



COVID-19

Literature review current through March 2021
Document created on 28th March 2021

- This version only contains newer updates from Sept 2020
- Refer to Sept 2020 Update for the rest of the information on COVID and Rheumatic Diseases





Vaccination?

Safe or Unsafe?

What are the types of vaccines?

- There are five phase 3 vaccines belonging to three basic categories
 - a) **mRNA based** – codes for viral spike protein stimulating host immune response
 - b) **Vector Vaccines** – Harmless viral vector carrying the genetic material for coding SARS-CoV2 viral protein integrates with host cell to produce the protein and immune response
 - c) Protein subunit vaccines contain purified viral protein with an adjuvant to boost the immune response.

There are no live attenuated vaccines

How efficacious is vaccine?

- The formula is the following:

$(\% \text{ who get COVID in control group}) - (\% \text{ who get COVID in vaccine group}) / (\% \text{ who get COVID in control group})$.

This is an ongoing process as more data is collected and analysed



Were immunocompromised patients or patients with rheumatic diseases or those taking immunosuppressants part of trials?

× Unfortunately, they were not

Which of the following patients can take vaccination?

Rheumatic Diseases?

?

Taking Steroids

?

On Immune suppressing drugs?

?



Vaccination in patients with rheumatic diseases

- Some data is emerging on antibody response after COVID infection including in those patients on Rituximab
- Protein based vaccines have been used previously safely and with almost similar immunogenicity
- Live-attenuated vaccines is a contra-indication for patients taking immunosuppressive agents above a specified dose but none of the COVID vaccines in phase 3 trial are live-attenuated

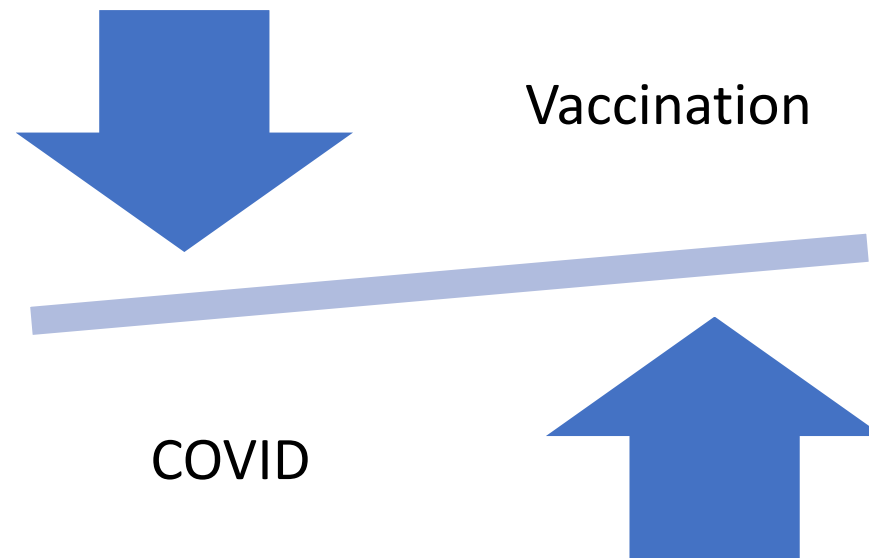


Data on immune response on patients with rheumatic diseases

- Shenoy et al showed that an adequate titre of protective antibodies develop in patients with rheumatic diseases despite B cell depletion with Rituximab in their correspondence - *Annals of the Rheumatic Diseases* Published Online First: 10 March 2021
- 77% (10 out of 13 patients) developed detectable SARS-CoV-2 antibodies following COVID infection – *Wallace et al - Annals of the Rheumatic Diseases* Published Online First: 12 January 2021
- *Armand et al* however have raised a question if anti CD 20 therapy could jeopardise vaccine response - *European Journal Of Cancer*, vol 136, 2020, pp. 4-6. *Elsevier BV*.

Should you take vaccine?

- American College of Rheumatology talks about **risk** and **benefit** ratio.





- Since these are not live vaccines, the benefits far outweigh the risk(s)
- American College of Rheumatology anticipate recommending all patients, including rheumatology patients, receive an approved COVID-19 vaccine.



Should medications be stopped before or after vaccination?

No data are available to guide use of medications before or after vaccination

**More
Data
Needed**

Data from experience from previous vaccines may need to be extrapolated as more data from COVID Vaccine emerge



Medication	Timing Considerations for Immunomodulatory Therapy and Vaccination* (based on ACR recommendations)	
	To be stopped	Can be continued
Hydroxychloroquine; apremilast; IVIG; Glucocorticoids/steroids	No	Yes
cDMARDs, TNFi, IL17i, IL-6i, IL12/23i	No	Yes
Methotrexate (MTX)	Yes - Hold MTX 1 week after each vaccine dose	No
JAKi like tofacitinib	Yes - Hold MTX 1 week after each vaccine dose	No
IV Cyclophosphamide	Yes – time it one week after vaccination dose	NO
Rituximab (RTX)	Time RTX schedule 4 weeks after vaccination; delay next dose of RTX by 2-4 weeks	

ACR, American College for Rheumatology; cDMARDs, conventional disease modifying anti-rheumatic drugs – includes mycophenolate, sulfasalazine, leflunomide, azathioprine, oral cyclophosphamide; JAK, Janus Kinase inhibitor; IV, intravenous

*final decision by rheumatologists depending on disease activity

Should we vaccinate or not?

Rheumatologist's
decision



Final

**More
Data
Needed**

Your disease activity and
risks will be assessed by
rheumatologist and a final
call will be taken by
him/her.



Vaccines available in India

- Covishield – Serum Institute of India's version of AZD1222, the vaccine developed by AstraZeneca in collaboration with the University of Oxford – adenovirus vectored vaccine
- Covaxin - killed coronaviruses - whole-virion inactivated SARS-CoV-2 vaccine formulated with a toll-like receptor (TLR) 7/8 agonist molecule adsorbed to alum (Algel-IMDG).

Common Side effects

In the arm where you got the shot:

- Pain
- Redness
- Swelling


Throughout the rest of your body:

- Tiredness
- Headache
- Muscle pain
- Chills
- Fever
- Nausea



Are we at increased risk of thrombosis from some vaccines?

- There are reports on increased clot formation with adenovirus vectored vaccine in some of the countries but its not proven yet. Infact the ban has been lifted in some of the countries.
- WHO states that it does not necessarily mean that the events are linked to vaccination itself, but it is good practice to investigate them. It also shows that the surveillance system works and that effective controls are in place. At this time, WHO considers that the benefits of the AstraZeneca vaccine outweigh its risks and recommends that vaccinations continue



Duration of protection from re-infection after first natural infection or vaccination?

- There is not enough data at present to guide us regarding the duration of protection from natural infection or vaccination
 - Presence of IgG antibodies against SARS-CoV2 does not necessarily mean protection from re-infection
 - But the data has been emerging that shows chances of serious infections are minimal to none
-



Are we
protected
from all
variants once
vaccinated?

- There is not enough data at present to guide us regarding the same but research and ongoing surveillance will help us decide in near future
- Hence, it is essential to main **HYGIENE** and **SOCIAL DISTANCING** even after vaccination.



Herd Immunity

- How can we help our patients with autoimmune diseases?
-

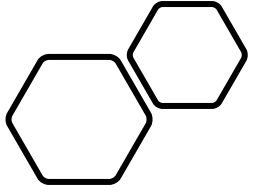


Herd Immunity and protection of vulnerable population

- Herd immunity helps protect population who have not been vaccination or suffered from previous infection
- For SARS-CoV2, ~ 70% of population should be immune to virus
- Therefore all population not on high risk should definitely be vaccinated as more data emerge for vaccination for individuals with autoimmune diseases



What needs to be continued?



Maintain distancing and Hygiene

01

Avoid unnecessary travelling especially airplanes and public transport

02

Avoid social functions wherever possible

03

Sneeze into a tissue preferably to avoid contaminating clothes or hands

04

Avoid going to crowded places

05

Contact your doctor immediately if you are unwell or if there is any suspicion

How can we prevent the transmission?



- Cover your face with a mask if you have flu like symptoms and consult immediately
- Avoid handshakes, touching eyes, nose or mouth
- Wash your hands diligently with soap and water or Use spirit with 60% or more alcohol. This kills the viruses and other potential infectious micro-organisms.

Hand Hygiene

- Wash your hands with soap for 20 seconds
- If you think your forearm has been exposed, then wash forearm followed by hands
- You can also use alcohol-based sanitizer with alcohol content more than 65%





Got more questions?

Mail us on indianrheum@gmail.com or

write on our Facebook page <https://www.facebook.com/IndianRheumatology/> or

tweet us [@www.twitter.com/Indianrheum](https://www.twitter.com/Indianrheum)



For more details
and regular
updates, visit

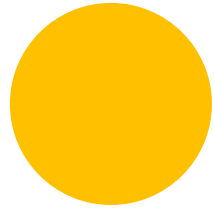
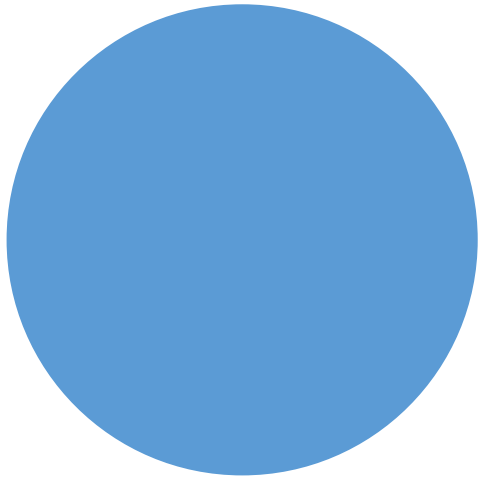
<https://www.who.int/health-topics/coronavirus>

For latest updates
on outbreak, visit

<https://www.worldometers.info/coronavirus/>

India's very own
COVID19
Dashboard

<https://covidout.in/>



Remember the old
saying

**Prevention is
better than
cure**



Prepared and modified from

March 2021 update: Information from the American College of Rheumatology Regarding Vaccination Against SARS-CoV-2

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