

## Supplementary Material

### Preferences for COVID-19 vaccination in people with chronic immune-mediated inflammatory diseases

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**Supplementary Table S1. Characteristics of Medications Held**

Medication	No	Yes, held before vaccine	Yes, held after vaccine	Yes, held before and after vaccine
Any medication	451 (82%)	22 (4%)	50 (9%)	71 (13%)
Anti-TNF inhibitors	125 (80.1)	4 (2.6)	13 (8.3)	14 (9)
Rituximab	4 (50)	1 (12.5)	0 (0)	3 (37.5)
Vedolizumab	29 (100)	0 (0)	0 (0)	0 (0)
Other biologic DMARDS	49 (81.7)	0 (0)	5 (8.3)	6 (10)
JAK Inhibitors	15 (65.2)	0 (0)	4 (17.4)	4 (17.4)
Methotrexate	58 (42)	8 (5.8)	25 (18.1)	47 (34.1)
Azathioprine (Imuran) or 6-mercaptopurine	53 (94.6)	2 (3.6)	1 (1.8)	0 (0)
Hydroxychloroquine (Plaquenil)	135 (94.4)	3 (2.1)	2 (1.4)	3 (2.1)
Leflunomide (Arava)	17 (100)	0 (0)	0 (0)	0 (0)
Sulfasalazine	34 (85)	0 (0)	2 (5)	4 (10)
Mycophenolate mofetil (CellCept)	20 (95.2)	0 (0)	1 (4.8)	0 (0)
Calcineurin inhibitors	6 (100)	0 (0)	0 (0)	0 (0)
Prednisone (20mg per day or less)	26 (83.9)	1 (3.2)	0 (0)	4 (12.9)
Prednisone (more than 20mg per day)	2 (100)	0 (0)	0 (0)	0 (0)
Other	46 (83.6)	3 (5.5)	3 (5.5)	3 (5.5)
None	29 (93.5)	1 (3.2)	0 (0)	1 (3.2)

**Supplementary Table S2. Perceived concerns of COVID-19 infection and concerns and benefits of vaccination**Biggest concern about Covid-19 (scale 0 to 10), median (25<sup>th</sup>, 75<sup>th</sup> percentiles)

Dying due to COVID-19 disease	6 (3, 9)
Ending up in hospital due to COVID-19 disease	8 (5, 10)
Chronic long-term COVID-19 symptoms that interfere with your quality of life and/or ability to work	8 (5, 10)
Passing COVID-19 on to family and friends	9 (6, 10)
Passing COVID-19 on to members of your community	8 (5, 10)
Impact of COVID-19 on society and the economy	8 (5, 10)
Important benefits of Covid-19 vaccine, n (%)	
Protect myself from getting COVID-19	533 (96.7)
Protect family and friends from getting COVID-19	531 (96.4)
Protect others in my community from getting COVID-19	494 (89.7)
Protect myself from needing to go to hospital or dying from COVID-19	524 (95.1)
Get my life back to normal	436 (79.1)
Greater freedom of movement (able to leave home or travel)	469 (85.1)
Peace of mind	474 (86.0)
Return society to normal	435 (78.9)
Other	21 (3.8)
Potential concerns about the Covid-19 vaccine, n (%)	
Known/Reported side effects	245 (44.5)
Allergic reaction	127 (23.1)
New/Unknown side effects	274 (49.7)
Uncertainty about how well it works	231 (41.9)
General distrust in all vaccines	14 (2.5)
General distrust in COVID-19 vaccines	33 (6.0)
May not be effective for me	266 (48.3)
May cause my autoimmune condition to get worse	257 (46.6)
Developed too quickly, without enough testing	100 (18.1)
Unnecessary for me (I don't feel my risk of getting COVID-19 is very high)	7 (1.3)
Other	22 (4.0)

**Supplementary Table S3. Results of internal validity testing**

Test Type	DCE Study No. of Failures / No. of Tests (%)	Published DCE % Failures [1] (Mean (SD))
Straight-lining	15 / 551 (3%)	7 (11)
Within-set dominated pairs	3 / 187 (0.5%)	18 (20)
Across-set dominated pairs	23 / 12,484 (0.2%)	6 (9)

**Summary of results:**

*Straight-lining*: Participants choosing the same option (A or B) in every choice or nearly every choice. Of the 551 respondents, three respondents (0.5%) chose the same alternative (A or B) in every choice, three chose the same alternative in 9 of 10 tasks, and nine respondents (1.6%) chose the same alternative in 8 of 10 tasks.

*Within-set dominated pairs*\*: Participants choosing an option that was objectively worse for all attributes. Of the 187 times a clearly dominated alternative was present in a choice task, the dominated alternative was selected three times (0.5%).

*Across-set dominated pairs*\*: Where a choice option is presented in two questions and patients choose this option in one question and an inferior choice in the second question. Of the 12,484 tests, the dominated alternative was chosen 23 times. In all 23 cases (17 participants failed one test and three participants failed two tests), participants chose a vaccination option in one choice-task and chose the none option in a subsequent choice, even though there was a better vaccination option than the previous choice task.

\*In the dominated alternative tests, we assumed vaccine effectiveness, flare and rare but serious risks had an unambiguous preference ordering (e.g. more effective and safer vaccines being preferred). We did not assume a preference for number of doses. Therefore, we only conducted these tests for choices where the number of doses was the same for both vaccine options.

**Supplementary Table S4. Association between patient characteristics and group membership in the latent class analysis**

Patient Characteristics	Risk averse group* (N = 111)	Risk tolerant group** (N = 440)	Univariate associations		Multivariable associations	
			Odds ratio (95% CI)	P-value	Odds ratio (95% CI)	P-value
Age, mean (SD)	48 (16)	46 (14)	1.01 (0.99, 1.02)	0.332	0.99 (0.97, 1.01)	0.164
Female gender, n (%)	93 (83.8)	395 (89.8)	0.59 (0.33, 1.06)	0.079	0.47 (0.24, 0.91)	0.025
Caucasian ethnicity, n (%)	91 (82.0)	397 (90.2)	0.49 (0.28, 0.88)	0.016	0.68 (0.34, 1.39)	0.292
Education university degree or above, n (%)	59 (53.2)	231 (52.5)	1.01 (0.66, 1.53)	0.975	--	--
Annual household income >100,000, n (%)	31 (27.9)	192 (43.6)	0.50 (0.32, 0.79)	0.003	0.46 (0.28, 0.76)	0.003
Employment status working, n (%)	75 (67.6)	282 (64.1)	1.17 (0.75, 1.82)	0.493	--	--
Immune Mediated Inflammatory Disease, n (%)						
Inflammatory arthritis	47 (42.3)	198 (45.0)	0.90 (0.59, 1.37)	0.615	--	--
Inflammatory bowel disease (IBD) – (Crohn’s Disease / Ulcerative Colitis)	40 (38.5)	213 (48.4)	0.68 (0.44, 1.04)	0.076	1.08 (0.57, 2.06)	0.814
Systemic lupus erythematosus (SLE)	22 (19.8)	66 (15.0)	1.40 (0.82, 2.39)	0.217	--	--
Medications, n (%)						
TNF inhibitors, JAK inhibitors, Other biologic DMARDS	52 (46.8)	236 (53.6)	0.76 (0.50, 1.16)	0.201	--	--
Rituximab / Mycophenolate mofetil (CellCept)*	10 (9.0)	20 (4.5)	2.08 (0.94, 4.58)	0.069	1.95 (0.72, 5.32)	0.191
Patient global assessment of disease activity (scale 0 to 10), median (25 <sup>th</sup> , 75 <sup>th</sup> percentile)	3 (1, 6)	2 (2, 6)	0.97 (0.89, 1.05)	0.413	--	--
Flares requiring a change in treatment in the past year, median (25 <sup>th</sup> , 75 <sup>th</sup> )	1 (0, 3)	1 (0, 3)	1.01 (0.99, 1.03)	0.424	--	--
Number of comorbidities, median (25 <sup>th</sup> , 75 <sup>th</sup> )	0 (0, 1)	0 (0, 1)	1.10 (0.84, 1.43)	0.499	--	--
Current smoker, n (%)	6 (5.4)	19 (4.3)	1.27 (0.49, 3.25)	0.624	--	--
Covid-19 vaccinated, n (%)	107 (96.4)	412 (93.6)	1.82 (0.62, 5.29)	0.273	--	--
Covid Vaccine Concerns, n (%)						
May cause my autoimmune condition to get worse	58 (52.5)	199 (45.2)	1.33 (0.87, 2.01)	0.186	--	--
New / unknown side effects	58 (52.5)	216 (49.1)	1.13 (0.75, 1.72)	0.552	--	--
Known / reported side effects	52 (46.9)	193 (43.9)	1.13 (0.74, 1.71)	0.217	--	--
Recruited through a clinical cohort	41 (36.9)	101 (23.0)	1.97 (1.26, 3.07)	0.003	1.67 (0.85, 3.28)	0.138

\*Latent class #1 in Figure 2

\*\*Latent classes #2 and #3 in Figure 2 combined

**References**

1. Johnson FR, Yang JC, Reed SD. The Internal Validity of Discrete Choice Experiment Data: A Testing Tool for Quantitative Assessments. *Value Health*. 2019 Feb; 22(2):157-160.

## What is this survey about?

As you know, there are now several effective, approved vaccines that could make a big difference in global efforts to help control the COVID-19 pandemic.

However, we know that some people have concerns about taking the vaccine, including those living with autoimmune conditions.

The purpose of this survey is to share what we know about COVID-19 vaccines so far, and to understand **your preferences around having (or not having) a vaccine**, when it is available to you.

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## About you

Which of the following autoimmune conditions do you have (check all that apply)?

- Ankylosing spondylitis / spondyloarthritis
- Behcet's disease
- Inflammatory bowel disease (IBD) - Crohn's Disease
- Inflammatory bowel disease (IBD) - Ulcerative Colitis
- Juvenile idiopathic arthritis (JIA)
- Myositis
- Multiple sclerosis (MS)
- Polymyalgia rheumatica (PMR)
- Psoriasis
- Psoriatic arthritis
- Reactive arthritis
- Rheumatoid arthritis (RA)
- Scleroderma
- Sjogren's syndrome
- Systemic lupus erythematosus (SLE)
- Vasculitis
- Other
- None

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**Please indicate if your diagnosis (or diagnoses) has been confirmed by a specialist (select any/all that apply):**

- Ankylosing spondylitis / spondyloarthritis
- Behcet's disease
- Inflammatory bowel disease (IBD) - Crohn's Disease
- Inflammatory bowel disease (IBD) - Ulcerative Colitis
- Juvenile idiopathic arthritis (JIA)
- Myositis
- Multiple sclerosis (MS)
- Polymyalgia rheumatica (PMR)
- Psoriasis
- Psoriatic arthritis
- Reactive arthritis
- Rheumatoid arthritis (RA)
- Scleroderma
- Sjogren's syndrome
- Systemic lupus erythematosus (SLE)
- Vasculitis
- Other
- None

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## Your medications

Which medications are you currently taking for your autoimmune condition/s?

- Abatacept (Orencia)
- Adalimumab (Humira, Hadlima, Hyrimoz, Idacio, Hulio, Amgevita)
- Anakinra (Kineret)
- Azathioprine (Imuran) or 6-mercaptopurine
- Baricitinib (Olumiant)
- Belimumab (Benlysta)
- Budesonide (Entocort)
- Canakinumab (Ilaris)
- Certolizumab (Cimzia)
- Chloroquine (Aralen)
- Cyclophosphamide
- Cyclosporine
- Etanercept (Enbrel, Brenzys, Erelzi)
- Golimumab (Simponi)
- Hydroxychloroquine (Plaquenil)
- Infliximab (Remicade, Inflectra, Renflexis, Remsima, Avsola)
- Ixekizumab (Taltz)
- Leflunomide (Arava)
- Mesalamine (Asacol, Pentasa, Salofalk, Mezavant)
- Methotrexate
- Mycophenolate mofetil (CellCept)
- Prednisone (20mg per day or less)
- Prednisone (more than 20mg per day)
- Rituximab (Rituxan, Riximyo, Ruxience)
- Secukinumab (Cosentyx)
- Sulfasalazine
- Tacrolimus
- Tocilizumab (Actemra)
- Tofacitinib (Xeljanz)
- Upadacitinib (Rinvoq)
- Ustekinumab (Stelara)
- Vedolizumab (Entyvio)
- Other
- None

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## How do the COVID-19 vaccines work?

All vaccines work by training your immune system to respond to an infection. They do this in different ways. Some, including the flu shot and COVID-19 vaccines in development, use a small, dead piece of the virus called a protein.

Other vaccines, such as those currently approved for COVID-19, give your cells instructions on how to make this protein. Your immune system learns to recognize this protein. If you become infected with the virus, your body gets rid of the infection so you do not become sick.

**These vaccines do not contain live virus, so there is no chance of getting COVID-19 from them.**

More detailed and up-to-date information on the COVID-19 vaccines available can be found on the Government of Canada website (<https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19/vaccines.html>).

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## What are the benefits of the COVID-19 vaccine?

These are some of the most important benefits of the COVID-19 vaccine:

### Preventing COVID-19 infection

These vaccines prevent ~60% to 95% of COVID-19 infections in people who get the vaccines. This is even better than the annual flu vaccine, which prevents the flu around 40% to 60% of the time.

### Reducing severity of COVID-19

COVID-19 is less severe in people who get the vaccine.

### Protecting others

Getting vaccinated yourself may also protect people around you. As more people get vaccinated, we will see less COVID-19 spread.

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## What about side effects or risks?

Like all vaccines, there are some possible temporary side effects or risks with the COVID-19 vaccine:

- sore arm where the injection was given
- temporarily swollen lymph nodes
- tiredness
- fever, chills
- headache
- general muscle or joint pain

Side effects vary from person to person. They usually wear off within a day or so, but some people can have reactions that last several days and could cause them to miss school, work or family activities.

There is a risk of allergic reactions in those people with allergies to a part of the COVID-19 vaccine, which can be severe. For this reason, you must remain under observation where you get the vaccine for at least 15 minutes after the vaccination (this is also true for other types of vaccinations).

Other rare but serious side effects may also be identified; for example, recent reports of blood clots with some COVID-19 vaccines.

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## What you need to know if you have an autoimmune condition

### Is the vaccine still safe and effective?

**We don't yet know** about the side effects or how well COVID-19 vaccines work in people with autoimmune conditions. People with these conditions were mostly excluded from COVID-19 vaccine trials.

**We do know** that other vaccines (e.g. flu vaccines) provide good protection for most people with autoimmune conditions, with side effects similar to the general population. Other vaccines do not usually trigger flares of autoimmune conditions. We'll continue to learn more about this as more people receive the COVID-19 vaccine.

**These vaccines do not contain live COVID-19 virus, so there is no chance of getting COVID-19 from them.**

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**Great!**

We will now ask some questions to understand your thoughts, concerns and preferences around the COVID-19 vaccine.

Please remember there are no right or wrong answers. We are interested in your preferences.

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## Your biggest concerns about COVID-19

How concerned are you about each of these (on a scale of 0-10)?

	(not concerned)	0	1	2	3	4	5	6	7	8	9	10	(very concerned)
Dying due to COVID-19 disease													
Ending up in hospital due to COVID-19 disease													
Chronic long-term COVID-19 symptoms that interfere with your quality of life and/or ability to work													
Passing COVID-19 on to family and friends													
Passing COVID-19 on to members of your community													
Impact of COVID-19 on society and the economy													

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## Benefits of the COVID-19 vaccine

Below are some potential benefits of having the COVID-19 vaccine.

Please select **any/all** that are important to you.

- Protect myself from getting COVID-19
- Protect family and friends from getting COVID-19
- Protect others in my community from getting COVID-19
- Protect myself from needing to go to hospital or dying from COVID-19
- Get my life back to normal
- Greater freedom of movement (able to leave home or travel)
- Peace of mind
- Return society to normal
- Other

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## Concerns about the COVID-19 vaccine

Below are some potential concerns people may have about having the COVID-19 vaccine.

Please select **any/all** that are of concern to you (or were a concern to you before having the COVID-19 vaccine, if you have already had it).

- Known/Reported side effects
- Allergic reaction
- New/Unknown side effects
- Uncertainty about how well it works
- General distrust in all vaccines
- General distrust in COVID-19 vaccines
- May not be effective for me
- May cause my autoimmune condition to get worse
- Developed too quickly, without enough testing
- Unnecessary for me (I don't feel my risk of getting COVID-19 is very high)
- Other

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## Some questions about you and the COVID-19 vaccine

**Have you been tested for COVID-19?**

- Yes
- No
- Prefer not to say

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**Was your COVID-19 test positive?**

- Yes
- No
- Prefer not to say

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**Have you already had a COVID-19 vaccine?**

- Yes
- No

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**If given a choice, which of these COVID-19 vaccines would you have (select all that apply)?**

- AstraZeneca-Oxford
- Johnson & Johnson
- Moderna
- Pfizer-BioNTech
- None of the above
- I'm not sure

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**Which COVID-19 vaccine did you have?**

- AstraZeneca-Oxford
- Johnson & Johnson
- Moderna
- Pfizer-BioNTech
- Other
- Unsure

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**How many doses have you had?**

- 1
- 2

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**Before you had your COVID-19 vaccine, did you have a preference (please select any/all that apply)?**

- AstraZeneca-Oxford
- Johnson & Johnson
- Moderna
- Pfizer-BioNTech
- I had no preference

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**Did you interrupt or hold any of your autoimmune medications around the time you had the COVID-19 vaccine?**

	No	Yes, held before vaccine	Yes, held after vaccine	Yes, held before and after vaccine
Abatacept (Orencia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adalimumab (Humira, Hadlima, Hyrimoz, Idacio, Hulio, Amgevita)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anakinra (Kineret)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Azathioprine (Imuran) or 6-mercaptopurine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Baricitinib (Olumiant)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Belimumab (Benlysta)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Budesonide (Entocort)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Canakinumab (Ilaris)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Certolizumab (Cimzia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chloroquine (Aralen)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyclophosphamide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyclosporine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Etanercept (Enbrel, Brenzys, Erelzi)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Golimumab (Simponi)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hydroxychloroquine (Plaquenil)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infliximab (Remicade, Inflectra, Renflexis, Remsima, Avsola)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ixekizumab (Taltz)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leflunomide (Arava)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mesalamine (Asacol, Pentasa, Salofalk, Mezavant)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Methotrexate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mycophenolate mofetil (CellCept)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prednisone (20mg per day or less)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prednisone (more than 20mg per day)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rituximab (Rituxan, Riximyo, Ruxience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Secukinumab (Cosentyx)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sulfasalazine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tacrolimus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tocilizumab (Actemra)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tofacitinib (Xeljanz)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Upadacitinib (Rinvoq)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ustekinumab (Stelara)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vedolizumab (Entyvio)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="text"/>				

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## Introduction to choice questions

On the next few pages, we will show you 2 different COVID-19 vaccine options, and ask you to **pick the ONE that you prefer.**

There are no wrong answers... we are interested in **YOUR preferences.**

The vaccine options will not necessarily reflect real COVID-19 vaccines that are available. However, we ask that you read each option, and answer as if they were real options that were available to you now.

We will start with a "warm-up" question for you to get used to the choice questions style.

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## Warm-up example

If these 2 COVID-19 vaccine options were presented to you now, which would you choose?

**\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

	Option 1	Option 2	Option 3
<b>Number of shots</b>	1 shot (as tested in the trials)	Two shots (separated by 4 months, as tested in the trials)	I would not have either of these vaccines
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	95%	75%	
	Select	Select	Select

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**Great!**



The warm-up question had just two considerations (number of shots and vaccine effectiveness). In the full choice questions, there will be four.

These are:

- Number of shots
- Vaccine effectiveness after full dose (preventing symptomatic COVID-19 infection)
- Likelihood of having a flare of your autoimmune condition in the month after having the vaccine
- Rare but serious risks (in addition to the small chance of allergic reaction)

**We will explain these over the next 4 pages.**

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**Consideration 1 of 4****Number of shots**Survey options:

- One shot
- Two shots (separated by 1 month, as tested in the trials)
- Two shots (separated by 4 months, longer than tested in the trials)

COVID-19 vaccines require one or two injections (shots). Full protection is typically achieved 2 weeks after the last dose. For vaccines that require 2 shots, the first shot still provides some (but not full) protection.

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**Consideration 2 of 4****Vaccine effectiveness after full dose (preventing symptomatic COVID-19 infection)**Survey options:

- Ranging from 30% to 95%

This is the how well the vaccine works to prevent COVID-19 infection. A vaccine that is 70% effective means it prevents infection in 70 out of 100 people after the full vaccine dose (up to 2 shots). By 'symptomatic' we mean symptoms such as fever, shortness of breath or cough. If you develop symptomatic COVID-19, the chance of you being hospitalized or dying will vary by your age and other risk factors.

In this survey, please interpret the percentage shown as if it applies specifically for you. Assume that it factors in any impact your medications may have on the effectiveness of the vaccine.

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**Consideration 3 of 4****Likelihood of having a flare of your autoimmune condition in the month after having the vaccine.**Survey options:

- Ranging from Less than 1% to 20%

By 'flare' we mean an increase in disease activity that is serious enough for you to contact your physician or healthcare team, and requires medication to treat. In many cases, this will just mean short-term medication, although some patients might need more major changes to their treatment.

It is important to note that we DO NOT think that vaccines cause flares of disease. However, in this survey, we are interested in understanding how important this is to you, given the benefits of vaccines.

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## Consideration 4 of 4

### **Rare but serious risks**

#### Survey options:

- None identified
- 1 out of 1,000,000
- 5 out of 1,000,000
- 10 out of 1,000,000

With any vaccine, there is a small chance of a serious allergic reaction, called anaphylaxis. It usually happens within 15 minutes after a person receives the vaccine and is treatable.

Occasionally, other rare but serious side effects are also identified. An example is the blood clots identified with some COVID-19 vaccines. These can be fatal, but can also be treated if recognized quickly.

It is helpful to compare the likelihood of these risks with those from COVID-19 itself. For example, an average 45 year-old in Canada with COVID-19 has a 6% risk\* of hospitalization. This means that 60,000 out of 1,000,000 45 year-olds with COVID-19 would be hospitalized. This compares to between 1 and 10 people (out of 1,000,000) having a rare but serious side effect from the vaccine.

**For this survey, we ask you to consider potential rare but serious side effects that are in addition to the small chance of an allergic reaction possible with all the vaccines.**

\*Source: <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html#a7>

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## Let's begin!

We're now ready to start with the choice questions (there are 10 in total).

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(1 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	50%	30%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	10%	Less than 1%	
<b>Rare but serious risks</b>	None identified	1 out of 1,000,000	
<b>Number of shots</b>	Two shots (separated by 4 months, longer than tested in the trials)	1 shot (as tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(2 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	95%	75%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	5%	1%	
<b>Rare but serious risks</b>	5 out of 1,000,000	10 out of 1,000,000	
<b>Number of shots</b>	Two shots (separated by 1 month, as tested in the trials)	Two shots (separated by 4 months, longer than tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(3 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	75%	95%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	2%	20%	
<b>Rare but serious risks</b>	10 out of 1,000,000	5 out of 1,000,000	
<b>Number of shots</b>	Two shots (separated by 1 month, as tested in the trials)	1 shot (as tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(4 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	50%	30%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	2%	Less than 1%	
<b>Rare but serious risks</b>	1 out of 1,000,000	None identified	
<b>Number of shots</b>	1 shot (as tested in the trials)	Two shots (separated by 1 month, as tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(5 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	30%	50%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	5%	1%	
<b>Rare but serious risks</b>	None identified	5 out of 1,000,000	
<b>Number of shots</b>	Two shots (separated by 4 months, longer than tested in the trials)	Two shots (separated by 1 month, as tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(6 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	30%	95%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	5%	10%	
<b>Rare but serious risks</b>	1 out of 1,000,000	10 out of 1,000,000	
<b>Number of shots</b>	1 shot (as tested in the trials)	Two shots (separated by 4 months, longer than tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(7 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	75%	50%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	10%	20%	
<b>Rare but serious risks</b>	1 out of 1,000,000	None identified	
<b>Number of shots</b>	1 shot (as tested in the trials)	Two shots (separated by 4 months, longer than tested in the trials)	
	<input type="button" value="Select"/>	<input type="button" value="Select"/>	<input type="button" value="Select"/>

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(8 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	75%	95%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	20%	1%	
<b>Rare but serious risks</b>	5 out of 1,000,000	1 out of 1,000,000	
<b>Number of shots</b>	Two shots (separated by 1 month, as tested in the trials)	Two shots (separated by 4 months, longer than tested in the trials)	
	Select	Select	Select

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(9 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	50%	95%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	Less than 1%	2%	
<b>Rare but serious risks</b>	10 out of 1,000,000	5 out of 1,000,000	
<b>Number of shots</b>	1 shot (as tested in the trials)	Two shots (separated by 4 months, longer than tested in the trials)	
	<input type="button" value="Select"/>	<input type="button" value="Select"/>	<input type="button" value="Select"/>

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**If these were your COVID-19 vaccine options, which one would you choose?****\*\*Important: If you have already had a COVID-19 vaccine, please respond as though you haven't yet.\*\***

(10 of 10)

	Vaccine 1	Vaccine 2	None
<b>Vaccine effectiveness after full dose (preventing symptomatic COVID-19)</b>	95%	30%	I would not have either of these vaccines
<b>Likelihood your autoimmune condition will flare in the month after having the vaccine</b>	20%	2%	
<b>Rare but serious risks</b>	None identified	None identified	
<b>Number of shots</b>	Two shots (separated by 1 month, as tested in the trials)	Two shots (separated by 1 month, as tested in the trials)	
	Select	Select	Select

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## Final questions

These help us to understand your potential COVID-19 risk.

**What is your age?**

**What is your gender identity?**

- Male
- Female
- Non-binary / third gender
- Prefer not to answer
- Other

**What is your ethnic origin (select all that apply)?**

- Asian
- Black
- Caucasian
- First Nations
- Hispanic
- South Asian
- Other
- Prefer not to answer

**Considering all the ways in which illness and health conditions may affect you at this time, please indicate below how you are doing:**

	0	1	2	3	4	5	6	7	8	9	10	
Very well												Very poorly

**In the past year, approximately how many flares of your autoimmune condition have you had?**

By 'flare' we mean an increase in disease activity that is serious enough for you to contact your physician or healthcare team, and requires medication to treat. In many cases, this will just mean short-term medication, although some patients might need more major changes to their treatment.

**Select highest level received:**

- Elementary school
- High school
- Some postsecondary

- Postsecondary certificate or diploma
- University bachelor's degree
- Above university bachelor's degree
- Other
- Prefer not to answer

**What is your annual household income?**

- <\$20,000
- \$20,000-\$49,999
- \$50,000-\$99,999
- \$100,000-\$249,000
- >\$250,000
- Prefer not to answer

**Do you currently work inside or outside your home (this is to better understand your possible exposure to COVID-19)?**

- Inside my home
- Outside my home
- I am not currently working
- Prefer not to answer

**Which province do you live in?**

- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland and Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon
- Not applicable (I live outside Canada)
- Prefer not to answer

**What are the first 3 digits of your postcode?**

*This allows us to understand the risk of COVID-19 in the community you live in.*

- Postcode
- Not applicable (I live outside Canada)

Prefer not to answer

The following conditions have been listed by the Government of Canada as risk factors for more severe outcomes (see [Canada.ca/coronavirus](https://Canada.ca/coronavirus)).

**Please indicate if you have any of the following chronic conditions (select any/all that apply):**

- Lung Disease
- Heart Disease
- High Blood Pressure (Hypertension)
- Diabetes
- Kidney Disease
- Liver Disease
- Dementia
- Stroke
- Cancer

**Do you smoke (cigarettes)?**

- Yes
- No (never)
- No (but have in the past)
- Prefer not to answer

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## Summary and invitation to future research

Thank you for all your responses.

We are hoping to conduct additional studies to better understand the benefits and safety of COVID-19 vaccines in people with autoimmune conditions. If you would like to receive an e-mail about these studies, when available, please provide your email address below. Your email address will not be shared outside of our research team.

By opting in, you are under no obligation to participate in any of the studies you receive information about, and you can request to opt out of receiving our research emails at any time. Thank you.

**(Optional) Please enter your email address here:**

Any other comments:

Thank you again for your participation.

**Please click Next to submit the survey.**

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**Thank you very much for your participation.**

