側) 第2劑疫苗涵蓋率

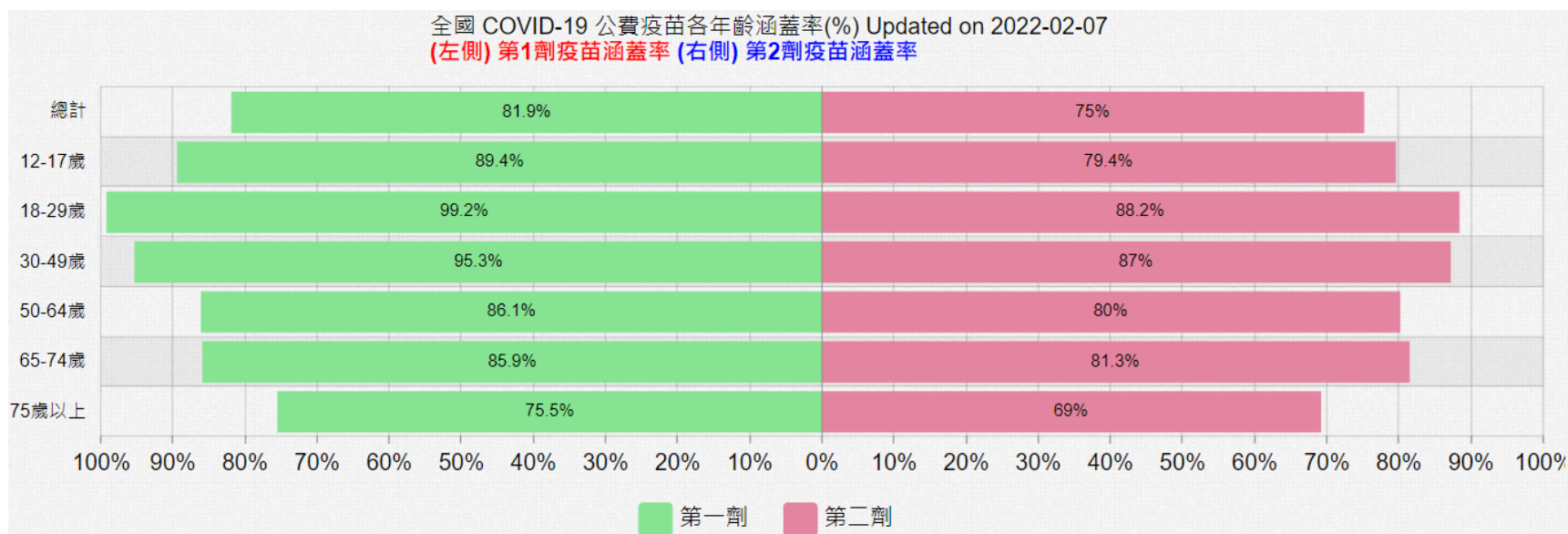


各國家每100人接種的疫苗數 (Top10且人口大於一百萬人 & Taiwan), updated at 2021-12-31



台灣新冠疫苗接種情形

涵蓋率以18-29歲最高；75歲以上最低

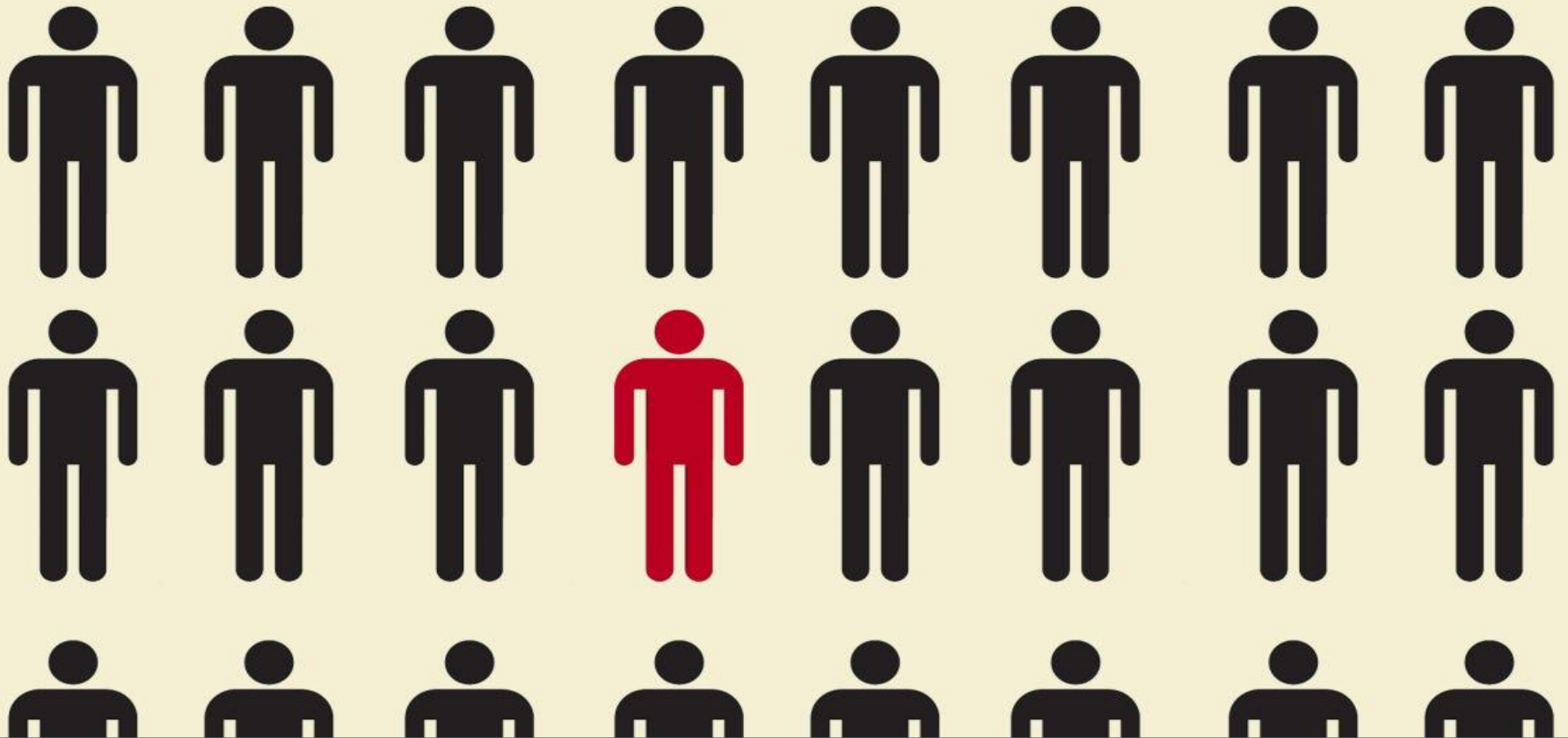


109年度流感疫苗接種計畫成果

統計日期：110/8/31

接種對象	應接種數	接種數	接種率
65歲以上長者/機構對象*	3,722,162	1,958,073	52.6%
50-64歲成人	5,304,229	1,018,139	19.2%
醫事執登人員	335,121	245,196	73.2%
防疫人員及醫院非執登工作人員	153,882	142,318	92.5%
禽畜養殖業等及動物防疫人員	10,202	10,202	100.0%
國小、國中、高中、高職、五專1至3年級學生	2,443,880	1,840,090	75.3%

HERD IMMUNITY



- Herd immunity varies from disease to disease
 - For measles, the threshold is about 94 %
 - For polio, the threshold is about 80 %
- WHO's position on "Herd immunity" as a way of fighting COVID-19, but the threshold is unclear



他們，為什麼不打COVID-19疫苗？

德約科維奇慘遭澳大利亞驅逐 「他已成為反疫苗群體的偶像」

2022年1月16日

BBC NEWS



1月16日，德約科維奇離開墨爾本的帕克酒店。

網球巨星德約科維奇（Novak Djokovic，祖高域，喬科維奇）在法庭的上訴失敗，澳大利亞最終決定將其驅逐出境。

“...為什麼一些精英運動員--這些世界上最有健康意識的人如此不情願打疫苗呢？...”

“...英國索倫特大學運動心理學家布裏頓博士認為「對運動員來說，身體是他們最寶貴的商品」...如果不能獲得充足的信息或是受到虛假信息的影響，可能對打疫苗感到更加猶豫...可能會擔心，疫苗是否會影響自己的競技表現..”

他們，為什麼不打COVID-19疫苗？

▶ 執行時間：2021/6/1~2021/10/31

▶ 研究方法：

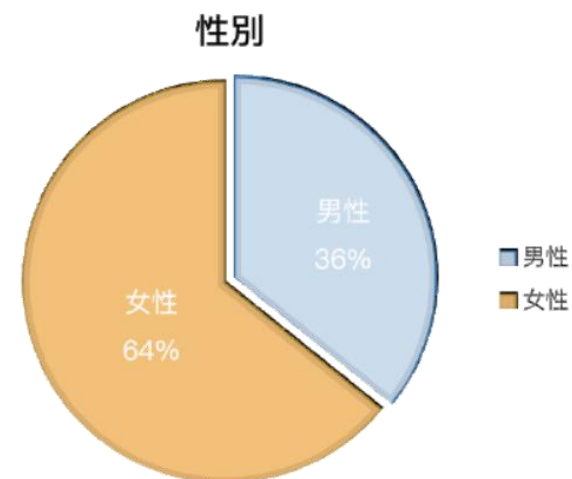
▶ 深度訪談：50位民眾與8位實務人員

▶ 焦點團體：共18位民眾

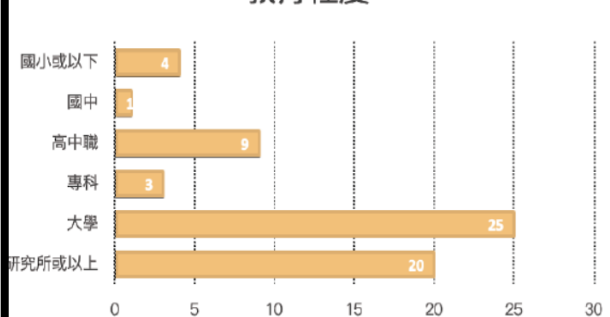
▶ 2場長者實體焦點團體

▶ 1場孕婦線上焦點團體

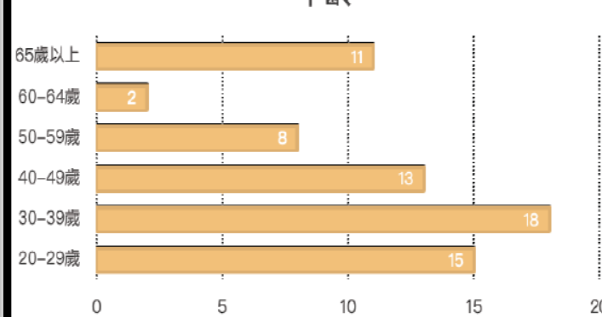
▶ 1場一般民眾焦點團體



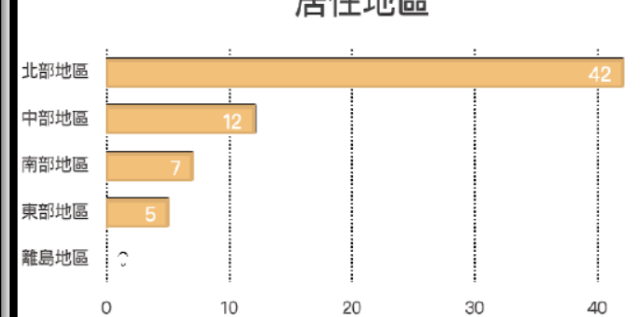
教育程度



年齡



居住地區



調查結果：整體疫苗猶豫與脈絡

一、民眾對疫苗科學、政策不確定性相當疑惑，但未獲得系統性解釋

“...多位受訪者表示「利大於弊」是政府角度，不適用個人...”

二、品牌選擇與疫苗猶豫

“...民眾僅信任特定品牌疫苗，堅持等待，影響施打狀況...”

三、為做好生活防護能取代疫苗

“...台灣長期疫情相對輕微，以及對疫苗安全、效果、與必要性缺乏信任，寧可採取保守作法，...”

四、政治信任感影響疫苗決策

“...除了品牌議題，民眾整體疫苗決策顯著被政治信任感影響...”

五、對於第二劑之猶豫

“...對接種第一劑後的強烈身體反應感到害怕與困惑...抑或對政策觀感轉變，連帶對疫苗失去信任等諸多原因...”

“War on science”

Vaccinate with confidence in covid-19 vaccines



Build Trust

Share clear, complete, and accurate messages about COVID-19 vaccines and take visible actions to build trust in the vaccine, the vaccinator, and the system in coordination with federal, state, and local agencies and partners.



Engage Communities and Individuals

Engage communities in a sustainable, equitable, and inclusive way—using two-way communication to listen, build trust, and increase collaboration.



Vaccinate with **Confidence**

Strategy to Reinforce Confidence in Covid-19 Vaccines

Vaccinate with Confidence is the strategic framework of the Centers for Disease Control and Prevention (CDC) to strengthen vaccine confidence and prevent outbreaks of vaccine-preventable diseases in the United States.

COVID-19疫苗問答：在療效與副作用之外



懷孕 與 COVID-19疫苗



藥物 與 COVID-19疫苗



流言 與 COVID-19疫苗



懷孕 與 COVID-19疫苗

Q

COVID-19疫苗對孕婦有保護效果嗎？

A

BNT mRNA vaccine 可有效降低感染，保護效果與一般族群無異

- ▶ BNT mRNA vaccine was estimated to have **high vaccine effectiveness** in pregnant

Pregnant¹

- Cohort study
- Clalit Health Services (Israel)
- N=10,861 pairs
- Vaccine effectiveness
 - Day 7~56 after the 2 dose: **96 %**

Table 1 | Vaccine effectiveness measures

Period	Documented infection		Symptomatic infection		Hospitalization		Severe disease	
	1-RR (95% CI)	RD (95% CI)	1-RR (95% CI)	RD (95% CI)	1-RR (95% CI)	RD (95% CI)	1-RR (95% CI)	RD (95% CI)
Days 14-20 after first dose	67% (40-84%)	309.22 (145.43-485.69)	66% (32-86%)	223.59 (82.44-361.63)	3 versus 0 ^a		2 versus 0 ^a	
Days 21-27 after first dose	71% (33-94%)	157.30 (41.42-285.23)	76% (30-100%)	116.52 (26.92-217.92)	5 versus 0 ^a		0 versus 0 ^a	
Days 7-56 after second dose	96% (89-100%)	933.40 (685.60-1192.33)	97% (91-100%)	621.70 (433.68-847.26)	89% (43-100%)	132.28 (31.67-241.03)	1 versus 0 ^a	

RRs and RDs (per 100,000 persons) of COVID-19 outcomes for vaccination versus no vaccination at several time points after vaccination in pregnant women who are members of the CHS, 20 December 2020 through to 3 June 2021. The study population numbered 10,861 individuals in each arm and 1,529 individuals were first included as unvaccinated and then re-recruited as vaccinated.
^aEstimates were only calculated for cells with more than five events; otherwise, raw counts are reported.

General population²

- Cohort study
- Clalit Health Services (Israel)
- N = 596,618 pairs
- Vaccine effectiveness
 - at least 7 days after the 2 dose: **92%**

Table 2. Estimated Vaccine Effectiveness against Covid-19 Outcomes during Three Time Periods.*

Period	Documented Infection		Symptomatic Illness		Hospitalization		Severe Disease		Death	
	1-RR	Risk Difference	1-RR	Risk Difference	1-RR	Risk Difference	1-RR	Risk Difference	1-RR	Risk Difference
	% (95% CI)	no./1000 persons (95% CI)	% (95% CI)	no./1000 persons (95% CI)	% (95% CI)	no./1000 persons (95% CI)	% (95% CI)	no./1000 persons (95% CI)	% (95% CI)	no./1000 persons (95% CI)
14 to 20 days after first dose	46 (40-51)	2.06 (1.70-2.40)	57 (50-63)	1.54 (1.28-1.80)	74 (56-86)	0.21 (0.13-0.29)	62 (39-80)	0.14 (0.07-0.21)	72 (19-100)	0.03 (0.01-0.07)
21 to 27 days after first dose	60 (53-66)	2.31 (1.96-2.69)	66 (57-73)	1.34 (1.09-1.62)	78 (61-91)	0.22 (0.13-0.31)	80 (59-94)	0.18 (0.10-0.27)	84 (44-100)	0.06 (0.02-0.11)
7 days after second dose to end of follow-up	92 (88-95)	8.58 (6.22-11.18)	94 (87-98)	4.61 (3.29-6.53)	87 (55-100)	0.22 (0.08-0.39)	92 (75-100)	0.32 (0.13-0.52)	NA	NA

* Confidence intervals were estimated using the percentile bootstrap method with 500 repetitions. Estimates were calculated only for cells with more than 10 instances of an outcome across the two groups. NA denotes not available, and RR risk ratio.



Q 第一孕期打COVID-19疫苗，會造成流產嗎？

A 目前沒有第一孕期施打Covid-19疫苗增加流產率的證據

- ▶ No evidence of an increased risk for early pregnancy loss after Covid-19 vaccination during the first trimester
- ▶ Case-control study, Norwegian registries during 2021/2/15~/8/15
- ▶ 13,956 women with ongoing pregnancies (5.5% were vaccinated) and 4521 women with miscarriages (5.1% were vaccinated)
 - ▶ BNT (N=609), Moderna (N=103), AZ (N=60)
 - ▶ Adjusting for women's age, country of birth, marital status, educational level, household income, number of children, employment in a health care profession, underlying risk conditions for COVID-19, previous test positive for COVID-19, and calendar month.

Table 1. Odds Ratios for Covid-19 Vaccination in a 5-Week or 3-Week Window before Miscarriage or Confirmation of an Ongoing Pregnancy.

Vaccination Status	5-Week Exposure Window				3-Week Exposure Window			
	Ongoing Pregnancies	Miscarriages	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)*	Ongoing Pregnancies	Miscarriages	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)*
	number	number			number	number		
Among all women								
Unvaccinated	13,184	4,290	Reference	Reference	13,507	4,375	Reference	Reference
Vaccinated	772	231	0.92 (0.79–1.07)	0.81 (0.69–0.95)	449	146	1.00 (0.83–1.21)	0.91 (0.75–1.10)

Q COVID-19疫苗會造成懷孕不良事件嗎?

A 目前沒有COVID-19疫苗增加懷孕不良事件的證據

- Cohort study
- Database: Maccabi Healthcare Services (Israel)
- Analysis duration: 2021/3~10
- Vaccine: Pfizer–BioNTech
- Trimester at 1st vaccine
 - First: 2,134
 - Second: 9,364
 - Third: 5,199
- Propensity scores with stabilized inverse probability of treatment weights (IPTW) were used to balance the groups with regards to baseline covariates

Table 1. Baseline Characteristics of Mothers With a Singleton Live Birth by Exposure to BNT162b2 Vaccination During Pregnancy

	Pre-IPTW ^a			Post-IPTW		
	Unvaccinated (n = 7591)	Vaccinated (n = 16 697)	Absolute SMD ^b	Unvaccinated (n = 7452)	Vaccinated (n = 16 738)	Absolute SMD ^b
Maternal age, mean (SD), y	30.49 (5.67)	31.61 (5.22)	0.21	31.1 (5.6)	31.2 (5.3)	0.02
Infant sex, No. (%)			0.01			0.01
Female	3729 (49.1)	8111 (48.6)		3684 (49.4)	8160 (48.8)	
Male	3862 (50.9)	8586 (51.4)		3768 (50.6)	8578 (51.2)	
Parity, No. (%)	5107 (67.3)	11 142 (66.7)	0.01	5013 (67.3)	11 212 (67.0)	0.01
Trimester at first vaccine dose (wk), No. (%)						
First (<14)		2134 (12.8)			1851 (11.1)	
Second (14–26)		9364 (56.1)			8996 (53.7)	
Third (≥27)		5199 (31.1)			5891 (35.2)	
Socioeconomic status, mean (SD) ^c	5.17 (1.98)	6.13 (2.02)	0.48	5.7 (2.04)	5.8 (2.07)	0.04
Population subgroup, No. (%) ^d			0.35			0.03
Arab	830 (10.9)	714 (4.3)		495 (6.6)	1072 (6.4)	
Jewish, secular	4847 (63.9)	13 145 (78.7)		5407 (72.6)	12 328 (73.7)	
Ultra-Orthodox	1914 (25.2)	2838 (17.0)		1550 (20.8)	3338 (19.9)	
Preexisting maternal comorbidities, No. (%)						
Obesity (BMI ≥30)	862 (11.4)	1768 (10.6)	0.03	828 (11.1)	1780 (10.6)	0.02
Infertility	84 (1.1)	304 (1.8)	0.06	129 (1.7)	260 (1.6)	0.02
Cancer	55 (0.7)	168 (1.0)	0.03	66 (0.9)	158 (0.9)	0.01
Hypertension	76 (1.0)	159 (1.0)	0.01	74 (1.0)	158 (0.9)	0.01
Chronic kidney disease	67 (0.9)	118 (0.7)	0.02	75 (1.0)	114 (0.7)	0.04
Diabetes	59 (0.8)	145 (0.9)	0.01	72 (1.0)	133 (0.8)	0.02
Cardiovascular disease	2 (<0.1)	8 (<0.1)	0.01	2 (<0.1)	8 (<0.1)	0.01
Chronic obstructive pulmonary disease	2 (<0.1)	3 (<0.1)	0.01	1 (<0.1)	3 (<0.1)	0.00
Smoking			0.09			0.083
Ever	441 (5.8)	798 (4.8)		470 (6.3)	793 (4.7)	
Never	7099 (93.5)	15 865 (95.0)		6937 (93.1)	15 909 (95.1)	
Missing	51 (0.7)	34 (0.2)		45 (0.6)	36 (0.2)	
Maternal SARS-CoV-2 infection						
Before birth	2241 (29.5)	1078 (6.5)	0.63	2255 (30.3)	1108 (6.6)	0.64
Preconception	383 (5.0)	354 (2.1)	0.16	448 (6.0)	358 (2.1)	0.20
Seasonal influenza vaccine	1535 (20.2)	7131 (42.7)	0.50	2469 (33.1)	5924 (35.4)	0.05
Pertussis vaccine	4698 (61.9)	13 949 (83.5)	0.50	4902 (65.8)	13 663 (81.6)	0.37
Gestational diabetes	156 (2.1)	314 (1.9)	0.01	159 (2.1)	315 (1.9)	0.02
High-risk pregnancy	842 (11.1)	1786 (10.7)	0.01	842 (11.3)	1760 (10.5)	0.03
Calendar conception median (IQR), mo	8 (6–10)	9 (7–11)	0.29	9 (7–11)	9 (7–11)	0.06

Q COVID-19疫苗會造成懷孕不良事件嗎?

JAMA Pediatr. 2022 Feb 10.

A 目前沒有COVID-19疫苗增加懷孕不良事件的證據

- ▶ No increased risk for early infant morbidity or mortality among live-born infants prenatally exposed to BNT vaccination compared with unexposed

分娩週數

Taiwan 2020: 10.53 %

出生體重

Taiwan 2020: 9.14 %

Taiwan 2020: 1.02 %

入院

照光治療

嬰兒死亡

Table 2. Neonatal and Early Infant Outcomes

	Pre-IPTW			Post-IPTW ^a		
	Unvaccinated (n = 7591)	Vaccinated (n = 16 697)	Risk ratio (95% CI)	Unvaccinated (n = 7452)	Vaccinated (n = 16 738)	Risk ratio (95% CI)
Follow-up time, d	152 (88-209)	126 (76-179)		130 (71-197)	134 (81-185)	
Gestational age at delivery, No. (%)						
<37 wk (Overall preterm)	315 (4.1)	730 (4.4)	1.10 (0.95-1.27)	358 (4.8)	699 (4.2)	0.95 (0.83-1.10)
<32 wk (Early preterm)	48 (0.6)	60 (0.4)	0.52 (0.33-0.82)	62 (0.8)	60 (0.4)	0.45 (0.29-0.70)
32-36 wk (Late preterm)	267 (3.5)	670 (4.0)	1.18 (1.02-1.38)	296 (4.0)	638 (3.8)	1.03 (0.89-1.20)
Birth weight, No. (%)						
SGA	468 (6.7)	1040 (6.6)	0.98 (0.88-1.09)	473 (6.9)	1053 (6.7)	0.97 (0.87-1.08)
Low birth weight, <2500 g	324 (4.6)	730 (4.6)	0.98 (0.86-1.13)	352 (5.1)	705 (4.5)	0.89 (0.78-1.01)
Very low birth weight, <1500 g	43 (0.6)	47 (0.3)	0.44 (0.27-0.70)	53 (0.8)	49 (0.3)	0.41 (0.26-0.65)
Unknown, No.	619	833		561	932	
All-cause hospitalizations, No. (%)						
Neonatal (1-28 d after birth)	416 (5.5)	916 (5.5)	1.00 (0.89-1.13)	408 (5.5)	911 (5.4)	0.99 (0.88-1.12)
Postneonatal (>28 d after birth)	475 (6.3)	777 (4.7)	0.87 (0.78-0.98)	398 (5.3)	846 (5.1)	0.95 (0.84-1.07)
Phototherapy	71 (0.9)	205 (1.2)	1.31 (1.01-1.73)	73 (1.0)	203 (1.2)	1.24 (0.95-1.63)
Infant death over the study period	8 (0.1)	22 (0.1)	1.43 (0.66-3.43)	13 (0.2)	24 (0.1)	0.84 (0.43-1.72)

Abbreviations: IPTW, inverse probability of treatment weights; SGA, small for gestational age.

^a IPTW was used to balance groups in terms of maternal age, conception timing,

parity, seasonal influenza vaccination, population subgroup, and socioeconomic status. Post-IPTW numbers slightly differ from crude pre-IPTW because of propensity weighting.

Q COVID-19疫苗會造成懷孕不良事件嗎?

JAMA Pediatr. 2022 Feb 10.

A 目前沒有COVID-19疫苗增加懷孕不良事件的證據

- ▶ No evident differences between newborns of women who received BNT mRNA vaccination during first trimester, vs those who were not vaccinated

Table 3. Neonatal and Early Infant Outcomes for First Trimester Vaccination^a

	Pre IPTW			Post IPTW ^b		
	Unvaccinated (n = 3584)	Vaccinated (n = 2134)	Risk ratio (95% CI)	Unvaccinated (n = 3570)	Vaccinated (n = 2032)	Risk ratio (95% CI)
Follow-up time, d	86 (57-116)	55 (42-71)		73 (48-105)	63 (48-83)	
Gestational age at delivery, No. (%)						
<37 wk (Overall preterm)	218 (6.1)	158 (7.9)	1.15 (0.91-1.46)	236 (6.6)	126 (6.2)	0.87 (0.67-1.12)
<32 wk (Early preterm)	40 (1.1)	19 (0.9)	0.39 (0.15-0.88)	47 (1.3)	16 (0.8)	0.24 (0.07-0.61)
32-36 wk (Late preterm)	178 (5.0)	149 (7.0)	1.30 (1.01-1.67)	189 (5.3)	110 (5.4)	1.00 (0.76-1.30)
Birth weight, No. (%)						
SGA (small for gestational age)	223 (6.8)	150 (7.5)	1.10 (0.89-1.36)	226 (6.9)	145 (7.9)	1.14 (0.92-1.40)
Low birth weight, <2500 g	188 (5.8)	153 (7.6)	1.12 (0.88-1.43)	206 (6.3)	125 (6.8)	0.95 (0.74-1.22)
Very low birth weight, <1500 g	33 (1.0)	16 (0.8)	0.41 (0.15-0.93)	40 (1.2)	12 (0.6)	0.23 (0.07-0.61)
Unknown, No.	327	124		314	198	
Congenital anomalies, No. (%)						
Heart malformations	49 (1.4)	27 (1.3)	0.93 (0.57-1.47)	44 (1.2)	19 (0.9)	0.75 (0.43-1.26)
Major heart malformations ^c	51 (1.4)	16 (0.7)	0.53 (0.29-0.90)	49 (1.4)	13 (0.6)	0.46 (0.24-0.82)
Any congenital anomalies	87 (2.4)	43 (2.0)	0.83 (0.57-1.19)	76 (2.1)	30 (1.5)	0.69 (0.44-1.04)
All-cause hospitalizations						
Neonatal (1-28 d after birth)	210 (5.9)	115 (5.4)	0.92 (0.73-1.15)	201 (5.6)	99 (4.9)	0.86 (0.67-1.09)
Postneonatal (>28 d after birth)	151 (4.2)	34 (1.6)	0.72 (0.49-1.03)	121 (3.4)	43 (2.1)	0.78 (0.54-1.09)
Phototherapy	33 (0.9)	42 (2.0)	2.14 (1.36-3.40)	36 (1.0)	34 (1.7)	1.71 (1.06-2.73)
Infant death over the study period	6 (0.2)	4 (0.2)	1.68 (0.43-5.88)	8 (0.2)	3 (0.1)	0.69 (0.14-2.41)

分娩週數

出生體重

先天畸形

Taiwan 2014: 2.7 %

入院

照光治療

嬰兒死亡

各國對孕婦施打建議

	建議
台灣 (2021/11)	<ul style="list-style-type: none">英美目前建議懷孕期間任何階段均可接種，孕婦可與醫師就個人孕期狀況、接種風險效益評估後，選擇合適接種的COVID-19疫苗。台灣參考各先進國之作法，孕婦可以追加接種第三劑COVID-19疫苗。
美國 (2022/01)	<ul style="list-style-type: none">COVID-19 vaccination is recommended for people who are pregnant, breastfeeding, trying to get pregnant now, or might become pregnant in the futurePeople who are pregnant should receive a COVID-19 vaccine booster shot when it's time to get one
挪威 (2021/12)	<ul style="list-style-type: none">All pregnant women who have not had two doses of coronavirus vaccine should complete vaccination in the 2nd and 3rd trimesterPregnant women who belong to a risk group, or are exposed to a high disease burden, can also receive a vaccine in the first trimester
澳洲 (2022/02)	<ul style="list-style-type: none">Women can receive the vaccine at any stage of pregnancyIf you are pregnant with severe immunocompromise you should receive a third dose of a COVID-19 vaccine as part of your primary course

Q

打COVID-19疫苗可以哺乳嗎？

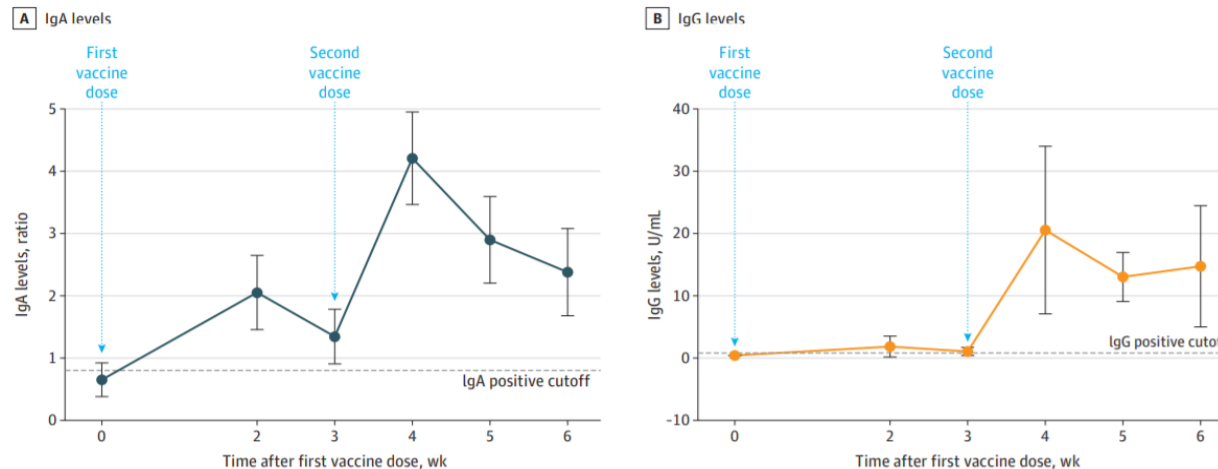


A

可以。雖然缺乏研究資料，但一般認為並不會造成相關風險。

- ▶ Current recommendations **prefer mRNA vaccine** for patients who are lactating and who do not otherwise have contraindications to the vaccine (ACOG 2022; CDC 2022)
- ▶ Clinical trials for the COVID-19 vaccines currently used in the United States did not include people who are breastfeeding

Figure. Changes in Levels of IgA and IgG in Breast Milk Over Time



A, All the comparisons between time points are $P < .001$. B, The comparison point at week 4 is $P = .004$; at week 5, $P < .001$; and at week 6, $P = .005$. Data points represent means; error bars, 95% CIs.

Antibodies found in breast milk, suggesting a potential protective effect against infection in the infant

Q

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Born to women vaccinated at any time prepartum									
TIIV group (n=2064)					MCV group (n=2041)				
By month		Cumulative			By month		Cumulative		
Days of follow-up	Cases*	Days of follow-up	Cases*		Days of follow-up	Cases*	Days of follow-up	Cases*	Cumulative vaccine efficacy (95% CI)
<1 month	61254 0 (0-0)	61254	0 (0-0)		60719	6 (0-10)	60719	6 (0-10)	100% (15.8 to 100)
1 month	60251 2 (0-03)	121505	2 (0-02)		59562	3 (0-05)	120281	9 (0-07)	78.0% (-6.3 to 97.7)
2 months	58886 4 (0-07)	180391	6 (0-03)		58675	10 (0-17)	178956	19 (0-11)	68.7% (18.4 to 89.8)
3 months	57468 5 (0-09)	237859	11 (0-05)		57017	15 (0-26)	235973	34 (0-14)	67.9% (35.1 to 85.3)
4 months	55600 14 (0-25)	293459	25 (0-09)		54913	24 (0-44)	290886	58 (0-20)	57.3% (30.6 to 74.4)
5 months	48485 27 (0-56)	341944	52 (0-15)		47608	19 (0-40)	338494	77 (0-23)	33.1% (3.7 to 53.9)

TIIV=trivalent inactivated influenza vaccine. MCV=quadrivalent meningococcal conjugate vaccine. *Incidence per 1000 infant-days.

Table 2: Maternal influenza vaccine efficacy against first episodes of laboratory-confirmed influenza in infants young

Vaccination of pregnant women with influenza vaccine in Mali—a poorly resourced country with high infant mortality—was technically and logistically feasible and protected infants from laboratory confirmed influenza for 4 months



藥物 與 COVID-19疫苗

Q 我有使用免疫抑制的藥物，可以打疫苗嗎？

A 可以，但某些藥物可能需要與疫苗間隔一段時間

	Recommendation (applies to both primary & booster dosing)	Level of Task Force Consensus ¹
Hydroxychloroquine IVIG	<ul style="list-style-type: none">不須停藥或調整劑量^{1,2}	Strong (HCQ), Moderate (IVIG)
Apremilast* Azathioprine* Cyclosporin* Cyclophosphamide PO* Leflunomide* Methotrexate* Mycophenolate* Sulfasalazine* JAK inhibitors* <ul style="list-style-type: none">BaricitinibTofacitinibUpadacitinib	<ul style="list-style-type: none">接種後停藥1~2週(若疾病控制允許)¹	Moderate

*與先前版本建議不同

Q

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Extended report

Impact of temporary methotrexate discontinuation for 2 weeks on immunogenicity of seasonal influenza vaccination in patients with rheumatoid arthritis: a randomised clinical trial

Jin Kyun Park¹, Yun Jong Lee², Kichul Shin³, You-Jung Ha², Eun Young Lee¹, Yeong Wook Song¹, Yunhee Choi⁴, Kevin L Winthrop⁵, Eun Bong Lee¹

Correspondence to Dr Eun Bong Lee, Division of Rheumatology, Department of Internal Medicine, Seoul National University College of Medicine, Seoul 03080, Korea; leb7616@snu.ac.kr

Abstract

Objective To determine whether a 2-week methotrexate (MTX) discontinuation after vaccination improves the efficacy of seasonal influenza vaccination in patients with rheumatoid arthritis (RA).

Methods In this prospective randomised parallel-group multicentre study, patients with RA on stable dose of MTX were randomly assigned at a ratio of 1:1 to continue MTX or to hold MTX for 2 weeks after 2016–2017 quadrivalent seasonal influenza vaccine containing H1N1, H3N2, B-Yamagata and B-Victoria. The primary outcome was frequency of satisfactory vaccine response, defined as greater than or equal to fourfold increase of haemagglutination inhibition (HI) antibody titre at 4 weeks after vaccination against ≥ 2 of four vaccine strains. Secondary endpoints included seroprotection (ie, HI titre $\geq 1:40$) rate, fold change in antibody titres.

Results The modified intention-to-treat population included 156 patients in the MTX-continue group and 160 patients in the MTX-hold group. More patients in MTX-hold group achieved satisfactory vaccine response than the MTX-continue group (75.5% vs 54.5%, $p < 0.001$). Seroprotection rate was higher in the MTX-hold group than the MTX-continue group for all four antigens (H1N1: difference 10.7%, 95% CI 2.0% to 19.3%; H3N2: difference 15.9%, 95% CI 5.9% to 26.0%; B-Yamagata: difference 13.7%, 95% CI 5.2% to 22.4%; B-Victoria: difference 14.7%, 95% CI 4.5% to 25.0%). The MTX-hold group showed higher fold increase in their antibody titres against all four influenza antigens (all $p < 0.05$). Change in disease activity was similar between groups.

Conclusions A temporary MTX discontinuation for 2 weeks after vaccination improves the immunogenicity of seasonal influenza vaccination in patients with RA without increasing RA disease activity.

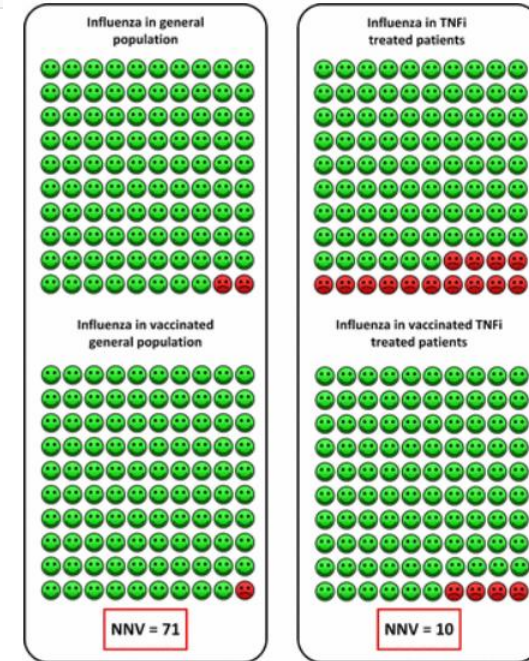
Trial registration [NCT02897011](https://www.clinicaltrials.gov/ct2/show/study?term=NCT02897011).



PDF



XML



NNV: number needed to vaccinate is the required number of patients receiving vaccination to prevent one case of a given infectious disease



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	Recommendation	Level of Task Force Consensus ¹
Abatacept IV Cyclophosphamide IV	• 疫苗建議於開始藥物治療前施打，且兩者需間隔一週 ¹	Moderate
Abatacept SQ Belimumab SQ	• 接種後停藥1~2週(若疾病控制允許) ¹	Moderate
TNFi, IL-6R, IL-1R, IL-17, IL12/23, IL-23, and other cytokine inhibitors*	• ACR未達共識 • ACIP: 一般建議盡可能在使用藥物前2週施打非活性疫苗	Moderate
Rituximab or other anti-CD20 B-cell depleting agents*	• 第一劑疫苗建議於Rituximab治療前4週施打，若疾病允許，第二次的Rituximab應等第二劑疫苗施打完2~4週後再開始	Moderate
Glucocorticoids*	• 若使用劑量 < 20 mg/day of prednisone 且使用天數<2週，則不須停藥或調量 • 若使用劑量 > 20 mg/day，應考慮調降劑量到 < 20 mg/day再施打疫苗。	-

*與先前版本建議不同

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	Route	Recommendation
Alendronate (Fosamax)	Oral	• 不須停藥或調整劑量
Raloxifene (Evista)	Oral	
Risedronate (Reosteo)	Oral	
Teriparatide (Forteo)	SC	
Denosumab (Prolia)	SC	• 與疫苗間隔 4~7 日
Romosozumab (Evenity)	SC	
Zoledronic acid (Aclasta)	IVD	• 與疫苗間隔 7 日
Ibandronate (Boniva)	IVD	

Q

我有使用賀爾蒙/口服避孕藥，可以打疫苗嗎？

A

可以，兩者機轉與發生率相差甚遠，維持好的生活型態較實在



- ▶ Take your hormonal therapies and other medications as prescribed
- ▶ Look after yourself well – don't smoke, drink within safe limits, aim to maintain a normal body weight



2021-5-21 三級指引

指揮中心祭新指引 吃避孕藥也可打AZ疫苗

2021-05-21 17:37 中央社 / 台北21日電

AstraZeneca COVID-19疫苗接種注意事項

2021-4-8



此外，由於服用避孕藥與接受荷爾蒙治療為引起血栓之危險因子，建議現階段前述對象接種前後停藥至少28天。另接種疫苗後14天內，若出現呼吸困難、胸痛、持續腹痛、四肢腫脹或冰冷、持續嚴重頭痛或疼痛加劇、視力模糊、非注射部位出現不尋常出血點、紫斑等症狀，應立即就醫。

2021-3-19

防治諮詢會預防接種組
次臨時會議紀錄

時間：110年3月19日（星期五）下午5時

地點：疾病管制署林森辦公室1樓會議室(中區管制中心1
議室、南區管制中心第1會議室同步視訊)

(三)因服用避孕藥與接受荷爾蒙治療為引起血栓之危險因子，建議現階段前述對象先暫緩接種。如欲接種疫苗，可在停用避孕藥與荷爾蒙治療後至少4週再行接種疫苗。

Q

打COVID-19疫苗會不會過敏？

A

藥物都有可能過敏，須注意是否對內含物過敏

累計接種人次

45,187,411

AZ 15,174,925

Moderna 13,794,583

高端 1,968,658

BNT 14,249,245

Table 2

Summary of the reports from the Center for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA) regarding the anaphylactic reactions to the COVID-19 vaccines BNT162b2 and mRNA-1273.

	BNT162b2	mRNA-1273
Time period evaluated	December 14, 2020 – December 23, 2020	December 21, 2020 – January 10, 2021
Doses administrated (first dose)	1,893,360	4,041,396
Cases of adverse reactions reviewed	175	108
Cases of anaphylaxis (Brighton Collaboration case definition criteria)	21	10
Females (%) among anaphylaxis cases	90	100
Anaphylactic cases per million vaccine doses	11.1	2.5

- 截至 111 年 2 月 9 日止，國內共接獲 38 件疑似 anaphylaxis 之案件。個案年齡範圍介於 14.9 至 73.7 歲 (中位數 41.3 歲)。

- AZ: 23 案 (1.46 case per million vaccine)
- Moderna: 11 案 (0.80 case per million vaccine)
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- 高端: 1 案 (0.51 case per million vaccine)



自由健康網

新聞現時批

醫流專題

名醫名人

抗老養生塑身

謠言終結站

健保長照

疫苗嚴重過敏mRNA類發生率最高 五大系統嚴重過敏症狀需注意

2021/10/23 19:34



	過敏反應 (包括過敏性休克)	迷走神經反應 (包括暈針)
發生時間	通常在接種後 5-30 分鐘後發生	通常在注射時或注射後立即 (5 分鐘內) 發生
相關症狀		
全身性	有即將死亡的感覺 (Feeling of impending doom)	感覺熱或冷
皮膚	過敏性休克 9 成患者會出現皮膚症狀，包括發癢、蕁麻疹、潮紅、眼皮/臉水腫等	臉色蒼白、冒汗、皮膚濕黏 (clammy)、冰冷
神經	意識混亂不清、頭暈、全身虛弱、失去意識、醒來仍反應差	頭暈、頭輕飄飄感 (lightheadedness)、昏厥 (syncope，可能幾秒或幾分鐘前有前驅症狀)、全身虛弱、視力改變 (如光點閃爍、失去周邊視覺)、聽力改變、暫時失去意識、醒來反應佳
呼吸道	呼吸急促、喘鳴 (wheezing、stridor)、支氣管痙攣、喘鳴、低血氧	多變；如果伴有焦慮，呼吸頻率可能上升或過度換氣
心血管	低血壓、心悸過速	多變；昏厥時可能有暫時性低血壓及心悸緩慢
腸胃道	噁心、嘔吐、腹痛、腹瀉	噁心、嘔吐
肌肉骨骼	無	無

接種疫苗後注意嚴重過敏反應。(擷取自COVID-19疫苗與心血管臨床處置線上研討會)

〔記者吳亮儀／台北報導〕目前正進行第12輪武漢肺炎(新型冠狀病毒病，COVID-19)疫苗接種，包括AZ、莫德納、BNT和國產高端疫苗都有；醫師提醒，最要注意的是接種疫苗後出現嚴重過敏反應，這四款疫苗中又以mRNA類疫苗發生率最高，包括莫德納和BNT，發生率約百萬分之2.5到11左右。

疫苗仿單

Allergol Int. 2021 Jul;70(3):313-318.

Q

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AZ牛津

莫德納

BNT

高端

賦形劑成分

- Polysorbate 80
- L-Histidine
- L-Histidine HCl Monohydrate
- 氯化鎂
- 氯化鈉
- 蔗糖
- 酒精
- EDTA-2Na

- PEG-2000
- Trometamol (buffer)
- 脂質 (SM-102、DMG、DSPC)
- 膽固醇
- 乙酸
- 乙酸鈉
- 蔗糖

- PEG-2000
- 脂類
- 膽固醇
- 氯化鉀
- 氯化鈉
- 磷酸二氫鉀
- 磷酸氫二鈉二水合物
- 蔗糖

- CpG 1018 (免疫調節佐劑)
- 氫氧化鋁
- 磷酸鹽緩衝液

Q

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TABLE II. Polysorbate and PEG excipients in select vaccines¹²

Excipient	Vaccine type	Vaccine	Amount per dose
Polysorbate 20	Influenza	Flublok&Flublock quad	≤27.5 µg (Tween20)
Polysorbate 20	Hepatitis A	Havrix	0.05 mg/mL
Polysorbate 20	Hepatitis A&B	Twinrix	Unknown
Polysorbate 20*	SARS-CoV-2 (Sanofi)		
Polysorbate 80	Tdap	Boostrix	≤100 µg (Tween 80)
Polysorbate 80	Influenza	Fluad	1.175 mg
Polysorbate 80	Influenza	Fluarix quad	≤0.055 mg (Tween 80)
Polysorbate 80	Influenza	Flucelvax quad	≤1500 µg (Tween 80)
Polysorbate 80	Influenza	Flulaval Quad	≤887 µg
Polysorbate 80	HPV	Gardasil and Gardasil -9	50 µg
Polysorbate 80	Hepatitis B	Heplisav-B	0.1 mg/mL
Polysorbate 80	DTaP	Infanrix	≤100 µg (Tween 80)
Polysorbate 80	Japanese encephalitis	JE-Vax	<0.0007%
Polysorbate 80	DTaP + IPV	Kinrix	≤100 µg (Tween 80)
Polysorbate 80	DTaP + HepB + IPV	Pediarix	≤100 µg (Tween 80)
Polysorbate 80	Pneumococcal 13-valent	Prevnar 13	100 µg
Polysorbate 80	DTaP + IPV	Quadracel	10 ppm
Polysorbate 80	Rotavirus	RotaTeq	?
Polysorbate 80	Zoster	Shingrix	0.08 mg
Polysorbate 80	Meningococcal group B	Trumenba	0.018 mg
Polysorbate 80	DTaP + IPV + HepB + Hib	Vaxelis	<0.0056%
Polysorbate 80*	SARS-CoV-2 (AstraZeneca)		
	SARS-CoV-2 (Johnson & Johnson)		
PEG2000	SARS-CoV-2 (Moderna)		
	SARS-CoV-2 (Pfizer)		

Q

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TABLE III. Common injectable medications containing PEG¹⁴

Generic name (brand name)	Molecular weight	General description
Methylprednisolone acetate (Depo-Medrol)	PEG 3350	An anti-inflammatory glucocorticoid for intramuscular, intra-articular, soft tissue or intralesional injection
Methoxy polyethylene glycol-epoetin beta (Micera)	30-kD methoxy PEG butanoic acid	Used to treat anemia in adults with chronic kidney disease
Pegfilgrastim (Neulasta)	20-kD monomethoxy PEG	Used to help reduce the chance of infection due to a low white blood cell count, in people with certain types of cancer (nonmyeloid), who receive anticancer medicines (chemotherapy) that can cause fever and low white blood cell count
Medroxyprogesterone acetate (Depo-Provera)	PEG 3350	Contraceptive and adjunctive therapy and palliative treatment of inoperable, recurrent, and metastatic endometrial or renal carcinoma
Brilliant Blue G Ophthalmic Solution (TissueBlue)	PEG 3350	Disclosing agent indicated to selectively stain the internal limiting membrane
Sulfur hexafluoride (Lumason)	PEG 4000	Ultrasound contrast agent
Bimatoprost implant (Durysta)	PEG, unspecified	Reduction of intraocular pressure in patients with open-angle glaucoma or ocular hypertension
Trastuzumab (Herceptin, Herzuma, Kanjinti, Ogivri, Ontruzant)	PEG 3350	Adjuvant treatment of HER2 overexpressing node-positive or node-negative breast cancer
Rilonacept (Arcalyst)	PEG 3350	IL-1 blocker for treatment of cryopyrin-associated periodic syndromes
Perflutren lipid microsphere (Definity)	PEG 5000	Contrast agent used to brighten and clarify images of the heart during echocardiograms



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藥物都有可能過敏，須注意是否對內含物過敏

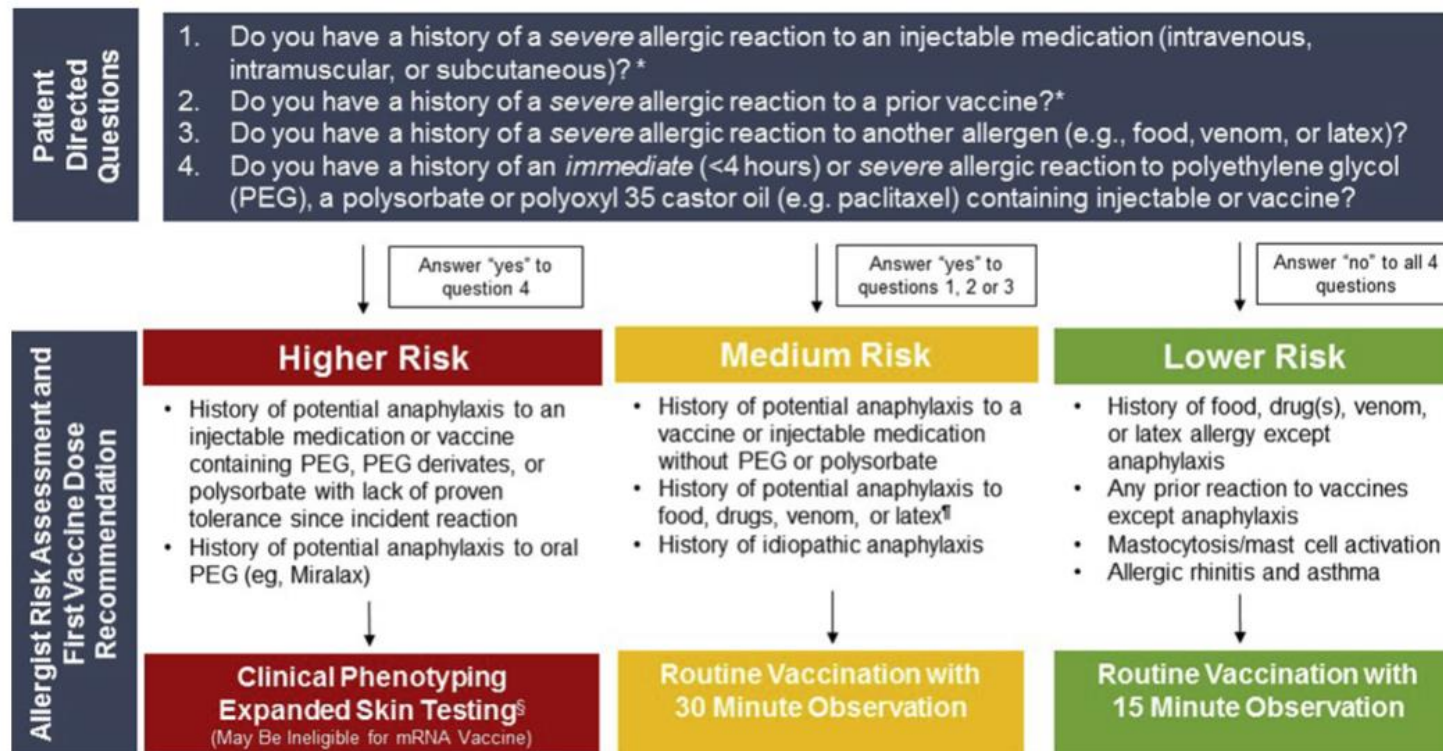


FIGURE 2. Risk stratification pathways with categories based on Mass General Brigham and Vanderbilt allergy expert consensus before initial COVID-19 vaccination. *If “yes” for questions 1 or 2, specific investigation as to the specific injectable products and vaccines should be pursued to determine whether these products could have contained high-molecular-weight PEG, polysorbate, or polyoxyl 35 castor oil (paclitaxel). See [Tables II, III, and IV](#). [¶]Current CDC guidance suggests 30 minutes of observation for patients with any history of anaphylaxis. [§]See [Figures 3 and 4](#) for expanded skin testing procedures and non-irritating skin test concentrations. If skin testing to PEG is positive, as of December 28, 2020, Pfizer-BioNTech and Moderna are the only FDA approved vaccines and under EUA can not be given to an individual with a history of anaphylaxis to a component of the COVID-19 mRNA vaccine. Skin testing to polysorbate 20 and 80 become more important for patients with confirmed severe PEG allergy with regards to the safety of future vaccinations.

A glass vial of Pfizer-BioNTech COVID-19 vaccine with a black cap. The label is partially visible, showing text about dilution and use. The background is dark with faint medical icons like test tubes, a heart with a pulse line, a cross, and a pill.

CGTN *FACTS TELL*

VACCINE RUMORS KILL YOU

打破謠言，破除迷思

迷思

mRNA疫苗攜帶新冠病毒核酸，會造成感染。

事實

mRNA疫苗並未攜帶新冠病毒核酸，也不會造成感染。

迷思

mRNA疫苗會改變DNA。

事實

mRNA疫苗不會進入細胞核，更不會嵌入DNA。

迷思

腺病毒載體疫苗會鑲入人體的DNA。

事實

腺病毒不具人體內複製力、亦無人體致病性。

迷思

COVID-19疫苗會造成病毒變異。

事實

COVID-19病毒變異是自然進程，與疫苗無關。

打破謠言，破除迷思

迷思

COVID-19疫苗會造成病毒檢測呈現陽性。

事實

COVID-19疫苗不會造成檢驗呈陽性。

迷思

COVID-19疫苗含有微小晶片。

事實

所有疫苗均不含晶片，疫苗是用來抵抗疾病而非追蹤足跡。

迷思

COVID-19疫苗會造成身體磁性，不可以做MRI。

事實

施打COVID-19疫苗不會產生磁性，疫苗裡亦不含金屬。

迷思

施打COVID-19疫苗會造成不孕。

事實

目前沒有證據顯示對COVID疫苗對生育力有不良影響。

風險溝通之實務建議

存在於城鄉與世代之間的技術資源差距，所造成的防疫能力落差與健康不平等

- ▶ 避免單點與一次性溝通，轉譯完整詳細資訊
- ▶ 正視情感面決策因素，避免標籤化
- ▶ 建立社區層次的經營與維持
- ▶ 「不良事件」與「突破性感染」為疫苗猶豫關鍵
- ▶ 「通行證」與「感性因素」有助強化民眾接種意願
- ▶ 技術性細節說明影響整體信任

“你沒有一些基礎的生物學、基礎的免疫學的知識的話，這些訊息其實對我們來說沒有任何意義，因為我判斷不出來。...”

(G01小園、50餘歲、待業、居住於桃園城鎮)

“那張說明書真的又臭又長，很多人就是只有國小畢業的，識讀沒那麼好的，他們拿那張單簽了，可是其實並沒有很能夠理解那些副作用是什麼...”

(S01、阿玲、40餘歲、個管師、居住於雙北)



感謝聆聽

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