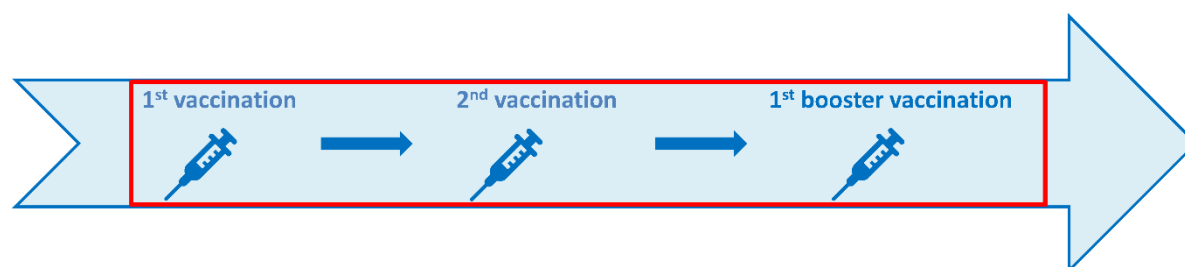


Supplementary File S1. Third follow up questionnaire

MS Immunotherapy

Have you changed or stopped your MS immunotherapy since the 1st COVID vaccination?



☐ Yes

☐ No

If yes, how are you currently being treated?

<input type="checkbox"/> Alemtuzumab / Lemtrada	<input type="checkbox"/> Azathioprine / Imurek
<input type="checkbox"/> Cladribine / Mavenclad	<input type="checkbox"/> Cyclophosphamide / Endoxan
<input type="checkbox"/> Daclizumab / Zinbryta	<input type="checkbox"/> Dimethyl fumarate / Tecfidera
<input type="checkbox"/> Fingolimod / Gilenya	<input type="checkbox"/> Glatiramer acetate / Clift
<input type="checkbox"/> Glatiramer acetate / Copaxone	<input type="checkbox"/> Immunglobulin / IVIG / Octagam
<input type="checkbox"/> Interferon beta-1a / Avonex	<input type="checkbox"/> Interferon beta-1a / Rebif22
<input type="checkbox"/> Interferon beta-1a / Rebif44	<input type="checkbox"/> Interferon beta-1b / Betaferon
<input type="checkbox"/> Interferon beta-1b / Extavia	<input type="checkbox"/> Methotrexate
<input type="checkbox"/> Mitoxantrone / Novatron	<input type="checkbox"/> Mitoxantrone / Ralenova
<input type="checkbox"/> Natalizumab / Tysabri	<input type="checkbox"/> Ocrelizumab / Ocrevus
<input type="checkbox"/> Ofatumumab / Kesimpta	<input type="checkbox"/> Ozanimod / Zeposia
<input type="checkbox"/> Peginterferon beta-1a / Plegridy	<input type="checkbox"/> Ponesimod / Ponvory
<input type="checkbox"/> Rituximab / MabThera	<input type="checkbox"/> Siponimod / Mayzent
<input type="checkbox"/> Steroids - Long-term therapy, longer than 2 months	<input type="checkbox"/> Steroids – Pulse therapy
<input type="checkbox"/> Steroids intrathecal	<input type="checkbox"/> Teriflunomide / Aubagio
<input type="checkbox"/> No treated at all (therapy break with planned continuation/switch)	<input type="checkbox"/> No treated at all (therapy stop without planned continuation/switch)
<input type="checkbox"/> Other:	

How long have you been treated with the current immunotherapy?

____ (MM.YYYY)

Have there been any other changes in therapy between the immunotherapy at the time of the 1st COVID vaccination and the current immunotherapy?

☐ Yes

☐ No

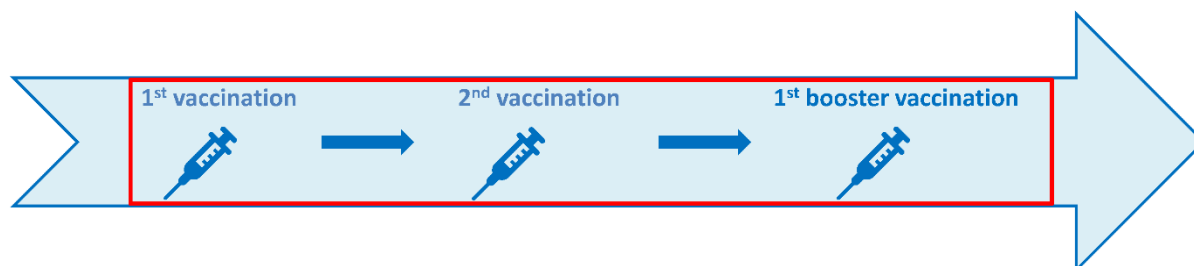
If yes, which of the following therapies did you receive during this time (multiple answers possible)?

<input type="checkbox"/> Alemtuzumab / Lemtrada	<input type="checkbox"/> Azathioprine / Imurek
<input type="checkbox"/> Cladribine / Mavenclad	<input type="checkbox"/> Cyclophosphamide / Endoxan
<input type="checkbox"/> Daclizumab / Zinbryta	<input type="checkbox"/> Dimethyl fumarate / Tecfidera
<input type="checkbox"/> Fingolimod / Gilenya	<input type="checkbox"/> Glatiramer acetate / Clift
<input type="checkbox"/> Glatiramer acetate / Copaxone	<input type="checkbox"/> Immunglobulin / IVIG / Octagam
<input type="checkbox"/> Interferon beta-1a / Avonex	<input type="checkbox"/> Interferon beta-1a / Rebif22
<input type="checkbox"/> Interferon beta-1a / Rebif44	<input type="checkbox"/> Interferon beta-1b / Betaferon
<input type="checkbox"/> Interferon beta-1b / Extavia	<input type="checkbox"/> Methotrexate
<input type="checkbox"/> Mitoxantrone / Novatron	<input type="checkbox"/> Mitoxantrone / Ralenova
<input type="checkbox"/> Natalizumab / Tysabri	<input type="checkbox"/> Ocrelizumab / Ocrevus

<input type="checkbox"/> Ofatumumab / Kesimpta	<input type="checkbox"/> Ozanimod / Zeposia
<input type="checkbox"/> Peginterferon beta-1a / Plegridy	<input type="checkbox"/> Rituximab / MabThera
<input type="checkbox"/> Siponimod / Mayzent	<input type="checkbox"/> Steroids - Long-term therapy, longer than 2 months
<input type="checkbox"/> Steroids – Pulse therapy	<input type="checkbox"/> Steroids intrathecal
<input type="checkbox"/> Teriflunomide / Aubagio	<input type="checkbox"/> Other:
<input type="checkbox"/> None at all (therapy break/end)	

MS relapses following vaccinations

Have you had any clinically confirmed MS relapses since the 1st COVID vaccination?



☐ Yes

☐ No

A relapse is characterised by the appearance of new symptoms or the worsening of existing symptoms that last longer than 24 hours. These symptoms can vary greatly and usually develop within a few hours or days. After the relapse, the symptoms may decrease or disappear completely, depending on the course of the disease.

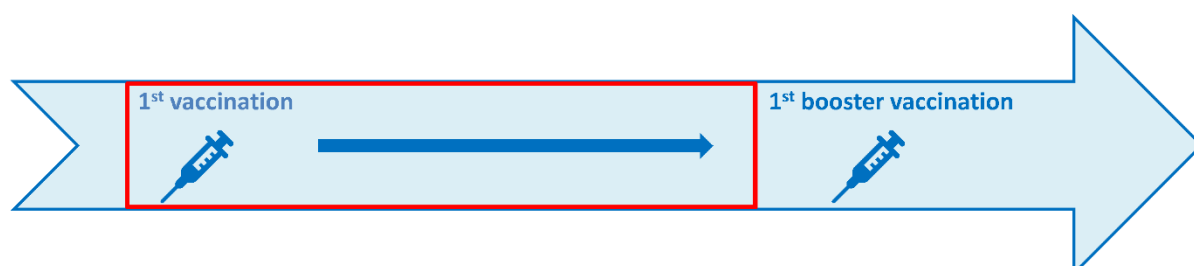
To be able to assume that there is another relapse, there must be at least 30 consecutive days between relapses.

If yes: How many MS relapses occurred and when were they diagnosed?

___ MS relapse/s since the 1st vaccination until the 1st booster vaccination (**for basic immunization with one vaccination**)

The 1st relapse since the 1st vaccination until the 1st booster vaccination was diagnosed on _____ (DD.MM.YYYY).

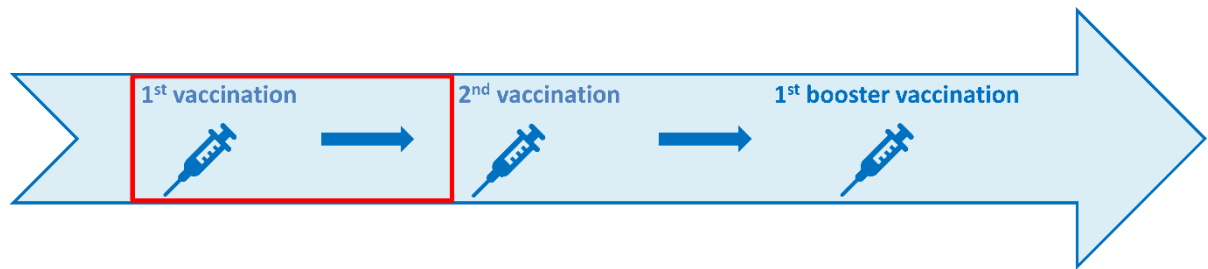
The Xth relapse since the 1st vaccination until the 1st booster vaccination was diagnosed on _____ (DD.MM.YYYY).



___ MS relapse/s since the 1st until the 2nd vaccination (**for basic immunization with two vaccinations**)

The 1st relapse since the 1st until the 2nd vaccination was diagnosed on _____ (DD.MM.YYYY).

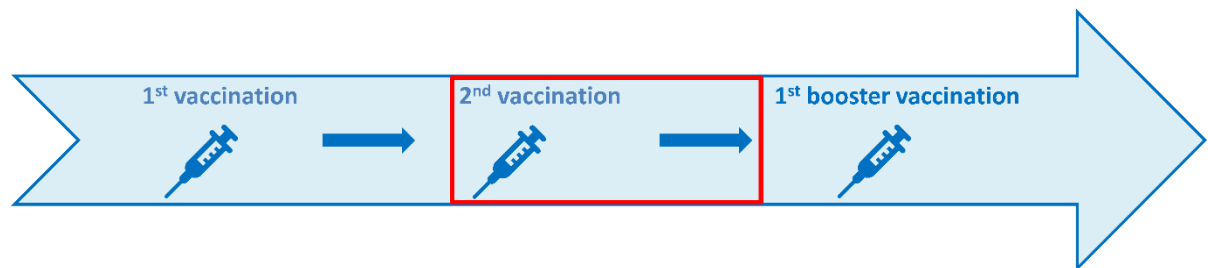
The Xth relapse since the 1st until the 2nd vaccination was diagnosed on _____ (DD.MM.YYYY).



___ MS relapse/s since the 2nd vaccination until the 1st booster vaccination (**for basic immunization with two vaccinations**)

The 1st relapse since the 2nd vaccination until the 1st booster vaccination was diagnosed on _____ (DD.MM.YYYY).

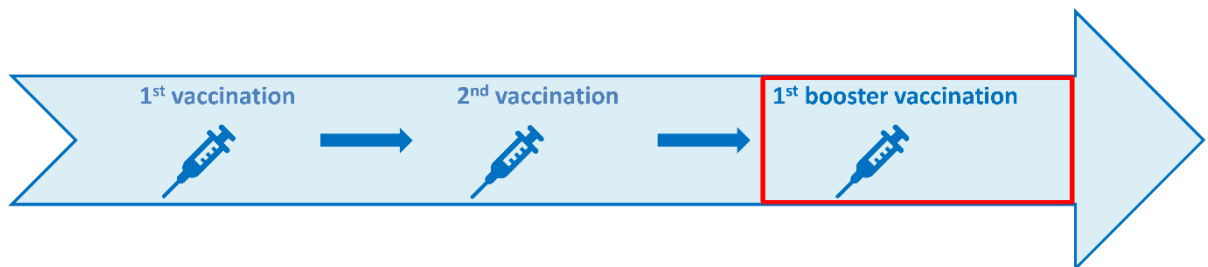
The Xth relapse since the 2nd vaccination until the 1st booster vaccination was diagnosed on _____ (DD.MM.YYYY).



___ MS relapse/s since the 1st booster vaccination (**if booster vaccination received**)

The 1st relapse since the 1st booster vaccination was diagnosed on _____ (DD.MM.YYYY).

The Xth relapse since the 1st booster vaccination was diagnosed on _____ (DD.MM.YYYY).



What MS symptoms have you experienced during the relapses?

Please select the information below that applies to you (multiple selections possible).

	Aufgetretene Symptome
Walking impairment	<input type="checkbox"/>
Spasticity	<input type="checkbox"/>
Movement disorders/ataxia/tremor	<input type="checkbox"/>
Tiredness / fatigue	<input type="checkbox"/>
Pain	<input type="checkbox"/>
Bladder dysfunction/impaired micturition	<input type="checkbox"/>
Bowel dysfunction/impaired defecation	<input type="checkbox"/>
Sexual disorders	<input type="checkbox"/>
Cognitive disorders	<input type="checkbox"/>
Depression	<input type="checkbox"/>
Eye movement disorders/oculomotor disorders	<input type="checkbox"/>

Speaking and voice disorders/dysarthria/dysphonia	<input type="checkbox"/>
Swallowing disorders/dysphagia	<input type="checkbox"/>
Epileptic seizures	<input type="checkbox"/>
Palsy/paresis	<input type="checkbox"/>
Optic nerve inflammation/optic neuritis	<input type="checkbox"/>
Other seizure-like symptoms/paroxysms	<input type="checkbox"/>
How many of these relapses were treated with steroid pulse therapy?	
___ relapse/s	

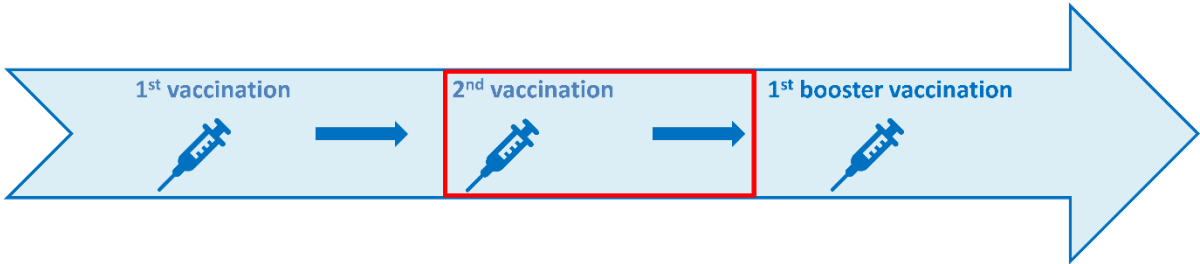
New-onset or worsened MS symptoms

In the following, only symptoms or changes in symptoms that are clearly not related to SARS-CoV-2 infection are asked about because they occurred before this infection.

New-onset MS symptoms		
Did you experience new MS symptoms related to the 2nd/last vaccination (excluding booster vaccinations) ?		
<input type="checkbox"/> Yes		<input type="checkbox"/> No
Please select the information below that applies to you.		
Walking impairment		
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ___ days OR after ___ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Spasticity	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ___ days OR after ___ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Movement disorders / ataxia / tremor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ___ days OR after ___ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Tiredness / fatigue	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ___ days OR after ___ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Pain	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ___ days OR after ___ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	

Bladder dysfunction / impaired micturition	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Bowel dysfunction / impaired defecation	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Sexual disorders	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Cognitive disorders	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Depression	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Eye movement disorders / oculomotor disorders	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Speaking and voice disorders / dysarthria / dysphonia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Swallowing disorders / dysphagia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Epileptic seizures	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Palsy / paresis	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Optic nerve inflammation / optic neuritis	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	

Other seizure-like symptoms / paroxysms	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	

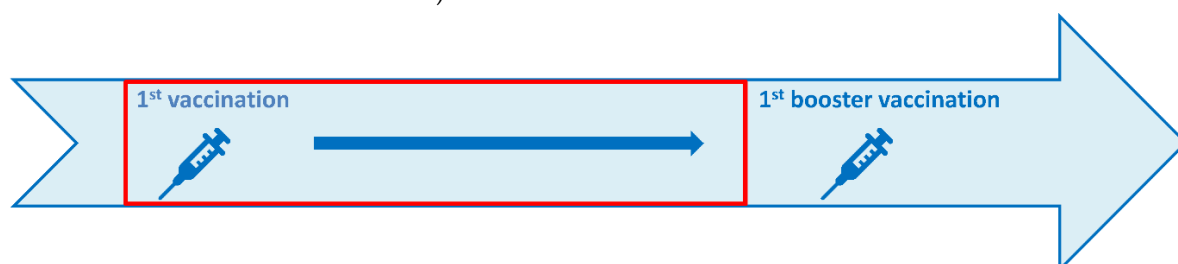
Worsened MS symptoms		
Did you experience worsened MS symptoms related to the <u>2nd/last vaccination (excluding booster vaccinations)</u> ?		
		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Please select the information below that applies to you.		
Walking impairment		
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Spasticity	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Movement disorders / ataxia / tremor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Tiredness / fatigue	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Pain	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Bladder dysfunction / impaired micturition	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Bowel dysfunction / impaired defecation	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Sexual disorders	<input type="checkbox"/> Yes	<input type="checkbox"/> No

When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Cognitive disorders	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Depression	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Eye movement disorders / oculomotor disorders	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Speaking and voice disorders / dysarthria / dysphonia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Swallowing disorders / dysphagia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Epileptic seizures	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Palsy / paresis	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Optic nerve inflammation / optic neuritis	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	
Other seizure-like symptoms / paroxysms	<input type="checkbox"/> Yes	<input type="checkbox"/> No
When did it start: _____ (MM.YYYY)		
<input type="checkbox"/> When did it end: after ____ days OR after ____ weeks (fill in only one of the two)	<input type="checkbox"/> Still persistent	

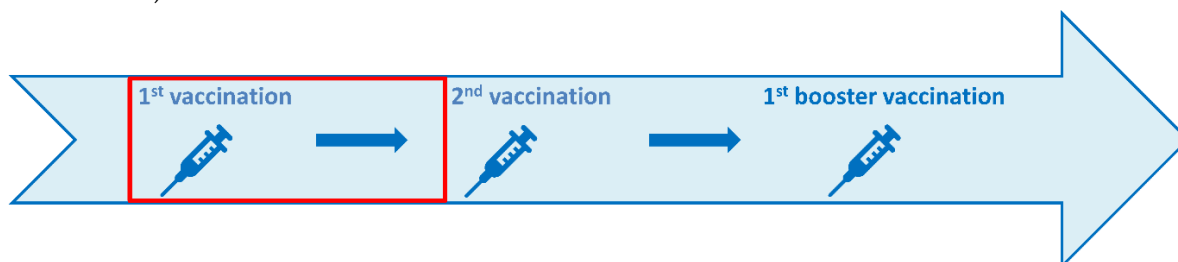
SARS-CoV-2 infections following vaccinations

How many confirmed SARS-CoV-2 infections have you had since your 1st COVID vaccination?

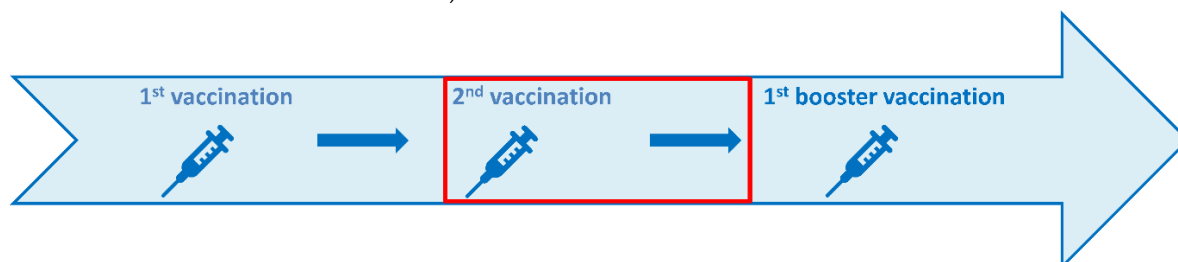
___ confirmed infection/s since the 1st vaccination until the 1st booster vaccination (**for basic immunization with one vaccination**)



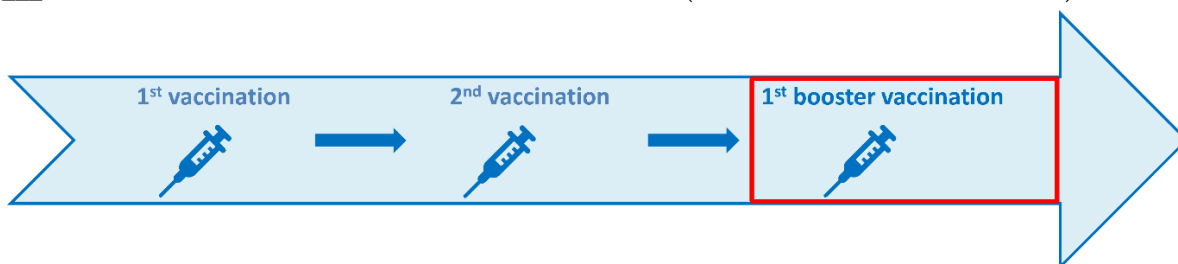
___ confirmed infection/s since the 1st until the 2nd vaccination (**for basic immunization with two vaccinations**)



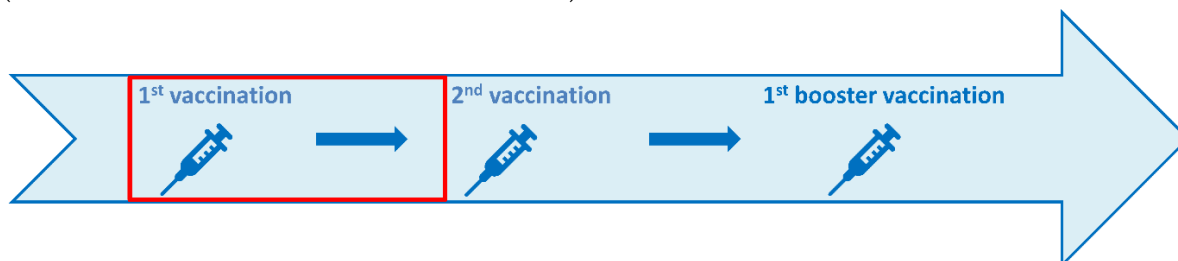
___ confirmed infection/s since the 2nd vaccination until the 1st booster vaccination (**for basic immunization with two vaccinations**)



___ confirmed infection/s since the 1st booster vaccination (**if booster vaccination received**)



The following questions refer to the 1st SARS-CoV-2 infection **since the 1st until the 2nd vaccination** (**for basic immunization with two vaccinations**)



What test was used to detect the infection?

☐ PCR test

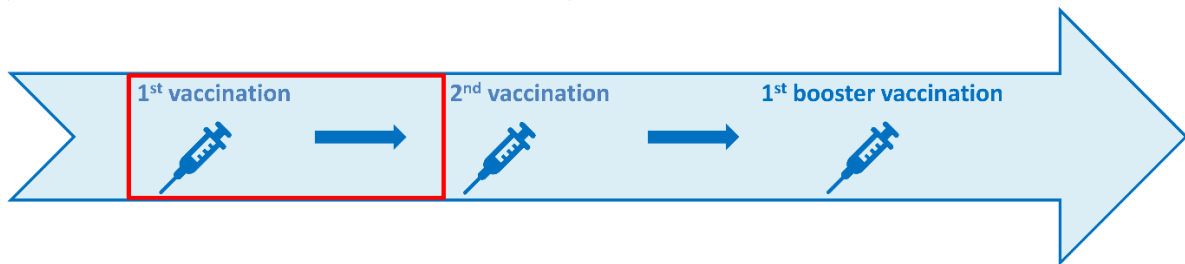
☐ Antigen test

☐ Antibody test

☐ ELISPOT test

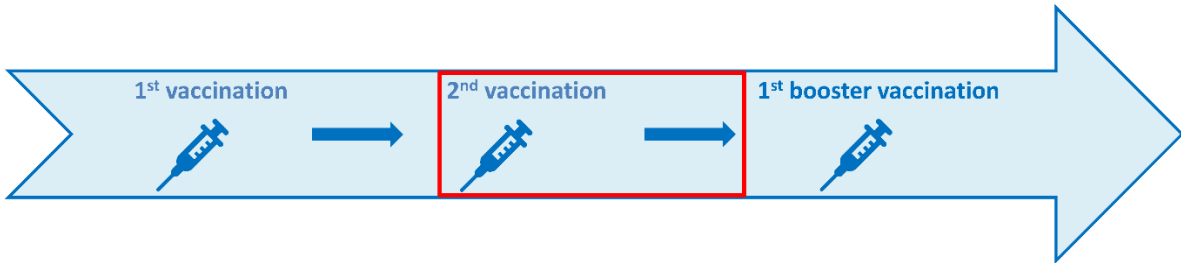
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	___.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____
For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment
<u>Non-invasive ventilation:</u> respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.	
<u>Invasive ventilation:</u> Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.	
How many days were you ventilated?	_____

The following questions refer to the Xth SARS-CoV-2 infection **since the 1st until the 2nd vaccination** (for basic immunization with two vaccinations)



What test was used to detect the infection?	
<input type="checkbox"/> PCR test	<input type="checkbox"/> Antigen test
<input type="checkbox"/> Antibody test	<input type="checkbox"/> ELISPOT test
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	___.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____

For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment
<u>Non-invasive ventilation:</u> respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.	
<u>Invasive ventilation:</u> Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.	
How many days were you ventilated?	_____

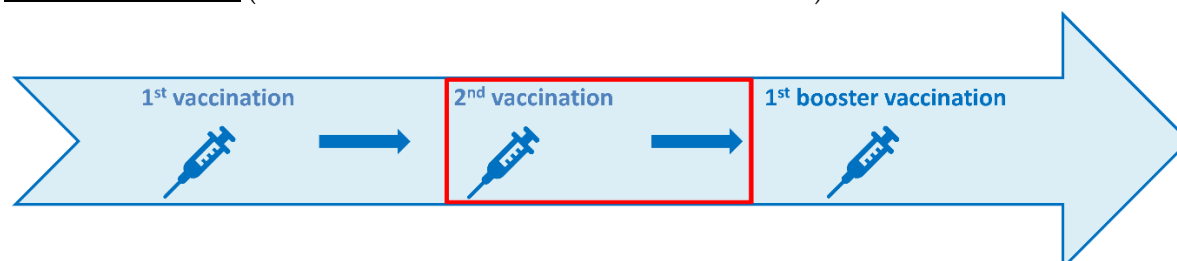
<p>The following questions refer to the 1st SARS-CoV-2 infection since the 2nd vaccination until the 1st booster vaccination (for basic immunization with two vaccinations)</p> 	
What test was used to detect the infection?	
<input type="checkbox"/> PCR test	<input type="checkbox"/> Antigen test
<input type="checkbox"/> Antibody test	<input type="checkbox"/> ELISPOT test
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	____.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____
For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment

Non-invasive ventilation: respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.

Invasive ventilation: Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.

How many days were you ventilated? _____

The following questions refer to the Xth SARS-CoV-2 infection **since the 2nd vaccination until the 1st booster vaccination** (for basic immunization with two vaccinations)



What test was used to detect the infection?

☐ PCR test

☐ Antigen test

☐ Antibody test

☐ ELISPOT test

☐ Unknown

Please indicate the onset of SARS-CoV-2 infection:

____.____ (MM.YYYY)

What symptoms did you experience?

☐ Increased temperature

☐ Cough

☐ Lassitude

☐ Joint, bone or muscle pain

☐ Headache

☐ Sore throat

☐ Shortness of breath

☐ Blocked nose

☐ Chills

☐ Loss of smell or taste

☐ Pneumonia

☐ Other: _____

For the treatment you were:

☐ Admitted as an inpatient in a hospital

☐ Admitted to hospital as an inpatient and treated in intensive care for at least one day.

☐ Treated at home.

If they have been admitted to a hospital:

How many days were you admitted to hospital? _____

Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?

☐ Non-invasive treatment

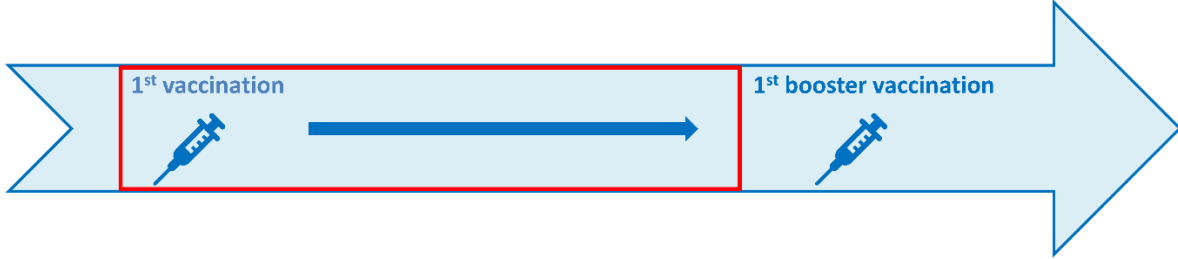
☐ Invasive treatment

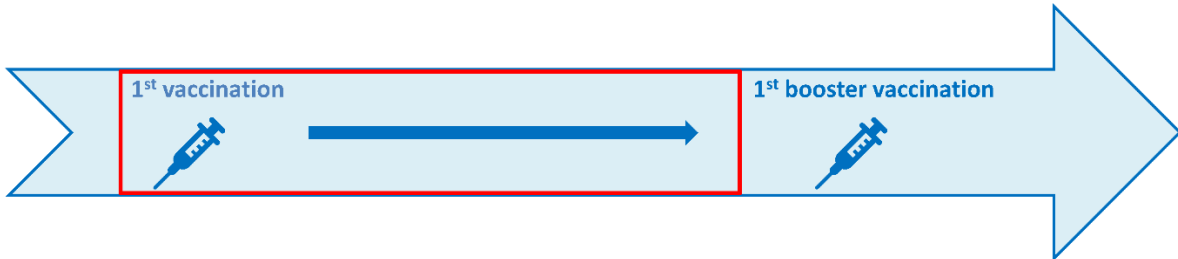
Non-invasive ventilation: respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.

Invasive ventilation: Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.

How many days were you ventilated? _____

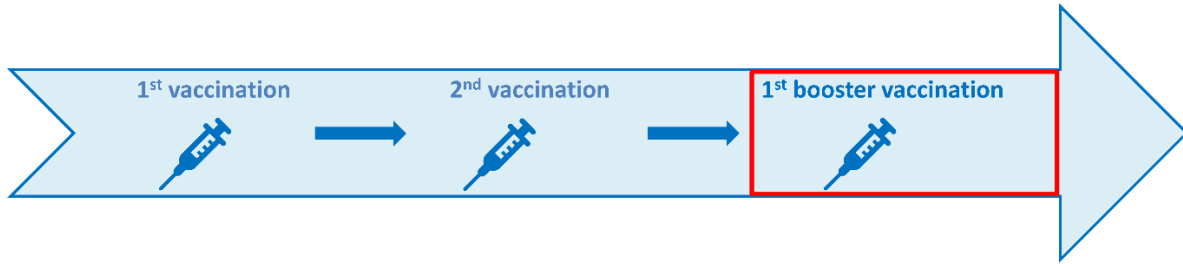
The following questions refer to the 1st SARS-CoV-2 infection **since the 1st vaccination until the 1st booster vaccination** (for basic immunization with one vaccination)

	
What test was used to detect the infection?	
<input type="checkbox"/> PCR test	<input type="checkbox"/> Antigen test
<input type="checkbox"/> Antibody test	<input type="checkbox"/> ELISPOT test
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	____.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____
For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment
<u>Non-invasive ventilation:</u> respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose. <u>Invasive ventilation:</u> Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.	
How many days were you ventilated?	_____

The following questions refer to the X th SARS-CoV-2 infection since the 1st vaccination until the 1st booster vaccination (for basic immunization with one vaccination)	
	
What test was used to detect the infection?	
<input type="checkbox"/> PCR test	<input type="checkbox"/> Antigen test
<input type="checkbox"/> Antibody test	<input type="checkbox"/> ELISPOT test

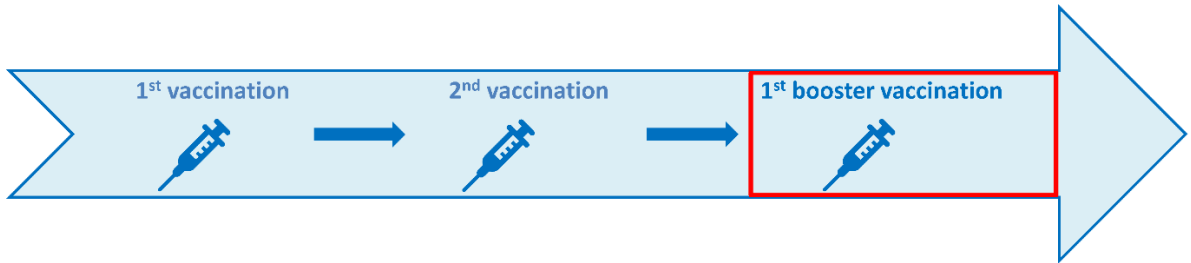
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	___.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____
For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment
<u>Non-invasive ventilation:</u> respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.	
<u>Invasive ventilation:</u> Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.	
How many days were you ventilated?	_____

The following questions refer to the 1st SARS-CoV-2 infection **since the 1st booster vaccination** (if booster vaccination received)



What test was used to detect the infection?	
<input type="checkbox"/> PCR test	<input type="checkbox"/> Antigen test
<input type="checkbox"/> Antibody test	<input type="checkbox"/> ELISPOT test
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	___.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____

For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment
<u>Non-invasive ventilation:</u> respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.	
<u>Invasive ventilation:</u> Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.	
How many days were you ventilated?	_____

<p>The following questions refer to the Xth SARS-CoV-2 infection since the 1st booster vaccination (if booster vaccination received)</p> 	
What test was used to detect the infection?	
<input type="checkbox"/> PCR test	<input type="checkbox"/> Antigen test
<input type="checkbox"/> Antibody test	<input type="checkbox"/> ELISPOT test
<input type="checkbox"/> Unknown	
Please indicate the onset of SARS-CoV-2 infection:	____.____ (MM.YYYY)
What symptoms did you experience?	
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____
For the treatment you were:	
<input type="checkbox"/> Admitted as an inpatient in a hospital	
<input type="checkbox"/> Admitted to hospital as an inpatient and treated in intensive care for at least one day.	
<input type="checkbox"/> Treated at home.	
If they have been admitted to a hospital:	
How many days were you admitted to hospital?	_____
Were you connected to a (ventilated) respirator or did you receive oxygen therapy during your inpatient stay?	
<input type="radio"/> Non-invasive treatment	<input type="radio"/> Invasive treatment

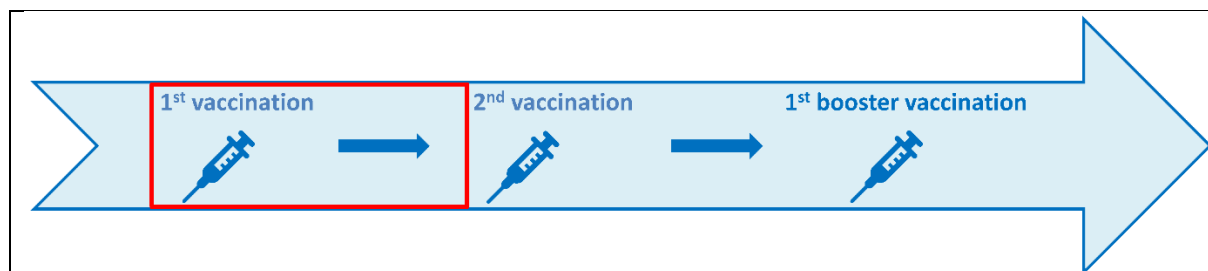
<u>Non-invasive ventilation:</u> respiratory support or ventilation without invasive ventilation access, for example via a mask placed over the mouth and nose.	
<u>Invasive ventilation:</u> Placement of a breathing tube inserted through the mouth or nose to serve as an artificial airway.	
How many days were you ventilated?	_____

After at least one of your SARS-CoV-2 infections, did you suffer from concomitant symptoms for at least 4 weeks (Long Covid)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If so, what are the symptoms?		
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough	
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain	
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat	
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose	
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste	
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____	
After at least one of your SARS-CoV-2 infections, did you suffer from concomitant symptoms for at least 12 weeks (Post Covid)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If so, what are the symptoms?		
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough	
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain	
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat	
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose	
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste	
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____	
Are you still experiencing any side effects from your SARS-CoV-2 infection(s) at the time of this survey?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If so, what are the symptoms?		
<input type="checkbox"/> Increased temperature	<input type="checkbox"/> Cough	
<input type="checkbox"/> Lassitude	<input type="checkbox"/> Joint, bone or muscle pain	
<input type="checkbox"/> Headache	<input type="checkbox"/> Sore throat	
<input type="checkbox"/> Shortness of breath	<input type="checkbox"/> Blocked nose	
<input type="checkbox"/> Chills	<input type="checkbox"/> Loss of smell or taste	
<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Other: _____	

Tests for immune response after the SARS-CoV-2 vaccinations

Antibody test:

Have you had an antibody test <u>since the 1st until the 2nd vaccination</u> (for basic immunization with two vaccinations)?
--



- ☐ Yes, antibodies positive
- ☐ Yes, antibodies negative
- ☐ No

Date of the (last) antibody test (DD.MM.YYYY): _____

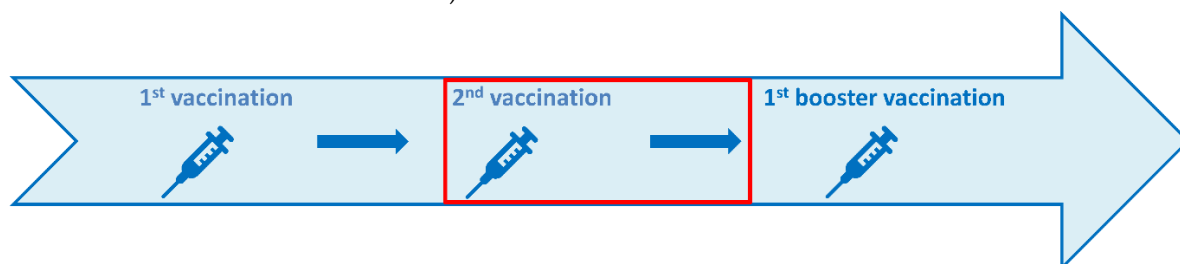
Below you will find two examples of antibody test results. Please fill in the following fields according to the numbering in the images.

		1. Ergebnis	2. Einheit	Referenzbereich
Allgemeine Angaben				
Vollblut				
Infektionsserologie				
SARS-CoV-2 IgG		0.39 (1)	Ratio	Entscheidungsbereich 3. < 0.8 negativ 4. > 1.1 POSITIV

Untersuchung	1. Ergebnis	2. Einheit	Referenz (w)
Virologie (Sonstige)			
SARS-CoV-2 (S-Ag) AK (EIA) SE	20.10	U/ml	
Interpretationsgrenzen des verwendeten SARS CoV2 (S-Antigen) Antikörper-Nachweis-Testes:			
		3. < 0,8 U/ml entspricht negativ	
		4. ≥ 0,8 U/ml entspricht positiv	

1. Result of the antibody test: _____
2. Unit: _____
3. Decision area negative: < _____
4. Decision area positive: ≥ _____

Have you had an antibody test **since the 2nd vaccination until the 1st booster vaccination** (for basic immunization with two vaccinations)?



- ☐ Yes, antibodies positive
- ☐ Yes, antibodies negative
- ☐ No

Date of the (last) antibody test (DD.MM.YYYY): _____

Below you will find two examples of antibody test results. Please fill in the following fields according to the numbering in the images.

		1. Ergebnis	2. Einheit	Referenzbereich
Allgemeine Angaben				
Vollblut				
Infektionsserologie				
SARS-CoV-2 IgG		0.39 (1)	Ratio	Entscheidungsbereich 3. < 0.8 negativ 4. > 1.1 POSITIV

Untersuchung	1. Ergebnis	2. Einheit	Referenz (w)
Virologie (Sonstige)			
SARS-CoV-2 (S-Ag) AK (EIA) SE	20.10	U/ml	
Interpretationsgrenzen des verwendeten SARS CoV2 (S-Antigen) Antikörper-Nachweis-Testes: 3. < 0,8 U/ml entspricht negativ 4. >= 0,8 U/ml entspricht positiv			

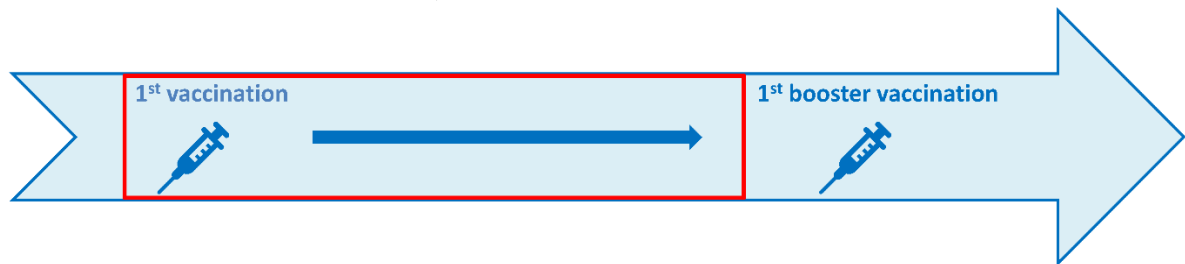
1. Result of the antibody test: _____

2. Unit: _____

3. Decision area negative: < _____

4. Decision area positive: ≥ _____

Have you had an antibody test **since the 1st vaccination until the 1st booster vaccination** (for basic immunization with one vaccination)?



☐ Yes, antibodies positive

☐ Yes, antibodies negative

☐ No

Date of the (last) antibody test (DD.MM.YYYY): _____

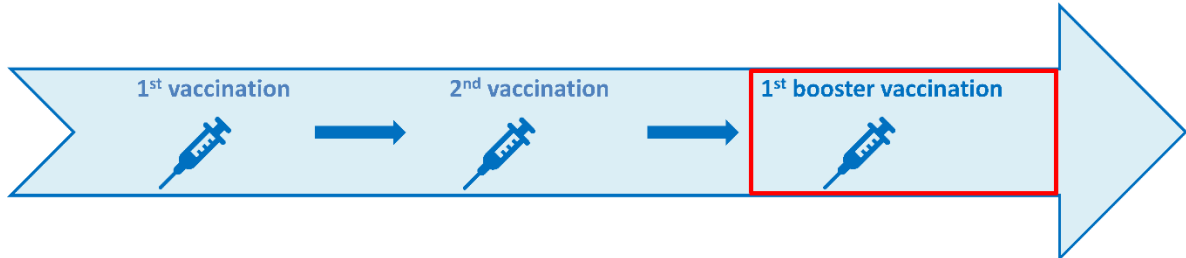
Below you will find two examples of antibody test results. Please fill in the following fields according to the numbering in the images.

		1. Ergebnis	2. Einheit	Referenzbereich
Allgemeine Angaben				
Vollblut				
Infektionsserologie				
SARS-CoV-2 IgG		0.39 (1)	Ratio	Entscheidungsbereich 3. < 0.8 negativ 4. > 1.1 POSITIV

Untersuchung	1. Ergebnis	2. Einheit	Referenz (w)
Virologie (Sonstige)			
SARS-CoV-2 (S-Ag) AK (EIA) SE	20.10	U/ml	
Interpretationsgrenzen des verwendeten SARS CoV2 (S-Antigen) Antikörper-Nachweis-Testes: 3. < 0,8 U/ml entspricht negativ 4. >= 0,8 U/ml entspricht positiv			

1. Result of the antibody test: _____
2. Unit: _____
3. Decision area negative: < _____
4. Decision area positive: \geq _____

Have you had an antibody test since the 1st booster vaccination (if booster vaccination received)?



- ☐ Yes, antibodies positive
- ☐ Yes, antibodies negative
- ☐ No

Date of the (last) antibody test (DD.MM.YYYY): _____

Below you will find two examples of antibody test results. Please fill in the following fields according to the numbering in the images.

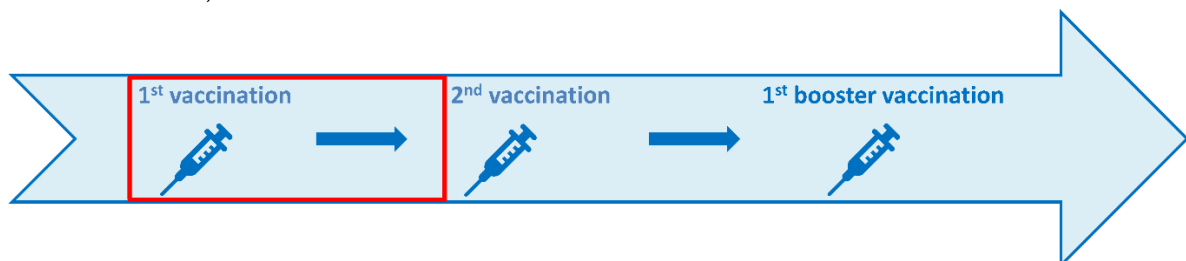
		1. Ergebnis	2. Einheit	Referenzbereich
Allgemeine Angaben				
Vollblut				
Infektionsserologie				
SARS-CoV-2 IgG		0.39 (1)	Ratio	Entscheidungsbereich
				3. < 0.8 negativ
				4. ≥ 1.1 POSITIV

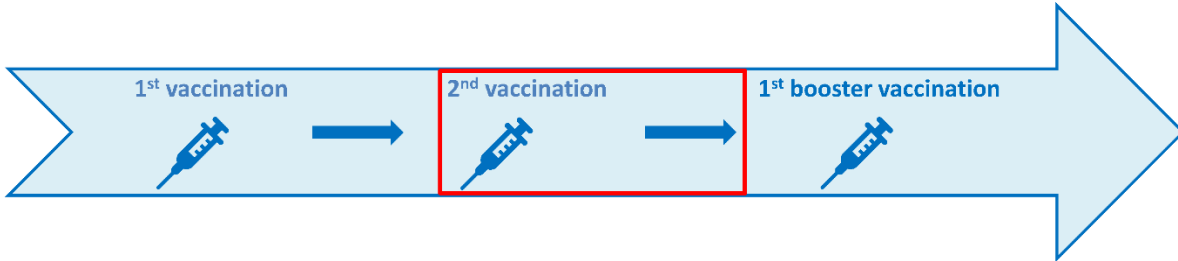
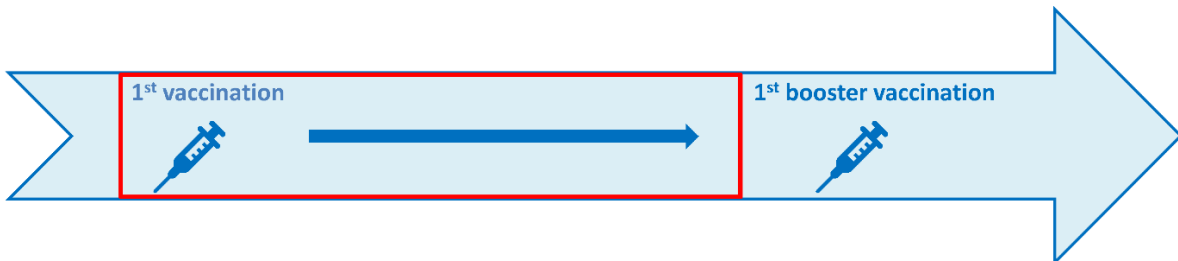
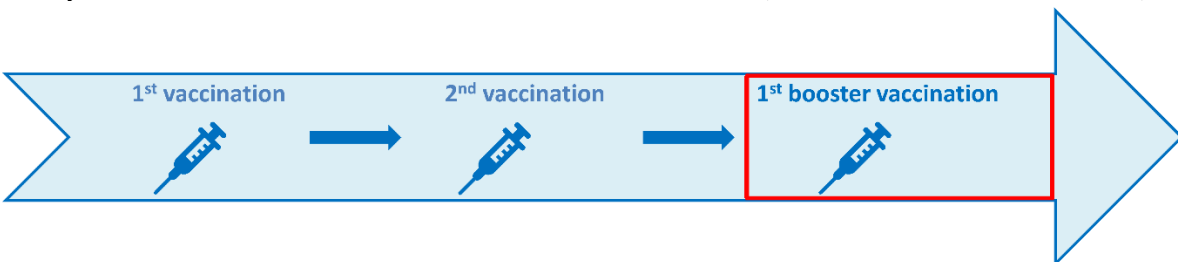
Untersuchung	1. Ergebnis	2. Einheit	Referenz (w)
Virologie (Sonstige)			
SARS-CoV-2 (S-Ag) AK (EIA) SE	20.10	U/ml	
Interpretationsgrenzen des verwendeten SARS CoV2 (S-Antigen) Antikörper-Nachweis-Testes:			
		3. <0,8 U/ml entspricht negativ	
		4. $\geq 0,8$ U/ml entspricht positiv	

1. Result of the antibody test: _____
2. Unit: _____
3. Decision area negative: < _____
4. Decision area positive: \geq _____

ELISPOT-Test:

Have you had an ELISPOT test since the 1st until the 2nd vaccination (for basic immunization with two vaccinations)?



<input type="checkbox"/> Yes, ELISPOT positive
<input type="checkbox"/> Yes, ELISPOT negative
<input type="checkbox"/> No
Date of the (last) ELISPOT test (DD.MM.YYYY): _____
Have you had an ELISPOT test since the 2nd vaccination until the 1st booster vaccination (for basic immunization with two vaccinations)?

<input type="checkbox"/> Yes, ELISPOT positive
<input type="checkbox"/> Yes, ELISPOT negative
<input type="checkbox"/> No
Date of the (last) ELISPOT test (DD.MM.YYYY): _____
Have you had an ELISPOT test since the 1st vaccination until the 1st booster vaccination (for basic immunization with one vaccination)?

<input type="checkbox"/> Yes, ELISPOT positive
<input type="checkbox"/> Yes, ELISPOT negative
<input type="checkbox"/> No
Date of the (last) ELISPOT test (DD.MM.YYYY): _____
Have you had an ELISPOT test since the 1st booster vaccination (if booster vaccination received)?

<input type="checkbox"/> Yes, ELISPOT positive
<input type="checkbox"/> Yes, ELISPOT negative
<input type="checkbox"/> No
Date of the (last) ELISPOT test (DD.MM.YYYY): _____

Patient-determined disease steps (PDDS)

Please read the choices below and choose the one that describes your own situation most appropriately.

This scale focuses mainly on how well you can **walk**.

You may not find a description that accurately reflects your condition, but please mark the category that describes your situation most closely.

Please choose one of the following answers:	
0 Normal I may have some mild symptoms, mainly sensory due to my MS, but they do not limit my activity. When I have an episode, I return to normal as soon as the relapse is over.	<input type="checkbox"/>
1 Mild disability I have some noticeable symptoms due to my MS, but they are minor and have a small impact on my lifestyle.	<input type="checkbox"/>
2 Moderate disability I have no limitations in my ability to walk. However, I have significant problems due to MS that limit daily activities in other ways.	<input type="checkbox"/>
3 Walking impairment MS affects my activities, especially walking. I can work all day but sporting or physically demanding activities are more difficult than before. Normally I do not need a walking stick or other aids to walk, but I might need some help during a relapse.	<input type="checkbox"/>
4 Occasional use of a walking aid (walking stick use) I use a walking stick, a single crutch or some other form of support (e.g., touching a wall or leaning on someone's arm) to walk all or part of the time, especially when I walk outdoors. I think I can walk 8 metres in 20 seconds without a walking stick or crutch. I always need some help (walking stick or crutch) when I want to walk up to 300 metres.	<input type="checkbox"/>
5 Walking aid dependency To walk 8 metres, I need a walking stick, a crutch or someone to hold on to. I can move around the house or other buildings by holding onto furniture or touching the walls to support myself. I can use a scooter or wheelchair if I want to travel longer distances.	<input type="checkbox"/>
6 Bilateral support To walk up to 8 metres, I need two walking sticks or crutches or a rollator. For longer distances I can use a scooter or wheelchair.	<input type="checkbox"/>
7 Wheelchair My main form of mobility is a wheelchair. I may be able to stand and/or take a step or two, but I cannot walk 8 metres, even with crutches or a rollator.	<input type="checkbox"/>
8 Bedriddenness I cannot sit in a wheelchair for more than an hour.	<input type="checkbox"/>