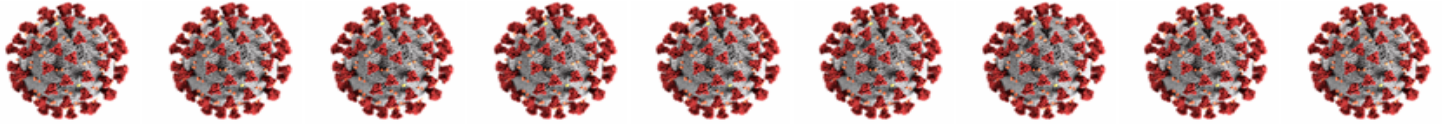


COVID Monoclonal Antibody Infusion Clinic



Tucson AZ Jan-Feb 2021

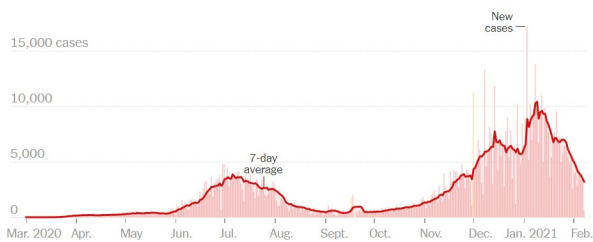
“Looks like by April, you know in theory when it gets a little warmer, it miraculously goes away.” President Trump, Feb 10, 2020

“Covid, covid, covid, covid ... By the way, on November 4th, you won't hear about it anymore.” President Trump, October 24, 2020.

Sorry to say it didn't work out that way, Mr. President.

Arizona Coronavirus Map and Case Count

Updated February 8, 2021, 7:45 A.M. E.T.



	TOTAL REPORTED	ON FEB. 7	14-DAY CHANGE
Cases	780,872	672	-54%
Deaths	14,051	12	-18%

This has been a lousy time to either be sick or be a doctor trying to help people get better. We have been hearing about COVID (the disease) and SAR-CoV-2 (the virus) since January, 2020.

In Feb 2020, I travelled to Queratero Mexico for a Epidemiology conference. Already the airport temperature scanners were running.

People from the Geneva office of WHO at the meeting were worried about China – little did we know that we should have been worried about them!

March 18, 2020

by joost



Dr. Dragnea from Antwerp University hospital wearing a Florence facemask

<https://freesewing.org/blog/facemask-frenzy/>

By March 25th 202, our clinic was seeing patients only on emergency basis, and converting to Telemedicine. Volunteers were sewing facemasks. They were called “Social Comfort” masks because who knows why – we all believed masking was important but masks were being conserved (hoarded?). We were being advised that wearing a mask was optional, and if we wore it it was so we could “feel comfortable”. How times change.

Telemedicine is a great concept it has limitations. For ophthalmology, knowing how well someone sees and if their vision getting better or worse is fundamental. Without some kind of visual acuity test, a telemedicine visit is a conversation, not an exam. By April 1, Hyun Soo Jang MD and I had developed the first draft of our Telemedicine Eye Chart – a simple PDF file that could be emailed to our patients and displayed like a picture on their mobile phone, allowing us to know their visual acuity.



I bought a 1963 Willys Jeep (Sarah had NOTHING to do with this). I towed it from Yuma. I started making plans to hike the Arizona trail. I ignored the fact that Jeeps have several gear shifts that require both hands to operate. The descent into madness progressed.

January arrived, and so did the spike in cases following Thanksgiving and Christmas. Our operating rooms shut down for elective surgery, and I was stuck “with time on my hands”.

This started a long list of jokes in our family about my hands, how my reach exceeded my grasp, numb thumbs and fingers, a couple months of not being able to work, post op recovery with a hand wrapped up and no fingers at the end of it, and an indefinite career path into the future. I contributed the first two, but the hits just kept coming...

Among them:

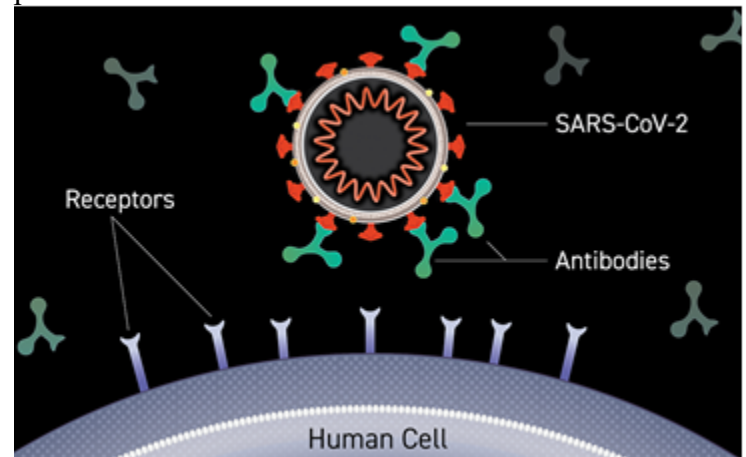
- 1) I went from being all thumbs to no thumbs.
- 2) My Career is on Paws.
- 3) Join the Club.
- 4) Its Thumbs Down.
- 5) Good thing you are not a gardener (this won't reference needing a green thumb if you don't get it right away).
- 6) I need to thumb my nose at this problem.
(Contributions welcome...)

When it was clear that I was not going to have surgery for some time, and that my schedule was cleared, I started thinking about what to do. Our residents had been asked

to help the Family and Community Residency program who were understaffed and working at our *Banner University Medical Center Tucson South Campus Hospital* (a very long name that is pronounced **Key'-No.**) I called my friend Jessie Pettit MD, their residency program director, to see if they could use another doctor somewhere for a while. She put me in touch with Ann Mathias MD who wanted to know if I would be willing to work on the Banlanivimab Infusion Service.

The work involved monitoring patients who were receiving monoclonal antibody therapy with a group of nurses who knew what they were doing, and getting to start an occasional IV. I tried it for a week and liked it, so for about a month now, I have been the provider behind the mask(s) and face shield for the Family and Community Medicine infusion service.

BAM (bamlanivimab) is an Eli Lilly product that inactivates the COVID virus by binding to the spike protein.



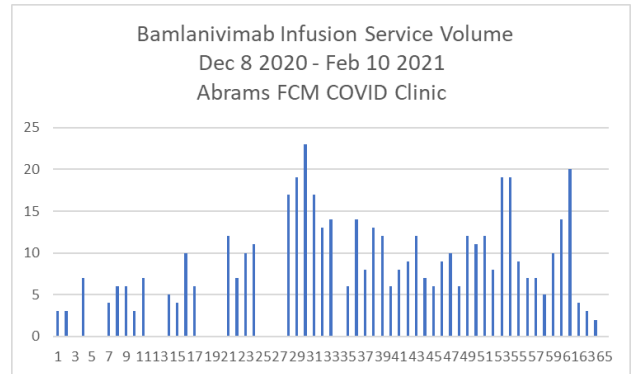
[NIH COVID monoclonal antibody description](#)

The basic concept is that by loading the blood stream of an infected patient with the antibodies, they receive the benefit of a vaccine for about 90 days.

The virus is inactivated because the antibody binds to the top of the spike protein (the pokey part sticking out of the virus). The “Top of the Spike” must be uncapped to be able to find its way into a cell in our body, where the virus can hijack cellular machinery and reproduce.

There are two commercial preparations of very similar medicines – Regeneron makes the other medication. Both are paid for by the CARES act. The indications are the same for both therapies – high risk patients who

are early in their disease and who are proven to have COVID by a test.



[KVOA Story about the BAM clinic](#)

The FDA Emergency Use Authorization (EUA) was based on the fact that high risk patients were less frequently admitted to the Emergency Department or Hospital following infusion. In the study, 15% of the people who did not receive the medicine ended up in the hospital, while 4% who got the medicine went to the hospital.

That reduction of about 10 percent in the rate of hospitalization is really impressive, given that right now you really have to be sick to be admitted to the hospital.

I cannot speak to how well the medicine works other than on the basis of my own experience. I make most of the phone calls to see how people are doing the day after getting the infusion. My impression: About a third say they feel significantly better. A third about the same. About a third feel worse. Few have been admitted during the immediate post infusion experience. I started with the team where it says “25” on the graph below.

In total, we have given about 500 infusions, so if the math holds, we helped keep 50 people from becoming so sick that they needed to be admitted to the hospital.

I have to admit, it is a lot easier to go to work knowing that I have had both doses of the Pfizer vaccine. I am very grateful to the people that worked so hard to create and distribute the vaccines.



Thanks Dr Mathias !



Left to right

Misha Kurko, Melissa Cruz, Dr. Miller, Yomara Merncio, Julie Carlson, Dr Rutherford, Debbie Bass, Marc Kelly, Annette Taylor, Iveth Cortez, Mitzy Hernandez.

Stay well, wear your mask, and don't be stupid just because you have been vaccinated!

Joe Miller MD MPH
9 February 2021

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